

Product Sourcing Strategies of UK Footwear Firms

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Product Sourcing Strategies of UK
Footwear Firms

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REFLECTIONS

"In the shabby little townsthe factories were lit with mantle-less gas flares, the flames fan wise, darkish yellow and blue pricked if turned too high. But sometimes there were oil lamps nailed to whitewashed walls, with crinkled reflectors often of tin in the shape of shells'.....'the pattern and odour of them was the same; always the steep wooden stairs and the walls soaked with grease, always the dark imprisoned odour of leather, the sing and stink of gas flames, the hollow rattle of iron treadles on sewing machines".

H.E. Bates: The Feast of July (p110).

"Footwear has never been an easy trade. The science of making shoes is complicated".

Mark Palmer (2013): Made to Last: The Story of Britain's Best Known Shoe Firm

".....there is one great weakness that besets our industry, and here I speak collectively of manufacturing and retailing. This weakness is the immensely long cycle time from the moment when a style is first created until a shoe finally gets onto someone's foot. Indeed, even from the time a retailer places an order until he sells the shoe, the pipeline is an intolerable length. For a fashion industry it is archaic and disastrous".

"I view our objective for the 70's as being the shortening of the pipeline throughout the United Kingdom shoe trade, and achieving the far more difficult task of doing this without reducing the range of customer choice".

P.T. Clothier: Founders Memorial Lecture, British Boot and Shoe Industry Conference, Harrogate, November, 1970.

"Shoemaking is an art form"

Mezlan, Spain, 2017

PROJECT SUMMARY

This research project is aimed at clarifying the impact of global economic shifts on UK footwear sector firms' future product sourcing strategies, their sourcing location decisions and how they might respond to ongoing turbulence if further contraction within the domestic industry is to be halted.

China remains the world largest exporter of footwear to the UK. They are, however, experiencing significant inflationary pressures in manufacturing such that some UK firms are considering alternative sourcing locations.

Additionally, many footwear firms seek to achieve greater supply chain (SC) agility whether outsourcing or manufacturing in order to respond more effectively to satisfying demand in increasingly fickle UK market segments and in some export markets. In this regard consideration is being given to manufacturing repatriation, however, sector expertise is becoming increasingly scarce with the resulting loss of traditional shoemaking knowledge and 'know-how'. Given such circumstances, technological innovation may prove to be the only strategy for re-shoring to become viable.

The research will adopt both Transaction Cost Theory and the Resource Base View as both individual and complementary theoretical lens.

Comparative case studies provide the main source of data, supported by sector specialist key informant narratives in order to provide verification to the primary outputs. The primary case studies will be subjected to 'cross case' analysis in order to generate findings which identify critical issues relating to footwear product sourcing by UK firms. In turn they will provide a

platform for the development of new SC theoretical concepts and generate usable supply chain practitioner models/ frameworks.

If adopted these new approaches to product sourcing strategy should positively impact on firm performance product sourcing efficiency, improved SC agility to halt sector decline.

Key words and phrases: global economic shifts; footwear; product sourcing; resources and capabilities; supply chains; costs; sector technologies.

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Acronyms and Abbreviations

ABC	Activity Based Costing
ABM	Activity Based Manufacturing
AE	Advanced Economies
AI	Artificial Intelligence
ASP	Actual Selling Price
ASPs	Agile Supplier Partnerships
B2B	Business to Business
BBSI	British Boot & Shoe Institute
BCG	Boston Consulting Group
BFA	British Footwear Association
Brexit	British Exit from the European Union
BRIC	Brazil, Russia, India and China
BSC	British Shoe Corporation
CA	Competitive Advantage
CAD	Computer Aided Design
CAn	Content Analysis
CADCAM	Computer Aided Design/Computer Aided Manufacturing
CAGE	Cultural, Administrative, Geographical, Economic
CEO	Chief Executive Officer
CPS	Cyber Physical Systems
CSFs	Critical Success Factors
CSF	Cut, Stitch and Finish
CSR	Corporate Social Responsibility
C1	Company 1
C2	Company 2
C3	Company 3
C4	Company 4
C5	Company 5
DC	Developing Countries
DMs	Doc Martens

EE	Eastern Europe
ERP	Enterprise Resource Planning
ESI	Early Supplier Involvement
ETI	Ethical Trading Initiative
EU	European Union
EUROShoE	Extended User Orientated Shoe Enterprise
FDI	Foreign Direct Investment
FE	Far East
FEC	Further Education Colleges
FEA	Far East Asia
fmcg	fast moving consumer goods
FOB	Freight on Board
FX	Foreign Exchange
GTAI	German Trade and Invest
HMRC	Her Majesty's Revenue and Customs
HR	Human Resources
HQ	Headquarters
IDEA-FOOT	Innovative DEsign and mAnufacturing systems for European FOOTwear companies
IP	Intellectual Property
IPO	Initial Public Offer
IT	Information Technology
IoT	Internet of Things
IORT	Internet of Robotic Things
IWSP	Institute of Work Study Practitioners
JOC	Journal of Commerce
JIT	Just In Time
K	Thousand
KI	Key Informants
KPI	Key Performance Indicators
LCA	Life Cycle Assessment
LR	Literature Review

LVMH	Louis Vuitton Moet and Hennessy
MC	Mass Customisation
MD	Managing Director
ME	Medium Enterprise
Mfrs	Manufacturers
MGI	McKinsey Global Institute
MiE	Made in England
MMU	Manchester Metropolitan University
MNCs	Multi - National Corporations
MOQ	Minimum Order Quantity
M Phil	Master of Philosophy
M Sc	Master of Science
MRP	Material Resource Planning
MTO	Make to Order
M2M	Machine to Machine Communication
NA	North America
NIC	Newly Industrialised Countries
NUFLAT	National Union of Footwear, Leather and Allied Trades
OB	Organization Behaviour
OBM	Original Brand Manufacturer
ODM	Original Design Manufacturer
OECD	Organisation for Economic Cooperation and Development
OEM	Original Equipment Manufacturer
OLI	Ownership, Location, Internationalisation
ONS	Office of National Statistics
pa	per annum
PAF	Prevention, Appraisal and Failure
PAYE	Pay As You Earn
PE	Private Equity
PhD	Doctor of Philosophy
PMG	Partly Made Goods
PPE	Personal Protection Equipment

PRC	Peoples Republic of China
PwC	PricewaterhouseCoopers
RBV	Resource Based View
R+D	Research and Development
RCCA	Resources, Capabilities and Core Competence Analysis
RFID	Radio Frequency Identification
RMB	Renminbi
ROI	Return on Investment
SAP	Systems Applications and Products
SARS	Severe Acute Respiratory Syndrome
SATRA	Shoe and Allied Trades Research Association
SBU	Strategic Business Unit
SCA	Sustainable Competitive Advantage
SC	Supply Chain
SCs	Supply Chains
SCM	Supply Chain Management
SCRM	Supply Chain Risk Management
SE	Small Enterprise
SEA	South East Asia
SGSCMF	Stanford Global Supply Chain Management Forum
SKU	Stock Keeping Unit
SMEs	Small Medium Enterprises
SMV	Standard Minute Values
SSO	Strategic Sourcing Orientation
STEM	Science, Technology and Engineering
SV	Sandalvelt
TA	Thematic Analysis
TCE	Transaction Cost Economics
TCO	Total Cost of Ownership
TSS	Toyota Sewing System
UK	United Kingdom
UN	United Nations

US	United States
USD	United States Dollars
USP	Unique Selling Proposition
VA	Value Added
VCA	Value Chain Analysis
VfM	Value for Money
VRIN	Valuable, Rare, Inimitable, Non-substitutable
WIP	Work in Progress
WW2	World War 2
3D	Three Dimensional
3IR	Third Industrial Revolution
4IR	Fourth Industrial Revolution

CHAPTER 1 INTRODUCTION

1.1 Motivation for the Research Project

This research initiative was initially driven by comments in the media and from contacts within the United Kingdom (UK) footwear industry in 2012 with regard to the potential for manufacturing repatriation, (re-shoring), to the UK, within the garment sector and specifically footwear.

The mass transfer of product sourcing to offshore locations, especially of labour intensive fast moving consumer goods was predicated on very low comparative labour costs, creating the opportunity for improved profit margins and for some footwear firms survival itself. However, these costings are now under considerable scrutiny, especially from reshoring lobby groups in the United States (US) and increasingly Europe.

China, has become the world largest manufacturing country for both high tech and low tech products including footwear, but is now experiencing significant labour inflationary pressures, especially in high direct labour content sectors but simultaneously needs to respond to higher value domestic demand which raises the question of how this might impact on resources and capacity currently deployed on behalf of Western hemisphere firms, especially global brands.

There is some evidence of more interest in footwear reshoring to the UK, especially with regard to small and medium size enterprises (SMEs) in order to improve delivery performance into more turbulent and some might say fickle market segments via more agile supply chains (SCs) where advanced technologies may be the potential catalysts.

“Meanwhile the benefits of shorter supply chains are challenging the centrifugal forces of globalisation, encouraging more fashion designers to switch to local manufacturing. The catwalk is so last season; the new era of British fashion is all about the factory”. Jess Cartner-Morley, Guardian Saturday 14th August 2021.

(Note: re-shoring is defined as: transfer of business operations that were moved overseas back to the country from which they were originally located. For this project reshoring and back-shoring, a term used by some European researchers, are considered as one and the same thing but a different phenomenon than on-shoring or in-shoring).

There has been evidence of actual, if limited repatriation in other UK sectors for example Hornby and Pot Noodle in 2013, Aston Martin in 2014, (Wilkinson, 2017). Within the UK garment sector high profile retail brands have undertaken similar initiatives e.g. River Island in 2012, TopShop in 2013 and Jaeger in 2014. (Wilkinson, 2017). Within the footwear industry, Doc Martens (DMs) have moved significant volumes back from China to Northamptonshire in 2016 in order to benefit strategically from ‘Made in England’ (MiE) brand leverage. Clearly a success given the recent high value initial public offer (IPO). Hotter Shoes have also repatriated their ‘closed upper’ outsourcing of ‘partly made goods’ (PMG), back to their factory in Lancashire. Nevertheless, many involved within the UK footwear sector continue to believe, that volume manufacturing will never return to the UK. However, the proposal developed beyond its initial scope of examining re-shoring as it became clear that there was a need to consider wider issues surrounding product sourcing strategies and operations from a global perspective to better understand the thinking behind the sourcing location decisions (McIvor et al., 2013) being considered by UK footwear firms. As a

result a broader research question, emerged as the basis for pursuing this research project.

1.2 Structure of the Thesis

The thesis is structured around seven chapters.

Chapter 1 outlines the background to the research particularly the motivation behind it. Also outlined are the critical issues currently facing the UK footwear sector in relation to product sourcing and subsequently the performance of individual firms in the UK footwear industry. The research question and research objectives are presented in Section 1.9 and 1.10 respectively.

Chapter 2 presents a comprehensive review of the relevant extant supply chain (SC) and product sourcing literature both generic and specific to the UK footwear sector. The review attempts to identify and encompass all sources of initiatives and data especially high quality research publications and other material sources specific to footwear product sourcing supply chains and the influencers of product sourcing location decisions. It also covers literature identifying previous and current research which may have a significant impact on future footwear product sourcing strategy development. Chapter 2 closes with a summary of the core issues, ideas and arguments emerging from the Literature Review.

Chapter 3 sets out the justification for the selected research methodology and approach being adopted. The rationale and justification for the selected research methodologies are presented in line with answering the research question and to meet the research objectives.

The case study and key informant (KI) samples were structured to provide, as far as possible, a representative cross section of the UK footwear sector of those engaged in UK manufacturing or product outsourcing, (case studies), and those engaged in a range of other sourcing related support roles, (KI) to provide triangulation and verification.

In Chapter 4, five case study narratives are presented which have been developed from extensive and accurately transcribed semi structured interviews with key personnel, mostly senior managers or derived from other data sources such as company reports, sector press releases, trade journals and consultancy reports. These core case study narratives are supplemented by seven KI narratives drawn from similar sources to the case studies. A number of them are based on managers with global experience in the footwear industry. One other is an illustration of a successful reshoring strategy.

Chapter 5 critically compares the outputs, (findings), from the data analysis with the main themes emerging from the extant literature review (LR). The main aim is to assess the degree of alignment through the prism of the selected theoretical lens.

Chapter 6 brings together the conclusions and recommendations relating to UK footwear firms product sourcing strategies and identifies a number of core initiatives requiring a rigorous re-evaluation with regard to the development and deployment of future product sourcing initiatives.

Chapter 7 considers whether the research questions have been answered and also whether the research objectives have been achieved. The chapter

then outlines the contribution to knowledge presented in the thesis considering both new theoretical concepts and sector specific management practitioner support by way of advanced decision support tools.

1.3. Underpinning Global Economic Shifts

The momentum for widespread global economic shifts, was driven partly by the success of open economies combined with highly aggressive reforms aimed at even more open economic policies. (Johnson and Wasson, 2010).

Early extant literature posited that a number of economic crises accelerated the move towards the dominance of markets (Conaghan, 1996; Dornbusch *et al.*, 1995; O'Donnell, 1994), creating momentum for global shifts towards a more liberal economic policy (Breznitz and Murphee, 2015).

Simultaneously, the more strategically balanced initiatives of the Chinese government in pursuing economic policies opening up access to its low cost labour resources which further precipitated the mass transfer of manufacturing from the Western hemisphere to the Far East (FE).

Significantly, Van den Bossche (2013) suggests that Chinese manufacturers possess the ability and resilience to know how to remain competitive through the longer term.

In the Run of the Red Queen, Breznitz and Murphee (2015) make a similar observation with regard to the likely direction of globally located manufacturing, most significantly that despite global pressures, China will continue to dominate world manufacturing in most sectors by also adopting leading edge technologies in order to reduce direct labour costs i.e. those most likely to accelerate defensive responses to Western hemisphere

reshoring initiatives. Nevertheless, other emergent economies, particularly Brazil, Russia and India will present competition for China. (Tristao *et al.*, 2013). Significantly, India has recently emerged to present potentially attractive alternatives for investment opportunities, as the Chinese economy begins to over-heat (Meehan, 2011).

1.4 UK Footwear Sector: Growth and Decline Post 1945

UK footwear manufacturing within the sector began its slow decline, perhaps at first un-noticed, from as early as the mid nineteen seventies. What had been a craft industry before the Second World War (WW2) underwent a transformation immediately following it, initially as a result of the adoption and widespread implementation of US productivity improvement techniques such as method study and work measurement. As a consequence, a number of far sighted leading shoe making firms recognised the potential for growth and were able to deconstruct the shoemaking process to facilitate the application of Taylor's (1911) Principles of Scientific Management to the shoemaking process into a series of smaller highly repetitive engineered tasks which could be measured and hence timed as the basis for the introduction of incentives based payment systems. In turn, this accelerated the growth in high volume manufacturing within the sector which led to the capability to deliver high volume quality products at affordable high street prices.

By the early- Eighties it became clear that incentive based payment systems had become highly inflationary, costly to maintain and the root cause of industrial conflicts, some protracted. As a response, a number of major

manufacturing firms adopted alternative approaches such as modular manufacturing e.g. TSS (Toyota Sewing System), in a vain attempt to maintain a significant domestic manufacturing presence and to better service domestic markets and provide a more competitive basis for exports. In this way they would continue to benefit from flexible and agile sourcing supply chains with the capability to respond to very fickle price sensitive markets.

However, the growing capability of significantly lower cost manufacturing in the Far East, initially in South Korea and Taiwan and then in China, resulted in the rapid increase in highly competitive imports into the UK, particularly at the bottom end of the market. As the manufacturing capability in the Far East improved and UK manufacturing costs could not be contained or reduced, it became clear that many of these major firms had little alternative but to transition from domestic manufacturing to outsourcing offshore simply in order to survive resulting in an accompanying re-alignment in the structure of footwear firms, their capabilities and core competences.

Regardless of some (passive) resistance, mostly from the sector trade unions such as NUFLAT (National Union of Footwear, Leather and Allied Trades), the mass transfer of footwear manufacturing underpinned by labour cost arbitrage strategies (Williamson, 1979; 2008; Tadelis and Williamson, 2012) was accomplished over a period of around twenty years and resulted in widespread UK shoe factory closures (Lowder, 1998) and with it the highly dependent upstream supply chain infrastructure including tanneries and component manufacturers collapsed.

1.5 Footwear Product Sourcing Trends

Since the mid Nineties, footwear product sourcing by UK footwear firms has been increasingly dominated by product outsourcing offshore especially ‘far-shoring’, (authors term), from very large manufacturers in China and the FE. (See Table 1.1 below).

	1995	2000	2005	2010	2015	2020
China	4270	5750	9050	10120	11322	9645
India	2650	3350	3900	5746	6640	6433
Vietnam	216	445	645	762	927	1473
Indonesia	547	500	555	604	733	780
South Korea	215	163	95	85	85	80
Taiwan	138	92	60	60	57	57
Brazil	500	585	806	813	944	764
Pakistan	345	385	390	359	386	262
Bangladesh	355	385	435	572	608	672
Mexico	180	290	238	244	250	226
Iran	110	105	145	170	157	144
Turkey	159	250	200	190	195	176
USA	227	98	34	28	37	36
W. Europe	1494	1324	1012	826	805	718
UK	103	36	7	4	6	5
Sub-total	11509	13758	17572	20583	23152	21481
Global Total	13444	15584	19498	22631	25341	23884

Table 1.1

Global Footwear Production 1975 – 2020 (millions pairs)

Source: Steve Lee Associates (2015, 2020); Cleaver (2015, 2017, 2020)

Already very small net margins being achieved within the UK footwear sector were further eroded from increasingly higher overhead costs aggravated by higher direct labour costs stemming from excessive pay awards and distortions arising from complex piecework based incentive schemes.

UK firms could see the benefits from outsourcing high volumes from low labour cost countries especially in the FE which would swiftly increase profit margins. Once this shift commenced it became almost impossible to reverse the trend for many UK footwear firms.

The data presented in Table 1.1 confirms the rapid escalation in FE imports from 1995 onwards. Whilst China's output of footwear manufacturing has fallen away considerably since 2015, it continues to be the world's largest single producer of footwear. The decline in volumes in China, (and to a lesser extent, South Korea and Taiwan), can largely be attributed to:

- (i) government economic policies directed at prioritising investment in higher tech sectors
- (ii) labour cost inflation, especially in China
- (iii) capacity constraints in China, (single child policy) aggravated by the lack of attractiveness for working in labour intensive and relatively unpleasant factory conditions
- (iv) improving infrastructures in competing footwear manufacturing countries in Asia and other regions e.g. India and Central America

Recently, increasingly more UK footwear firms product sourcing has been focused on maintaining or increasing profitability from switching to sourcing

from other lower cost FE countries such as Vietnam, Laos and Cambodia alongside a resurgence in Indonesia.

India has now emerged as the major competitor to China, especially in the supply of higher specification products positioned to sell in to high end segments of the UK market and in Western Europe and may overtake China if growth in volumes continues at their current rate.

As a consequence little is left of the high volume UK domestically manufactured footwear sector supply chain. Consequently skilled labour has become scarce and shoemaking knowledge both explicit and tacit has evaporated rapidly over a relatively short period of time. Table 1.2 below suggests that a small recovery in volume has been achieved since the 2008 crash and is likely to be attributed to growth in exports.

The question emerges as to whether such trends will result in further reconfigurations in footwear manufacturing capacity continue through the next five years and how they might affect UK footwear product sourcing strategies.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
M Prs	4.1	3.8	3.6	3.9	4.1	5.5	5.7	5.8	5.9	6.0	4.9

Table 1.2

UK Footwear Production 2008-2016 (Millions of Pairs)

Source: Steve Lee Associates (2017, 2021)

From Table 1.3 shown below it would appear that the number of trading UK footwear manufacturing firms has levelled off. However, there is some vagueness stemming from different data bases.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mfrs	70	64	61	60	60	61	63	61	58	52	49
Employees	2200	2110	1730	1700	1680	1695	1720	1690	1650	1630	1530

Table 1.3

Manufacturing Firms and Employees: UK Footwear Sector (2008-2017)

Source: Steve Lee Associates (2017, 2021)

Note: In 2008 the Office of National Statistics (ONS) changed the basis of collecting data to include 'pay as you earn' (PAYE) employees. Their figures reveal that there were 220 manufacturers, (of which 125 have less than five employees), employing circa 4500 in total.

Consequently, what remains in the UK is a "rump" of production mainly located in Lancashire and in the Northamptonshire cluster, which is almost entirely centred on high end men's welted production (Cleaver, 2015; 2017) stemming from strong demand in export markets, especially the FE, where consumers are eager to buy high specification, high image niche brands and the kudos attached to the MiE label. (McClaren *et al.*, 2002)

1.6 A Changing Landscape: Footwear Sector Economic Trends Beyond 2015

Until 2015 there looked to be a degree of stability within the UK footwear sector in terms of volumes manufactured in the UK and those outsourced offshore. There are now noticeably new pressures squeezing many UK

footwear firm's profit margins, most critically where firms are wholly dependent on far-shoring and particularly those sourcing exclusively in the Far East and those heavily dependent on Chinese suppliers.

Prices are now increasing from Chinese suppliers, mainly as a result of rampant labour cost inflation in the Chinese economy. This has resulted in some degree of convergence of the cost differential between themselves and other low cost global footwear manufacturing regions such as South America and Eastern Europe (EE) who are also seeking to compete for Western brands lucrative high volume business.

China is also beginning to respond to potentially more lucrative higher domestic demand which raises the question of how this might impact on their export manufacturing capacity. As the pace of technological innovation continues, this too will need to be given due consideration within the context of the sourcing location decision (McIvor, 2013).

1.7 Strategic Sourcing Shifts

Under these circumstances how do UK footwear firms respond? Do they continue to pursue product sourcing strategies predicated on 'labour cost arbitrage' or do they consider other strategic options particularly the potential alternative sourcing locations options facilitated by new technologies such as Industry 4.0 (Branger and Pang, 2015) in order to address falling profitability. Limited 'nearshoring' strategies are already being pursued by some firms in order to achieve more agile supply chains bringing outsourcing closer to existing and target markets given the need to respond to significant shifts in the nature and speed of change in UK and global consumer demand further

fuelled by the growth in digital channel distribution. (Gereffi and Memedovic, 2003)

1.8 Research Questions

Given the projected economic shifts outlined above and from future forecasts within the apparel sector e.g. Distler et *al.*, (2014) the research is centred on answering two critical questions:

1. How have UK footwear firms responded to shifts in global economic conditions within the context of their global sourcing strategies?
2. What might be done to improve the product sourcing strategies of UK footwear firms?

1.9 Research Objectives

Stemming from the research question, the project seeks to achieve a limited number of objectives:

- (i) rigorously evaluate a representative sample of UK footwear firms resources and capabilities with regard to the development and deployment of future product sourcing strategies
- (ii) critically review product sourcing strategies of UK footwear firms to facilitate the creation of new theoretical frameworks relevant to the sector and possibly to the wider apparel industry
- (iii) develop a usable set of revised or additional sector specific practitioner strategic decision support tools

1.10 Research Imperative: Identifying the Problem

In attempting to answer the research questions there is an urgent need to put a 'stake in the ground' in order to shed more light on the viability of current UK footwear firms product sourcing strategies if the sector is to survive even with its current largely domestic ownership and structure. Long term there is a very high risk of the sector shrinking to an industry comprising of little more than small enterprises (SEs) and micro firms where a best case scenario is the possibility of widespread foreign ownership of high profile global/internationally known UK brands focused only on front end functions. The aim is to better understand the thinking and approach being taken by influential UK based global brands to future product sourcing.

1.11 Criticality of the Research Work

The UK footwear sector has now reached a cross roads where there is evidence from a number of sources e.g. mainstream media; recent take-overs of global brands (C&J Clark), company reports and research papers which cover product sourcing strategies, particularly those relying heavily on far-shoring in the Far East (FE) are becoming increasingly problematic resulting in declining firm performance, most significantly net profit margins and stock related overhead costs. Consequently, there is an urgent need for industry associations such as the British Footwear Association (BFA), business owners and senior managers within the UK footwear industry to critically review their current and proposed future sourcing strategies if a further significant decline in the sector is to be avoided in order to head off all but an existential threat.

In this regard, the aims of the research project within the context of contribution to knowledge are to:

- (i) develop new theoretical concepts drawing on both transaction cost economics (TCE) (Williamson, 1979, 2008, 2005; Tadelis and Williamson, 2012) and the resource based view (RBV) (Barney, 1991, 2012; Wernerfelt, 1984, 2020) theoretical lens which will underpin the development of
- (ii) a set of complementary upgraded decision support tools which will enable management practitioners engaged in product sourcing to make better informed choices on the (sourcing) location decision (McIvor, 2013)

1.12 Research Methodology

The research methodology in Chapter 3 is predicated on constructing multiple case studies (Yin, 1984; 1994; 2003a; 2011; 2015; 2018) and subjecting them to cross case analysis (Hines, 2016) in order to better understand the thoughts and actions of those responsible for developing and influencing future product sourcing within the UK footwear sector.

It is anticipated that the research will make a contribution to knowledge by:

- (i) advancing theories relating to the impact of TCE (Williamson, 1979; 2008, 2005; Tadelis and Williamson, 2012) and RBV (Barney, 1991, 2012; Wernerfelt, 1984, 2020) relevant to UK footwear product sourcing strategy in order to identify strategic imperatives

- (ii) providing a set of upgraded 'decision support' tools for management practitioners within the sector such that a multiplicity of perspectives can be viewed

1.13 Closing Remarks

It is hoped that what has been set out above provides a comprehensive introduction to the research project. It is considered that for this research project, it is essential to provide some context for what follows. Footwear, especially UK manufacturing, is a relatively small idiosyncratic industrial sector where its 'quirkiness' has significant implications for the development and deployment of future product sourcing strategies within an increasingly globally distributed supply chain and therefore identifying what forces shape future approaches to the location decision (McIvor, 2013).

CHAPTER 2 LITERATURE REVIEW

The approach to the literature review is underpinned by a desire to exhaustively identify all aspects of extant literature and data pertaining to product sourcing and more significantly any research initiatives which are both specific to the UK footwear industry, the industry at a global level, where appropriate research relating to the wider apparel sector, labour intensive industries which display characteristics similar to the footwear sector and generic literature which better informs answering the research questions and meeting the research objectives.

From a sector perspective, an initial search suggests that footwear supply chain and product sourcing research material is quite sparse and therefore identifying appropriate material presents a significant challenge to structure the most relevant literature review.

2.1 Structure of the Literature Review

The literature review is structured around four main sections.

Section 2.1 and 2.2 describe the over-arching approach to the literature search and conveys both the breadth and depth of the subjects covered in relation to product sourcing. A broad based 'pathfinder' model has been constructed to guide the initial phases of the literature search (see Figure 2.1) (The model was constructed primarily from extensive literature searches conducted in the process of the transfer process from M. Phil to the Doctoral Programme).

Section 2.3 examines the literature pertaining to the selection of the appropriate theoretical lens. A framework to assist in the selection of the theoretical lens is shown in Figure 2.2.

Section 2.4 covers sector specific research relating to any issue adjacent to product sourcing, focusing mainly on product sourcing strategies, the location decision, theories and concepts covering alternative approaches to outsourcing and aspects of product sourcing risk.

Sections 2.5 to 2.8 then proceed to consider other mainly sector specific issues which may have an impact on current product strategic sourcing decisions including:

- (i) supply chain management
- (ii) supply chain agility
- (iii) supply chain and product sourcing risk
- (iv) knowledge, know-how and skills
- (v) costing and costing methodologies
- (vi) impact of technology, especially Industry 4.0, as a location decision influencer

Finally, in Section 2.9 the most significant emergent themes relating to the 'make or buy' decision from the literature are identified and summarised.

2. 2 Broad Strategy and General Approach

The strategy and approach to the creation of a comprehensive review of the extant literature relating to product sourcing strategy in general (non-sector specific) has drawn on:

- (i) generic research material and outputs mined from a diversity of sources, including relevant theoretical models, frameworks and taxonomies which have already been developed to provide support to management practitioners e.g. as decision support tools
- (ii) research publications, relating specifically to the UK and global footwear sectors
- (iii) researcher's own extensive global footwear sector expertise, experience and knowledge in footwear management and subsequent consulting in international assignments mostly covering survival critical issues for high profile footwear firms

2.2.1 Identifying the Literature Research Gap

Within the context of footwear product sourcing as it relates to the UK footwear industry, the search for relevant extant literature, relating to the footwear sector, can only be described as very sparse. In this regard it is important to differentiate between apparel research (over-arching) and footwear specific literature and data given the nuanced characteristics of footwear manufacturing. Consequently, the literature review, by necessity is broadly based rather than dealing with footwear specific issues and themes in depth

2.2.2 A Note on Footwear and Garment Manufacturing: Extant Literature Research Outputs

There is a tendency from those with little knowledge of the industry to see footwear within the umbrella of apparel manufacturing. However, whilst clothing and footwear use similar manufacturing processes i.e. 'cut, stitch

and finish' (CSF) in apparel, production processes in shoemaking are more numerous and more complex.

To provide some illustrative information, there are over 174 processes and 210 individual operations performed in the manufacture of a Goodyear welted shoe, (source: Coats website), assembling often more than 30 components, many of which are not visible to the wearer. As such, product complexity significantly impacts on footwear product sourcing supply chain operations and risks (Cooper, 1987; Svennson, 2001; Harland et al., 2003; Meixell and Gargeya, 2005), particularly with regard to design, product development and volume engineering in global fashion (Masson et al., 2007).

2.2.3 Scope of Extant SC and Product Sourcing Literature

Dominant general themes which might also apply to the footwear industry include: automation and other advanced technologies; clustering; costs and costing; globalisation; mass customisation (MC); manufacturing; SC historical perspectives; SC management and SC risk; sourcing location decision; re-shoring and finance.

2.2.4 Literature Review: Data Sources

The following sources have been used within the literature review:

- (i) research and journal articles/publications i.e. academic management research from numerous sources but particularly published 3, 4 and 5 star journals which cover not only subject areas core to answering the research question and meeting the stated objectives, e.g. product sourcing and supply chain research but also those, which at the outset, may appear to be peripheral to

the discussion but may come to play a more central role in developing and deploying future product sourcing strategy within the UK footwear sector

- (ii) PhD theses (Doctor of Philosophy) and others such as Master of Philosophy (M Phil) and Master of Science (M Sc) theses relevant to the research topic
- (iii) high profile management consultancy publications especially from 'blue chips' such as McKinsey, Deloitte, Boston Consulting Group (BCG), J.T. Kearney reporting on footwear or related sector reports issues or initiatives
- (iv) sector specific consultants, particularly advisory footwear agents; freelance product sourcing management consultants; footwear technical consultants, especially those who produce written reports/articles relating to supplier problem solving issues
- (v) specialist sector active leading edge commercial technology firms publications e.g. Shoemaster CAD/CAM systems (Computer Aided Design/ Computer Aided Manufacturing)
- (vi) relevant governmental/EU/institutional reports e.g. UK Government Industrial Strategy
- (vii) mass media e.g. daily newspapers
- (viii) social media e.g. blogs/Google alerts from sector related bloggers
- (ix) trade journals other sector publications e.g. Drapers
- (x) trade representative bodies such as the BFA who undertake limited sector based research projects but are also a primary

source of industry statistical data including a comprehensive list of UK footwear firms (BFA database)

- (xi) sector research organisations such as the Shoe and Allied Trades Research Association (SATRA)
- (xii) universities and colleges e.g. De Montfort University; Central St Martins School of Art (London) offering footwear related courses
- (xiii) market research publications e.g. (MarketLine)
- (xiv) relevant research from other apparel sectors such as garment manufacturing (Drapers)
- (xv) Internet based material especially statistical data bases e.g. Statista

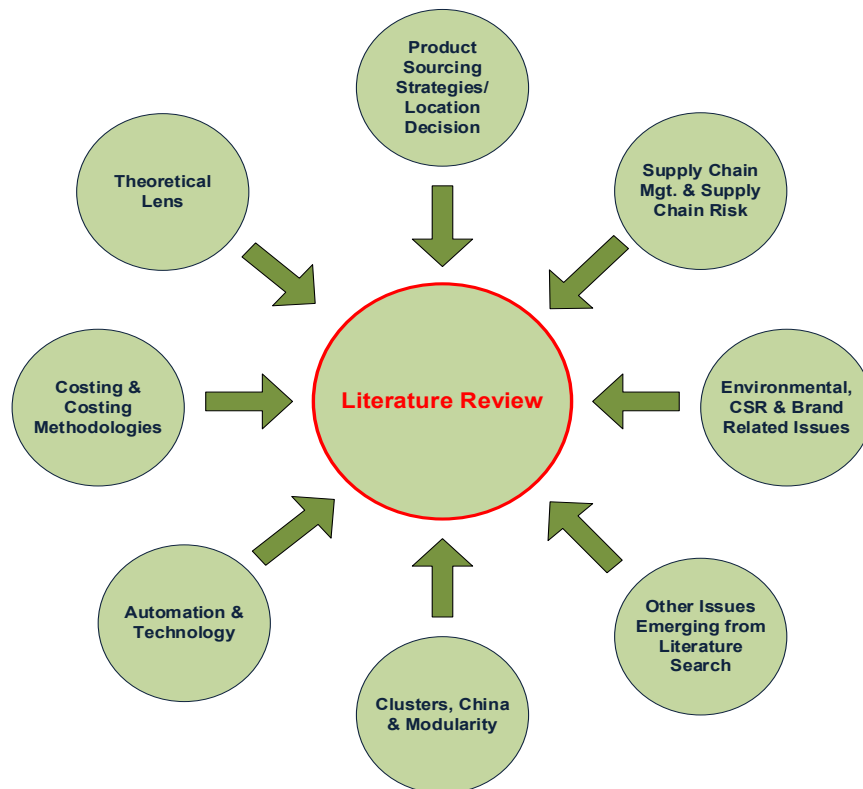


Figure 2.1

Pathfinder Literature Search Framework

Source: Author

2.3 Selection of Appropriate Theoretical Lens

Considerable attention has been given to selecting the most appropriate theoretical lens through which to view this project and case study research consistent with Yin (1994, 2011, 2018, 2015) who maintains that, unlike other qualitative research designs, theoretical perspectives must be identified at the outset of the research project, given their influence and impact on all phases of the enquiry from the framing of the research question, through analysis and the explication of the research findings. Yin states that:

“the complete research design embodies a theory of what is being studied drawn from the existing knowledge base” (p.28).

Within the context of the UK apparel sector, both TCE (Williamson, 1979, 1985, 2008) and RBV (Barney 1991, 2012; Wernerfelt, 1984, 2020) were initially viewed as the potentially most relevant given the:

- (i) current dominance of labour cost arbitrage strategies
- (ii) continuance of historically low net profit margins generated by labour intensive high cost manufacturing within the sector, primarily characterised by the use of relatively low technology processes
- (iii) criticality of upgraded resources and capabilities for successfully implemented non far-shoring product sourcing strategies

The relevance of TCE and RBV as the theoretical lens was further significantly influenced by the work of Hatonen and Ericsson (2009), specifically their review of Product Sourcing Applied Theoretical Frameworks (see Figure 2.2). They review the then extant literature relating to the

selection of the most appropriate theoretical lens for studying product sourcing regarded as most pertinent to sourcing strategy and the location decision (McIvor, 2013) stress the need to answer five key questions, namely: Why? How? What? Where? When?

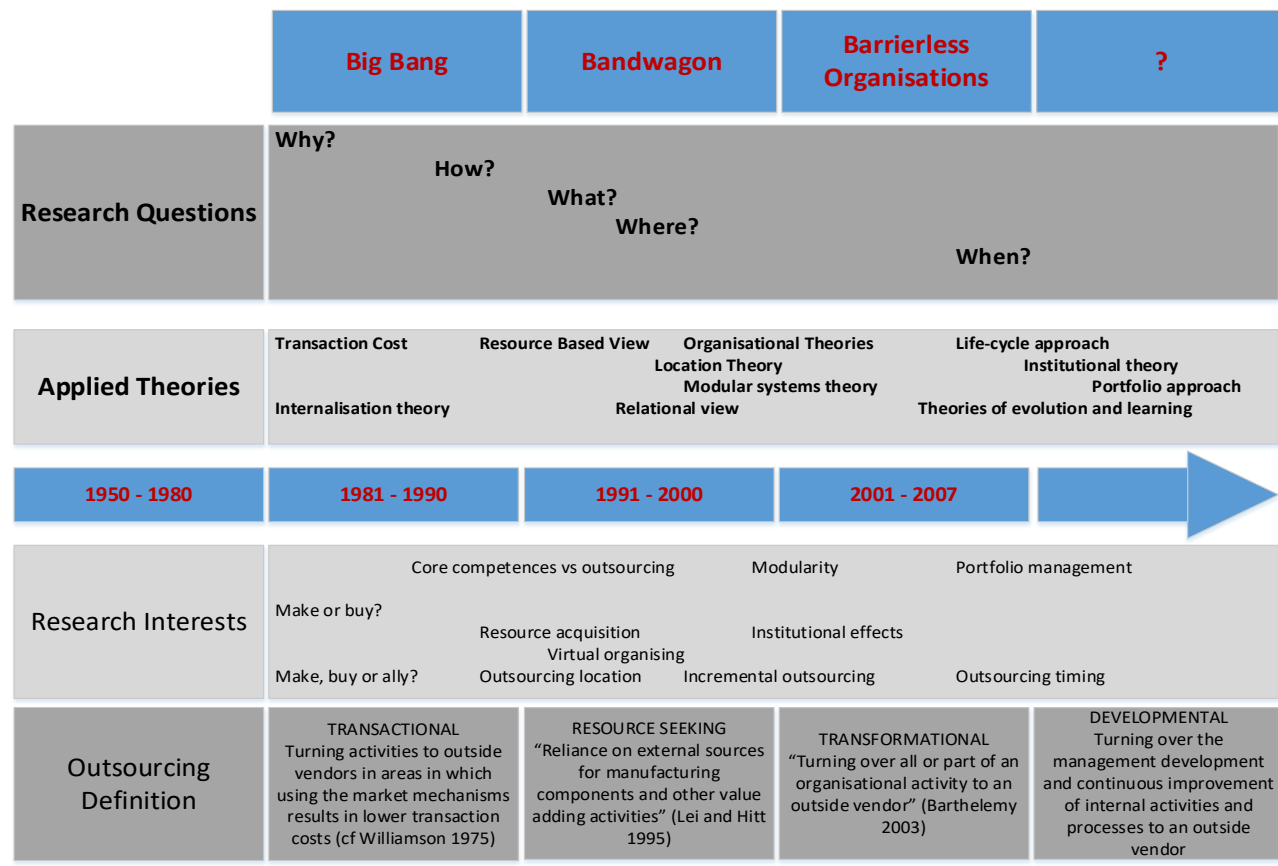


Figure 2.2

Evolution of Product Sourcing: Applied Theoretical Frameworks

Source: Hatonen and Ericsson (2009)

Simon (1962) and Alexander (1964) raise the idea of “*transformational outsourcing*” in line with TCE and RBV models through the creation of what they call an “*adaptive modular organisation*”. Morgan (2003) suggests that transformational outsourcing should be preceded by incremental learning, underpinning the need for a new *adaptive enterprise* (Linden, 2004; Kinder et

al., 2003; Mazzawi, 2002) raising the issue of greater SC agility (Christopher, 2000).

Ellram *et al.*, (2008) conducted research on the application of transaction cost theory relative to the transfer of organisational tasks initially undertaken internally to an external organisation and concluded that relationship costs exceeded operational costs and additionally presented a substantial number of unmanageable risks.

Fill and Visser (2000) remark on the challenges of the sustained trends of doing concurrent business e.g. maintaining momentum in core organisational activities whilst simultaneously leveraging external resources, skills, knowledge, capabilities and competences i.e. in this case pursuing labour cost arbitrage strategies whilst simultaneously upgrading supply chain management capability emphasizing the relevance of RBV. Fine *et al.*, (2002;) similarly contend that a company's real value is its core competences, but that it is necessary to be aware of how well these are aligned with the operating system (i.e. all organisational routines).

Kakabadse and Kakabadse (2005) point to the criticality of network competence in the development of high performance sourcing operations. Similarly, Harland *et al.*, (2005) state that what cannot be challenged is that the management of the sourcing relationship is essential.

Significantly, in the development of a "*prescriptive outsourcing framework*", McIvor (2000) suggests that TCE and RBV have never been used in combination. Other researchers also maintain that they are often complementary, (Ellram *et al.*, 2008; Vivek *et al.*, 2008; Holcomb and Hitt,

2007; Jacobides and Winter, 2005) further strengthening the case for using both TCE and RBV as both individual and complementary theoretical lens for this research project.

Whilst the study of outsourcing in general is increasingly being viewed through a multiplicity of alternative theoretical lens, TCE emerged as a preferred perspective by a number of academics e.g. (Ellram et al., 2008; Youngdahl and Ramaswamy, 2008; Hatonen and Ericsson, 2009).

Mclvor (2013) argues that effective governance (Masten, 1993) through transaction analysis does not compromise the quest for CA. He further maintains that firms “*should consider the level of transaction specific investment in the economic exchange*” as the primary consideration in determining whether an economic exchange should be expedited internally (make) or externally (buy). Within the context of operations management much of the strategic focus is on the make or buy decision (Mclvor, 2009; Fill and Visser, 2000) and its implications for the whole supply chain.

2.3.1 Alternative Theoretical Approaches

However, there is has been increasing recognition by academics that the study of outsourcing, (and outsourcing performance), should apply multiple theoretical lens (Ellram et al., 2008; Youngdahl and Ramaswamy, 2008; Grover and Malhotra, 2003).

Hatonen and Ericsson (2009) suggest that Network Theory (Johanson and Mattsson, 2015; Hakansson and Johanson, 1992) might have benefit to gaining a better understanding of networking capability as it impacts on product sourcing performance. In this regard they refer to the need to

develop a capability to 'manage arm's length transactions'. Similarly, Schilling and Steensma (2001) observe that a "*tightly integrated hierarchy is replaced by loosely coupled networks*".

Agency theory (Zsidisin and Ellram, 2006) has relevance particularly for small enterprises (SEs) using footwear agencies as intermediaries (Cole and Atkin, 2020) to buy small volumes and close buyer-supplier relationships (Christopher, 2000) are frequently considered as the strategic imperative for SEs where stock risks outweigh labour cost arbitrage.

Verdu *et al.*, (2012) suggest that re-shoring can be approached from a wide range of alternative theoretical perspectives such as Ownership, Location and Internationalization (OLI) (Dunning, 1980); Agglomeration (Steinle and Schiele, 2008; Porter, 1998); International trade (Grossman and Rossi-Hansberg, 2006).

2.3.2 Selected Theoretical Lens

Given due consideration to alternative theoretical perspectives TCE and RBV have been selected as the theoretical lens through which to view the research outputs. The rationale behind this decision is the significance of the Why? How? What? Where? When? Questions raised by Hatonen and Ericsson (2009) are considered central and critical to the development and development of footwear product sourcing strategies.

Consequently, and having given due consideration to a significant number of theories relating to outsourcing it has been decided that:

- (i) TCE is most relevant to current sourcing strategies given that they are predicated on labour cost arbitrage. The approach will factor in

- Williamson's (1985) model (see Figure 2.3) giving due regard to the significance of asset specificity (Williamson, 1979; De vita, et al., 2011; Geyskens et al., 2006) opportunism and transaction frequency within the sector and environmental shifts
- (ii) appropriateness of RBV (Barney, 1991, 2012; Wernerfelt, 1984, 2020) in relation to existing UK footwear manufacturing and the feasibility of both on-shoring and manufacturing repatriation, (re-shoring), given current resources, capabilities and core competence of UK footwear firms in addition to evaluating the potential impact of emerging sector specific paradigm shifts e.g. new technologies based on cyber physical systems (CPS)
 - (iii) specific themes and key words relevant to both TCE and RBV will be applied to the selected research methodology



Figure 2.3

Transaction Cost Effectiveness

Source: Williamson (1985)

A primary research conceptual model has been constructed and is shown in Figure 2.4 with the aim of providing a base framework for viewing product sourcing for both the extant literature and research data outputs.

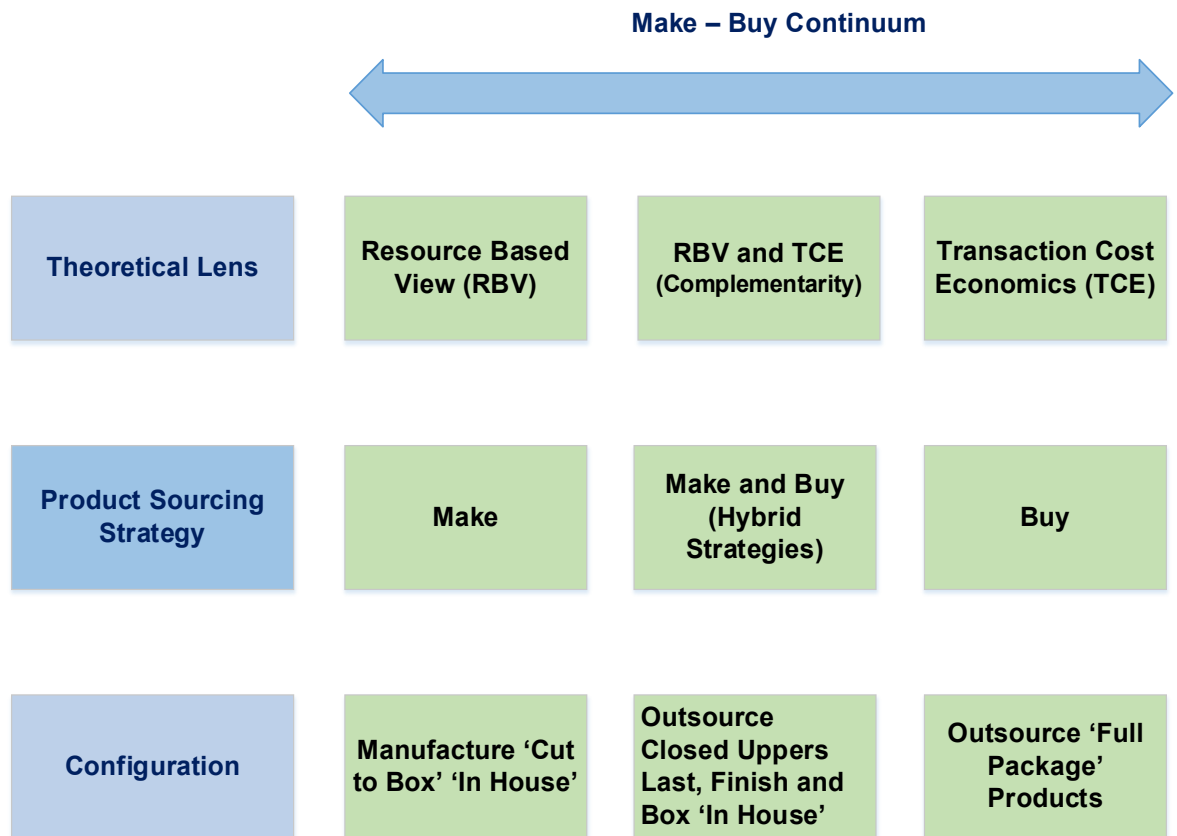


Figure 2.4

Primary Theoretical Model: Make or Buy

Source: Author

2.3.3 Critique of TCE and RBV

Within the context of the research topic it is firstly beneficial to consider a number of observations regarding the validity of the use of RBV (Barney, 1991, 2012; Wernerfelt, 1984, 2020) and TCE (Williamson, 1979, 2008, 2005; Tadelis and Williamson, 2012) in relation to ‘make or buy’ and the subsequent location decision (McIvor, 2013) within the context of the development of a firms product sourcing strategies.

2.3.3.1 TCE

The following section examines the concept of Transaction Cost Economics (TCE) within the context of footwear product offshore outsourcing and the current strategic dominance of labour cost arbitrage. The review is centred on the work of Ghoshal and Moran (1996). TCE is predicated on two key assumptions about the behaviour of decision makers. One is that they exhibit '*bounded rationality*' (Simon, 1991; Foss, 2003). The second is that some managers may behave opportunistically to promote their own self-interests and objectives (Williamson, 1979). The risk associated with *appropriability* or value capture is observed by others (e.g. suppliers) due to, for example, the loss of intellectual property (IP) (Gulati and Singh, 1998; Oxley, 1997; Pisano, 1990) is a related concern.

Klein et al., (1978) and Williamson, (1979, 2008; Tadelis and Williamson , 2012) both refer to '*post contractual opportunistic*' behaviours such as the *economic hold up problem* in the renegotiation of contract terms in order to enhance greater economic value. (Within footwear outsourcing many firms employ rolling contracts with long term suppliers in order to minimise SC disruption and delay).

Production and operations management literature has suggested that in the presence of demand uncertainty, (market turbulence) and low asset specificity (a characteristic of footwear outsourcing), sourcing from a common supplier or vendor can be beneficial for mitigating a multiplicity of outsourcing risks (Chaturvedi and Martinez-de- Albeniz, 2016).

Where there is evidence of greater and faster technological change, firms may be less inclined to invest in supplier non re-deployable or re-usable

assets for fear of technological obsolescence. The development of Industry 4.0 technologies (4IR) (Branger and Pang, 2015) will further escalate this risk. This represents a case where uncertainty leads endogenously (i.e. strategically) to pursuing low asset specificity and thus is more likely to increasingly favour outsourcing initiatives, such as joint ventures, over make (Balakrishnan and Koza 1993; Lajili et al., 2007; Hennart, 1991).

Williamson (1979, 1986, 2008) and other TCE theorists (De vita et al., 2011; Geyskens et al., 2006; Grossman and Hart 1996; Hart and Moore, 1990) with regard to commonalities argue that higher levels of asset specificity also precipitate greater vertical integration.

Alchian and Demsetz (1972) remark on the difficulties associated with evaluating individual product rather than total supplier productivity. From a measurement perspective the focus should not be on the level of asset specificity but the capability of the buyer to evaluate the overall competency of the supplier.

Ghoshal and Moran (1996) in critiquing TCE, specifically the version of TCE developed by Williamson (1979, 1985, 1993b; 2008) suggest that it has become an increasingly more important anchor for the analysis and evaluation of a wide range of strategic and organisational issues which may have considerable significance for firm performance. Nevertheless, they argue that TCE is inappropriate and a potentially dangerous model to use as a basis for guiding management practices, particularly as a panacea for the resolution of deep rooted strategic and organisational issues. They maintain that TCE is based on a set of (challengeable) assumptions:

- (i) human behaviour is characterised by opportunistic traits
- (ii) success is often evaluated on a single performance criterion which ignores alternative and potentially more viable strategic options
- (iii) efficiency is the benchmark that determines the desirability of an outcome (Williamson 1991d).
- (iv) close hierarchical control does not necessarily constrain opportunistic behaviour.

TCE has been widely criticised by a number of other researchers:

- (i) possesses limited applicability due to an '*ethnocentric bias*' (Dore, 1983)
- (ii) attempts to influence, rather than better understand behaviour (Masten et al., 1989)
- (iii) concerned primarily with its normative implications (Pfeffer and Cohen, 1984)
- (iv) ignores the broader environment within which human actions are grounded and therefore presents an '*under - socialised view of human motivation and an over socialised view of institutional control*' (Granovetter, 1985)
- (v) integrates a subversive ideology that distorts (perspectives) rather than illuminates (Perrow, 1986)
- (vi) dominated by *ad hoc theorising*' which is far removed from reality (Simon, 1991)

From this critical platform, Ghoshal and Moran (1996) refer to a number of strategic and organisational issues which have been influenced by TCE, all

of which have resonance within the context of product sourcing within the UK footwear sector:

- (i) distribution strategy (Anderson and Schmittlein, 1984; John and Weitz, 1988)
- (ii) international expansion (Buckley and Casson, 1976; Hennart, 1982; Rugman, 1981; Teece, 1983)
- (iii) strategic alliances (Balakrishnan and Koza, 1993; Hennart, 1991)
- (iv) vertical integration (Masten et *al.*, 1989; Monteverde and Teece, 1982; Walker 1998)
- (v) design of internal (and external) incentive schemes/systems (Harris and Raviv, 1978; Hitt et *al.*, 1998)

They caution against what they regard as the growing tendency of organisations to apply TCE for prescriptive (problem solving) reasons. Similarly, Meyer et *al.*, (1992) maintain that Williamson turns a relatively common phenomenon, (opportunism), into a behavioural assumption which they consider to be an *extreme caricature* of human nature. i.e. lying, stealing and cheating. A critical concern for Ghoshal and Moran (1996) is the impact of hierarchical governance mechanisms (Masten, 1993) constraining opportunistic behaviour in firms claiming that Williamson (1979) has presented no empirical evidence to support his arguments.

They suggest the immanence of more complexity and ambiguity within organizational relationships where:

- (i) over bearing oversight and control generally increase overhead costs. Many UK footwear firms have abandoned close supplier supervision for this reason
- (ii) hierarchical controls and protocols frequently have a negative impact on the 'entity' (e.g. supplier efficiency may be reduced as a result of the presence of a surveillance culture)
- (iii) governance resources often deflect resources away from other higher priority roles and functions, (opportunity costs), thus leading firms towards becoming progressively more uncompetitive

Opportunism on the other hand, they suggest, in many cases, is of little concern with perhaps the exception of counterfeiting or threats to IP, especially with regard to global brands. This view appears to be shared by Hill (1990) who regards the threat of opportunism in many markets and operations to be somewhat exaggerated.

Ghoshal and Moran (1996) suggest that there is no systematic evidence that for any type of transaction, the internal superiority of one governance model has effectively superseded another, even in a very competitive environment. They maintain that individual firms adapt relatively autonomously in response to market signals, such that an incremental emergent process results with little concern for its direction or for its '*future states*' (Hayek, 1945). Ghoshal and Moran (1996) refer to this as '*autonomous adaptation*' drawn from '*purposive adaptation*' (Bernard, 1938) which display two distinct features:

- (i) known or relatively predictable prices which facilitate "*the marvel of the market*" to work efficiently (Simon, 1991). (The concept of failed or missing markets (Meyer et al., 1992) as a source of

organisational advantage has long been a component of most versions of TCE).

- (ii) displays a bias against '*static efficiency*' i.e. considers the available options as effectively as possible by directing resources and capabilities away from the least efficient and more towards high yield uses

Williamson's claim that "*economy is the best strategy*" (1991d: p. 77) does not recognise that efficiency has both static (short term) and dynamic properties (longer term) such that what may be efficient in the short term may not be the case in the longer term. Ghoshal and Moran (1996) also suggest that Williamson disregarded innovation related initiatives that are perceived as efficient only in a dynamic sense and consequently may defy the 'close fit' necessary for SC coordination. (Within the UK footwear industry, innovative dynamics have been largely abandoned). A view supported by Dosi and Egidi (2000) who remark that one of the reasons for this vacuum may stem from the fact that most activities associated with innovation tend occur within the (sourcing) firm and are therefore not easily described in '*transaction specific terms*'.

From a more general perspective Masten et al., (1989) are scathing of the use of TCE in management and suggests that *they should not bother!* Alongside Coase (1960) they argue that TCE is oversimplified and incomplete, of minimal operational value and as such becomes little more than a distraction to management. They further suggests that opportunism is difficult to differentiate '*ex ante*' from entrepreneurship and leadership such

that oversight deployed to control it eventually constrains or destroys the latter.

Ghoshal and Moran (1996) conclude that the threat of opportunistic behaviour is widespread within outsourcing and consequently the reason why Williamson's theory is so bad for the doing of managing. Williamson himself recognised that excessive or inappropriate organisational controls can lead to '*frustrating and prevaricating compliance*' (1993a), especially when a critical need in organisations is 'end to end' cooperation and greater initiative (Kim and Mauborgne, 1993; O'Reilly and Chatman, 1986) which they say is difficult to measure. They suggest that:

"scholars should stop building on theories of organisations that persist in the myth of the market economy and to develop an alternative theory that acknowledges the reality of the organisational economy".

2.3.3.2 RBV

Kraaijenbrink et al., (2010) identify eight criticisms of RBV and conclude that five lack validity. However, they are supportive of three:

- (i) presence of value, rarity, inimitability and non-substitutability (VRIN) (Chahal et al., 2020) are not adequate to sustain strategic competitive advantage (SCA)
- (ii) resource definition cannot be precisely determined
- (iii) resource value is too complex a concept to accurately quantify in order to construct a viable theory

However, it is argued that where they are supported, it is insufficient to possess only VRIN, they must also be efficiently deployed in order to achieve and sustain CA (Makadok, 2001b; Peteraf, 1993; Peteraf and Barney, 2003).

Bowman and Ambrosini (2000) contend that value can only be determined by the end user. Therefore RBV has limited managerial utility i.e. has little or no operational validity as managers possess little knowledge of how to identify and scope VRIN (Priem and Butler, 2001b). Furthermore, RBV '*creates the illusion of absolute managerial control*' i.e. overstates the extent to which resources can be controlled or predict the required future critical capabilities (McGuinness and Morgan, 2000).

RBV also implies that firms are in a continuous state of regression i.e. current resource capability in one firm today will be surpassed by the creation of superior capabilities in another firm tomorrow (Collis, 1994). (However, in a supposedly low tech sector such as footwear, regression may be regarded as a relatively sluggish dynamic).

Spencer et al., (2002) maintains that RBV is too limited in applicability and only of benefit to large organisations which wield substantial market power. This may be particularly true of global and international brands.

Kraaijenbrink et al., (2010) challenge the view that SMEs resources are more static than bigger firms but suggests that the arguments are weakened when intangible resources are taken into consideration such that competitive advantage (CA) is not sustainable through the longer term. Slipstreaming market dynamics requires greater agility in both resources and capabilities leading to only short term advantages (Fiol, 2001). Greater attention should

be paid to internal coordination and further integration of capabilities which should be viewed via a knowledge based RBV (Foss, 2007). Kraaijenbrink et al., 2010) further maintain that RBV cannot be considered as a Theory of the Firm but suggest that it still has some validity as a '*theory of rent generation and SCA*'. The exploitation of competitors' uncertainty and strategic immobility are underlying conditions from which a SCA may emerge (Foss and Knudsen, 1996). However, SCA is unlikely to stem from a single resource but from a '*synergistic bundle of resources*' (Kor and Leblebici, 2005; Teece, 2007). Similarly, Barney (1991, 2012) argues that the real strength of RBV lies in its inclusiveness, but its critics contend that it merely pushes it from '*theory towards tautology*'. Grant (1996a) comments on the impact of individual resource integration in creating holistic organisational capabilities. He describes this as "*integrative capabilities*".

The approach determining resource value should consider new approaches via the creation and conversion of innovative ideas which can then be fully leveraged from within a number of strategically critical specific resources (DeWitt, 1998; Sarasvathy, 2001; Sarasvathy and Dew, 2005; Baker and Nelson, 2005). A number of academics suggest that establishing resource value is directly linked with the exploitation of entrepreneurial flair, innovation and knowledge creation (Foss, 2007; Kor et al., 2007; Alvarez and Busenitz, 2001).

Coase (1937) contends that even where ability is in evidence, it has little value unless a firm or an individual is given the latitude to use initiative that will determine a significant component of its value. Kraaijenbrink et al., (2010) argue that for RBV to be more meaningful

“it needs to move further towards the Austria model (Menger, 1871) by absorbing time, space and uncertainty purposefully into the RBV”.

2.3.4 TCE and RBV and the Literature Review Framework

Due consideration has been given to the critiques of TCE and RBV summarised above nevertheless an additional framework which integrates them into the main body of the literature review is shown below in Figure 2.5.

The objective is demonstrate the relevance of TCE and RBV to the make or buy decision. In addition extant literature relating to TCE (Williamson, 1979, 1995, 2008; Tadelis and Williamson, 2012; Gibbons, 2010) as complementary to RBV (Barney, 1991, 2012; Wernerfelt, 1984, 2020) is considered alongside TCE and RBV as separate entities. This is particularly significant as footwear product sourcing frequently involves sourcing partly made goods (PMG) which have both a cost (reducing) and resource component (production capacity).

2.4 Product Sourcing

This section considers the extant literature and other sources of data which relate directly to the central issue of product sourcing strategy and other related issues e.g. sourcing supply chain operations and supply chain risk, the location decision and a number of product sourcing concepts which go beyond supplier location.

Figure 2.5 shown below is used as a broad framework to guide the literature review. The various elements of this framework have been identified from a substantial amount of pre-proposal and RD2 research undertaken during the

early stages of the project which have provided a broad 'pathway' in identifying the most significant literature and research initiatives that are likely to be the most relevant research topics impacting on footwear product sourcing. They are by no means considered to be exhaustive or exclusive. The framework integrates the most probable research areas, aspects of the location decision and aligned with the most appropriate theoretical lens.

2.4.1 Strategic Product Sourcing

Carr and Pearson (2002) define strategic sourcing as:

“the process of planning, evaluating, implementing and controlling highly important sourcing decisions in an effort to meet a firm’s long range plans and goals”.

Eltantawy et al., (2014) concur and consider the effectiveness of what they described as 'strategic sourcing orientation' (SSO). They suggest that the evolution of sourcing has now moved beyond the tactical level to the strategic, such that it supports sustainable CA (Giunipero, et al., 2006; Priem and Swink, 2012). Strategic sourcing is further defined as an '*alignment of sourcing activities*' in order to achieve a firms strategic objectives, (not just operational goals)

(Kocabasoglu and Suresh, 2006). Current '*strategic sourcing orientation*' (SSO) now concentrates all resources on '*value co-creation*', in which the supplier also contributes to the value proposition for end users and the customer contribution is described as '*value actualisation*' (Monczka et al., 2011). According to Eltantawy et al., (2014) SSO displays a high degree of tacit knowledge as is the case in footwear manufacturing.

Lu and Karpova (2011) defines four critical elements of strategic sourcing, namely:

- (i) buying function elevated to a strategic level
- (ii) development of cross functional communication, effective meshing at interfaces and relationship building both internal and external
- (iii) real time data and two way information sharing with suppliers
- (iv) willingness to invest in upgrading key suppliers capabilities

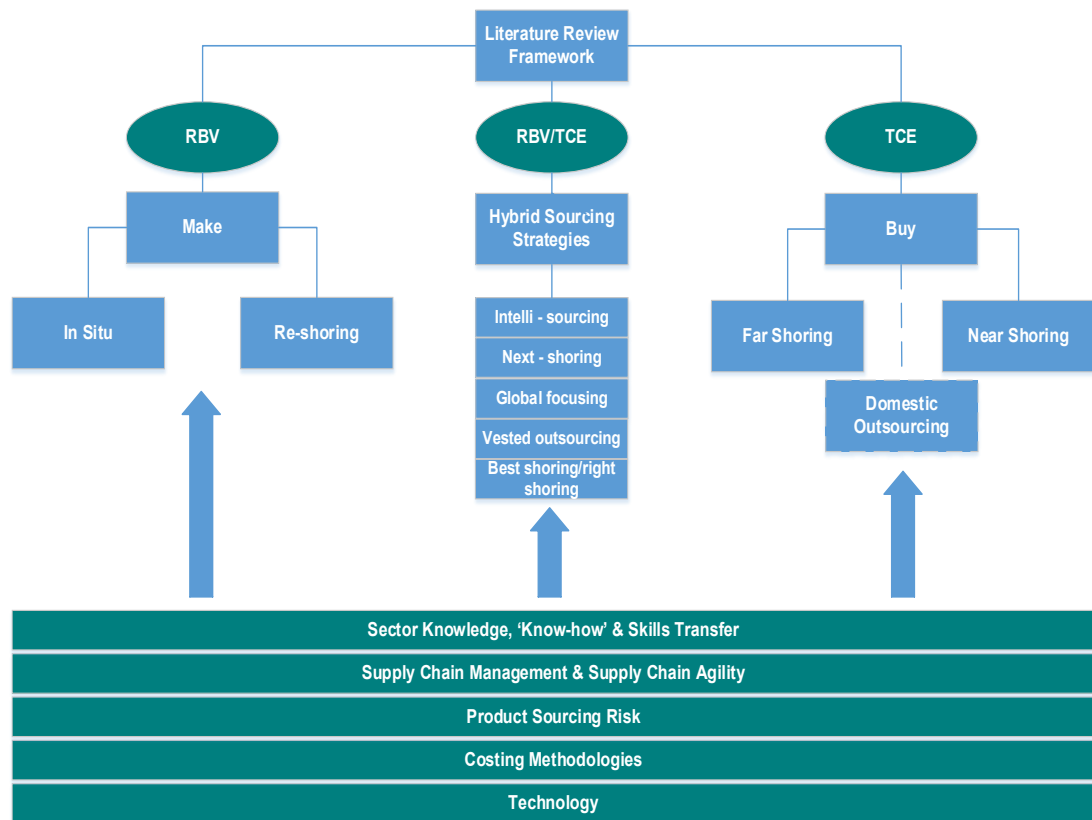


Figure 2.5

Conceptual Model of Product Sourcing Literature Review Framework

Source: Author

Reichhart and Holweg (2006) identify a number of strategic sourcing key performance indicators (KPIs):

- (i) significant reduction in finished goods stock levels

- (ii) reduction in sales discounts and discounting periods
- (iii) continuously working to increase customer satisfaction
- (iv) increasing revenues per unit
- (v) decreasing buyer and supplier costs e.g. freight on board (FOB) prices

2.4.1.1 Make or Buy Decision

The decision to make or buy is effectively a high level strategic product sourcing decision. Within the context of operations management much of the strategic focus is on the make or buy decision (Mantel *et al.*, 2006) and its implications for resource deployment across the whole supply chain (Chahal *et al.*, 2020).

2.4.1.2 Make

The decisions to manufacture domestically or continue to do so by UK footwear firms have been in the minority in recent years. Other arguments to continue manufacturing in the UK are similar to those advanced by the re – shoring lobby.

From a resource (RBV) perspective they include:

- (i) strategic preference for greater supply chain agility/flexibility (Christopher, 2000) both for manufacturing and in relation to greater responsiveness and more direct control of the upstream materials and components SC
- (ii) more control over environmental concerns (Handfield, *et al.*, 2005; Dyllick and Hockerts, 2002; Narasimhan, R. and Schoenherr, 2012; Navas-Aleman, and Bazan, 2005; Zhu and Geng, (2001)

- (iii) retention of knowledge, both explicit and tacit (Nonaka and Takeuchi, 1995), shoemaking skills and sector manufacturing advanced technology (Branger and Pang, 2015; Lasi et al., 2014; Lasi, 2012; Koelblin, 2017)
- (iv) an environment in which appropriate Industry 4.0 initiatives can be tested and developed e.g. Adidas Speedfactory (Koelblin, 2017)

2.4.1.2.1 Defender Strategies

This section briefly considers how footwear manufacturers in the UK and in the European Union (EU) have responded to competition from low labour cost countries in order to defend specific sectors overly exposed to low cost imports.

Brenton et al., (2000) remark that workers skills (or lack of them), in the sector is anything but homogenous when discussed within the context of responding to globalisation. They also observe that, at that point in time, the impact of technology was not prevalent in terms of their application in the shoemaking process as a 'defence mechanism' against low cost competition. Some countries, such as Italy, have managed to retain a meaningful presence in the footwear sector, others have experienced dramatic decline and related consequences. Brenton et al., (2000) offer a number of alternative responses to globalisation threats to OECD firms' (Organization for Economic Cooperation and Development) e.g. increases in automation, overseas investment, increasing flexibility and agility and market re-positioning via up- specifying by leveraging within local clusters. They further remark on the lack of extant literature which presents convincing evidence that prices of footwear have fallen as a result of the development of more

intensive production stemming from improvements in productivity arising from technological advances in the sector (Slaughter, 1998; Lawrence, 1996; Lucke, 1997; Anderton and Brenton, 1998).

The traditional 'trade link' theory of specialization and exchange which holds for textiles and clothing appears not to hold for footwear (Brenton et al., 2000). According to Wood (1995) many advanced economies (AE) have moved away from manufacturing autarchy towards specialisation, (towards niching), via the exploitation of skilled intensive highly differentiated innovative activities thereby leaving the middle and lower end of the market to developing countries (DC). Interestingly, Brenton et al., (2000) also view aspects of outsourcing as a sector survival strategy beyond manufacturing. Rabelotti (1995), points to the outstanding networking and collaborative nature of Italy's footwear manufacturing industrial districts and their relatively superior capability to retain more of its footwear sector, much of it based on superior shoemaking knowledge and skills.

2.4.1.2.2 Note on Partly Made Goods (PMG)

Research initiatives relating to partly made goods (PMG), a significant element of outsourcing within the footwear sector, is scarce within the extant literature. Feenstra and Hanson (1996) make reference to PMG which they describe as a form of '*intermediate inputs*' which they associate with unskilled labour e.g. in footwear this would include 'handwork'.

To some extent PMG might also be consider as a 'defender strategy' by reducing manufacturing costs in order to remain competitive and

simultaneously releasing scarce production capacity to aid in meeting delivery commitments.

2.4.1.3 Buy (Outsourcing)

The UK footwear industry has progressively transferred footwear manufacturing to offshore suppliers over a period of twenty years. Initially it was seen as the saviour of the industry by commercially exploiting low cost labour in the FE. More recently it has been seen to create a number of serious, almost intractable problems i.e. excessively high stock builds and exponential rise in stock keeping units (SKUs). As such an increasing number of deteriorating firm performance issues, many surrounding the location decision, (McIvor, 2013) are becoming much more critical.

2.4.1.3.1 Scope of Outsourcing Literature

The literature search has spread the net as wide as possible in terms of capturing every aspect of outsourcing which also spans component and raw material sourcing, partly made goods outsourcing (PMG) and far-shoring of full packaged products from geographically dispersed global locations.

2.4.1.3.2 Central Role of Labour Cost Arbitrage in the Outsourcing Decision: UK Apparel and Footwear Sectors

Central and critical to current resourcing strategies within the UK footwear sector is the role played by labour cost arbitrage (Williamson, 1979, 2008, 2005; Lowder, 1998). Alvanon (2014) maintains that apparel manufactured in high volumes is still best produced offshore as it remains cost effective with the potential for re-shoring constrained by labour shortages. He is critical of the pre-occupation with brands, design and designers and remarks that the

challenges revolve around domestic manufacturing investment and building superior local capabilities. He talks about the *“lost art of sewing”* and that there are *“great designers but no great pattern cutters”!*

Ghemawat (2003) describes labour cost arbitrage as *“the strategy of difference”* yet he refers to labour cost arbitrage as the least sustainable sourcing strategy. Nevertheless, in the absence of global homogeneity it remains well established in a firm’s *“strategic toolkit”*. He measures strategic difference in four ways: culture, administrative and institutional, geographic and economic attributes (CAGE). He maintains that the most subtle form of economic arbitrage relates to the *“exploitation of knowledge differentials”* and points out that economic arbitrage is not a new phenomenon but goes back to the 17th and 18th centuries e.g. spices sourced from the East Indies.

The Boston Consulting Group (BCG) believes that TCE based decisions are coming to an end, (Distler et al., 2014), and predict the end of offshore low cost sourcing will be replaced by other considerations e.g. agile manufacturing strategies structured around proximity to markets (on-shoring) (Niccolls, 2016).

2.4.1.3.3 Scope of Outsourcing

Outsourcing as an activity generally relates to both the supply of full package products (or services) and components. Product outsourcing operations may be loosely considered as the contracting out of manufacturing or services, previously carried out within the firm, to sub- contractors outside the firm and predominantly in a remote location. Also described as fragmentation (Jones

et al., 2005; Kimura and Ando, 2005) and vertical specialisation (Hummels et al., 2001)

Other perspectives include:

- (i) key underpinning of strategic sourcing is the 'total cost of ownership' (TCO) concept (Ellram, 1993). TCO considers both supplier and buyer activities, and costs over a product or service's complete lifecycle (Anderson and Katz, 1998)
- (ii) as a potential route to manufacturing flexibility (Narasimhan and Das, 1999)
- (iii) strategic procurement which incorporates actions aimed at reducing the supplier base, negotiations, communications and maintaining long term relationships with suppliers (Ryals and Rogers, 2006; Swinder and Seshadri, 2001).

Dekker (2011) conducted comparative case based research covering strategic decision making for outsourcing firms. He observed that the case study participants do not use any tools, frameworks or concepts in their sourcing decision making processes and that most decisions were based around cost and the risks associated with irreversibility of sourcing decisions, contractual obligations and supplier dependency resulting in the loss of control over outsourcing operations.

Steinle and Schiele (2008) within the context of labour arbitrage outsourcing strategies suggest that buyers are under pressure to continually source higher volumes at lower prices from low cost labour countries. They also state that low prices achieved via outsourcing may not by default translate into lower total costs, yet again echoing the re-shoring lobby arguments and

their call for the adoption of more accurate costing methodologies such as TCO (Ellram and Siferd, 1998). They refer to the concept of '*relational adaptation*' (van Hoek et al., 2001; Narasimhan and Schoenherr, 2012) with regard to outsourcing performance improvement.

Yang and Wacker (2012) regard outsourcing as an important source of CA and a key component of long term business strategy (Broedner et al., 2009; Kroes and Gosh, 2010; Wee et al., 2010). They focus on how firms follow up on their outsourcing decisions to improve manufacturing competitiveness.

From the perspective of achieving CA, Lawson (2002a, 2001) contends that sourcing offshore by the UK apparel sector (clothing) increases lead times by a factor of 4.

A hybrid mode as a sourcing strategy is presented by Peterson et al., (2002) where a combination of asset specificity (Williamson, 1979, 2008; De vita et al., 2011; Geyskens et al., 2006), price and other risks mitigation are advocated within a need for joint action (McNally and Griffin, 2004).

Nassimbeni and Sartor (2006) identify three strategies for sourcing from export dominant China:

- (i) establishing 'in-sourcing', (on-shoring) i.e. firms looking to establish their own manufacturing presence within China
- (ii) intermediation: (Purvis et al., 2013; Agrawal and Seshadri, 2000) third parties, usually agents with specialised sector knowledge located primarily in situ to act for SEs where small volumes are being sourced often for highly niched products

(iii) direct sourcing between the buying organisation and the supplier. This strategy has become the core strategy for larger firms, especially branded multi-national corporations (MNCs)

2.4.1.3.4 Outsourcing Location Decision

Recent research focused on the location decision has in part been stimulated by the growing interest in re-shoring (Rashid and Barnes, 2017; Vecchi, 2017; van den Bossche, 2013; Moser, 2010; King, 2013; and near-shoring (Mclvor, 2013; Tate, 2014).

Many have focused primarily on the issues relating to labour cost arbitrage, supplier choice, building stronger buyer-supplier relationships (Christopher, 2000; Hines and McGowan, 2005) and operational efficiencies, especially via lean and agile/best practices (Womack and Jones, 1996, 2003) and reverse engineering (Onuh et al., 2006) and their influence on the location decision (Mclvor, 2009; 2013).

Mclvor (2009) supports the view that both TCE and RBV theoretical perspectives are necessary to comprehensively explain the outsourcing location decision. However, he issues a word of caution where it is intended that both theories might be applied together given the apparent contradictory nature of each theory (Ellram et al., 2008; Vivek et al., 2008; Holcomb and Hitt, 2007; Jacobides and Winter, 2005). He further suggests that RBV can be utilised to assess manufacturing capabilities in order to evaluate and influence the location decision.

Ellram et al., (2013) consider regional attractiveness and global risk as the two most important perspectives when making the location decision. They

underpin their approach by considering off-shoring, near-shoring and re-shoring using TCE (Williamson, 1979, 2008; Tadelis and Williamson, 2012) Internationalisation Theory (Coase, 1937) and Eclectic Paradigm (Dunning, 1980) as alternative theoretical models.

Lowder (1998) challenges the view within the sector that outsourcing decisions should be based solely on labour cost (Williamson, 1979, 2008; Tadelis and Williamson, 2012). She suggests that other factors, especially macro-economic conditions also significantly influence the make or buy decision. Lowder (1998) examines cost in advanced economies, newly industrialised countries (NIC) and developing countries. She concludes that the globalisation of the footwear industry has been driven by more than labour cost arbitrage (Williamson, 1979, 2008; Tadelis and Williamson, 2012). It has been shaped by geopolitics, global and local networks with joint vested interests; national socio political and economic structures and the acquisition strategies of dominant global MNCs in pursuit of greater wealth.

Coates and McDermott (2002) point out that exemplars of superior resources and capabilities relating to innovation, time to market and customer service excellence are often generated at the operations level not at the “front end” of the firm.

George and Ramaswamy (2014) suggest that low cost country sourcing in the US apparel sector is in decline. This view draws interesting parallels with the UK apparel sector including footwear. They suggest that the main driver is primarily the impact of technology, supported by re-shoring arguments, (Moser, 2010) which will act as a counterbalance in South East Asia (SEA) and China. They maintain that re-shoring, within the context of the location

decision is effectively “*history*” and suggest that companies need to formulate strategies around what is coming next, hence they coin the term ‘next-shoring’, which emphasizes closer proximity to demand (PricewaterhouseCoopers (PwC), 2013) and closer proximity to innovation centres as primary drivers. They maintain that wages in China have surged as a result of growing domestic demand and as a consequence doubled between 2008 and 2013. However, in some consumer sectors such as apparel, the emergence of lower cost countries in the FE has dampened the impact on (FOB) prices and effectively pushed China into seeking much higher levels of productivity in order to compete with their near neighbours e.g. Vietnam, Cambodia and Laos. They suggest that the major impact on sourcing location will come from ‘*disruptive technology*’ (Christensen and Bower, 1995; Phillips et al., 2006; Trkman et al., 2010) such as advanced robotics (machine to machine communication (M2M)), 3 dimensional printing (3D) and digitised operations e.g. real time data transfer and CAD/CAM.

Gereffi and Memedovic (2003) identify three new strategic influencers relating to geographic location:

- (i) East Asia intermediaries have effectively created global sourcing networks, a move from low value to higher value products and facilitated supplier transition from original equipment manufacturers (OEMs) to original brand manufacturers (OBMs)
- (ii) emergence of Mexico,
- (iii) similarly the Caribbean

In Mexico there is evidence of transition from assembly to full package production. In the Caribbean there is also an abundance of low cost labour

but is constrained by limited infrastructure yet has close proximity to US markets but probably limited benefit to UK footwear firms.

2.4.1.3.4.1 Role of Clustering in the Location Decision

Clusters (agglomeration) and cluster approaches are widely researched, and have become '*fashionable*', in economic geography (Wei et al., 2007; Smith, 2003),

Steinle and Schiele (2002) maintain that some industries display a higher propensity to cluster than others. A distinction must also be made between products more suited for low wage country sourcing (labour intensive such as apparel) and technology sourcing (capital intensive such as machinery and equipment).

A limited amount of footwear and related research around clustering has identified:

- (i) knowledge sharing within the cluster accelerates knowledge transfer and learning greater than dual buyer-seller collaborations (Hakansson et al., 1999; Taboulic and Walker, 2015)
- (ii) advantages from the presence of adjacent UK technical and research support e.g. within footwear, SATRA in China (Wenzhou cluster) (Wang, 2006; Wu, et al., 2006)
- (iii) productivity increases generated by 6% to 7% (Baptista, 2003; Ciccone and Hall, 1996)
- (iv) benefits from production capacity sharing (Parolini and Visconte, 2003) e.g. PMG

- (v) asset sharing e.g. machinery and equipment (Parolini and Visconte, 2003)
- (vi) new product development is accelerated if buyer and seller are co-located which facilitates more successful supplier cooperation in innovation processes (McGinnis and Valopra 1999; Ragatz et al., 1997)
- (vii) much greater potential for innovation than non-cluster firms (Baptista and Swann, 1998; Molina-Morales and Martinez-Fernandez, 2003).
- (viii) some researchers have recognized and emphasized the significance of regional competences (Enright, 1998; Foss and Knudsen, 1996; Lauterbach, 2005; Lawson and Lorenz, 1999; Matthews and Lave, 2002). potential for removal of entry barriers, especially capital and technical for entrepreneurs (Breznitz and Murphee, 2015)
- (ix) economies of scale achievable to reduce costs (Audia and Rider, 2010)

2.4.1.3.4.2 UK Apparel Clusters

Oxborrow and Brindley (2012) review changes in the manufacturing structure of apparel firms in Leicester (and environs) within the hosiery and knitwear segments of the apparel sector. They draw interesting parallels with the contraction of the UK footwear sector. They comment on the demise of big firms being replaced by SMEs, (low cost/low wage structure) clusters, responding to fast fashion market segments. Cleaver (2015) describes Northampton footwear firms as the only remaining UK cluster.

2.4.1.3.4.3 Footwear Clusters: European Footwear Sectors

Clustering in Europe is significant within the context of the potential for increases in near-shoring product sourcing strategies by UK footwear firms.

Cutrini (2011) conducted a research project based on a re-interpretation of Marshall's (1920) thesis looking at the Marche region cluster in Italy, the largest in Europe, and central to the economic regeneration of the region.

Interestingly, Cutrini (2011) comments on the growing presence of Chinese micro-entrepreneurs in the Italian clothing and shoe sectors (Baculo, 2006).

Rabelloti and Schmitz (1999) examine an Italian footwear district clustering facing up to globalisation. They suggest further fragmentation of international production networks (Jones and Kierzkowski, 2005) as a result of

intervention of the large fashion groups i.e. the growth of own label sourcing by retailers and brands including Prada, Gucci, Louis Vuitton, Moet and

Hennessy (LVMH). Belso-Martinez (2008) conducted research into footwear SMEs in Spain's main shoemaking clusters. He maintains that Spanish firms

are developing hybrid capability i.e. deploying a strategy of

internationalisation alongside both sourcing and domestic manufacturing

coupled with highly efficient logistics and distribution. However, Belso-

Martinez (2008) warns of potential long term resource difficulties facing the

sector as young Spaniards now shun working in the footwear sector because of its relatively low pay and low social and cultural kudos.

2.4.1.3.4.4 Footwear Clusters: China and SEA

Fleisher et al., (2010) look at the progress of an apparel manufacturing cluster in Zhejiang Province in China, first in 2000 and then in 2008 and

observe significant changes which encompass mainly increases in costs e.g. direct labour, those associated with a move to 'original design manufacturers' (ODM) or 'original brand manufacturers' (OBM) capability, move to higher value products, increased quality and tighter legislation and industry restructuring. The outcome has resulted in a reduction in margins even though revenues have risen significantly.

Huang et al., (2008) evaluated the huge footwear manufacturing cluster in Wenzhou (Wei, 2009; Wang, 2006; Wei et al., 2007), which produces circa 900 million pairs of shoes per annum (pa), and concluded that in the main benefits from the cluster were more likely to accrue to Chinese footwear manufacturer's seeking to exploit nascent domestic markets rather than overseas buyers.

2.4.2 Outsourcing Location Options

This section identifies research, within the extant literature, relating to product sourcing and the criticality of selecting the most appropriate regional and country supplier location.

2.4.2.1 Global Sourcing

Trent and Monczka (2002) raise the issue of long term versus short term perspectives on global sourcing. They maintain there is a difference between international sourcing which is operational and global sourcing which they suggest is strategic! They challenge the efficiency of TCE in the sourcing decision by asserting that the proliferation of '*relational contracting*' supersedes TCE theory via the growth of strategic alliances (Walker and Poppa, 1991). They further suggest that most researchers have concluded

that a majority of firms focus on the internationalisation of outsourcing activities without deploying a strategic orientation i.e. they contend that firms lean towards opportunistic (Williamson, 1979; 2008) and not strategically orientated global sourcing initiatives. They conclude that prices and costs effectively supersede other KPIs. However, they conclude that going forward it will be necessary to apply more accurate costing models and methodologies to improve global sourcing. Among the skill sets required by global sourcing they pointed to the critical need for players to have an understanding of participants from another culture e.g. Guanxi in China (Wilkinson, 2017; Pearce and Robinson, 2000; Luo et al., 2011) and blat or svazi in Russia (Puffer et al., 2010).

Trent and Monczka (2002) raise issue of organisational complexity in relation to sourcing (Christopher, 1998; Jia et al., 2013; Giunipero and Monczka, 1990). They state the need for research which examines the relationship between organisational design and global sourcing effectiveness and assert the need for the existence of a robust global process in an organisation's sourcing model i.e. that strategies need to be internally 'joined up'.

The case for evaluating the achievement of positive outcomes of production relocation is difficult to prove (Dachs et al., 2006; Lipsey, 2002). Some authors have suggested that surveys indicate average cost savings ranging from 5% to over 20% (Frear et al., 1992; Maskell et al., 2007; Trent and Monczka, 2002). On the other hand several studies have failed to determine any significant impact of global sourcing on business success (Kotabe and Omura, 1989; Murray et al., 1995). Gelderman and Semeijn (2006) suggest that global sourcing present firms with additional challenges found to

aggravate supply chain vulnerability. Zsidizin (2003) refers to supply clusters which he considers a potential sourcing risk rather than a CA. Harland *et al.*, (2005) points to the risk of what they describe as '*over global sourcing*'.

In terms of extending globalisation, Ayers (2013) is critical of what she calls the '*new scramble for Africa* – a new phase of imperialist engagement not only from the West but also by the a number of the emergent economies, especially BRICs (Brazil, Russia, India and China) and specifically Chinese foreign direct investment (FDI) looking for access to resources and the penetration of new markets which she maintains are 'linked and collectively

“shape a broader transnational capitalist dynamic especially global corporate controlled cross border manufacturing networks”.

2.4.2.2 Domestic Outsourcing

No research publications have been identified relating directly to UK domestic outsourcing within the UK footwear sector in terms of strategic sourcing considerations other than non-cost related e.g. small promotional volumes/sampling or bespoke orthopaedic footwear manufacturing.

2.4.2.3 Off-shoring

This section covers aspects of offshore outsourcing and far-shoring as a phenomenon ranging from inter-continental, regional to specific countries.

Orberg-Jensen *et al.*, (2013) observe that off-shoring is not a new phenomenon and has been in evidence for over 50 years (Ferdows, 1997a; 1997b). They examined off-shoring from the perspective of its impact on organisational re-structuring, especially those internal functions which are responsible for optimising sourcing and hence firm performance. (Galbraith,

1977; Lawrence and Lorsch, 1967; Puranam et al., 2012; Thompson, 1967; Thompson et al., 2017). They present a simple model of organisational transformation based around a continuum of initial disintegration, followed by relocation and finally to re-integration. They consider the constraints placed on operationalising the relocation process e.g. the notion of '*stickiness*' in knowledge transfer (Szulanski 1996, 2000; Jensen and Szulanski, 2004), particularly tacit knowledge. They use the expression '*boundary spanners*' in global sourcing operations i.e. specialists engaged on long term secondments to sourcing firms (Dyer et al., 2001). They suggest that '*boundary spanners*' attempt to manage their suppliers power (Hines and McGowan, 2005) or authority with regard to limiting opportunism (Williamson, 1979) and balancing buyer-supplier relations (Williams, 2010).

They propose a future research agenda based on a new set of issues:

- (i) off-shoring, control and organisational form, especially organisational intra-firm and inter-firm structured around sourcing risk mitigation
- (ii) switching roles for specific activities from macro to micro analysis (Felin and Foss, 2005; Foss, 2009; Johnson et al., 2003; Priem and Butler, 2003; Whittington, 2003)

De Treville and Georgis (2010) observe that the move from assembly or component supply to "full package" products significantly changes the relationship between buyer and supplier in so far as it facilitates greater autonomy and learning potential for upgrading to the supplying firm (opportunism) (Williamson, 1979, 2008).

They conclude that:

- (i) buying firms will most likely continue to set the agenda for manufacturing innovation and lead initiatives towards advanced automation (M2M), mass customisation (MC) and agile manufacturing
- (ii) manufacturing locations are also fragmenting propelled by advances in communications technology
- (iii) retailers, especially global brands have become competitors not customers within the global supply chain and are driving globalisation whilst lacking expertise in manufacturing
- (iv) East Asia OEMs are moving rapidly via ODMs to become OBMs (Laforet and Chen, 2012)
- (v) there is a growing concentration at the retail end of collaborative networks
- (vi) in the UK near-shoring would most likely be targeted at Eastern Europe

2.4.2.4 Near-shoring

Ellet and Girotti (2013) refer to '*new normals*' within product sourcing, especially proximity to markets in relation to the arguments surrounding "near-shoring" which they argue brings the substantial cost benefits of outsourcing to neighbouring or adjacent countries but without the claimed disadvantages of sourcing in the FE (e.g. US firms outsourcing in Mexico or UK firms sourcing from Eastern or Southern Europe rather than China).

Gray et al., (2013) warn that if apparel and footwear manufacturing centres are brought closer to markets in response to changing consumer behaviour, especially emerging markets, the export volumes could contract. In this

scenario jobs would be lost rather than created, especially those in emergent economies. Buxey (2005) suggests that “lean supply” operations favoured near-shoring strategies. De Treville and Trigeorgis (2010) examine the case for near-shoring in order to benefit from both lower transaction costs and the CA derived from closer proximity to markets (improved SC agility).

Within a UK and EU context there are a number of near-shoring strategic options. All have proximity to EU markets but have differing capabilities:

- (i) Turkey has the capability as a “full package” supplier given that it has large number of vertically integrated footwear firms
- (ii) Tunisia and Morocco have experience as outward processing sites and undertake assembly work, mostly for France and Italy
- (iii) East European and Soviet Union firms offer outward processing and full package sourcing whilst some have aspirations to transition to OBMs

They frequently refer to the constraints of offshore sourcing and the emergence of hidden costs (Lowson, 2002, 2003; Jones, 2003; Sinha et al., 2011) which have resulted in the re-evaluation of sourcing strategies. e.g. Busi and McIvor, 2008.

As a result, near-shoring has emerged as a potential optimisation sourcing strategy for many firms currently engaging in ‘far-shoring’. Footwear amongst other sectors such as clothing and furniture is considered to be a sector incurring high transportation costs (Shelton and Wachter, 2005; Lynch et al., 2008; Allon and Von Mieghen, 2010). In this regard, Jiang (2002) and

Christopher et al., (2006) suggest that time has become a new competitive capability.

Cagliano et al., (2012) conclude that cost savings in isolation will not support a strategy based on near-shoring but rather the benefits are to be got from a more agile SCs and decreased levels of uncertainty. They suggest that from a cost perspective there is little difference between near-shoring and far-shoring. In effect a comparative analysis between near-shoring and far-shoring alternatives will by default bring greater clarity to the relative hierarchy of benefits to one or the other or in fact to the deployment of a hybrid strategy (Gonzales et al., 2006; Lacity et al, 2008; Mitchell, 2009).

Alix Partners (2017) comment on the growing trend of Western firms deploying near-shoring strategies in order to be more responsive to consumer demand. Potential benefits for European bound goods benefits Eastern European suppliers deploying near-shoring initiatives. Although uptake may be slowed if demand drives up labour rates, (as is the case in China). They maintain that in 2015, 42% of European manufacturers have considered bringing sourcing closer to their domestic markets.

They also point out to a number of constraints in pursuing near-shoring strategies and risks, particularly the availability of skilled labour in Europe and the UK, tooling and transition costs, higher material costs, excessive bureaucracy and government regulation.

2.4.2.4.1 Near-shoring: Western Europe

Merino et al., (2020) undertook a comparative study of near-shoring and back-shoring (re-shoring) within the Italian footwear industry. They conducted a survey based on three factors:

- (i) company characteristics and strategy deployment capability
- (ii) willingness to re-locate product sourcing
- (iii) barriers to operationalization

They concluded that:

- (i) biggest single barrier is the availability of human resources (HR), mostly relating to sector knowledge and skills
- (ii) countries which have retained a substantial manufacturing base are therefore more able to successfully re-locate operations
- (iii) UK having lost most of its manufacturing capability, especially footwear manufacturing, should invest in re-building capability to advance alternative strategic options
- (iv) near-shoring initiatives have superseded re-shoring initiatives within the Italian footwear sector and thus provide a benchmark

2.4.2.4.2 Near-shoring: Eastern Europe

Eastern Europe has long been viewed as a potentially attractive near-shoring region for footwear outsourcing, particularly with regard to enhancing SC agility by shortening the supply line and placing smaller 'minimum order quantities' (MOQs) (Totev and Sariiski, 2010). They contend opportunities within EE are impacted on by Italy strengthening its position within European and a number of international markets, whilst Portugal's position is

weakening. They point out that low specification/low quality sub-contracting countries such Romania and Bulgaria may face serious problems in terms of the future levels of employment if they become anchored in low margin, low value added (VA) sub-contracting.

Smith (2003) examines clusters within the Slovak clothing industry which generally hold good for comparisons with footwear manufacturing. Smith attempts to define the basis on which firms involved in clusters move up the value chain (Humphrey and Schmidt, 2002). He identifies four crucial characteristics underlying success for labour intensive industries in relatively low cost locations in Slovakia (Crewe, 1996):

- (i) cluster geographical concentration
- (ii) degree of product specialisation
- (iii) tangible local, regional and central government support
- (iv) presence of a high degree of external economies of scale which facilitates the *diffusion of knowledge and innovation* (Marshall, 1920; Whitford, 2001).

Smith refers to research which focused on the impact of widespread inequalities in stakeholders capabilities to capture value (Bonacich and Applebaum, 2000; Hale and Shaw, 2002) making constant reference to the presence of '*assymetrical power relations*'.

2.4.2.5 On-shoring

Research initiatives relating specifically to on-shoring are scarce and principally limited to the US economy. Clarke-Sather and Cobb (2019) examine on-shoring in the US fashion industry from the perspective of

worker sustainability impacts of global and local apparel production. They refer to the development of Life Cycle Assessment (LCA) to compare on-shoring with off-shoring in the US athleisure market and conclude that 'trade-offs' between on shoring and offshoring exist, that technical capability to manufacture on-shore still exists in Eastern US but that a comparison of sustainability for both options require rigorous impact assessment.

To support on-shoring, Lee (2015) maintains that it is now more financially effective to produce in the US than outsource as a result of more accurate comparative product costing combined with widespread improvements in advanced technologies many footwear related activities.

2.4.2.6 Re-shoring/Back-shoring Overview

Research articles relating to re-shoring, sometimes referred to as back-shoring, have attracted more attention than near-shoring in terms of alternative product sourcing strategies (Barbieri et al., 2018; Fratocchi et al., 2014; Gray et al., 2017). Arljborn and Mikkelsen (2014) comment on the limited research undertaken back-shoring which they regard as an important but under-researched issue within European SC research initiatives.

Within the footwear sector Barbieri et al., (2018) and Wiesmann et al., (2017) examine constraints to re-shoring. Rashid and Barnes (2017) similarly review re-shoring within the broader UK fashion industry.

Re-shoring has been advocated to improve responsiveness to changes in consumer demand (Doyle et al., 2006), reduce stock levels and stock costs and re-marry manufacturing and its supply chains with front end functions to speed up and upgrade the potential for greater innovation (McIvor, 2013).

Critics of re-shoring in the US, such as Van den Bossche (2013), Szakonyi (2013) and Nash-Hoff (2012), point out that many of the arguments advanced in support of re-shoring do not stand close scrutiny, particularly with regard to long term sustainability e.g. reduction in energy costs.

Sceptics argue that these benefits will be short lived once China develops the capabilities needed to extract the considerable shale gas reserves they possess. One of the central points of contention is an over focus on the criticality of direct labour cost and other outsourcing “hidden” costs. (Ellram et al., 2013; Tate et al., 2014, Van den Bossche, 2013, 2014).

Research on re-shoring in Europe is gaining pace (Fratocchi et al., 2014) examine re-shoring initiatives in Italian footwear clusters. Kinkel and Maloca (2009) observe that only 2% of German companies are active in “back-shoring”, (mid 2010-mid 2012), where the response has been noticeably more cautious. They argue that ‘back-shoring’ is a consequence of making poor initial outsourced location decisions and the re-emergence of domestic production capacity.

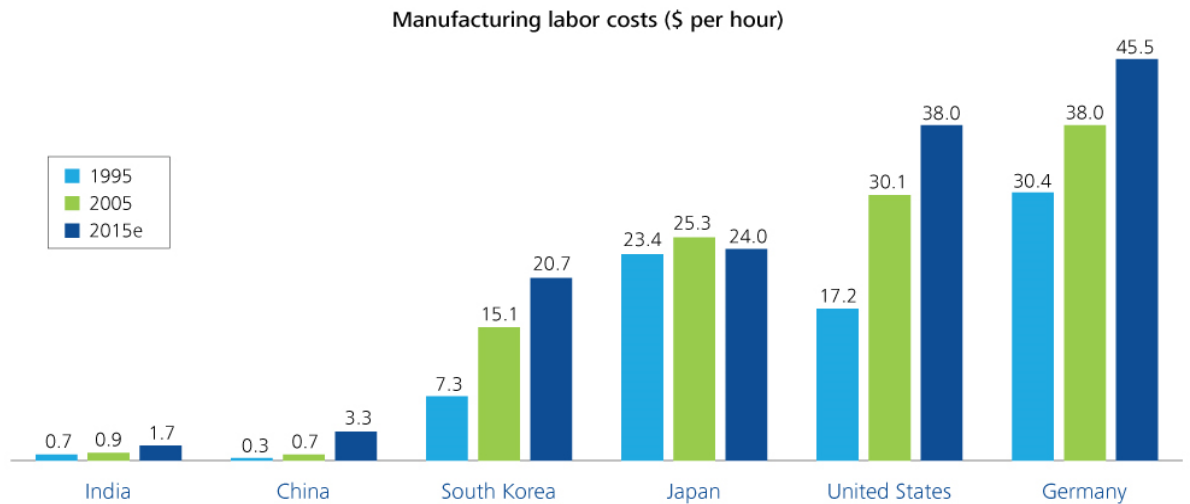
King (2013) argues that future sector competency (RBV) will be a more important determinant than relative cost. This appears at odds with the still significant labour cost difference between the UK, BRIC and other emergent economies and China (see graph below Figure 2.6).

Gray et al., (2013) argue that re-shoring is fundamentally just another location decision. However, based on current criteria within the footwear sector, it will still be driven by cost and therefore continue to migrate to the

lowest cost location such that UK firms will need to achieve total comparative in order to compete.

Verdu et al., (2012) ask that in relation to the footwear sector, whether re-shoring should be viewed as a short term phenomenon or can generate long term CA. They also raise the issue of relative organisational complexity of domestic manufacturing versus outsourcing and how organisational capabilities can be developed to increase CA from re-shoring (De Treville and Trigeorgis, 2010; Pisano and Shih, 2012).

Figure 3. Labor costs in select emerging and advanced countries



Source: Economic Intelligence Unit, 2015; Deloitte Services LP economic analysis.

Graphic: Deloitte University Press | DUPress.com

Figure 2.6

Relative Manufacturing Direct Labour Costs in United States Dollars (USD per Hour)

Source: Deloitte Economic Intelligence Unit (2016)

Divakaran et al., (2012) and Kucera (2020) maintain that the shortage of human resources with the appropriate skills, (especially arising from low output of science, technology, engineering and maths (STEM) graduates and

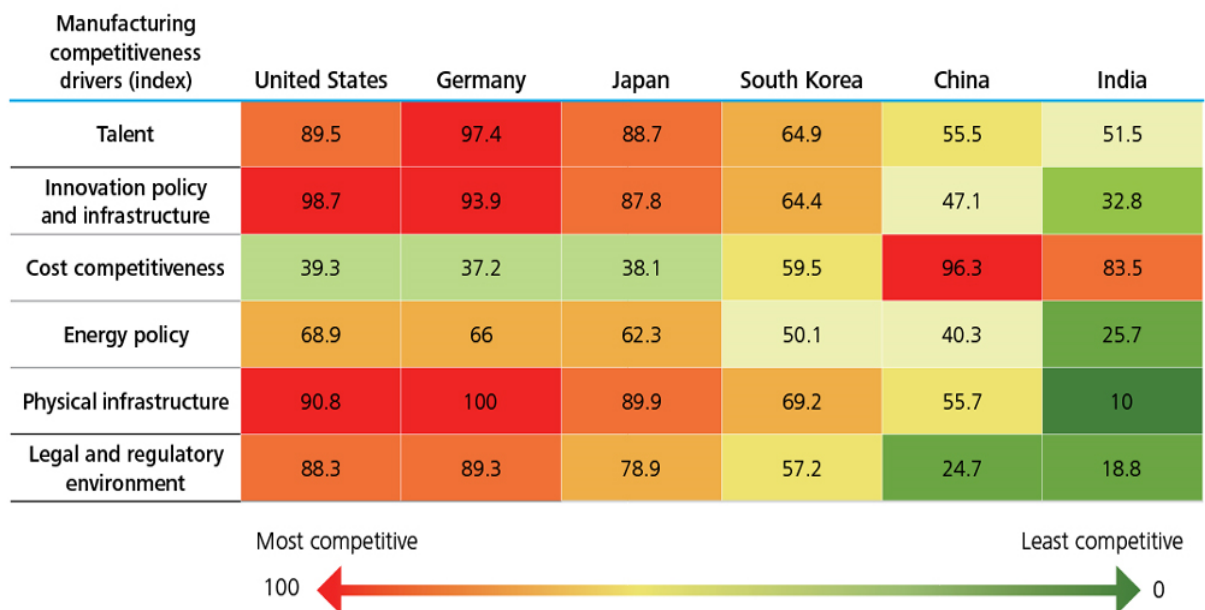
an ageing workforce), will inhibit re-shoring initiatives in US and Europe, but ironically it is also likely to have a similar effect for emerging economies, especially BRIC countries. They postulate a number of approaches to solve these problems based around investment in sources of talent and the 'global versus local dilemma within emerging economies. Difficulties may also arise from relative unattractiveness of manufacturing. They also refer to issues of relative organisational complexity of domestic manufacturing versus outsourcing.

Pecht and Zuga (2009) refer to what they call the '*China price*' and challenge the arguments supporting the repatriation of (electronics) manufacturing to the West. They further suggest that re-shoring initiatives are partly driven by Chinese government's inability to implement long term strategic business moves based around their vast cash reserves.

In support of re-shoring, Wheatley (2013) comments that there has been too simplistic a focus on tangible costs, especially an over emphasis on labour costs thereby re-enforcing the Total Cost of Ownership (TCO) argument by ignoring other cost drivers (Ellram, 1993; Ellram and Siferd, 1998) such as exchange rate fluctuations and logistics costs. It is suggested that too many firms have viewed the selection of resource location in what they describe as a "*static manner*" and consequently firms should consider the use of scenario planning to generate what they call "*alternative futures*". They state that within the context of the sourcing decision, that change remains a constant. They conclude that:

- (i) off-shore outsourcing to low cost countries will most likely continue
- (ii) manufacturing location strategies must be predicated on either short or long term perspectives
- (iii) there may be benefits to the development of a multi stage strategy for manufacturing

Figure 2. Key factors that have contributed to reshoring in select countries



Source: Deloitte, *Global Manufacturing Competitiveness Index*, 2016; Deloitte Services LP economic analysis.

Graphic: Deloitte University Press | DUPress.com

Figure 2.7

Re-shoring Key Factors

Source: Deloitte Intelligence Unit (2016)

Martinez-Mora and Merino (2014) consider the viability of re-shoring footwear manufacturing to the Alicante region of Spain and ask whether this represents a long term or short term strategic initiative given the magnitude of footwear manufacturing capacity and expertise in China and South East Asia (SEA). Their research embraces the application of both TCE

(Williamson, 1979, 2008; Tadelis and Williamson, 2012) and RBV (Barney, 1991, 2012; Wernerfelt, 1985, 2020). They have focused on the 'why' question (Hatonen and Eriksson, 2009) and assert that, where in evidence, re-shoring is ostensibly being driven by:

- (i) requirements for smaller volumes (MOQs) of larger product ranges
- (ii) fragmentation of seasonality in fashion markets given rapidly changing dynamics
- (iii) high levels of labour cost inflation in China
- (iv) logistical considerations, especially surface transportation lead times and air freight costs
- (v) weakening markets causing concerns about volume forecasts re minimum order quantities from offshore suppliers
- (vi) the absence or low take-up of disruptive technologies (Christensen and Bower, 1995) in the footwear sector

They argue that there is a growing demand for greater responsiveness to more dynamic market behaviour. They concur with Gray (2013) that re-shoring is fundamentally just another location decision and the critical current need is geographical proximity to markets. The *"appeal of different locations is not static, they change over time"* (Ellram et al., 2013).

2.4.2.6.1 Re-shoring: UK Footwear Sector: Influence of 'Made in England'

In the UK, re-shoring initiatives have largely been confined to the re-opening of the Doc Martens factory in Wollaston, to produce, initially, around seventy thousand pairs per annum of 'Made in England' (MiE) styles (McLaren et al.,

2002) in response to a resurgence in demand for classics such as the “eight eyelet tie boot” in China and Japan from young consumers, especially students (Cleaver, 2015).

Other than Doc Martens there is very little evidence of re-shoring activity in the UK footwear sector. On the contrary, it would appear to be evolving very much in line with the current configuration of the UK apparel sector as a whole, i.e. few large firms continuing to outsource offshore and a large number of SEs and entrepreneurial start-ups with less than ten employees, supported by freelance designers building niche brands (Oxborrow and Brindley, 2012).

2.4.3 Other Sourcing Concepts and Approaches

Other research initiatives have considered outsourcing strategies from a non-locational perspective. The main approaches and concepts emerging from the extant literature are briefly described below.

Conceptual qualitative frameworks to aid the development of alternative sourcing strategies, have also been offered by Quinn and Hilmer, 1994; Fill and Visser, 2000; Tayles and Drury, 2001; Gottfredson *et al.*, 2005; Graf and Mudambi 2005; McIvor, 2013.

2.4.3.1 Intermediation: The Role of Footwear Agents

Within the UK footwear sector agents have played a high profile role in bringing together buyers and sellers especially for small firms seeking to outsource small volumes offshore source. Vedel and Ellegaard (2012) comment on the pivotal role intermediary role played by footwear agents in reducing supply side risks for SMEs e.g. mitigating surplus stock risks.

Purvis et al., (2013) assess the significance of intermediaries within a fashion SC and their role in the integration of geographically spread sources of supply where they carry out key interfacing functions along the SC, particularly quality control, transportation and importation. They conclude that agents provide two critical services for SMEs i.e. minimising lead times and sourcing costs between buyer and supplier.

Ritchie and Brindley (2000) concluded that linear sourcing models would be replaced by more flexible alliances developed at speed and as such for SMEs, dis-intermediation would likely result as they reduce their reliance on footwear agents.

2.4.3.2 Global-focusing

Meyer (2006) coins the term “global - focusing” with reference to Penrose (1986) work on the Theory of the Firm and RBV (Barney, 1991, 2012; Wernerfelt, 1984, 2020). In essence Meyer (2006) argues that liberalisation in home markets forces firms to turn their attention to global opportunities i.e. *‘create industry specific capabilities grounded in global operations*. However, he suggests that global focusing is more likely in B2B (business to business) companies than in fast moving consumer goods (fmcg) such as apparel and footwear because the resources and capabilities required necessitate more international education coupled with more relevant job experience! He also claims that fmcg relies more extensively on country specific capabilities.

2.4.3.3 Global Cost Convergence

Broadberry (1994) compares productivity levels between the US and the UK up to 1990 within the context of productivity leadership, (mass

manufacturing), and technological leadership (craft production) in order to evaluate the probability of global convergence and how it may impact on sourcing strategy. However, Broadberry (1994) rejects the convergence argument by suggesting that:

- (i) differing market characteristics and conditions will require the implementation of different technologies which will in turn impact on levels of productivity
- (ii) localised convergence is more likely (Durlauf and Johnson, 1992) by contending that global convergence necessitates a single productivity path resulting in equalisation for all countries. Whereas local or regional convergence remains at productivity levels below other regional groups

Broadberry (1994) concluded that with regard to manufacturing, global convergence within OECD economies cannot be attributable to technology transfer as is frequently claimed (Gomulka, 1971; Cornwall, 1977; Nelson and Wright, 1992). He contends that it has more to do with shifts on non-manufacturing activities and initiatives and differing structural changes in major sectors.

Ghemawat (2003) argues that even if labour costs eventually converge this could extend into decades. Similarly, Rabinovich et al., (2007) views the global economy as a closed system which he says will trend towards equilibrium but beyond the scale of a lifetime. However, there is no real evidence of convergence to a zero - sum game between advanced economies and China. George and Ramaswamy (2014) point to the potential

impact of technology on convergence necessitating substantial investments in machinery and skill building.

2.4.3.4 Intelli- sourcing

Fine (2013) refers to the influential Hong Kong based agency, Li and Fung whose core strategy is based around the premise that you can “*Source anywhere, sell anywhere*”. He argues that the issue is not about offshoring, reshoring or near-shoring but of intelligent sourcing which he refers to as ‘intelli-sourcing’. He describes them as:

“The aggregation of these individual capabilities, combined with the broad geographic spread of their employees, suppliers, and customers renders moot the question of on-shoring of offshoring”.

Fine (2013) maintains that there is sourcing of brands, designs (and styles), manufacturing, logistics, and distribution in an environment of what he describes as “*multi plateaued, if not flat commercial world*”. Alongside a critical combination of local knowledge and global networks, unlike many other commentators, he refutes the assertion that sourcing strategy is moving on from simply comparative considerations of labour cost arbitrage and asserts that cost reductions can be achieved throughout the SC via upgraded relationships (Christopher, 2000) within it e.g. to mitigate risks from turbulence in exchange rates and supplier switching. He points out the relevance of a trend to optimise a sourcing strategy underpinned through innovation, quality and service rather than cost.

2.4.3.5 Next Sourcing/Next-Shoring

George and Ramaswamy (2014) argue that it is more appropriate to view future product sourcing strategies around what they call “*next sourcing*” i.e.

what is coming next in relation to (global) supply chain development which they believe will stem from supply side initiatives adjacent to global markets, centres of demand and centres of innovation accelerated by the impact of “technology disruption” (Christensen and Bower, 1995). They describe ‘next sourcing’ not as a sourcing location issue but preparing for how advanced technologies change the nature of manufacturing. They envisage:

- (i) optimising location decisions, particularly with regard to operational agility i.e. rapid adaption to turbulence or rapid major shifts in global conditions
- (ii) building supplier eco-systems which combines and leverages technical expertise and local knowledge both explicit and tacit
- (iii) developing Western hemisphere people and skills to meet advanced manufacturing needs to at least the third industrial revolution (3IR) and preferably to the fourth (4IR)
- (iv) greater motivation and ability to build robust and durable external relationships with all other stakeholders, not just suppliers
- (v) facilitate the successful transition of global firms from OEMs to OBMs (Chen et al., 2016; Liang, 2013; Lin et al., 2020; Jin and Cho, 2018)

They suggest that of particular significance is not sourcing location, but how to align bespoke product strategies for each market and how to match local nuanced needs to manufacturing know-how and adopt and adapt digital expertise. Although they concede that low labour costs still generate CA in some sectors e.g. apparel and footwear even though advances in technology e.g. smart robots and the Internet of Things (IoT) are providing accelerated

pathways for digitising manufacturing operations. They consider new innovative supply eco-systems as a 'game changing' differentiator stemming from 'next-shoring' strategies predicated on innovation driven collaborative partnerships functioning in conjunction with multi-site plants demonstrating agile capabilities leveraging advanced technical skills.

2.4.3.6 Vested Outsourcing

Vitasek and Manrodt (2010) use the expression '*vested outsourcing*' i.e. outsourcing relationships in which companies become mutually committed to each other to establish long term win-win relationships based on mutually agreed goals. They divert from transaction based/risk aversion models to favour a combination of outcome based/shared value principles which will power the next phase of innovation and thereby deliver improvements in productivity within the global economy (Porter and Kramer, 2011).

Vested outsourcing is built around a focus on agreeing clearly defined and measurable outcomes, not transactions, for optimisation of cost/benefit trade-offs between buyer and seller and a governance structure which supersedes supplier oversight, (virtual re-verticalization), (Applebaum, 2008; Lieblein and Miller, 2003) with shared insights of markets. This approach embraces the notion of '*shared value thinking*' i.e. what's in it for both of us?

2.4.3.7 Best-shoring/Right-shoring

Numerous studies have been undertaken with regard to best-shoring/ right-shoring (Douetil, 2014). Best-shoring is fundamentally a location optimization strategy aimed at identifying the best location for manufacturing or services

based on quantifiable criteria which take subjective inputs out of the decision cycle.

PwC (PricewaterhouseCoopers) via the Stanford Global Supply Chain Management Forum (SGSCMF) discuss the potential strategic benefits of combining offshoring, on-shoring, near-shoring and re-shoring (Clinton, 2004). Hilletofth and Sequeira (2019) review the literature relating to right-shoring and conclude it is about striking the right balance between location decision options. Joubioux and Vanpouke (2016) have developed a framework to optimise best-shoring/right-shoring concluding that offshoring is more strategic than just cost reduction and that re-shoring represents a more balanced long term sourcing perspective.

2.5 Product Sourcing: Supply Chains, Strategic Sourcing Issues and Performance Critical Resources and Capabilities

The following section considers aspects of product sourcing, supply chain management, supply chain risk and other factors which impact on product sourcing performance. In most cases the literature deals with supply chains per se but wherever possible sector specific SC research has been identified with regard to nuances displayed within the footwear sector.

2.5.1 Overview of Supply Chains, Supply Chain Management, Supply Chain Risk and Product Sourcing

The objective of this section is to provide an overview of product sourcing within the context of SC management capability. Of particular significance are the issues around:

- (i) strategic alignment between corporate strategy, sourcing strategy and modularisation (Gomes and Dahab, 2010; Voordijk et al., 2006; Baldwin and Clark, 2002; Sanchez and Mahoney, 1996)
- (ii) increasing supply chain complexity. (Harland et al., 2003; Cooper et al., 1997)
- (iii) emergence of SC agility within the context of product sourcing, especially with regard to increasingly physically long supply chains. (Christopher, 2000)

Best case scenarios describe a traditional SC strategy as primarily focused on maintaining a constant and smooth flow (zero turbulence) at minimum (total) cost (Harrington, 1991; Scott and Westerbrook, 1991). Many international supply chains are driven by legacy systems, (Matthiesen and Bjorn, 2015; Bennett, 1995) established at a time when firms penetrated new markets or new segments, initially buying relatively low volumes. As business grew, early organisational routines often remained in place, patched and re-designed, frequently because no one had taken on the responsibility or possessed the skills to undertake a rigorous end to end SC process review.

Supply chain strategies in the UK fashion industry are reviewed and critiqued by Hines and McGowan (2005), particularly with regard to the rhetoric of partnership and realities of power asymmetry between buyers and suppliers.

2.5.2 Strategic Alignment

A main plank of McIvor's (2000) prescriptive framework is that outsourcing performance evaluation should be linked with corporate strategy. In short,

there must be alignment between corporate strategy, corporate objectives and SC strategy (Reich and Benbasat, 2000; Shimizu et al., 2005; Avison et al., 2004). Teece et al., (1997) and Teece, (2007) allude to the development of '*new dynamic capabilities*' in supply chain design by continuously or frequently integrating, developing and re-configuring a firms resources within the context of re-aligning them to respond to locational shifts.

Christopher and Holweg (2011) state that in order to facilitate more flexibility and more agility firms must move away from "*system control rigidities*" i.e. it is important to maintain a balance between greater flexibility and control to ensure that business strategies and supply chain strategies do remain aligned.

2.5.3 Modularity, Supply Chains and Product Sourcing

Modularity is of interest given its relevance to attempts by those outsourcing off-shore to introduce a greater degree of flexibility and agility into their SCs by attempting to reduce SC complexity within individual operational elements within and throughout the SC. Modularity is based on generic principles to assist in managing complex systems (Langlois, 2002) and is becoming more significant as a strategy for organising systems efficiently (Schilling and Steensma, 2001; Baldwin and Clark, 2002). Gomes and Dahab (2010) examined the potential of modularity spanning supply chain dyads in relation to evaluating outsourcing performance. A nascent theory of modularity examines module configuration from the perspective of the cost of transfer between system units (Baldwin and Clark, 2002; Langlois, 2002).

The concept of modularity is also one of exchange and deconstructing knowledge in order to improve efficiency and reduce transaction costs (Baldwin and Clark 2002; Bremen et al., 2010). By better understanding the patterns of interdependence in the SC, firms can deploy resources on upgrading system efficiency and coordination rather than on labour cost arbitrage which focuses too much on production costs and transaction costs (Langlois, 2002).

2.5.4 Supply Chain Agility

Supply chain agility (Goldman et al., 1995; Christopher, 2000) is emerging as a potentially future survival critical consideration for sourcing strategy development and operationalisation within many sectors. However, there appears to exist considerable confusion re the interchangeability of the terms agility and flexibility within the literature (Bernardes and Hanna, 2009) and whether they are different concepts or activities or one and the same thing. Gligor and Holcomb, (2012b) maintain that neither term is comprehensively defined within the supply chain management (SCM) literature. Fayezi et al., (2017) attempt to differentiate agility and flexibility by maintaining that supply chain/SC agility is essentially a strategic capability whereas SC flexibility is an operational capability which facilitates manoeuvrability within a firm's organizational routines.

Some researchers interpret agility as composed of a number of core elements centred on flexibility (Prater et al., 2001; Sharifi and Zhang, 1999; Vernadat, 1999). Others view it as an extension of flexibility (Backhouse and Burns, 1999; Richter et al., 2010; Tan et al., 1998; Vokurka and Fliedner,

1998). Fayezi, et *al.*, (2017) present a dichotomous perspective of how agility and flexibility occur (Wadhawa and Rao, 2003). A number of other researchers emphasize the need for a better understanding of '*relationship dynamics*' in developing agility and flexibility (Braunscheidel and Sureshi, 2009; Christopher, 2000; Kisperska-Moron and Sweirczek, 2009).

From an operational standpoint, Christopher (2000) in his seminal work on agility, points to the critical nature of time (to market) to achieve a CA i.e. sustainable time based competition. He defines agility as the combination of speed and manoeuvrability. He argues that in less predictable markets characterised by volatile demand and greater product variety (e.g. garment and footwear sectors), such environments require a greater degree of agility both organisational and operationally throughout the supply chain. In terms of capability, Christopher (2000) maintains that an agile supply chain is highly market sensitive and must be capable of responding to real rather than forecasted demand.

Many of the concepts relating to organisational agility have their origins located (embedded) within manufacturing (Yusuf et *al.*, 1999; DeVor et *al.*, 1997; Gunasekaran, 1998; Sharifi and Zhang, 1999; Zhang, 2011). (In the case of footwear manufacturing, organizational agility has historically been very limited, especially product development and sluggish 'time to market').

Christopher (2000) suggested that firms are now in an era of network competition i.e. they exist within networks such that individual firms no longer compete as 'stand-alone' entities and consequently deploy hybrid supply chain strategies characterised by a mixed portfolio of products/markets which

will pre-determine the degree of agility needed in order to compete in their target markets depending on degrees of predictability of consumer behaviour.

Other perspectives within the literature support the notion that agility is a multi-dimensional concept influencing the strategic and operational focus of a firm and its interaction with SC partners (Jin-Hai et al., 2003; Sanchez and Nagi, 2001; Sherehiy et al., 2007).

Fayezi et al., (2017) carried out research within a number of Australian manufacturing firms (including footwear), and concluded that managers understanding of the terms agility and flexibility with and between organisations as somewhat ambiguous. They suggest that agility and flexibility may lie at different strategic points within the organisation such that flexibility precipitates internal change in response to the external environmental change. Fliedner and Vokurka (1997) point to the relevance of agility to firms producing a broad range of high quality products within relatively short lead times thus creating CA via agile manufacturing.

Beach et al., (2000) argues that flexibility in manufacturing is not limited to a reactive mechanism to better manage uncertainty but can be used as a means of delivering a CA via adopting a more pro-active stance. (Zhao and Steier, 1993). However, achieving CA via performance improvement can only occur when managers perceive flexibility as a cross functional priority. (Vickery et al., 1999; Narasimhan and Das, 1999; Golden and Powell, 1999; Zhang et al., 2002). In this regard speed, as a component of agility has been

stressed as an '*outcome orientated*' priority (Kumar and Motwani, 1995; Yusuf et al., 1999).

Fayezi et al., (2017) concluded that companies largely regard agility as a strategic indicator of the need to respond to external changes. They identify three key themes which underpin the development and deployment of flexible and agile strategies:

- (i) speed and magnitude of change
- (ii) financial and economic implications of change, especially product cost
- (iii) impact of social media and technological platforms

The first two themes are consistent with the extant literature (Golden and Powell, 2000; Koste et al., 2004; Slack, 1983, 1987; Swafford et al., 2008; Upton, 1994). Emerging social and technological platforms will also significantly determine how flexibility/agility evolve in terms of the impact they have on manufacturing systems and market dynamics. Zhang and Sharifi (1999) perceive agility as both re-active i.e. a capability to respond to both expected and unexpected changes and pro- active i.e. a capability to exploit such changes to achieve CA.

'Fast fashion' footwear companies whilst strategically preferring long term supplier partnerships accept short-term, more agile partnerships in supply categories, which are, by necessity, highly responsive to fast moving fashion trends (Cerruti et al., 2016; Tran, 2010).

2.5.5 Agile Capability and Buyer-Supplier Partnerships

There is a significant amount of academic literature relating to buyer supplier-partnerships (ASPs) as the successor to labour cost arbitrage as a primary strategic driver for firms engaged in offshore sourcing and whether agile supply chains (ASPs) actually increase SC agility (Christopher, 2000). Cousins et al., (2008) observe that strong relationships between buyer and supplier are frequently cited as a principal differentiator between higher and lower performers in global SCs and that strategic sourcing managers play a pivotal role in building strong relationships with offshore suppliers (Chiang et al., 2012; Kocabasoglu and Suresh, 2006; Sternquist et al., 2003).

Masson et al., (2007) suggest that firms engaged in fast fashion segments already possess by necessity, greater agility. ASPs tend to be intermittent and recurrent rather than continuous or one off short term relationships, in response to fashion trends. Relationship development under these circumstances, is driven by a critical need to implement an agile strategy which can be sustained during high levels of turbulence, but equally need exhibit a capability to control sourcing costs (Cerruti et al., 2016). e.g. air freighting versus sea freight.

Christopher (2000) refers to the ZARA model (Zhelyazkov, 2011) used for garment procurement which he maintains is characterised by:

- (i) strategy approaching under supply into its stores, (postponement strategy) (van Hoek, 2001)
- (ii) specification of a greater commonality of materials and components in product ranges.

Christopher (2000) points to the criticality of connectivity i.e. the strategic significance of developing and maintaining strong buyer-supplier relationships with regard to the value of shared information and data.

He identifies a number of barriers to achieving SC agility:

- (i) product complexity and proliferation
- (ii) strategic brand extension(sub-branding)
- (iii) overly complex organisational structures and processes
- (iv) the presence of disruptive functional silos

The impact of disruptive technologies on increasing SC agility and on supplier partnerships is raised by Phillips et al., (2006). They examine the environment of traditional innovative processes and practices suggesting that they are inadequate and advocate working towards closer collaboration (Taboulic and Walker, 2015) with suppliers in order to take better advantage of unpredictable innovation which they refer to as '*strategic dalliances*'.

Chan et al., (2013) on the other hand, focus on the analysis of power dynamics in buyer driven supply chains and the power asymmetry between buyers and contractors as do Hines and McGowan (2005).

2.5.6 SC Research Initiatives: Agility in the Footwear Sector

This section briefly considers the very sparse research related to footwear supply chain agility, most of which emerges from the Italian footwear industry.

Cerruti et al., (2016) examined SC agility based on case studies conducted with Italian footwear manufacturing firms in the Macerato-Fermo district of

Italy with regard to the effectiveness of the presence of ASPs. (Christopher, 2000). As a baseline they adopt Goldman's (1995) definition of agility as:

"a comprehensive response to the challenges posed by a business environment dominated by change and uncertainty" (p.3).

They characterise footwear ASPs as:

- (i) firms where product differentiation and innovation supersede long term partnerships
- (ii) where seasonally structured product ranges are delivered under time pressure
- (iii) use a network of preferred, (trusted) suppliers with acknowledged resources and capabilities to deliver product on shorter cycles
- (iv) 'go to' a multitude of short-term partners rather than develop a continuous relationship

They observe that volatile markets, such as footwear, are characterised by frequent change, especially seasonal style/design changes. Competition in many segments is highly intense in response to rapid changes in consumer behaviour.

2.6 Supply Chain Risk

The abundance of extant literature around SC risk is of particular significance in relation to footwear sourcing given that a number of UK footwear firms have experienced substantial and damaging protracted disruption to supply in recent years and is frequently presented by the re-shoring lobby as a strong case for manufacturing repatriation (Moser, 2010; Van den Bossche et al., 2014; Tate, 2014). The general SC risk literature is extensive e.g.:

Tang, 2006; Kumar et al., 2014; Zsidisin et al., 2003; Pickett, 2006; Manuj and Mentzer, 2008; Normann and Jansson, 2004; Hopp, 2008; Vilko et al., 2014; Ghadge et al., 2012.

It is suggested that many companies invest very little in assessing and managing supply chain risk (Rice and Caniato, 2003; Zsidisin and Ellram, 2006; Zsidisin et al., 2004; Zsidisin, 2003). It is further proposed that there is a need to segregate risks internally and externally in terms of mitigation and management (Wu et al., 2006). However, in relation to global sourcing, “*major disruption probability*” presents the most significant threat to the continuity of supply (Li and Chandra, 2007). According to Ponomorov and Holcomb (2009) risk mitigation in global sourcing requires

“a multi - dimensional, multi - disciplinary supply chain based around event readiness, provision of effective response and post event improvement”

Risk mitigation via supply chain flexibility is advocated by Manuj and Mentzer (2008a), who also raise issues regarding risks associated with SC linkages and supply chain complexity (Harland et al., 2003).

The impact of buyer-supplier relationships, particularly regarding ‘closeness’ as a risk mitigating strategy is raised by Lambert and Cooper (2000). Whilst De Boer et al., (2001) considers risks associated with supplier decisions made by buyers. Manuj and Mentzer (2008b) suggest that firms consider mitigation for low impact (frequent) risks (Chopra and Sodhi, 2004) but not for high impact (infrequent) events.

Ghoshal (1987) classifies SC risk comprising four components i.e. macro-economic, policy, competitive and resource based.

Inventory risk management which is highly significant within the sphere of outsourcing fmcg and particularly in the garment and footwear sectors is covered by Talluri and van Ryzia, (2004), Simchi-Levi and Zhao, (2005) and Wang and Hill, (2006). Holweg et al., (2011) raise issues relating to optimisation of risk and cost and the operationalisation of 'Just in Time' (JIT) in global sourcing from the viewpoint of buyer supplier proximity.

Arrow and Lind (1970) contends that risk is "*essentially a manifestation of uncontrollability rather than a downside possibility*". Wagner and Bode (2006) similarly conclude that risk is little more than an inevitability that is "*the downside that accurately reflects business reality*".

2.6.1 Supply Chain Risk Management (SCRM) Strategies

Forms of global supply chain risk strategies include:

- (i) postponement (Bucklin, 1965; Chiou et al., 2002; Zinn and Bowersox, 1998)
- (ii) speculation (Bucklin, 1965) e.g. the movement of goods to forward inventory
- (iii) hedging/control/share/transfer around a dispersed portfolio of suppliers (Achrol et al., 1983; Agrawal and Sheshadri, 2000; Cachon, 2004)

Yang and Wacker (2012) consider '*bounded rationality*' (Simon, 1962) with regard to the development of SC strategy and strategic risk where they suggest that strategic risk mitigation can be supported by:

- (i) precise legal contracts i.e. the formal governance mechanism is the contract which maintains the status quo (Jiang et al., 2008; Yao et al., 2010)
- (ii) strong buyer-supplier relationships (Monczka et al., 1998; Liu et al., 2009)
- (iii) (iii) relational adaptation (van Hoek et al., 2001; Peterson et al., 2002; Narisimhan, 2010).

Tang (2006) suggests a need for robust risk strategies defined as:

- (i) capability to control regular and abnormal levels of turbulence in the SC competently under standard operating conditions
- (ii) ability to maintain continuity throughout a major (protracted) disruption

He maintains that SC resilience to risks can be increased by forming and sustaining strategic alliances, reducing overly long lead times and implementing effective (fail safe) recovery planning systems such as Enterprise Resource Planning (ERP).

Applebaum (2008) observes that some East Asia manufacturing contractors, ranging from footwear and garments to electronics, have been integrating vertically in (their) supply chains in order to mitigate demand side risks.

Starosta (2010) suggests that big Chinese manufacturers rather than SMEs are more able to be responsive to risks stemming from both shortening product life cycles (Subic et al., 2012) and increasing product complexity. (Harland et al., 2003).

2.6.2. Outsourcing Risks

This section considers specific outsourcing risks as opposed to other SC risks with a view to understanding them within the context of current issues being faced by buyers.

The application of scenario planning to develop '*alternative futures*' to combat risks presented by complacency within the sourcing supply chain is proposed by Tate et al., (2014). Kotabe and Omura (1989) and Kotabe et al., (2008) use the expression "*hollowing out risk*" in relation to outsourcing.

Coordination challenges relating to relocation of resources and managing sourcing at a distance are discussed by Ceci and Principi (2013), particularly the difficulties encountered in coordination of cross functional activities and initiatives.

Jain et al., (2011) raise the issue of the relationship between global product sourcing and stock levels. Growth in stocks, especially for fmcg firms and particularly those in very dynamic sectors such as apparel require very robust risk management strategies. They suggest a need to focus on two critical characteristics with regard to stock management:

- (i) the extent of global sourcing i.e. resource stretch and source spread
- (ii) global supplier concentrations (clusters)

They present two competing hypotheses:

- (i) more global sourcing equates to higher stock levels
- (ii) more global sourcing leads to lower stock levels

They advance similar hypotheses in relation to '*supply base dispersion*'.

However, they concluded that growth in global sourcing results in an

increase in the investment in stock, an increased risk that can be mitigated by deploying a strategy of greater supplier diversification and geographic dispersion.

2.7 Costing, Costing Models and Costing Methodologies

From the initial proposal literature search and further early stage preparatory literature it became clear that costing accuracy and competency in using appropriate methodologies had become a central issue within the outsourcing debate e.g. re-shoring and TCO (Ellram, 1993; Ellram and Siferd, 1998). As such, consideration has been given to searching for relevant literature and data, particularly that which relates to the footwear sector.

2.7.1 Impact of Costing Accuracy: Make or Buy Decision

Product costing been regarded by academics for some as a critical component of making the most appropriate sourcing location decisions (Ellram 1993), an argument put forward very forcibly by the 're-shoring lobby' (Moser, 2010) yet methodologies such as TCO (Ellram 1993 ; Ellram and Sifferd, 1998) (see Figure 2.10) have been in existence for over twenty years. They contend that this is giving traction to stronger arguments for implementing advanced costing methodologies e.g. TCO underpinned by high integrity Activity Based Costing' (ABC) (Kapan and Atkinson, 1989) allowing true comparisons to be made between off-shored and on-shored manufactured products.

Within the global footwear manufacturing sector, Dwivedi and Chakraborty (2017) describe ABC as a new management technique. They undertook

research within an Indian footwear company and concluded that in combination with value chain analysis (VCA) models they created a capability to analyse specific activities within its value chain to weigh against their perceived competitive strengths.

It is suggested that there has been an over - focusing on tangible costs at a single point in time and Wheatley (2013) suggests that:

“To determine if off-shoring is the right answer, you have to look at intangible costs in the rush overseas, intangible were under-estimated”

Given that product sourcing decisions on “make or buy” necessitate a core competence in comparative product costing (Porter, 1998; Porter and Kramer, 2011) it would seem that this should necessarily be factored into a firm’s future *modus operandi*.

2.7.2 Outsourcing Costing

A number of researchers have identified hidden cost drivers in relation to global outsourcing especially from China. Kotabe and Murray (2004) suggest that product cost during the early days of outsourcing were overlooked because of a greater focus on quality and reliability.

Goh and Ling (2003) focused on identifying logistics costs. Zeng and Rossetti (2003) identified physical distance from markets, complexities in the supply chain and costs relating to trading in different cultural environments squeezing profit margins. Similarly, Nassimbeni and Sartor (2006) and Eberhardt et al., (2004) suggest that successful outsourcing generates a significant added investment in relationship development e.g. responding to Guanxi (Wilkinson, 2017; Millington et al., 2008) and facilitates knowledge

transfer (Ramaswamy et al., 2006). (Eberhardt et al., 2004) and Millington (et al., 2008) identified corruption as a significant component of cost when outsourcing from China.

Smytka and Clemens (1993) segregated outsourcing costs into two categories:

- (i) external costs: prices (FOB), discounts (retail), order costs, logistics, supplier visits and technical support (governance), product development (tooling)
- (ii) internal costs: finished goods stock costs, distribution, late delivery costs, conformance (quality and reliability). Similar cost drivers were identified by Carr and Littner (1992)

Ellram (1993) identified three phases of outsourcing cost: pre-transaction; transaction; post transaction. Similarly, Platts and Song (2010) developed a costing framework predicated on two de-constructed cost classifications: initial set –up and ongoing. From their research they concluded that:

- (i) price i.e. assumed FOB accounted for some 60% of TCO
- (ii) subsequently firms should apply an uplift of 50% on FOB prices
- (iii) as a general observation outsourcing firms under estimate additional costs

2.7.3 Costing Models and Costing Methodologies in the UK Apparel and Footwear Manufacturing and Product Sourcing

The extant literature relating to costing within the UK apparel and footwear sectors is unsurprisingly very limited. Consequently, descriptions relating to

the various methodologies adopted, particularly the most common method, (standard costing), are only summarily covered within the Literature Review

Within the UK footwear sector net margins remain relatively small, necessitating very close control of costs through standards based accurate financial control systems. (Kaplan and Atkinson, 1989). Until now there has been some attention paid to flaws in product costing in relation to outsourcing offshore by US apparel SC researchers (e.g. Ellram, 1993; Ellram and Siferd, 1998) and in the UK by Hines (2002) work on the “*Iceberg*” theory which resonates strongly with the re-shoring lobby and their promotion of TCO.

Mclvor (2013) in his work on developing new sourcing location decision frameworks applied a costing model in relation to footwear without a full understanding of the complexity of manufacturing processes. Bamford and Land (2006) evaluate the feasibility of the application and use of the Prevention-Appraisal-Failure (PAF) quality costing model within a footwear company. The research revolved around the objective of facilitating business improvement by placing an emphasis on accurate and fully validated quality cost data.

With regard to supplier side costing, Simmons (2010) comments on the challenges facing Chinese footwear manufacturers, and their impact on buyer behaviour, from escalating labour costs and the levels of investment required to install systems in order to better identify cost structures and improve cost control to maintain CA over its near neighbours.

Set down below are a number of costing methodologies in current use within the UK footwear sector followed by those with the potential to provide greater costing accuracy within the context of better assisting the 'make or buy' decision. (Fill and Visser, 2000; McIvor et al., 1997)

2.7.3.1 Historical Costing

Research articles relating to historical costing are extremely limited and bear very little reference to historical costing methods used in the UK footwear sector. Callam and Ryder (1977) refer to historical costing within the context of the adoption of standard costing in order to overcome the occurrence of project overspends against initial estimates which are only quantifiable when the project is completed.

Within the UK footwear industry costings may have been arrived at by comparing new designs with previous ones displaying similar work content and material specifications. In effect a technique similar to competitive 'benchmarking' and 'slotting' (Markin, 1992).

Ofileanu (2016) undertakes a review of historical costing methodologies in the Romanian footwear industry and evaluates the potential for the implementation of 'lean accounting' (Maskell and Baggeley, 2006).

2.7.3.2 Standard Costing

Standard costing, (Taylor, 1911; Fleischman and Tyson 1998; Hsiao, 2006) in the US and the UK has been widely used since the early-1960s largely as a financial control mechanism in manufacturing sectors. Standard costing methodologies have been applied in the UK footwear sector to generate standardised product costs, largely initiated by the bigger footwear firms in

the early 1950s based on Taylor's (1911) Scientific Management Principles.

Within the UK footwear sector they have been applied especially for the purpose of:

- (i) calculating (value adding) nominal prime costs as components of total cost in the calculation to establish wholesale and retail prices
- (ii) controlling direct labour and material costs where piecework incentives schemes are applied to the manufacturing process (variance analysis)
- (iii) improving productivity
- (iv) basis for calculating target or nominal outsourcing costs e.g. FOB cost

'Skeleton' costing models commonly used within the UK footwear sector for both manufacturing and outsourcing are shown in Figures 2.8 and 2.9 respectively.

In many ways the models would satisfy what Distler et al., (2014) refer to as the need for the adoption of a '*standard unit of measure*' to facilitate transparency of comparative costs within supply chains and provide incentives to suppliers to increase productivity. They suggests that "*cost comparisons are mostly anecdotal*". This challenges the FOB approach to prices such that suppliers will be incentivised to improve their margins. In terms of costing accuracy most buyers are negotiating prices FOB so what incentive do they have to force suppliers to improve productivity apart from maintaining continuity of supply? Distler, et al., (2014) challenge whether or not there is evidence of imminent convergence on global costs which may result in a re-framing of the comparative cost debate.

2.7.3.3 Reverse Costing/Target Costing

The reverse costing methodology has been in existence and used in the UK footwear industry certainly since the mid-1960s. Reverse costing is similar in approach to target costing (Feil *et al.*, 2004; Dekker and Smidt, 2003). It is frequently adopted amongst 'assembly' firms sourcing from multiple supply sources in highly competitive and unpredictable environments and used within marketing, design and development functions, particularly in fmcg sectors (Dekker and Smidt, 2003).

Within the UK footwear sector, its main advantage is to set 'benchmarks' on domestic manufacturing costs or to provide guide for supplier prices (FOB/ex-factory) and as such decisions relating to supplier location. In practice, it might be argued that it lacks the precision which might be achieved using more advanced methodologies. Nevertheless, reverse costing is a valuable early indicator as a basis of negotiation with suppliers.

2.7.4 Advanced Costing Methodologies

The literature search encompasses costing methodologies which may have potential application to footwear product sourcing. Such methodologies it has been suggested are more likely to generate product outsourcing costs which will exhibit greater integrity and accuracy thereby should better inform supplier selection and the location decision. (Ellram, 1993; Ellram and Siferd, 1998; Hines, 2002; McIvor, 2013). Their application is also of particular interest to those supporting the case for manufacturing repatriation initiatives in the UK.

The costing model shown in Figure 2.9 is a modified version of 2.8 and as such its continuing value for offshore outsourcing purposes relies heavily on maintaining an accurate database of standardised prime costs and well-structured overhead cost allocation (Cooper, 1987; Cooper and Kaplan, 1988; Kaplan and Atkinson, 1989; Cardinaels *et al.*, 2004).

2.7.4.1 Kaizen Costing

Rof (2012) points to the principle underpinning Kaizen Costing which revolves around incremental improvements in the manufacturing process at minimal cost during the manufacturing process. Kaizen Costing examines those target costs against actual costs throughout the product life cycle (Horvath and Lamla, 1996; Womack and Jones, 1996, 2003).

Kaur (2014) considers Kaizen costing as a potential catalysts for driving change and pursuing rigorous cost reduction.

2.7.4.2 Activity Based Costing

A relatively recent research project which conducted a comparative analysis of costing methodologies between large firms and SMEs in the UK (Brierley 2011) concluded that many SMEs have never considered using Activity Based Costing methods (Kaplan and Atkinson, 1989) to allocate overhead costs to specific products or services.

Hughes (2005) conducted an evaluation of ABC/ABM (Activity Based Manufacturing) used within clothing and textiles sectors where he concludes that substantial organisational change is needed if organisations are to benefit from more precise costing via advanced costing methodologies such as ABC analysis (Cooper, 1987; Cooper and Kaplan, 1988). Drury (2013)

found that only one fifth of the respondents in their survey used full product costs to support decision making in firms engaged in multi- product manufacturing. (This situation may be changing given the application of greater computing power and advanced cost modelling techniques).

2.7.4.3 Total Cost of Ownership (TCO)

Bartholmiej (2014) examines the use of ABC to determine TCO (Ellram, 1993; Ellram and Siferd, 1998). The application of a TCO model makes it mandatory for firms to consider every activity they undertake that cause them to incur costs. (Figure 10 shows an example of a TCO model).

Very much like 'lean', (Womack and Jones, 1996; 2003), one of the major difficulties with TCO is the questionable capability to segregate prime costs from overheads, as many firm's financial controls are poorly structured. (Cooper and Kaplan, 1988; Kaplan and Atkinson, 1989).

The arguments presented by the Re-shoring lobby (Moser, 2010) rely extensively on the assertion that many firms have substantially under-costed products outsourced off-shore. There is little by way of literature to support or refute this argument within the UK footwear sector.

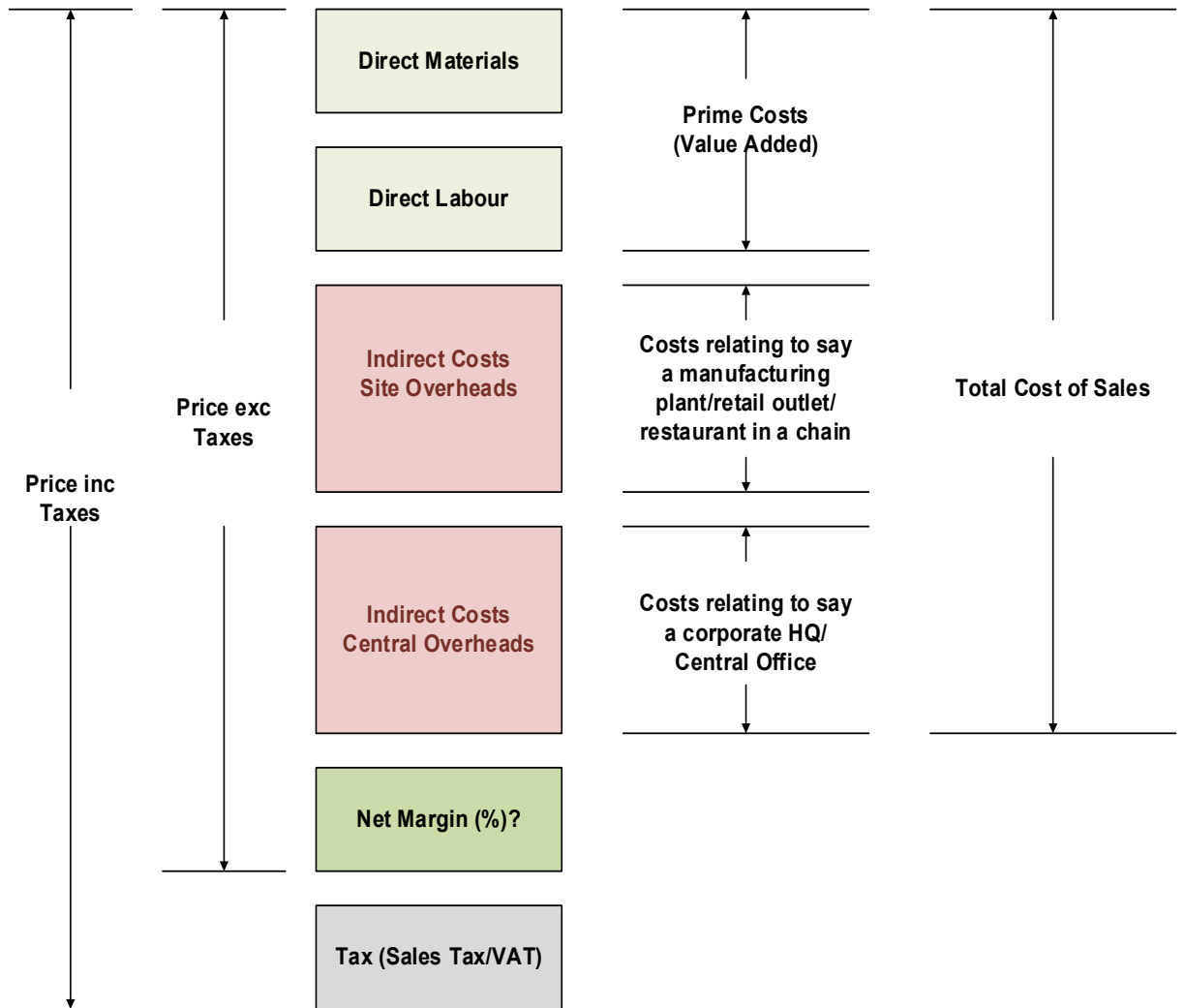


Figure 2.8

Outline Standard Costing Model (Wholesale): UK Footwear Manufacturing Sector

Source: Author/Excel Spreadsheet/OECD/Institute of Work Study Practitioners (IWSP)

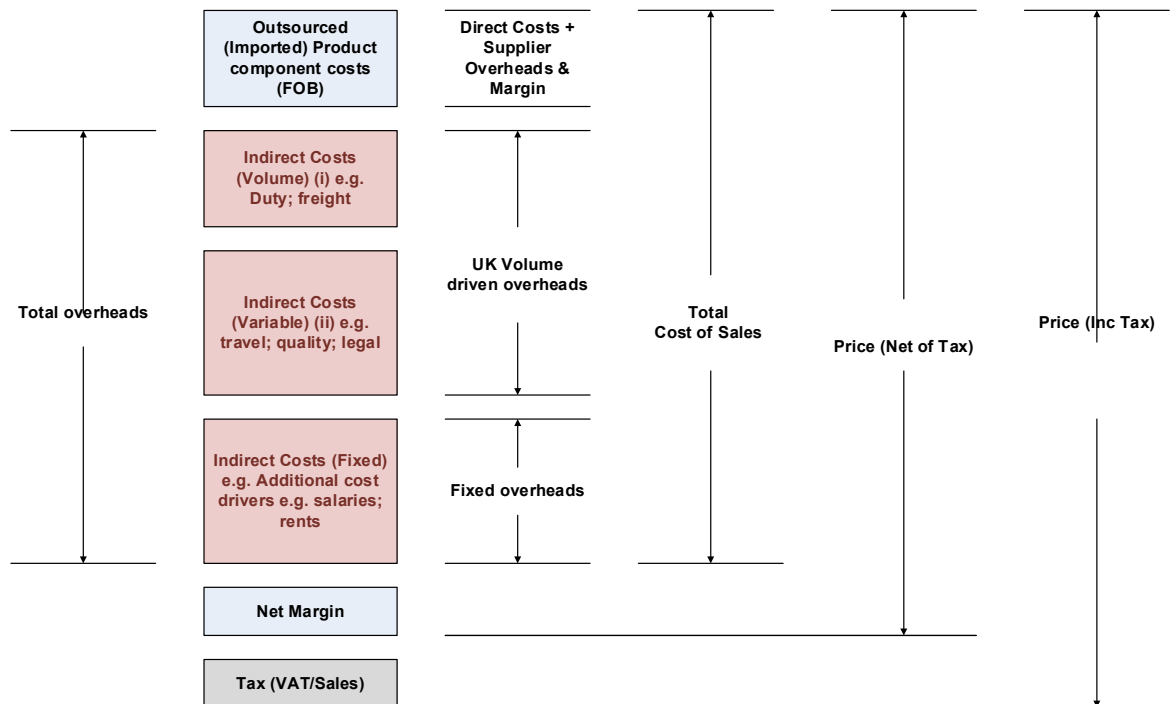


Figure 2.9

Outline Standard Costing Model (Wholesale: Outsourcing)

Source: Author/Excel Spreadsheet/business-fundas.com

Lindholm and Suomaia (2004) maintain that an underlying issue with calculating TCO stems from a widespread lack of appropriate and comparable cost measurement. In this environment it is unsurprising that issues around product costing should become the focus of greater attention with regard to sourcing location.

Hussein and Gunasekaran (2001) and Bartolmiej (2014) suggests that increased competition requires an integrated approach to using TCO and ABC. They present a model they call “*supply chain profit management*” which is effectively based on the Reve and Sasson (2015) ‘Emerald’ model.

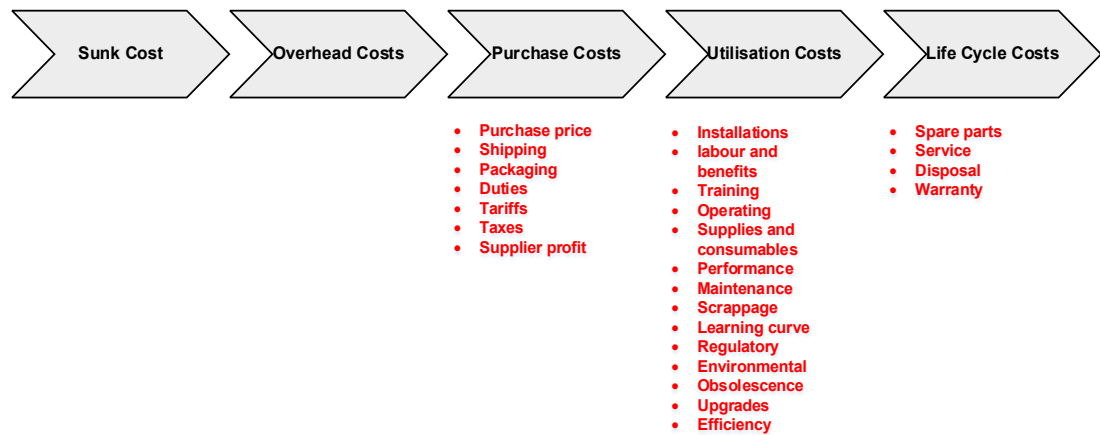


Figure 2.10

Total Cost of Ownership (TCO) Model

Source: Internet: Powerpoint Template: Sketch Bubble, research bubble.com (2016)

In this regard, SC costing might be re-defined by adopting cost based performance measures covering the activities comprising the key processes within the whole (end to end) supply chain (Lalonde and Pohlen, 1996). The critical issue is to identify where and of what magnitude significant cost turbulence is most likely to occur.

2.7.4.4 Parametric Costing

Parametric costing uses regression analysis which estimates cost based on one or more system performance or design characteristic (Mileham, et al., 1993). It can be used at an early stage in product development and has been evaluated within a textile supply chain (Camargo, et al., 2003). It has its roots in Historical Costing (Ofileanu, 2016) as such it has the potential to be implemented within firms in the footwear sector where historical costing is prevalent.

There is no evidence of any extant literature relating to the application of parametric costing within the UK footwear sector even though it has potential benefit to calculate real cost reduction from learning curve productivity improvements both domestically and for offshore suppliers.

2.8 Impact of Technology on Product Sourcing

Williamson (1988) presents an opening argument with regard to the impact of technology on labour cost arbitrage sourcing strategy. He rejects technological considerations in relation to its impact on economic organization although recognizes that there exists a degree of interdependency. He defines four conditions of technological impact: strong form; semi-strong form; semi weak form; weak form. 'Strong form' reflects technology as uniquely influencing economic organization scaling down to 'weak form' where technology has little impact and transaction factors remain dominant in product sourcing. He maintains that there is general agreement amongst TCE academics that strong form is unsupportable. Interestingly, the footwear sector has shown little propensity to harness technology as an agile accelerator in response to shifts in market conditions (Christopher, 2000; van Hoek et al., 2001; Yusuf et al., 2004; Masson et al., 2007; Gligor, et al., 2014).

Increased manufacturing flexibility via the application of advanced manufacturing technology is yet to be given broader consideration with regard to their impact on outsourcing particularly in low labour cost, low technology cost countries (Oberoi et al., 2007) where the emphasis they suggest will remain on leveraging relative cheap labour, particularly for high

labour content products. However, technology advances within the UK footwear industry, as in many other sectors, have been influential in upgrading both business and operations/manufacturing performance by embracing advances wherever and whenever they have emerged. In support functions this would cover functions such as ERP, product development (CAD/CAM systems) (Paris and Handley, 2004), automated JIT logistics and distribution, automated retail re-stocking systems. This section outlines the potential for advanced technologies as they may impact on future product sourcing strategy and crucially the location decision.

Downstream in the supply chain the emergence of other so called 'disruptive technologies' (Christensen and Bower, 1995) may also impact on the direction of product sourcing strategies. e.g. logistics and distribution

2.8.1 Overview of Manufacturing and Technology Applications

Thomas et al., (2012) set out the future UK manufacturing challenges. They point to the emergence of new manufacturing technologies in combination with increasing global competition driving innovation in manufacturing processes (e.g. 3D printing; robotics) and products (mass customisation). They forecast that the IoT will initiate a paradigm shift in manufacturing processes, practices and systems development, especially with regard to the advent of CPS.

2.8.2 Low Technology Sectors

Hansen and Serin (1997) pose the question as to whether low technology products will eventually dis-appear? Within the context of footwear manufacturing the question relates primarily to the continuity of traditional

shoemaking processes. A number of implementation issues are emerging in some 'brown shoe' segments and in athleisure given the some of the problems being experienced from recent fully automated manufacturing modular developments e.g. Adidas 'Speedfactory' (Koelblin, 2017), Extended User Orientated Shoe Enterprise (EUROShoE) (Dulio and Boer, 2004; Boer and Dulio, 2010) and Clarks Morelight project.

The OECD (Lawrence 1996) consider "*low technology industries to be where the R+D (research and development) content is below 1% of turnover*". (Using this definition would unfairly exclude the big footwear brands such as Nike, Adidas, Clarks, ECCO and Timberland whose R+D spends are well in excess of this figure)! They maintain that low technology sectors are characterised by '*embodied knowledge*' and they contend that design in low tech sectors is mostly based on tacit knowledge. They use ECCO as an example in the footwear sector to argue that innovation is driven primarily by "dis-embodied knowledge" in the form of new materials or machinery.

Hansen and Serin (1997) use the term *practical men*, who are effectively the link between product (design and development) and (manufacturing) processes to such an extent that innovation is often an output from their experience and expertise. Competition in low tech sectors will not be based exclusively on costs and price, but increasingly on the capability to factor in cultural nuances to design and SC agility in response to rapid shifts in consumer demand.

Innovation in shoemaking machinery would have been highly evident by 1997. The use of computers in footwear firms and for shoemaking

processes was well developed and widely in use, yet, such technologies failed to prevent the mass transfer of footwear manufacturing offshore and as such technological innovation for many firms became an irrelevance.

(AmanKwah- Amoa, 2017).

Interestingly, Lee (2011) remarked on the then claims made by some US shoemakers of a capability to manufacture 'closed uppers' at the same cost as Chinese producers as a result of the introduction of elements of advanced technologies thus partially reducing cost differentials with outsourced products. Robotics and systems integrators have been in evidence since the mid Nineties especially the installation of first generation automated feeds on assembly lines, computerised flat-bed stitching and robotically aided injection moulding (Spencer, 1996).

2.8.3 Impact of Industry 3.0: UK Footwear Sector

Lasi *et al.*, (2014) define four industrial revolutions:

- (i) mechanisation (1st)
- (ii) electrical energy (2nd)
- (iii) digitisation (3rd)
- (iv) internet technologies and future orientated technologies - "smart objects" (4th)

They refer primarily Industry 4.0 i.e. to the advent of efficient modular manufacturing systems where production processes have the capability to manage their own operations via fully automated systems deploying intelligent robotics (M2M).

The UK footwear sector, in the main, has to date made advances using sporadic Industry 3.0 technologies with the odd exception (see C5 case study). McHenry (2012) regards the future of the footwear industry as being critically dependent on technological advances as a catalyst to bring mass customisation (Boer and Dulio, 2007) into the retail market. Nevertheless, a number of UK shoe firms have become pro-active in the development of leading edge 3IR and ultimately 4IR technologies in order to achieve and sustain CA.

2.8.3.1 Real Time 3D CAD/CAM (Computer Aided Design Computer Aided Manufacturing)

Advanced 3D real time CAD/CAM systems have been utilised widely both strategically, (first into store), and operationally, (acceleration of development lead times and reduction of development costs), since the early Nineties (Paris and Handley, 2004). They point out that the design and development of footwear is grounded in craft based activities many of which can be considered as requiring a high degree of tacit knowledge. (Nonaka, 1994; Nonaka and Takeuchi, 1995) They contend that knowledge based CAD/CAM systems mitigate the risks of the loss of critical knowledge as tacit skills are disappear or are eroded as shoemaking craftsmen and technicians leave the industry or retire.

From a strategic perspective advanced CAD/CAM enables shoe firms to get product to market ahead of its competitors. The financial benefits of CAD/CAM in high volume manufacturing stem from savings made in the design and development stages e.g. design decisions can be made on

screen rather than from producing costly prototypes which cause serious disruptions to volume footwear manufacturing.

The parametric characteristics of CAD/CAM systems also facilitates modifications to design and specifications at a relatively late stage in the development process (Paris and Handley, 2004). A significant advantage when making late design changes in turbulent market segments.

Advanced communications technology and design tools such as CAD/CAM are facilitating the emergence of even greater dispersal of activities globally according to Gereffi and Memedovic (2003).

2.8.3.2 3 Dimensional Printing (3D Printing)

3D printing, (stereo-lithography), (Piperi et al., 2014; Jiang et al., 2017) has been used extensively in the footwear sector since the start of this millennium, particularly to increase the speed of prototyping sole designs and reduce development costs. Advances in 3D volume manufacturing could radically change current processes and practices and emerge as the most disruptive technology within the sector. (Christensen and Bower, 1995). Both Nike and Adidas are now developing 3D printed footwear products.

2.8.3.3 Early Stage Robotics Development in Footwear Manufacturing

The practicality of robotic applications in footwear production are described by Rooks (1996) and by Spencer (1996) who specifically link this technology with the application of lean and agile operations.

Kochan (1996) presents a short journal article on the application of robotics to a number of shoemaking operations in the footwear sector by Actis in

1996, although he remarks that they first worked on shoemaking robotic solutions as far back as 1984. Robot manufacturer Staubli collaborated with Actis on the implementation of \$1 million project for automated cementing and roughing for Brightwood, a Florida based athletic shoe manufacturer. Brightwood claim that with the aid of this technology they were able to compete on cost with offshore suppliers and that the investment in robotics had an 18 month payback.

2.8.3.4 EUROShoE Project 2000-2002

Whilst it might be argued that such applications have been piecemeal, there is evidence of a more holistic manufacturing approach in shoemaking automation and other related applications (Boer and Dulio, 2007; 2010). In 2002 the EU provided funding for the EUROShoE Project to evaluate the potential for both automated manufacturing and mass customisation. The project proved to be a considerable success and demonstrated that it is feasible to run an almost fully automated manufacturing plant, albeit at exceptionally high cost and with low productivity (Boer and Dulio, 2010). The project was shut down due to shortage of funding, especially from the EU and limited availability of resources from the collaborating firms.

2.8.3.5 Other Initiatives

Cocuzza et al., (2012) describe an automated 'lasting' system developed using CAD/CAM and Radio Frequency Identification (RFID) technologies and generic robots called the IDEA-FOOT project, (Innovative DEsign and mAnufacturing systems for small series production for European FOOTwear companies). Maurtua et al., (2012) discuss a similar project (ROBOFOOT)

which was undertaken in Spain but had limited application as it covered only four of five lasting and finishing operations.

2.8.4 Industry 4.0 Overview

Ganzarin and Errasti (2016) interpret Industry 4.0 as a “*new level of organisation and control*” encompassing the whole value chain. In 2013, Germany set out its Industry 4.0 manufacturing strategic plan (Branger and Pang, 2015; German Trade and Invest (GTAI), 2014; Lu, 2017). The strategy is underpinned by industrial integration (Gorkhali and Xu, 2016; Lu, 2016) using advanced technologies including big data, digitisation, IoT, artificial intelligence (AI), collaborative robotics (M2M) and sector specific machine technologies. Both Industry 4.0 and Made in China 2025 (Li, 2017) deploy digitisation, cyber physical systems (CPS), IoT and smart manufacturing technologies integrating collaborative robotics in value creation (Li, 2017).

2.8.4.1 China Response to Industry 4.0: Made in China 2025

China’s ‘*Made in China 2025*’ (Li, 2017) strategies embrace wider objectives (Gorkhali and Zhu, 2016,) in so far as they are aimed at restructuring and upgrading whole industrial sectors (Bi, et *al.*, 2014; Xu et *al.*, 2018).

Li (2017) compares Germany’s Industry 4.0 strategies with China’s Made in China 2025 plan. Made in China 2025 effectively became the ‘blue print’ for China to shift from OEMs to ODMs and then ultimately to OBMs in order to become innovators as well as highly efficient manufacturers, particularly in high tech sectors. China’s aim is to move up the value chain such that it seeks to transition from labour intensive to knowledge intensive manufacturing. Consequently, Chinese footwear companies will need to

upgrade manufacturing if they are to remain competitive in the face of rapidly rising costs e.g. the implementation of lean and agile (Womack and Jones, 1996; 2003), better material utilisation, especially upper leather and the adoption of leading edge technology, both generic and sector specific (Journal of Commerce Online (JOC), 2013). Li (2017) points out that whilst footwear manufacturing is China's 6th largest sector accounting for 63% of world production, it has not been included as a priority sector by the Chinese government in the Made in China 2025 plan.

2.8.4.2 Industry 4.0 Robotics in the UK Footwear Sector

Literature relating to the application of advanced robotics in footwear on an Industry 4.0 platform is scarce and most quite recently undertaken. Jimeno-Morinella et al., (2021) and Narwane et al., (2021) examine the complexity of implementation in labour intensive low tech sectors as do Dwivedi et al., (2021) with reference to the challenges of sustainable production and technological competence within an emergent economy. Bai et al., (2020) consider Industry 4.0 within the footwear industry from the perspective of social and environmental sustainability. Majeed and Rupasinghe (2017) assess in-bound and out-bound operations Industry 4.0 implementation issues through ERP driven systems and RFID technology. Cicconi et al., (2017) undertake a modelling and simulation exercise for footwear sole mould making. The effective monitoring of robotic cell production via 'big data' was examined by Roman-Ibanez et al., (2018).

Implementation projects within the footwear industry in the UK remain at a relatively early stage. Brown shoe initiatives have been restricted to Clarks

(failed) Morelight project but some progress has been made in athleisure/sports segments of the market (Nike and Adidas). Of some significance are the initiatives being pursued by Nike to use 4IR technology as a catalyst for pursuing near-shoring strategies (Churchill, 2017).

2.8.4.2.1 Clarks 'Morelight' Project

It was claimed by Clarks that the Morelight project would create 80 jobs in Street, Somerset, utilising cutting edge robot assisted technology e.g. laser cutting, automated computer stitching and bespoke lasting tracks, (Thatcher, 2017). Clarks have taken a lead from automotive and aeronautical sectors in the development of this module and collaborated with global leading edge robot manufacturers. They maintain that the Morelight project would not impact on current off-shore sourcing strategies, but provide a complementary on-shore manufacturing capability to improve SC agility. Sadly, the project was shut down in early 2019 for a number of reasons mostly relating to high and ongoing sunk costs, low productivity and intractable technical issues. (Drapers, January, 2019)

2.8.4.2.2 Adidas Speedfactory

Adidas Speedfactory (Koelblin, 2017) is an Industry 4.0 development fully utilising smart machines and interactive robotics (M2M) supported by big data. A single module currently produces around 1800 pairs in 24 hours. At this point in time, the module is producing sports/athleisure footwear with synthetic uppers and synthetic soles. However, Adidas have been unable, as yet, to automate the lacing of a shoe! (Kaspar Rorsted, Adidas CEO (Chief Executive Officer, 2018). A powerful visual image of Speedfactory is shown

below in Figure 2.11.

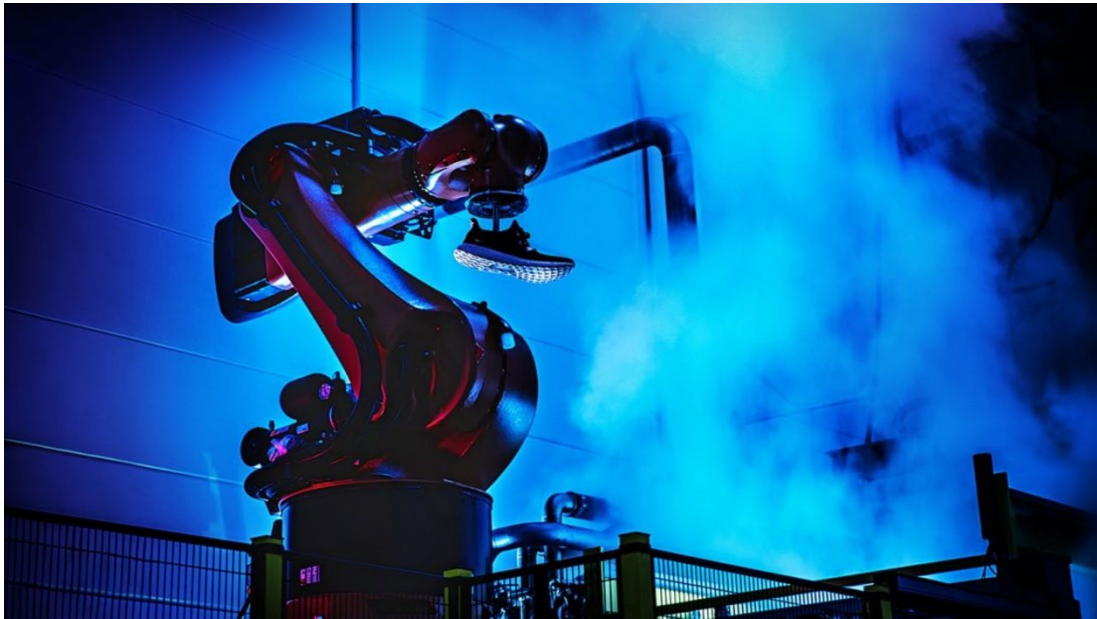


Figure 2.11

Image of Adidas 'Speedfactory'

Source: Koelblin, 2017

The potential strategic benefits stem from the capability to quickly locate Speedfactory modules anywhere in the world adjacent to core markets thus potentially accelerating on-shore highly agile product sourcing strategies.

2.8.4.3 Mass Customisation

Central to the Industry 4.0 strategy is the concept of a '*batch size of one*' whilst retaining mass production economies of scale. Heralding in an era of product customisation. Senanayake and Little (2010) identify five types of mass customised (MC) products within the apparel sector which they call '*extents*':

- (i) adjustable customisation (fitting adjustments)

- (ii) dimensional customisation (bespoked lasts)
- (iii) postponement (delayed specification: CAD/CAM facilitated e.g. ZARA model)
- (iv) standardisation (as per range building directive)
- (v) delayed product differentiation (customer re-specification)

They assess the viability of mass customisation in apparel sector manufacturing and conclude that as it becomes more feasible, the growing demand for customised footwear can be met such that real time 3D CAD/CAM systems will become a central component of customised footwear production utilising Internet or in store terminals.

2.8.5 Future Technologies and Global Product Sourcing Strategy

In summary, it is anticipated that future major advances in technology, such as 4IR and beyond, will inevitably and substantially impact on product sourcing strategies and significantly influence future manufacturing location decisions according to the Boston Consulting Group (Distler, et al., 2014).

They argue that technology shifts will be a main change driver within apparel, including footwear, through the next decade and that their deployment will occur at a global level.

2.8.6 Industry 4.0 Related Risks

Sollars (2017) suggests that extended supply chains in 21st century manufacturing are highly vulnerable to cyber security breaches e.g. business critical data such as IP. He mentions Adidas, (Speedfactory), with reference to new sourcing risks e.g. increases the risk of theft of highly sensitive data which is being used for further product innovation. By focusing on end point

solutions for each device, access can be prevented, making the Internet of Robotic Things (IoRT) a potentially game changing asset.

2.9 Literature Review Summary

The Literature Review has identified the most significant extant literature relating to (critical) product sourcing issues and challenges for UK footwear firms which will either positively or negatively impact on not only their financial performance through the medium term but also their very survival and whether or not the UK footwear industry is able to halt further catastrophic contraction and structural decline within the sector and at the same time maintain UK ownership and control of high volume footwear firms. In this regard, this Literature Review establishes a knowledge based framework and platform from which potential solutions might be developed and simultaneously make a significant contribution to SC theory and the development of product sourcing strategy from a practitioner needs perspective.

In summary, a number of ongoing critical and supporting/secondary themes with regard to UK footwear firms' product sourcing strategies have been identified which require urgent attention. The inflationary pressures in China are forcing UK footwear firms to rethink how much longer they can continue to source from the People's Republic of China (PRC) if their costs continue to rise significantly. Alongside these developments is the rise of India as a major footwear supplier and the long term potential for apparel sourcing in North Africa.

The critical themes are highly inter-related with regard to determining the optimal location decision McIvor (2013) given the potential for more opportunistic near-shoring product sourcing strategies deployed within the sector. However, they require a re-focus on the trade-off between low labour cost and greater SC agility via a rigorous cost/benefit analysis. A model of the key themes derived from the literature search are shown below in Figure 2.12

The extant literature strongly suggests there is a need to 'drill down' and further examine specific concerns within the sector in relation to:

- (i) upgrading market intelligence capabilities within the context of increasing global and domestic market volatility
- (ii) achieving greater SC agility within the sector, especially in relation to far-shoring which although receiving more attention remains largely unresolved
- (iii) generating considerably more accuracy in product costing to facilitate better decision making in relation to pursuing a sourcing strategy which genuinely delivers greater SC agility
- (iv) evaluating the impact, (cost/benefit), of advanced automation on product sourcing strategy
- (v) retention of knowledge and skills relating to all aspects of volume footwear manufacturing and associated operations, especially product development
- (vi) better identification of the management of product sourcing/SC risk under increasingly turbulent global economic conditions

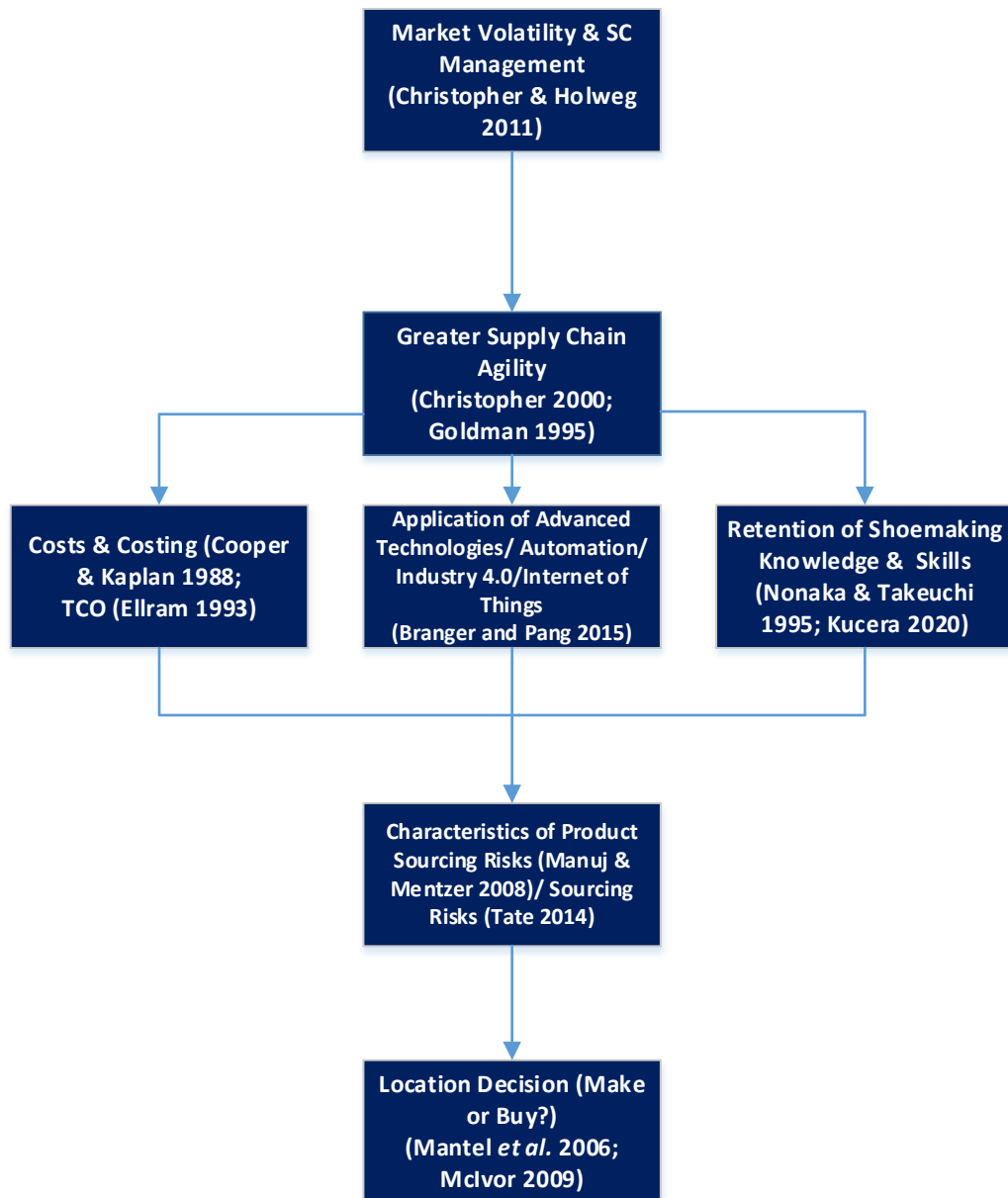


Figure 2.12

Core Themes and Issues Emerging from the Literature Review

Source: Author

If the issues outlined above are not addressed in the short term the UK footwear sector will be damaged to the point where it will be unable to sustain a significant presence in the domestic market or retain a meaningful presence in the global footwear sector even in high end branded product segments.

These key themes will form the basis of the field research initiatives in terms of the development the research strategy and methodology and approach to data collection, most significantly to inform the structure of interviews and subsequently the framework to construct the case study narratives.

Chapter 3 below sets out the research philosophy, strategy and methodology which will be used to assist in answering the research questions and achieve the research objectives.

CHAPTER 3 RESEARCH METHODOLOGY

This chapter sets out (i) research philosophy and (ii) the approach taken to the selection of the most appropriate and effective field research strategy and methodology that will present the UK footwear sector's response to the research project aims.

3.1 Research Philosophy

This research adopts an interpretivist paradigm. Accordingly, the notion of 'reality' knowledge are viewed as 'social products' which cannot be understood independently from social actors, (including the researcher), (Orlikowski and Baroudi, 1991a). Interpretive approaches attempt to better understand social phenomena via meanings and values that individuals (or organizations) assign to them (Orlikowski and Baroudi, 1991a; Hirscheim, 2010). In this case, the phenomenon of strategic development and deployment is understood through the meanings of the concepts for those involved in the form of social action (Grint, 2000).

However, interpretivism does not have to rely solely on the researcher completely immersing themselves in the empirical setting of the study. Consequently, an interpretivist approach can support a study which uses a range of methods. For example, unstructured interviews, where the aim is to explore not just people's individual and collective understandings, but also their reasoning processes and the influence of organizational and social norms (Blaikie, 2000). As a primary source of data the interviews rely substantially on what Blaikie (2000) calls the '*insider view*'; rather than the imposition of outsider opinions and observations.

3.1.1 Common Attributes of Research Engaging with an Interpretivist Paradigm

When considering the suitability of an interpretivist approach for this study, this research has drawn on the observations of Alharahsheh and Pius (2020) and their observations that there is commonality and consistency with regard to:

- (i) *“research will focus on the whole experience rather than considering certain parts of it”*. The combined outputs from the case study narratives constructed from the individual interview responses supported by inputs from industry experts as key informants, generate broadly based yet ‘in depth’ observations to establish a credible and holistic overview of product sourcing strategy within the UK footwear sector.
- (ii) *“questions and problem identification development of the research would be mainly influenced by the researcher in terms of interest, involvement as well as commitment”*. Traction for the research project stems from the researcher’s extensive involvement in the sector as a senior manager and consultant
- (iii) *enabling researcher to explore further depth of the individual experiences through informal discussions and interviews*. The researcher’s knowledge provides the opportunity to dig beneath the surface of case study participants initial responses and to seek out underlying beliefs and behaviours which determine their actions. Consequently, the research more accurately identifies the most critical issues and challenges facing the sector.

- (iv) *exploration of humans' experiences in depth through adoption of qualitative designs and methodologies.* The type of data to be derived requires the researcher to articulate and correctly interpret thoughts, ideas and attitudes in relation to product sourcing. A quantitative analysis is likely of little value given such aims and objectives (Moustakas, 1994)
- (v) *"would enable usage of experience as a highly important aspect and contribution to support scientific research".* In this project a significant contribution is made via the combined experience of case study respondents, key informants (KIs) and the researcher's own substantial of the UK footwear sector. As a result the opportunity is created to prioritise and develop new product sourcing theoretical concepts and additionally provide SC practitioners with a range of additional diagnostic tools
- (vi) *"enable researcher to further explore 'in depth' throughout individual experiences rather than considering generalised measurements as given in the positivist paradigm".* A perspective which generates often new knowledge from what is called the 'insider view'
- (vii) *"experience is largely integrated within subjects and objects leading to valuable findings and insights"* (Moustakas, 1994). Each individual case study firm presents nuanced views of the strategic sourcing challenges they are confronted with. By comparing these differences in their approach, some of which may be only minimal,

the researcher is able to develop new ideas and concepts which address a number of critical issues emerging from the data

3.2 Research Methodology

The research methodology has been selected on the basis of:

- (i) research question to be answered (Yin, 1984 1994, 2003a, 2011, 2015, 2018)
- (ii) achieving the research objectives (Yin, 1984, 1994, 2003a, 2011, 2015, 2018)
- (iii) the skill sets of the researcher in using a number of specific methodologies, their efficacy, relative complexity and associated risks relating to achieving appropriate outcomes

3.2.1 Selection of Case Study Methodology

Whilst methodologies including Grounded Theory and Discourse Analysis were evaluated, it was considered that Multiple (Cross) Case Analysis was most likely to result in meeting (i) to (iii) above.

Qualitative (case study) methods are appropriate for 'drilling down' to gain deeper insight into managerial behaviours which require relatively limited pre-theorisation, thereby giving the researcher the freedom to investigate issues relating to 'how' and 'why' questions (Yin, 1984, 1994, 1994, 2003a, 2011, 2015, 2018; Bonoma, 2005)

Significantly, five secondary questions in relation to product sourcing strategy and SC operations require scrutiny with regard to the deployment of effective sourcing strategies in determining the location decision. (McIvor,

2013). i.e. why (strategic imperative), how (operationalization), what, (to source), where, (to source it from) and when (delivery into markets).

(Hatonen and Ericsson, 2009)

In order to gather both the breadth and depth of data required across a diverse sector and to maintain philosophical compatibility, both 'within case' and 'cross case' comparative analyses were undertaken to elicit the most relevant themes emerging from the extant literature, the primary case study data (interviews and documents) and the key informant (interviews and documents).

3.2.2 Research Methodology Framework

To maintain a consistent approach in aligning the core themes emanating from the literature review and the field data, a broad framework was designed around the 'make or buy' decision and their accompanying theoretical lens. This framework which extends to include the approach taken in Chapters 5 and 6 is shown below in Figure 3.1 and is derived from that developed by Rosenberg and Yates (2007) to be used as a guide. The aim is to ensure that all critical components of the field research and subsequent data outputs are captured and appropriately (rigorously) analysed.

3.2.2.1 Note on Qualitative v Quantitative Methods

With regard to the application of appropriate methodologies, relatively recent and frequently cited SC related research papers have employed a predominantly qualitative approach, although numerous case studies have been undertaken using quantitative data (Larsson, 1993).

Miles (1979) describes qualitative research as an *'attractive nuisance'* (Bryman and Bell (2011) because of its richness. However, the researcher must be wary of being held captive by its richness because of the *'difficulty in finding analytical paths through that richness'* (Bryman and Bell, 2011 p.571).

The author considers that initiatives aimed at a better understanding of issues relating to human interaction and managerial behaviours as influencers of deployed product sourcing strategies within the UK footwear sector are scarce and consequently under theorised.

Given that the study of product sourcing strategies is ontologically realist or pragmatist, the application of quantitative (positivist) methodologies is deemed largely inappropriate (Kirkwood and Campbell-Hunt, 2007). As no attempt to achieve triangulation by quantitative methods was undertaken, (other than for Content Analysis (CAn) of interview transcripts and documents), in approach, application, analysis or outcomes, the research remains paradigm conformist.

3.3. Case Study Research

There are multiple definitions of a case study (Swanborn, 2010). One of the earliest, Gragg (1954, p.10) states that it is

"a record of a business issue which actually has been faced by business executives, together with surrounding facts, opinions and prejudices upon which executives decisions had to depend".

There are three main theorists of the case study research method: Yin (1981, 1984, 1994, 1999, 2003a, 2011, 2015, 2018), Stake (1978, 1994,

1995, 2005, 2008) and Merriam (1988). Yin (1994, p.23) defines a case study as

“an empirical enquiry that investigates a contemporary phenomenon within its real life context”.

Yin (2003b) sets down three principles relating to the practise of case study research, with respect to the analysis of case study data, namely:

- (i) theoretical premises of the research must steer case study design
(in this case RBV and TCE)
- (ii) alternative explanations for case study findings must receive rigorous and probing discussion
- (iii) case study analysis must be thoroughly descriptive such that the researcher is *‘able to develop strong plausible and fair arguments that are supported by the data’* (Yin, 2003b, p.137)

Stake (1995) defines the case study as

“as form of research defined by interest in individual cases not by the methods of enquiry used’ and as “naturalistic, personal experience validating method. They... “are useful in the study of human affairs because they are ‘down to earth’ and attention holding” and go a long way to towards making relationships understandable”. (2000: p.19)

Stake considers the case study as a *“tightly bounded system”*, highly interpretive and continuously reflective where the researcher must extract meaning relative to context and experience. What Stake calls the construction of *“thick description”* (1995, p. 102). The essence of the case study is in its value derived from experience (Stake 1994).

Merriam (1988) defined the most significant characteristic of a case study as:

*“a thing, a single entity, a unit around which there are boundaries”
 “qualitative and optimal for research questions answerable by qualitative
 methods”. (p. 27)*

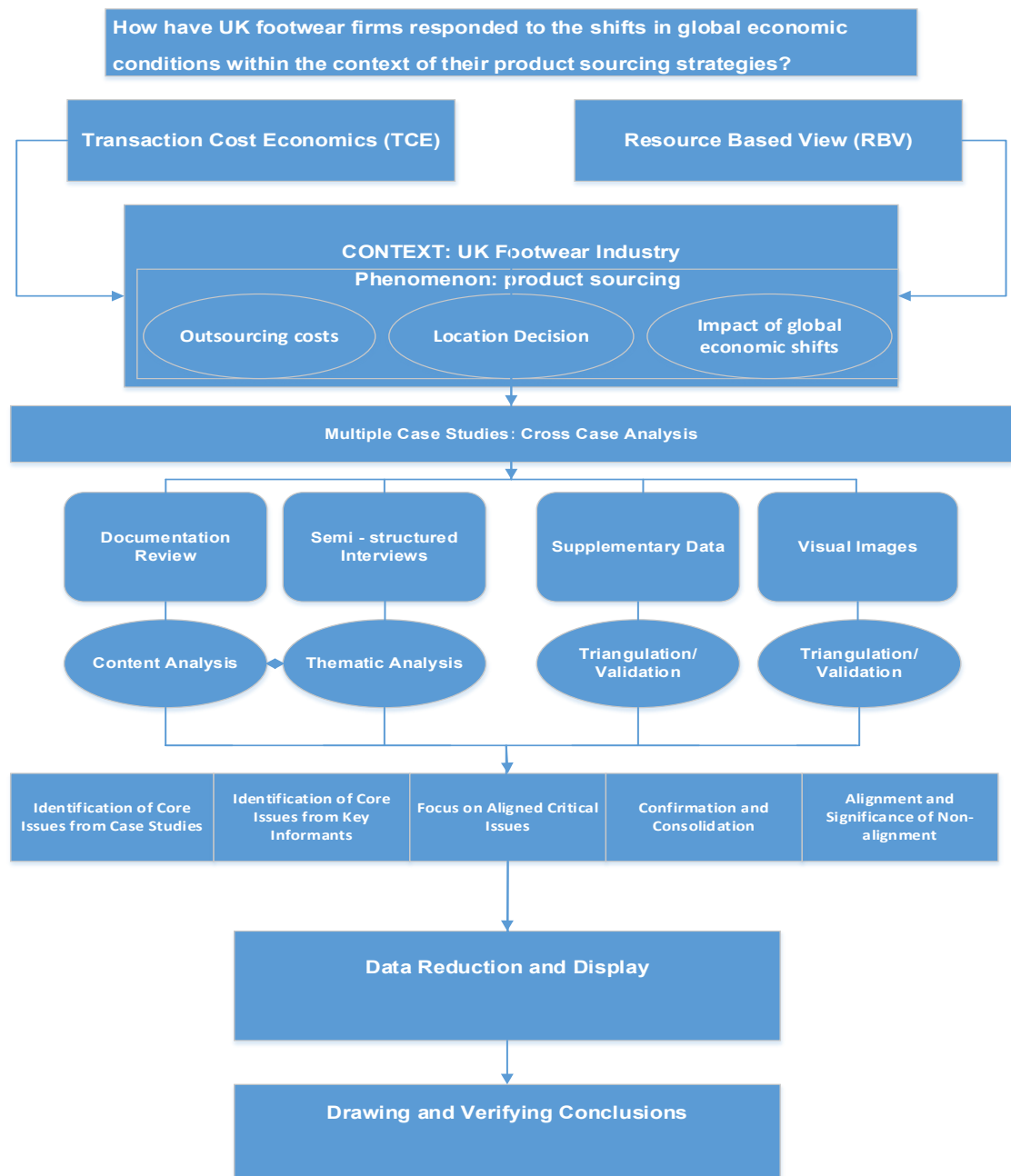


Figure 3.1

Revised Schematic Representation of Case Study Design

Source: Rosenberg and Yates, (2007)

In this regard they are essentially intuitive in practice and necessarily heuristic in analysis. They must be capable of illuminating phenomena by accurately describing and then explaining a situations background in context and provide a focus on formative events and identify explicatory factors i.e. case studies are capable of at least answering the 'why' and 'how' questions (Merriam, 1988).

In consideration of the potential contribution of all these 'elements', it is intended to primarily follow the advice given by Yin (1994, 2011, 2015, 2018) but in addition to develop a composite approach by adopting a framework embracing (i) to (iii) above.

3.3.1 Comparative Case Studies (Cross Case Analysis)

At the core of this enquiry was the desire to gain a more comprehensive understanding of:

- (i) managerial thinking that lies behind product sourcing and more specifically strategic decision making within the footwear sector. Consequently, an exploratory (probing) method which results in gathering more insightful knowledge of how the complex issues lying behind the product sourcing decisions made by firms are considered and then resolved
- (ii) nature and scope of sector specific issues being faced by a diversity of footwear firms. Consequently the research is seeking to establish perspectives on alignment or divergence of product sourcing strategy across the sector e.g. of what significance are

divergent or converging views on product sourcing strategy? Is one strategy more effective than another?

As has been mentioned above in Chapter 2 the starting point for this field research design has been a rigorous probe for any relevant extant literature which spans a broad range of potentially core themes. From this review selection, criteria was identified for types of case organization selected following the application of case research protocols required to maintain sample integrity (Yin, 1994, 2011, 2015, 2018).

The approach taken is mindful that case study research methods are ostensibly less well applied to business management research (Flynn *et al.*, 1992; Hamel *et al.*, 1993) and particularly under - utilised in purchasing and logistics (Ellram, 1996; Mentzer and Khan, 1995). Nevertheless, SCM and more specifically product sourcing strategy research case studies as pedagogic tools are well evidenced (e.g. Stock and Lambert, 2001; Chopra and Meindl, 2010).

3.4. Case Study Sampling Imperatives

Yin's (1994) definition of a case study underpins the approach to sampling strategy. In this respect:

- (i) research project aims strongly align with both the ontological and the epistemological stance of the researcher (Stake, 1978; 1995)
- (ii) the research draws upon the experience, expertise and knowledge of participants and the researcher himself
- (iii) the knowledge is "*context dependent*" knowledge (Flyvberg, 2006)
- (iv) extensive knowledge of practice is crucially required

3.5 Case Study Sampling Strategy

The sampling strategy considers Stake's (1995) assertion 'that case study research is most impactful in *'under theorised areas of study'* allowing for expedient data collection strategies. The sampling strategy must demonstrate an intent which will be unwavering in following the protocols established in case study research designs (Patton, 2001).

Consequently, the case selection will:

- (i) demonstrate an organised systematic approach
- (ii) a clear justification of choices consistent with industry characteristics

In developing the sampling strategy it is intended to follow Yin's (1994) advice to "*exercise great care in designing and doing*".

3.5.1 Case Study Sampling Criteria

Set out below is the broad framework from which the final case study and key informant interviews would be drawn from. The objective, where possible, was to base the case study sample and KI sample on a number of criteria which reflected the shape, structure and characteristics of the UK footwear sector.

Case studies would include:

- (i) strategy: global brands to medium size (ME) entrepreneurial firms where there is evidence of substantial product sourcing i.e. sample will mirror sector structure in the UK
- (ii) scope: cases if possible will cover:

- a. global brands with revenues in excess of £100 million pa
sourcing exclusively offshore
 - b. international brand with revenues up to £100 million pa
sourcing exclusively offshore
 - c. medium size footwear firms with revenues up to £50 million pa
sourcing exclusively offshore
 - d. UK medium sized enterprises engaged in manufacturing and
sourcing offshore generating revenues up to £50 million p.a.
 - e. premium brands with UK based manufacturing exclusively in
the UK
- (iii) criteria used will achieve maximum spread with regard to
- a. sales revenues
 - b. markets served
 - c. number of employees
 - d. footwear types (constructions)
 - e. geographical location
 - f. location of ownership
 - g. market positioning
 - h. trading longevity
 - i. market share
 - j. distribution channel strategy
- (iv) up to three semi structured interviews would be required for each
case study
- (v) for the primary case studies, relevant personnel should include:
CEO/Managing Director (MD); Operations Director: Sourcing

Director/Sourcing Manager; Brand Manager/ Marketing Manager;
Product Development Managers; Design Director; Supply Chain
Managers

3.6 Key Informant Sampling Criteria

In order to provide alternative (challenging/critical) perspectives, triangulation or validation, the KI sample was drawn around a comprehensive group of experienced shoe industry experts with a breadth and depth of expertise, especially in global operations. A representative sector sample will include where possible:

- (i) those identified as making a significant contribution within the UK sector with experience in global product sourcing
- (ii) acting in a complementary/support role within the industry who have extensive knowledge of sourcing operations and sourcing issues
- (iii) possessing technical knowledge and skills relating to sourcing product development or operational problem solving
- (iv) consultants with extensive footwear sector knowledge e.g. BCG; McKinsey
- (v) footwear sector analysts
- (vi) former and current footwear machinery suppliers robotics manufacturers with experience of implementing robotic applications within the UK footwear sector
- (vii) upstream raw material and component suppliers providing to both domestic manufacturers and to offshore footwear suppliers

For triangulation/validation to have a high degree of certainty it was initially estimated that between 6 and 10 Key Informant secondary case studies would be needed to mitigate the risks of research bias.

3.7 Case Studies and Key Informant (KI) Data Sample Constraints

The sampling strategy also considered:

- (i) limitations of the researchers time and resources
- (ii) willingness of firms to participate
- (iii) constraints imposed by choice within a rapidly contracting sector

Note: small footwear firms generally source very low volumes through footwear agents/agencies who were reluctant to participate in the project, consequently no small firms/micro-enterprises were considered for inclusion in the case study sample or the key informant sample.

3.8 Selected Case Studies and Key Informants

Given the sampling strategy outlined above and the constraints experienced by the researcher in finding willing participants the sample ultimately consisted of:

- (i) four in depth semi structured interviews with owners and/or senior managers of UK footwear firms directly engaged in sourcing operations
- (ii) one case study generated from written reports, in this case mostly company reports and from footwear sector trade journals
- (iii) six semi structured interviews with key informants consisting of industry experts covering offshore outsourcing, upstream raw

material and component supply, footwear design, footwear wholesaling, sector automation and reshoring

- (iv) one media sourced KI report relating to a high profile re-shoring initiative

3.9 Data Collection

The raw data collected was drawn primarily from two sources:

- (i) interview transcripts
- (ii) documentary sources

However, in order to ensure that all relevant data was 'gathered in', a recognized framework used for data collection was employed which identifies primary data sources (Hines, 2016) and is shown in Figure 3.2.

3.9.1 Case Study and Key Informant Interviews

Case study and key informant interviews were carried out over a period of three years between 2015 and 2018. The time span reflected both the difficulty in arranging interviews and the researcher's work commitments.

For the primary case studies, with the exception of Company 1 (C1), which was based on company reports, all respondents were interviewed on company headquarters (HQ) sites. The majority of the key informant interviews were also conducted on site with the exception of KI3 which was conducted via email as the respondent is based in Hong Kong. The KI1, Doc Martens narrative was constructed from documentary and multi-media sources.

The interview strategy was constructed from:

- (i) the literature review
- (ii) an extended interview with John Saunders, the then CEO of the British Footwear Association (BFA) who had unparalleled knowledge of the critical issues and challenges faced by the UK footwear industry
- (iii) pilot project carried out with UK footwear firms and experts who did not subsequently participate in the project but nevertheless made a significant contribution to the approach taken to identify primary sources of relevant data
- (iv) the researchers own extensive experience, knowledge and expertise within the footwear sector both in the UK and globally

The selection of questions focused on initially asking very broad based questions to 'open up' the interviewees and then focus in on more specific issues stemming from their initial responses. Often questions were reframed and asked again in order to achieve more consistency of response from the interviewees.

A full transcript of the interview with respondents from firm Company 5 (C5) is presented in Appendix 1 which also illustrates the nature of questions asked.

All the respondents were asked to confirm that they were willing to participate and formally signed the Manchester Metropolitan University (MMU) Research Ethics pro-forma.

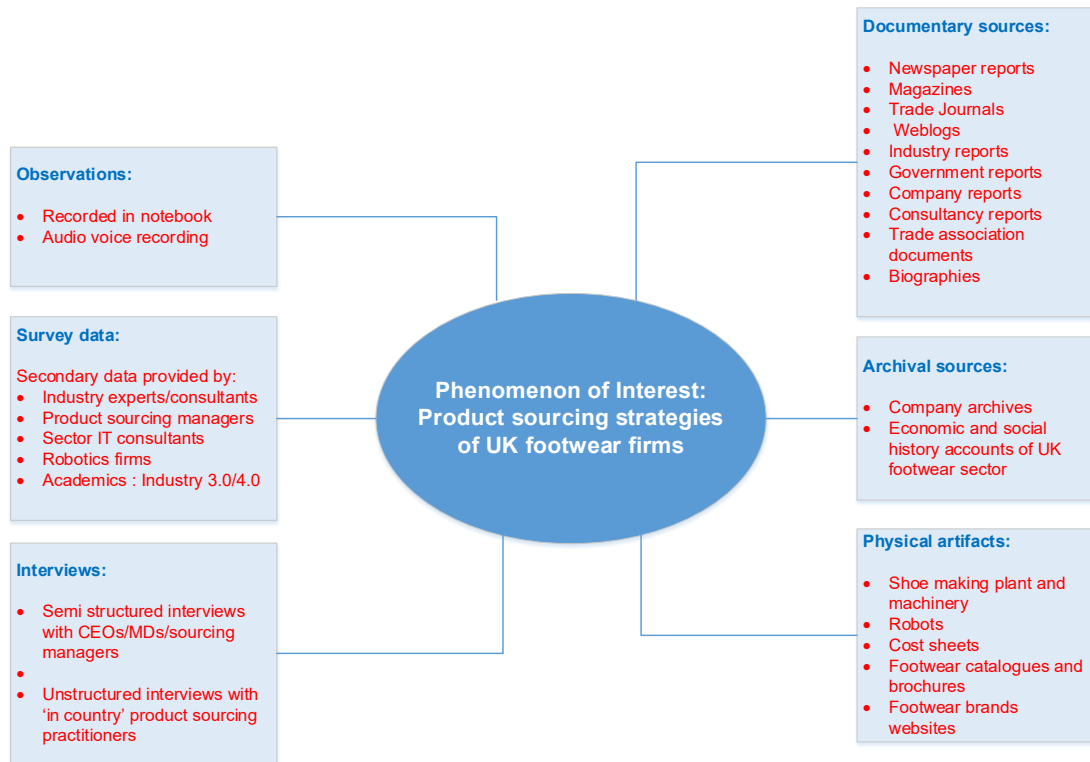


Figure 3.2

Data Sources

Source: Hines, T. (2016)

The case study interviews lasted between ninety minutes and two hours. KI interviews ranged from thirty minutes to two hours. All interviews were double recorded to ensure that all responses were comprehensively captured.

Case study transcripts range in length from six thousand words to eleven thousand words and KI transcripts from fifteen hundred words to six thousand words.

3.10 Data Analysis

This section briefly sets out the approach taken to data analysis. Care was taken with both case study and key informant raw data to ensure that the analysis comprehensively reflected the responses from interviews and correctly interpreted other sources of data, e.g. written documents. The process used to facilitate data analysis is shown below in Figure 3.3

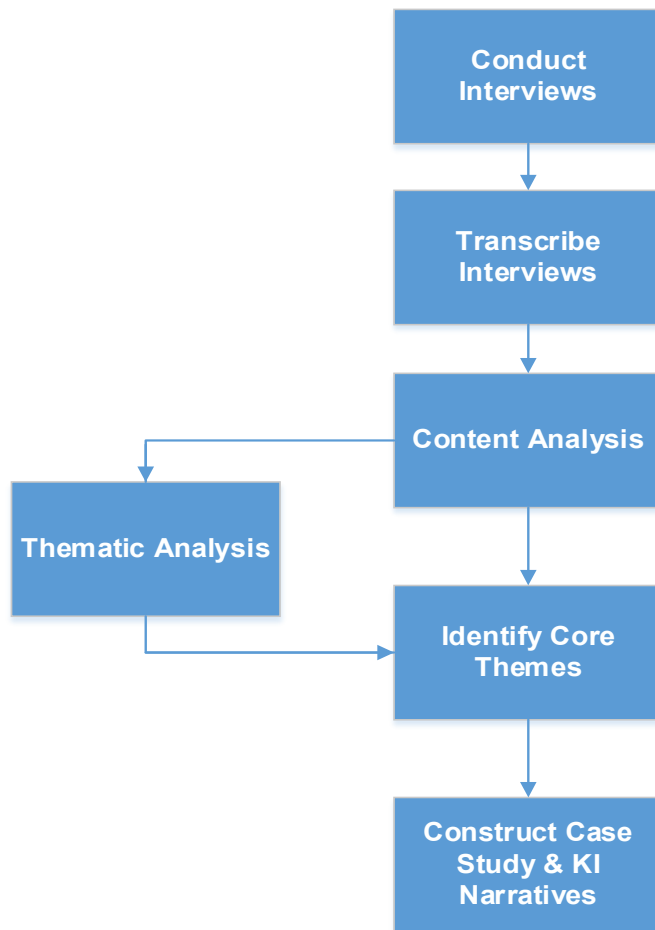


Figure 3.3

Data Collection and Analysis Process

Source: Author

3.10.1 Document Analysis

One primary case study and one KI case study were based on documentation, consequently document analysis was used as the basis for analysis of this data. In case study research, documents can be used to build up a description of the organisation as they offer at least partial insights into past managerial decisions and actions (Bryman and Bell, 2011; Pettigrew 1985).

Bryman and Bell (2011) urge caution, suggesting that documents should be evaluated using Scott's (2006) criteria. Yet acknowledge that they are frequently *authentic and meaningful* but warn against complacency with regard to their analysis. They comment that:

"...organisational documents that are in the public domain, such as company annual reports may not be an accurate representation of how different organisational actors perceive the situations in which they are involved" (p. 550)

With regard to mass media outputs Bryman and Bell (2011) contend that authenticity can be difficult to determine, particularly with regard to authorship of say editorials. The use of mass media outputs in this research project is limited and relates primarily to:

- (i) media reports of the repatriation of Doc Martens footwear manufacturing to Wollaston in Northamptonshire which is covered by cross referenced sources in the mainstream media and trade press
- (ii) multiple articles relating to footwear manufacturing automation in the UK and German press

Document analysis followed a similar pattern as the transcribed interview raw data i.e. based on the same coding derived from the themes emerging from the literature review.

Scott (1990) sets out four criteria for assessing the integrity and quality of documents:

- (i) *authenticity: is the evidence genuine and of unquestionable origin?*

The bulk of the documentation consists of legally compliant company reports for a limited company which have been submitted to both Companies House and Her Majesty's Revenue and Customs (HMRC) within the UK. In the case of trade journals and newspaper articles these have been cross referenced and verified at source

- (ii) *credibility: Is the evidence free from distortion?* Some distortion is inevitable since it is a construct of senior management within a large UK based limited company. Nevertheless, given that they are scrutinised by institutional and individual shareholders, it is felt that the reports by necessity will need to display a considerable degree of integrity

- (iii) *representativeness: Is the evidence typical of its kind and if not, is the extent of its un-typicality known?* The company reports are presented in a standard format in compliance with company law. From the researcher's experience the narratives contained within the reports are representative of the business and its operations

- (iv) *meaning: Is the evidence clear and comprehensible?* Given the considerable level of external scrutiny the company reports by necessity are very clear and comprehensible

3.10.2 Selection of Data Analysis Methodologies for Case Studies and Documents

Given the broad scope of the research project and its focus on a comparison of strategic perspectives, the need was to derive both breadth and depth of understanding from the analysis of the case studies and KI data.

The initial stages of deciding on the most appropriate analytical methodology to inform the research findings were determined by evaluating which approach best answered the research question (Streubert-Speziale and Carpenter, 2007). Further consideration was given to the required degree of data transformation within the context of the research question, aims and objectives. (Sandelowski and Barroso, 2003b). In this regard the application of qualitative descriptive approaches appeared to be the most appropriate such that content analysis (CAn) and Thematic Analysis (TA) were selected to identify recurring frequencies within the interview transcriptions or documents. These 'patterns' were then developed using TA in order to construct the core themes emerging from the data. From the key themes case study and KI narratives were written.

A significant characteristic of this research project is the dearth of relevant research outputs relating to strategic issues within footwear sector. This resonates closely with the views of Hsieh and Shannon (2005) that CAn and

TA have considerable value where there have been limited initiatives of the phenomenon being studied.

Where appropriate, analytical support software, primarily NVivo, was used to aid the analytical process.

3.10.2.1 Content Analysis (CAn)

CAn facilitates the deployment of a number of different analytical strategies applied to text. (Powers and Knapp, 2006). In this research project it covers a significant number of lengthy case studies and KI narratives yet is consistent with an efficient method for exploring trends and patterns in large amounts of text (Mayring, 2000; Pope *et al.*, 2006; Gbrich, 2007).

Bloor and Wood (2006) phrase the relevance of CAn differently by suggesting that in essence it identifies and characterises '*who said what, to whom and with what effect*'? Elo and Kyngas (2008) view the main aim of CAn is to translate the data into a conceptual form. The data is thus transformed from events into 'images and expressions' which are used as the basis for action (Krippendorf, 2004).

CAn is endorsed as a flexible analytical tool which makes sense of data drawn from a wide range of sources including text, mass media (and social media) and information (Krippendorf, 2004; Hsieh and Shannon, 2005).

A framework used to guide the data analysis is shown below in Figure 3.4

TA would appear to be defined similarly to CAn i.e. the analysis of narratives in order to identify 'patterns' (themes) (Braun and Clarke, 2006). De Santis and Noel-Ugarizza (2000) describe TA as a search for identifying 'common

threads' across interviews/narratives. Thus CAn and TA share the common aim of systematically analysing what Sparker (2005) calls 'life stories' in relation to de-constructing narrative text.

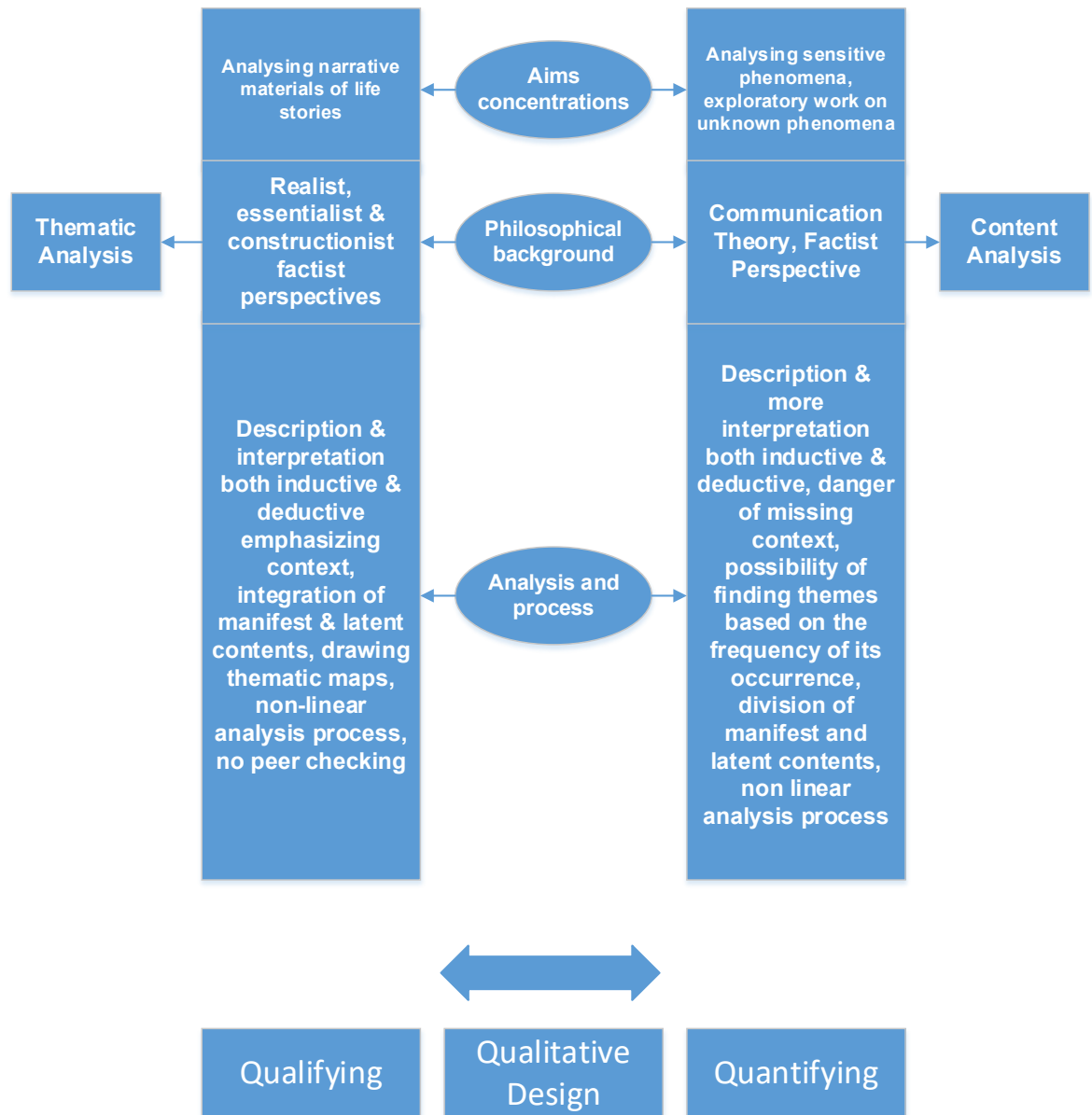


Figure 3.4

Guiding Framework for Case Study and Key Informant Interview Data Analysis

Source: Vaismoradi et al., (2013)

3.10.2.2 Thematic Analysis (TA)

Whilst CAn is the conversion of quantitative counts into a descriptive form. (Downe-Wamboldt, 1992; Morgan, 1993), conversely, Braun and Clarke (2006) describe TA as solely qualitative and most significantly for this research project, a 'nuanced' deconstruction of the data. The question then arises of how most efficiently to interpret the data and bring greater clarity to fully understanding the underlying assumptions surrounding the application of CA (Graneheim and Lundman, 2004).

3.10.2.3 A Note on Thematic Analysis Ontological Paradigms

Braun and Clarke (2006) maintain that both constructionist and realist paradigms are appropriate for TA but that the focus and significantly outcomes will differ depending on which ontological perspective is used. Furthermore, assessing the potential impact of TA is largely dependent on its capability to capture important issues relevant to answering the research question (Spencer et al., 2003).

Bloor and Wood (2006) on the other hand suggest that TA deals with what they describe as '*surface meanings*' rather than uncovering hidden agendas.

Considerable debate surrounds the efficacy of CA and TA as a precision tool for articulating and clarifying findings and hence the determination of the boundaries of a theme. Sandelowski and Leeman (2012) define a theme as a '*coherent integration of the disparate pieces of data that constitute the findings*'. Such themes should reflect a significant if not critical aspect or characteristic with regard to the research question posed i.e. a meaningful response derived from the data (Braun and Clarke, 2006).

3.10.3 CAn and TA Complementarity

The use of qualitative CA and TA, (element of phenomenology, (Holloway and Todres, 2005)), as a methodology for interview/narrative analysis is not uncommon (Sandelowski and Barosso, 2003b; Sparker, 2005).

Both CAn and TA are reliant on accurate, 'truthful' (factist) accounts which mirror reality (Sandelowski, 2010). This represents a desire on the part of the researcher to probe for a deeper understanding of behaviours, which uncover underlying attitudes, actions and the motivation of respondents which has influenced past events (Ten Have, 2004) and more significantly may continue to influence future actions.

Loffe and Yardley (2004) regard TA as possessing a degree of complementarity with CAn by combining the analysis of meaning with the context in which it is being studied. As such, TA mitigates the risks associated with CAn, particularly its initial focus on word or phrase counts, relating to a possible and undesirable separation of meaning from context (Morgan, 1993).

Figure 3.5 illustrates the relationship between CAn and TA and was used to act as an additional guide to data analysis.

3.11 Coding

The coding practice selected for this research project is '*open coding*' (Strauss and Corbin, 1990 p. 61) with the aim of generating

"a set of well- related developed categories.....that are systematically related through statements of relationship to form a theoretical framework that explains relevant phenomenon"

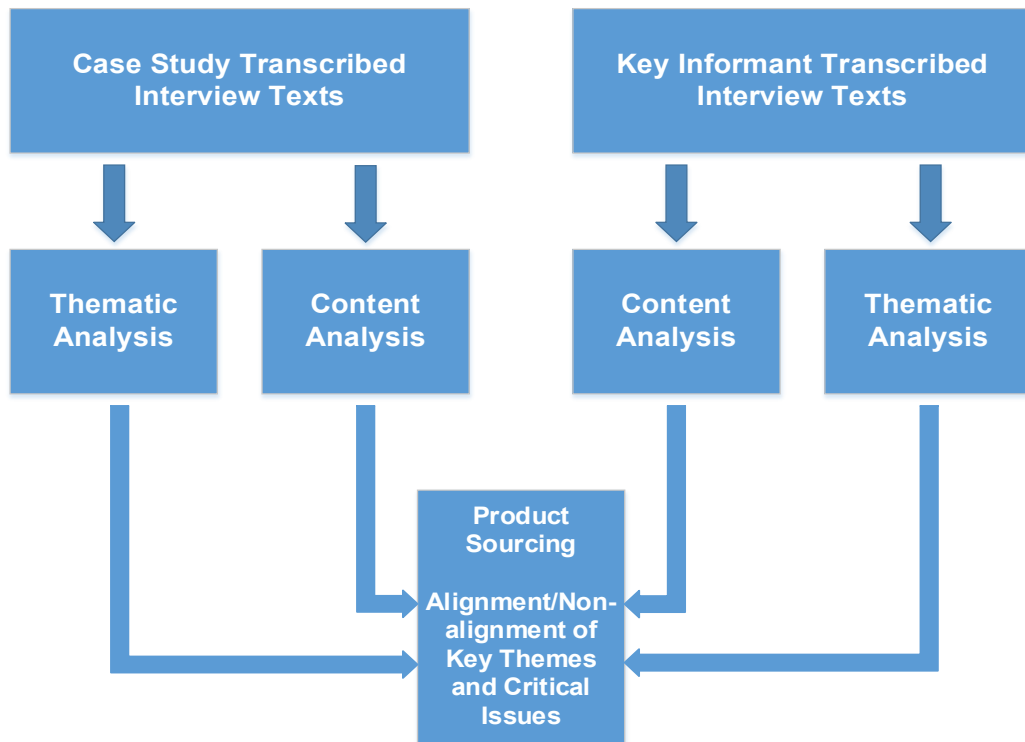


Figure 3.5

CA and TA Complementary Analysis

Source: Author

Data was analysed using coding criteria drawn from Mayring (2000; 2015)

which covered:

- (i) the extant literature
- (ii) key words and phrases which describe two theoretical lens i.e. RBV and TCE
- (iii) expressions and recurring themes expressed by both case study and KI interviewees emanating from case study and KI documents
- (iv) consistent with an interpretivist/phenomenological paradigm

3.11.1 Content Analysis Coding

Set down below are the key words and phrases used as coding to generate the initial data analysis. The coding was drawn from a number of sources but mainly from themes emerging from the Literature Review in Chapter 2. The same coding was applied to both Case Studies data and the KI data (interviews and documentation).

3.11.1.1 Coding Words and Phrases

ABC; automation; brands; China; clusters; clustering; costs; corporate social responsibility; consumer behaviour; competitive advantage; costing; costing methodologies; customisation; digital; distribution; environmental; globalisation; Industry 4.0; internet; investment; location; location decision; logistics Made in England; near-shoring; off-shoring; on-shoring; outsourcing; parametric costing; pricing; re-shoring; retail; robotics; risk; sourcing; strategy supply chain; supply chain agility; suppliers; supply chain risk; standard costing; technology; TCO.

3.12 Findings

The findings have been summarised for the primary case studies and the KI data and are presented and discussed in Chapter 5. Of interest was the degree of alignment or misalignment between the literature review core themes and those emerging from the field research outputs.

3.13 Resources and Risks

The researcher was cognizant of the criticality of mitigating the inherent research risks. In this regard due care has been taken in respect of:

- (i) failing to attract a significant cross section of both case study and KI respondents.
- (ii) resource constraints, especially the availability of time and financial projections with regard to the cost of the field study
- (iii) physical burn out as this is a part-time programme with sometimes conflicting needs, especially occupational
- (iv) “ avoiding epistemic problems” – e.g. mixing paradigms
- (v) rigorously constructing chains of evidence

3.13.1 Research Bias Risk

The research design factored in the risks associated with research bias (Burgess and Singh, 2006). It is acknowledged that data, qualitative or quantitative derived from interviews with key players within the industry must contain a degree of subjectivity, particularly with regard to:

- (i) interactions within a particular culture or bounded environment, in this case a relatively small UK sector with a long tradition of manufacturing
- (ii) potential bias arising from the researchers own extensive involvement within the sector, (up until 2000)

3.13.2 Field Research: Participant Famine Risk

Considerable attention was given to the initial approach to potential participants and the risks associated with outright rejection of participation. Further concerns related to achieving a representative sample of the UK footwear industry both manufacturing and those sourcing offshore. It still proved difficult to ‘sell’ the research to a number of targeted footwear firms.

However, a significant cross section of large firms and ME's agreed to participate.

3.13.3 Other Research Risk Mitigation

The use of different data sources was used to achieve construct validity.

Consequently, a primary consideration was to apply a 'risk mitigating' qualitative data generating research method when extracting often deeply held views and opinions in the mind sets of key industry personnel, (mostly senior managers in strategic roles with responsibility for managing product sourcing and those engaged in other operational supporting roles within the supply chain. This approach was augmented by building in re-worded repeat questions in the semi structured interviews to test for consistency.

In this regard, the researcher has also been mindful of risks relating to what Lofland (1971, p.18) calls '*analytic interruptus*' i.e. failing to carry out a comprehensive, complete and true (high integrity) analysis.

A comprehensive risk assessment is shown below in Figure 3.6. It will be used throughout the research project as a guide to mitigating all potential risks which may impact negatively on the integrity of the research, its validity and outcomes.

The assessment is structured around:

- (i) identification of risk type
- (ii) probability of occurrence
- (iii) impact
- (iv) calculation of a risk weighting factor
- (v) mitigation

Risk Descriptor	Probability			Impact			Risk Factor	Risk Mitigation
	Low 1	Med 2	High 3	Low 1	Med 2	High 3	Probability x Impact	
Resource Constraints	X					X	3	(i) Researcher has developed a Gantt chart to plan tasks agreed with DoS monitored on a monthly basis at monthly reviews (ii) Researcher has capacity to flex time given to research project as he only works part time
Researcher Physical 'Burn Out'	X					X	3	(i) Similar to above, researcher able to flex capacity. Also project is part time format (ii) Through regular contact with DoS researcher is able to resolve problems causing bottlenecks in completing agreed tasks and meeting key milestones
Creating Epistemic Problems		X			X		6	(i) Rigorous evaluation of selection of most appropriate paradigm which relate strongly to aims and objectives and proposed research methodology (ii) Ensuring avoidance of applying mixed/complex paradigms
Failure to Construct Rigorous Chains of Evidence		X				X	6	(i) Spread sample size of primary case study respondents which reflects industry structure (ii) Correct sample of key informants to validate findings from primary case studies (iii) Impact of researcher's own experience, knowledge & expertise
Researcher Bias			X			X	9	(i) Researcher continuously cross referencing with extant literature and feedback from non participating industry experts (ii) Feedback from DoS
Limitations from Size of UK Footwear Sector		X			X		4	(i) Considerable attention given to structure of sector with focus on large and medium sized firms sample covering all sourcing strategies inc. manufacturing (ii) Use of personal networks to identify case study and KI respondents
Research Respondents Famine			X			X	9	(i) personal standing, knowledge of researcher's background and personal relationships with ex colleagues within UK footwear industry influenced respondents willingness to participate (ii) Specific targeting of firms known to benefit from research outputs

Figure 3. 6
Research Risk Assessment

Source: Author

3.14 Ethical Guidelines

For this research project, the researcher followed the broad guidance given by Bryman and Bell (2011) with regard to the principles set down by Diener and Crandall (1978) which cover four critical ethical issues:

- (i) the possibility of harm to participants/respondents
- (ii) failure to seek and gain evidenced informed consent
- (iii) invasion of privacy
- (iv) whether deception of any kind has occurred (deliberate or unintentional)

3.15 Research Approach Summary

Shown below is a brief outline of the research design which acts as a summary for Chapter 3.

Question 1	How have UK footwear firms responded to shifts in global economic conditions within the context of their global sourcing strategies?	Objective 1	Rigorously evaluate a representative sample of UK footwear firms resources & capabilities with regard to the development & deployment of future product sourcing strategies	Research Approach	<ul style="list-style-type: none"> • Case Studies • Cross Case Analysis 	Calibration	Content & Thematic Analysis of Case Studies
		Objective 2	Critically review product sourcing strategies of UK footwear firms to facilitate the creation of new theoretical frameworks relevant to the sector and possibly the wider apparel industry	Research Approach	<ul style="list-style-type: none"> • Extensive literature review • Application of theoretical lens • Construction of Resource Dynamic model 	Calibration	<ul style="list-style-type: none"> • Identification of critical themes from LR • Triangulation from KIs • Academic review
Question 2	What might be done to improve the product sourcing strategies of UK footwear firms?	Objective 3	Develop a usable set of revised or additional practitioner strategic decision support tools	Research Approach	<ul style="list-style-type: none"> • Extension of current processes and practices • Application of Researcher extensive sector knowledge 	Calibration	<ul style="list-style-type: none"> • Usability in practice • Impact on sourcing & business performance

Figure 3. 7

Research Approach Outline

Source: Author

CHAPTER 4 CASE STUDY NARRATIVES and KEY INFORMANTS

The main aim of the narratives is to give the reader a strong flavour of the perspectives on sourcing strategy from both a firm perspective and a wide range of other significant industry 'players'. They are above all else, a very representative knowledgeable and grounded reflection of the research respondent's views on the most critical issues facing them and their firms through the next five years, particularly in terms of the development and deployment of future sourcing strategic initiatives.

4.1 Case Study Narrative Structures

The case studies are structured differently as a result of:

- (i) Case Study 1 has been constructed from documents
- (ii) Case Studies 2, 3, 4 and 5 are structured and read differently based on the way in which the respondents chose to answer initial broad based questions and how they responded individually to secondary questions and 'light touch' prompts from the interviewer.

The narratives 'track' the individual pathways chosen by individual respondents to the questions asked. Consequently, the case studies themselves are considered to be very rich in content and reflect both alignment of views and some significant differences in approach to product sourcing strategy. This is particularly significant with Case Study 5 which is a high profile/high volume UK based footwear manufacturer.

Whilst some consideration was given to providing a relatively rigidly structured narrative, it is believed the narratives as they are presented, and

the thesis as a whole, benefit from the diversity within each case study narrative and any attempt to structure them within a rigidly formatted framework would negatively impact on the high quality and wisdom of the respondent's views.

Critically, the case study narratives have been constructed to fully reflect both the depth and breadth of the interviewee's responses to the searching questions posed. The narratives themselves were constructed to paint 'rich pictures' (Checkland, 1989) of respondent's perspectives on product sourcing strategy and sourcing operations.

Each primary case study has been summarised at the end of each narrative. A semi-structured comparative tabulated case study summary is shown in Figure 4.1 (a) and 4.1 (b) at the end of this chapter. However, a fully direct comparison is not practical given the range and nuances of views of respondents.

4.2 Case Study and Key Informant Confidentiality and Anonymity

The protection of the identities of the research respondents has remained paramount throughout, particularly given the relatively small size of the UK footwear sector, often considered by those working in it to be a very small, dwindling, but exclusive club!

4.3 Interview Strategy and Transcription

A description of the interview strategy and design is comprehensively outlined in 3.9.1 above.

It is important to note that given the interviewers extensive experience within the footwear sector in a wide range of management roles the interview style

is inclusive, interactive and responsive and as such track the interviewees comments.

Case study and KI narratives, with the exception of C1 and Doc Martens are based on extensive interview transcripts. All the interviews were conducted on the respondent's firm's main sites and with senior management personnel with extensive knowledge of their firm's business and product sourcing strategy.

4.4 Transcription Accuracy

The transcriptions are accurate to within 98% of verbatim responses.

Unfortunately, even though two high technology voice recorders were used, it was discovered on play back that a small proportion of responses i.e. a few odd words were inaudible. However, they did not negatively impact on the overall accuracy, balance or quality of responses, especially given that four primary case studies were conducted using the same approach to questions being asked. (See Appendix 1)

4.5.1 Case Study 1: Company 1

Company Profile

Company 1 (C1) grew rapidly in the years following WW2 with the success of iconic men's shoes and boots products and a growing reputation for high quality children's shoes designed and developed around maintaining healthy feet by making good fitting shoes from accurate foot measurement and construction durability in wear.

In the early 70s, C1 had a substantial number of factories in the UK and Ireland and other manufacturing plants located around the world in the US

and the Southern hemisphere. With the arrival of a new CEO in 1995 it was decided that all the factories would be progressively closed down and C1 would outsource all their products, mostly from the Far East and especially from China.

This strategy initially proved to be successful such that by 2014, C1 emerged as a major global brand of non-athletic ('brown shoe') footwear. However, in recent years its financial performance has deteriorated and they have recently declared losses in their annual accounts.

Recovery Strategy

Within C1 there is an underlying sense that the business has become overly complex and that insufficient attention has been given to 'over-arching' managing of the business. Over recent years it would appear that C1 have lost their way in brand development and delivering a product story which resonated with their core customers. Revised product range strategies now lack cohesion as a consequence on over-focusing marketing and design on 'athleisure' products aimed at a younger market which has achieved only moderate success aggravated by consumer perceptions that quality is slipping.

Brand image is not being helped by the age and design of C1 store formats which is becoming an increasing issue of concern. In addition they are looking to find ways to engage in closer working relationships with rapidly diminishing wholesale trade partners.

Made in England

C1 are in the process of pursuing a partially repatriated manufacturing capability which would allow them to promote a MiE branded product range targeted at export markets especially China, the FE and Japan.

Recovery Strategies

Progress is needed with the implementation of improved organizational routines to clear the way for delivering a recovery strategy by:

- (i) making changes to people working in the business
- (ii) providing them with clearer accountabilities
- (iii) better collaboration and external partnering (both upstream and downstream in the supply chain)
- (iv) more streamlined and simplified process flow
- (v) implementation of advanced technology to deliver a simplified business model and organisational infrastructure

Strategic Imperatives

In order to successfully implement this strategy, C1 have established four strategic imperatives. Firstly, to activate a re-configured segmented brand portfolio to target existing, lapsed and new consumer groups. Secondly, by constructing a more focused digital business to give customers access to an omni- channel experience. Thirdly, and arguably most critically, to create an agile business model that is responsive, cost efficient and lean. Fourthly, by embedding a never stand still culture to make the firm “*a great place to work again*”.

Corporate Recovery Management Competency

C1 are mindful that the management teams across the business need to focus on improving the quality of the execution. Tellingly, such self - criticism suggests that whilst there is clarity about what needs to be done in order to lay the foundations of recovery, there are some question marks about the alignment of current managerial resources and capabilities across the business.

Forward Planning

C1 are in the process of upgrading its capability in forward planning. They urgently need a resource to focus on what the footwear industry could look like in 5 or 10 years' time and how they should respond to such scenarios by analysing and planning for probable further changes in the expectation and future behaviour of consumers influenced by rapidly changing market dynamics and the impact of technology on supply chain agility.

The erosion of broad based sector knowledge, expertise and experience over time has adversely impacted on their capability to '*gaze forward*'. There appears to be something of regret set deep into the organisations collective psyche from its abandonment of footwear manufacturing which in the past might have been regarded as C1's '*cultural anchor*'.

Global Financial Perspective

From a global financial perspective, C1 allude to significant economic headwinds impacting on full price business, aggravated by discount based promotional strategies driving down 'actual selling price' (ASP) and net margin.

An underlying structural concern affecting financial performance is the continued shift towards Internet shopping reflecting C1's initial response in digital distribution channels putting pressure on 'bricks and mortar' retailing where C1 is now considerably over-weighted. The transition to online selling has been relatively sluggish in comparison with other global footwear brands. Against this background, C1 attempted to minimise structural continuous discounting which resulted in volumes falling sharply, but which were partially offset by improved ASP.

Externally, they continue to struggle with the currency impact triggered by the Brexit (British Exit from the European Union (EU)) decision. Actions on pricing, cost of goods reduction and overhead cost control did not mitigate the full impact of Brexit. C1 were also impacted by adverse foreign exchange rate movements, notably Sterling against the US dollar. In shaping future foreign exchange (FX) strategy, consideration must be given to the heightened probability of ongoing global turbulence. They also experienced significant losses from recent joint ventures in India.

Whilst they believe that the inventory clearance process has now been largely completed, protracted discounting is still in evidence in both stores and in digital channels.

IT Investment Upgrade

C1's stated aim is to create a more agile brand led business. In order to achieve this outcome, a major task is remediating historic under investment in IT systems in order to transition to an enhanced reporting and analytical capability delivered at an acceptable cost. Recent investment spends exceeded £12million covering developing a new store concept, a

merchandise financial planning tool; upgrading a warehouse management system, implementing SAP (systems applications and products) upgrades and on a manufacturing fully automated pilot project in the UK. The C1 Board have also identified and prioritised an urgent need to invest more in upgrading global information technology (IT) in order to accelerate high impact initiatives e.g. Alibaba in China.

Cost Management

Simultaneously, it is essential for C1, they say, to improve productivity by selecting opportunities that offer the best returns and by better controlling costs, particularly design and development costs, stock costs and product sourcing costs.

Having performed below their own expectations financially in recent years, C1 have identified that the root causes behind unsatisfactory performance were and remain both externally and internally driven. Internally there is a need for a sharpened focus on the reduction of unacceptably high inventory cost levels and by reducing the number of 'sale days' in their retail networks.

Range Building and Product Development

A tried and tested highly efficient product development process structured around multi-disciplinary development teams which rigorously evaluated both commercial viability and manufacturing performance has been partially abandoned. The consequences have been manifested in questionable product range building decision making leading to a degree of product proliferation and the downstream costs associated with resulting slow moving stocks. Consequently, the C1 senior management team have been tasked with swiftly restoring an improved seasonal planning calendar process and

managing its adherence to 'stage gates' and associated KPIs in order to release significantly trapped value from the supply chain.

Markets

In order to respond to what they see as poor market alignment, C1 have concluded that there is a critical requirement for new product segmentation strategies that allows more accurate targeting of each part of its product ranges to a more specific customer/consumer group. However, better strategic pricing and greater buoyancy in sales are needed in order to provide the substantial investment needed in upgrading product design and development capability.

Europe

Europe remains a very tough market for the C1 brand and its products, with profitability heavily impacted by the devaluation of sterling and steep declines in footfall. They expect that future progress will be hard won given the macro-economic environment and the ongoing uncertainty pre and post Brexit.

North America (NA)

In the 'Americas', C1 regard external negative market conditions as the root cause impacting on depressed trade e.g. natural environmental events such as severe hurricanes, a major US retail group filing for bankruptcy in Canada, and a significant decrease in 'mall' traffic as a consequence of continued shifts in consumer behaviour.

Their priority is centred on *'fixing existing problems and establishing controls'*.

Not surprisingly, many of the issues in NA mirror those in the UK. They say it is important to better understand wholesaling which is currently the biggest generator of profit in the US arm of C1. Under these circumstances they are

re-evaluating their own retail portfolio except in major cities and large urban conurbations and instead focus on a strategy deployed around wholesaling and digital channel distribution both on their own and other platforms. As a consequence C1 will appoint a new retail leader to add a longer term strategy for US markets and improve operational performance by using more appropriate KPIs.

To aggravate matters further, US outlet channels are also badly congested given that they are burdened by 'inventory reduction volumes' degrading their capability to be used strategically as a 'sell through' for more recent unsold full price stock.

C1 also plan to upgrade the skills of their sales teams to drive a greater number of 'at once' sales through-out the selling season informed by better intelligence generated by 'big data', especially in digital distribution channels.

Further growth for C1 in the US may depend on the creation of a greater degree of organisational agility to re-align channel operations to digital and greater agility within the product sourcing supply chain.

China and Asia Pacific

China and Asia Pacific remain the stand-out growth achievements stemming from the brands strong performance especially through T-Mall (Alibaba's digital marketplace). A number of outstanding 'legacy' issues across Asian markets have surfaced, such as in Taiwan, which need to be addressed by new local management. However, C1 will encounter stiffer competition in China from nascent domestic firms looking to add value through their own brands development. Under these conditions un-substitutable product

innovation may well be the only strategy to retain some form of CA in these markets.

Digital distribution continues to be an area of strong growth across China, India and Japan. Strategically, online is both a big opportunity and big risk for C1. In considering their strategic options C1 may need to consider niching in very specifically targeted markets to attract emerging Chinese middle class consumers.

To establish a more effective response to the developments of Asian and Japanese markets, C1 intend to transfer Asian operations to Singapore It will also provide C1 with a local base for product sourcing operations, covering suppliers in China and FEA. In order to deliver a satisfactory performance in Asia, C1 will need to carefully manage the overhead costs of Asia operations.

Product Sourcing Long Term Strategy

C1 have around 30 years of experience outsourcing offshore such that it has replaced manufacturing as its core competence. Their SCs are characterised by the placement of high volume MOQs on long lead times, sourced from a multiplicity of supplier locations, predominantly in the FE, China and India, built on long term close relationships with suppliers.

C1 already have a good understanding of the risks associated with the lack of supply side agility. A disastrous fire in a Vietnamese factories virtually cut off the supply of a big selling product for several months.

Corporate Social Responsibility (CSR)

In an increasingly connected world where businesses are under more scrutiny than ever before, C1 are driven by a responsibility to address the expectations of all their shareholders and build a global brand with a strong corporate reputation. There is increasing pressure on all global brands outsourcing in emergent economies for greater transparency and adherence to a stricter codes of ethics.

On a broader front, C1 have recently pledged support to the British Retail Consortium's '*Better Retail, Better World*' initiative which aims to integrate the way they do business with regard to meeting key United Nations (UN) sustainable development goals that are relevant to the footwear industry, specifically with regard to the pursuit of ethical sourcing policies and practices.

Strategy and Agility

Given that scenario, C1 view that the external environmental will remain extremely challenging driving a need for a comprehensive 'rebasin' of strategy across the whole business. This 'rebasin' is driven by a lean approach and repatriating some footwear manufacturing to the UK as a start point for greater agility by introducing advanced technologies including piloting automation in production processes.

Technology

Observers have commented that C1 must do more to promote the central role that technology should occupy in the future development of the business, not just in the e-commerce and digital marketing arena, but also in the broader transformation of the way business gets done.

Supply Chain Agility

C1 defined their core strategy for 2018 as predicated on the primary objective of creating an agile, relevant and brand led company and to establish a 'unique selling proposition' (USP) which delivers foot comfort through product innovation. C1 stress the need for greater organisational and supply side agility is becoming more evident in the UK footwear sector. In product terms this amounts to the significant challenge of the creation of a continuous development capability. In this regard, C1 are aiming for a new approach to managing internal interfaces re-structured around strategic business units (SBUs).

Product Sourcing Strategy and Supply Chain Agility

C1's current product sourcing strategy is under considerable scrutiny given that initiatives are needed in order to develop greater agility in their product sourcing supply chains. This initiative is being spearheaded by supplementing high volume offshore outsourcing with domestically produced relatively low volume manufacturing repatriated to their main site in the UK.

Greater supply chain agility has been identified as a new critical capability needed to respond to rapid shifts in consumer behaviour both in the UK and export markets and also to evaluate whether or not domestic manufacturing could be undertaken at a comparatively low cost compared to outsourcing by developing a new template deploying an Industry 4.0 capability which could be rolled out in all factories adjacent to C1's major markets. It would also re-establish C1 shoemaking in the UK. This new facility could then also become a vehicle for regenerating the lost shoemaking knowledge and skills base which could be used to develop a new generation of shoemakers,

technicians and manufacturing managers in order to better manage their existing and future supply chains, whether offshore or e, located elsewhere.

Stock Management

C1 feel they are still beset by problems stemming from heavy and virtually continuous discounting of high volumes of slow moving and redundant finished stocks taking up much needed space in their UK and US warehouses. Their aim is to rebuild the business on solid full price selling by quickly completing the 'sell-off' of excessive inventory from previous years which is severely damaging their brand credibility and which continue to erode net margins.

UK Distribution Channels

C1 are grappling with the significant changes facing the UK high street. They are clear that retail price has remained a prevailing issue with many competing retailers leading with discount messages to drive up their share of consumer spending and clear slow moving inventory. C1's *'insight'* suggests that losing existing customers has occurred at a faster rate than acquiring new ones, with several factors cited, including price, availability of product and sluggish seasonal range transition. Under these circumstances, it has become increasingly critical to differentiate between market driven discounting and product driven discounting. They recognise the need to align their business through a more systematic resolution of emerging and reconfiguring distribution channel challenges. The consequences may lead to significant store rationalisation by re-balancing more towards digital distribution channels. However, C1 believe they need to perform better through Internet selling by achieving better results in the 'conversion funnel'

by upgrading areas of website performance and functionality which require attention.

Alongside what they see as a relative weakness in digital channels, the performance of their UK wholesale partners has also been subjected to pressures around footfall, sell out price and price sensitivity. C1 UK 'factory outlets' have seen similar pressures on footfall, resulting in a year on year decline.

European and US Distribution Channels

As with the UK market, mainland Europe trading conditions in distribution channels have also remained challenging, especially in the key focus markets of Germany, France and Spain with partners experiencing a decline in sell out rates. Online profits from mainland Europe websites, (including Amazon Marketplace), declined in 2017 as sales conversion has declined similar to UK digital channels.

Their US digital channel has been similarly impacted on due to slower selling. A component of this slow selling stems from 'bugs' in a new digital platform creating various technical challenges related to outages, site speed and user experience. Consequently, a renewed effort is being made to focus on driving organic traffic growth, (via technical and business change) and thereby capitalise on success seen in social marketing channels.

4.5.1.2 C1 Case Study Summary

Shown below in Figure 4.1 is a tabulated summary of the narrative from Case Study 1

Strategic Imperative	Sourcing Strategies	Dominant Theoretical Lens	Sector Knowledge, Know & Skills Transfer	Supply Chain Agility	Supply Chain Management	Product Sourcing Risk
Creating a more focused digital business	<ul style="list-style-type: none"> Mostly linear outsourcing (far-shoring) Limited near-shoring 	TCE	<ul style="list-style-type: none"> Internet platforms development Improving foot fitting skills 	<ul style="list-style-type: none"> Far-shore & near-shore (mid-gearing) Dominant linear from China & FE 	<ul style="list-style-type: none"> Achieving greater SC agility Improved stock mgt 	<ul style="list-style-type: none"> Ongoing redundant stock build up Inability to reduce lead times
Cost & Costing Methodology	Technology	Investment Priorities	Product Development	Operations	Distribution Channels	Financial Performance
<ul style="list-style-type: none"> Experienced in using standard costing Better mgt of overheads 	<ul style="list-style-type: none"> Advanced support systems e.g. 3D CAD/CAM; automatic stock replenishment 	<ul style="list-style-type: none"> Brands/sub-brands Systems upgrades 	<ul style="list-style-type: none"> More focused sub brands Improved fitting service 	<ul style="list-style-type: none"> Improving buyer-seller interfaces Reduce lead times 	Improving sales via internet channels globally	<ul style="list-style-type: none"> Reduce discounting Reduce overheads especially stock costs

Figure 4.1

Case Study Summary: Case Study 1

Source: Author

4.5.2 Case Study 2: Company 2

Profile

Company 2 (C2) story is similar to many UK footwear manufacturing firms which initially flourished in the post Second World War years. During the 1950s they made and sold mainly sports footwear products and during the 1960s were amongst the first UK firms to produce training shoes. The business expanded rapidly such that by the end of the 1970s they were employing over 800 people on four UK manufacturing sites. In 1981, the then Board took a decision to begin outsourcing offshore in Italy and the Far East. Today, all C2 footwear is outsourced from contractors in China, India, Laos

and Vietnam in total over hundred people are based in Asia supervising their supply chains.

C2 are currently importing 10 million pairs per annum of a wide range of footwear including: trainers, slippers, sandals, boots, wellingtons, women's and men's fashion shoes and children's school shoes. They have acquired over forty licences for outsourcing and distributing high profile footwear brands and accessories alongside their own brands. Whilst C2 sales revenues exceeded well over £25 million for 2017, they were significantly down from those generated in 2016. Their strategic focus is on the design and supply of footwear on both a branded and a 'make to order' (MTO) basis. In July 2018, C2 appointed a new CEO to take the company forward and reverse its declining revenues. The new CEO has extensive UK shoe industry including middle and senior management roles for major UK brands.

UK Footwear Sector Development

C2 questions whether globalisation is working in the footwear sector, even for big brands. From a strategic planning perspective, C2 have been considering how the UK shoe industry might develop over the next five years. They are mindful of macro - economic trends and concerned that further globalisation does not favour many industry stakeholders, including consumers. For C2, they conclude it is mostly beneficial to big global businesses, deploying operating models that make owners and shareholders large amounts of money.

Loss of Family Control and Turbulence

The current C2 board recognise that historically, a significant characteristic of the UK and European footwear industry is the number of footwear businesses, especially big brands, which remain family owned or have been family owned, and a number of big German brands that are now in the hands of family members where their knowledge and passion for the industry has not been handed down to their offspring for successive generations to continue to manage.

A further de-stabilising effect stems from footwear sector entrepreneurs in the UK who started a business which grew very quickly and then after 10-15 years sold it off to private equity (PE) whose performance expectations substantially exceed those of traditional footwear firms.

Globalisation

As more globalisation continues to emerge, C2 predict that more 'casualties' are likely in the UK sector as footwear firms and brands are caught in mid – market, a trend that they believe will continue through the longer term.

On the other hand, globalisation provides an opportunity in markets for resilient smaller operators such as C2 if more domestic supply chains can be revived using simpler business models with potentially much shorter lead times and more agile pipelines. Nevertheless, in the short term C2 will attempt to continue to compete with other larger mid – market global brands who are able to command greater economies of scale in product to sustain CA.

Markets and Consumers

From a consumer perspective, C2 consider the landscape in the Western hemisphere has completely changed with the emergence of aggressive online selling and high street '*bricks and mortar*' retail footfall falling year on year for the last six or seven years, directly leading to 'high street' retail over capacity.

C2 are evaluating this distribution channel shift from their position as a long standing MTO supplier selling to retailers operating in traditional retail distribution channels. They are also re-evaluating the consequences of increasing digital channel congestion as footwear firms re-position from 'bricks and mortar' and move forward to selling through online channels. For C2, this presents an additional challenge as the online channels are dominated by very big multi-sector players such as Amazon and a number of footwear global brands.

Market Conditions

The challenges facing C2 stem from the need to counter the 'perfect storm' of globalisation aggravated by the over-capacity in retail channels, loss of management and technical knowledge in the sector, and the markets being artificially propped up by private equity firms.

C2 are certain that eventually the big American brands will become all powerful, primarily because they have access to very substantial marketing budgets and have a superior capability in executing consumer responsive marketing campaigns. Furthermore, global brands are reluctant to buy from relatively unknown brands, consequently C2 see it becoming a distribution channel dilemma, even for firms with a very good product.

Sector Innovation

C2 are somewhat sceptical about the innovation capability within the UK footwear sector, believing it is limited to the sports brands who are the only footwear firms who have the finances to invest in new ideas and new technology. They say there is very little evidence of significant innovation within the 'brown shoe' segments seen as the key to survival in this UK segment such that C2 regard the underlying risk for themselves is a total loss of control over the design and development process.

Distribution Channel Turbulence

Given that C2 are an MTO as well as own brands business, a major concern for them is the continuity of supply into the diminishing UK independent footwear retailing sector which now accounts for only 3% of the market.

Retail Service Differentiator

For C2, high retail service standards were once seen to be a critical differentiator. As online selling has reduced footfall, shoe shops have searched for cost savings and have become bland quasi self - service spaces. As a result, service is no longer a differentiator helping to sustain a brands competitive advantage making it difficult for brands to compete with stores selling relatively cheap footwear.

Digital Channel Consumers

C2 articulate the threat posed by digital distribution channels from 'armchair consumers' observing that there is no longer any motivation to go shopping in the high street especially on a wet Saturday afternoon in winter!

Outsourcing

C2 are abreast of differentiated product sourcing strategies being considered by global and international brands based on the creation of highly agile 'in country' supply chains. However, they regard such strategies as high risk as Western brands become less glamorous in the Far East. They believe this shift is only being slowed down because of a continuing desire for niched Western brands in China and Japan.

Future Product Sourcing Strategies

Whilst C2 continue to deploy labour cost arbitrage sourcing strategies they share the view of some sector experienced management consultants that future product sourcing strategies will be developed more around innovation and differentiation and less around sourcing costs.

Product Sourcing and Environmental Issues

The C2 perspective on product sourcing in some ways may be perceived as quite radical. They are of the opinion that ultimately the UK consumer is going to have to pay more for their shoes by arguing that consumer hypocrisy is standing in the way of higher cost ethical outsourcing. C2 are highly pro-active in the area of environmental management and ethical product sourcing as active members of the Ethical Trading Initiative (ETI) and as such are amongst apparel and footwear firms leading the way in the creation of more widespread ethical trading policies, especially improving

their suppliers working conditions and eliminating child labour. In this regard C2 have become scrupulous in terms of supplier selection and apply rigorous (inspected) standards to working conditions.

China and Supply Side Strategies

In terms of long term supply side strategies, C2 suggest that the Chinese firms who in their words are 'future focused' are now the people who are pursuing and implementing a fully integrated model in their own country and are already well positioned to serve the exponentially growing middle class Chinese domestic market.

China Domestic Consumption

C2 are acutely aware of the consequences for their own product sourcing from China when Chinese consumers becomes affluent enough to buy in the brands which Chinese shoe firms are currently making for Western markets. There is also a greater recognition and the growing integrity and attractiveness of nascent Chinese brands. From a financial standpoint supplying domestic markets is also likely to generate higher net margins for Chinese manufacturers, especially if export trade tariffs become particularly onerous.

India

With regard to outsourcing from India, C2 are optimistic in terms successfully developing future product sourcing supply chains by building closer relationships with increasingly more capable Indian shoemakers. They now have access to substantial domestic upstream suppliers of higher

specification, higher quality raw materials, a critical resource for the manufacture of branded 'brown shoe' products.

India also has an endless supply of human resources, given that it has the second biggest population in the world behind China. C2 personnel comment that Indian firms are becoming increasingly easier to do business with, although still require considerable UK oversight. C2 consider that India's greatest strength is its scope to manufacture both high volume and bespoke (MTO) footwear in regional clusters where the capability is in producing very high volume and predominantly fashion driven. In the South, especially in and around Chennai, is an area focusing on manufacturing branded, higher specification products at higher cost but in lower volumes. Consequently, outsourcing from India is likely to grow significantly as a core component of C2's future product sourcing strategy. C2 maintain that the critical success factor for successful trading out of India is a focus on highly competent quality control.

Sources of Supply: Far East

C2 suggest that global brands, are transferring more of their outsourcing from China to lower cost FE countries such as Vietnam and Cambodia. For C2 this is a worrying trend as this shift in sourcing location by the global brands is creating supply side capacity constraints for smaller firms. The big brands are offering to place more substantial order volumes (MOQs) but at negotiated lower prices. Consequently smaller buyers such as C2 are being pushed into 'fringe' FE supplying countries such as Laos, but there is, as yet, little evidence of supporting infrastructure.

Africa

C2 see little prospect of developing a product sourcing capability in Africa in the near future given that many African countries remain too politically volatile. They concede that there may be scope for projects managed by big global brands who have the money to invest. The underlying issue with these countries they say is also the absence of significant infrastructure to support efficient footwear sourcing supply chains.

Near-shoring

However, C2 have been giving some thought to the potential for low cost near-shoring and as such whether this may be beneficial to themselves and also to Eastern European footwear manufacturing firms. As with many of the lowest cost Asian countries, C2 express similar concerns around the lack of infrastructure in Eastern European countries, even though there are 'pockets' of good shoemaking, but in any event they say there is insufficient capacity to replace China.

Re-shoring

The issue of re-shoring footwear manufacturing surfaced with reference to the activities of the 're-shoring lobby' in the US and the changing economic circumstances in China. Whilst possibly affecting C2 sourcing costs, they consider the rising standards of living in China as a positive development at the macro - economic level and that further convergence of income and costs is a benefit for the equalisation of living standards across the globe. From the perspective of future manufacturing capacity in China, C2 have concluded that in China now, the footwear industry is low down in the

preferences of attractive industries to work in and that will impact on constraining production capacity. C2 also feel that creating a stronger supply base out of SEA and India will further reduce UK footwear firm's incentives for re-shoring.

Infrastructure and Re-shoring

For C2, the situation is further aggravated by the continued decline of the UK shoe industry infrastructure, especially upstream domestic supply and support services. They now regard this situation as a pivotal challenge in this country for those firms who continue to do business in the sector and for those who are involved with evaluating the practicalities for re-shoring.

Costings and Costing Methodologies

Given that C2 source all their products offshore, mainly from China, Vietnam, Laos and India, there are concerns around the accuracy and consistency of their own costings and hence the costing methodologies they currently use to aid the sourcing location decision. They are currently using relatively unsophisticated historical costing methodologies compared to the UK footwear industry's general use of standard costs for calculating prime costs.

C2 use what they describe as '*open costings*' but say they are working towards developing a product costing structure that would move them closer to a TCO methodology incorporating a leather saving scheme based around graded cutting coefficients.

Of greater concern to C2 is the questionable accuracy of costing their unbranded products which they describes as a whole lot murkier.

Cost Reduction Initiatives in India

A cost reduction strategy being pursued by C2 is to work much more closely with their Indian suppliers to improve leather utilisation, (grading and maximising cutting co-efficient), to achieve savings given there is so much leather being left to be swept up from the shop floor in Indian, and to a lesser extent in Asian factories. With time, they say, and the appropriate support from C2, material wastage can be eliminated as their suppliers become more skilled. In this way, C2 are confident that they are then able to renegotiate a lower outsourced FOB price by up to 30 per cent. They have also set objectives to reduce sourcing costs by working with their suppliers to identify cost reduction linked to moving up the learning curve, ('super skilling') for an industry characterised by highly repetitive production tasks.

Costs and Sourcing Agility

C2 point out that smaller more agile UK manufacturing businesses are also likely to have a more costly business model, for example by having a greater reliance on more expensive localised upstream supply chains for materials and components.

Footwear Knowledge and Skills

C2 are very concerned about the loss of skills in the UK footwear industry and how it might impact on their outsourcing performance given that the loss of irreplaceable footwear sector knowledge, 'know-how' and skills in the UK is critically needed to effectively oversee offshore suppliers. Whilst India do have physical resources at their fingertips, they do not possess the craft knowledge, especially tacit knowledge that still exists in parts of the former

UK shoemaking clusters. Their concerns stem from the continued unattractiveness for younger generations of working in the UK footwear industry.

Product Development Resources

C2 regard the decision of the big branded manufacturers to close all their UK factories as a major strategic error which has had serious repercussions for shoemaking SMEs that is now only just being realised. But the greater mistake was also to dilute the capability of their product development and sampling sections. Having followed suit, C2 are now trying to strengthen within their own business having recruited, on a temporary basis, a small number of highly experienced footwear industry experts who are running their development section where they are injecting new skills and knowledge into C2 management and their shoemaking technicians. As one of their managers observed, when referring to this move and the level of experience of their existing staff, it is important to be able to know where the knowledge gaps are to develop resources which will secure future profitable growth.

Skills Transfer Offshore

C2 are concerned that eventually, skills and knowledge will transfer in its entirety from the UK to footwear manufacturers in the Far East, India and other parts of the world such as Africa. Given this scenario, C2 are convinced that unless there is an educational drive in this country, it is difficult to see how any footwear manufacturing can be sustained in the UK in the longer term which in turn becomes an almost impenetrable barrier to re-shoring.

According to C2, the loss of this knowledge in large global firms resulted in them being drawn into trading in the same way as any other firm or brand i.e. competing purely on price and product innovation, which C2 maintain are now the only two criteria that firms can compete on in footwear sector markets.

Automation and Re-shoring

C2 like everyone in the UK footwear industry are aware of the much publicised failure of recent, (re-shoring) initiatives aimed at fully automating brown shoe manufacturing. The failure has been blamed on the unreliability of the specialist machinery and robotics and the resulting long delays caused by frequent breakdowns reducing outputs to uneconomically low levels.

However, C2 are impressed by the degree of automation being utilised in some UK footwear manufacturing firms, especially those which have implemented hybrid rather than fully automated systems. They recognise that making automated manufacturing processes and systems work effectively requires personnel with a combination of footwear knowledge and skills and the experience to know what will work and what will not work, especially when producing 'brown shoe' products. In this regard for C2, robotics driven re-shoring is not seen as relevant to the current deployment or future product sourcing strategies.

3D Printing and Customisation

Of more interest to C2 are the advantages to be gained from innovative 3D printed footwear and the resulting aesthetic changes created by technology when contrasted with design centred on traditional shoemaking constructions and materials. They engage in speculation that perhaps 3D printed shoes will become a primary disruptor of the traditional manufacturing model and as a consequence will become the conduit through which technology driven customisation will emerge on a mass scale. Nevertheless, C2 remain sceptical of the apparent growing demand for greater customisation in footwear products but recognise the higher demand for greater intricacy in upper design.

They acknowledge the part technology can play in customisation, but counter that such developments will be constrained from a lack of desire on the part of consumers to spend more than they have to, except the costs associated with small changes such as choosing upper leather colours, threads or laces.

Risks

From a risks perspective, C2 are most concerned about the impact of governments' changes in policy and in legislation, both home and overseas, specifically those relating to very short term changes which have recently surprised C2 and which have given them cause to re-evaluate their sourcing options. Their concerns are not solely restricted to Brexit but also to the behaviour of some foreign governments in relation to sourcing offshore. They were recently caught out when the Indian government immediately put 200% duty on any products or materials being imported from Pakistan. In order to

mitigate similar risks, C2 have continued to spread their supply base such that they are able to relocate their outsourcing as quickly as is needed.

4.5.2.1 C2 Case Study Summary

Shown below in Figure 4.2 in tabulated form is a summary of the narrative from Case Study 2.

Strategic Imperative	Sourcing Strategies	Dominant Theoretical Lens	Sector Knowledge, Know & Skills Transfer	Supply Chain Agility	Supply Chain Management	Product Sourcing Risk
<ul style="list-style-type: none"> Improving buyer-supplier relationships Reducing sourcing costs 	Rebalancing from Far East to India	TCE	<ul style="list-style-type: none"> Re-skilling technical capabilities Retaining and upgrading shoemaking knowledge 	<ul style="list-style-type: none"> Limited (low gearing) Reducing complexity of product ranges 	<ul style="list-style-type: none"> Reducing lead times Greater SC agility unachievable 	Supply side capacity restrictions
Cost & Costing Methodology	Technology	Investment Priorities	Product Development	Operations	Distribution Channels	Financial Performance
<ul style="list-style-type: none"> Inaccurate costing reducing net margins MTO products based only on historical costs 	Limited to upgrading support systems	<ul style="list-style-type: none"> Reduce discounting Reduce overheads especially stock costs 	<ul style="list-style-type: none"> Negatively impacted by inaccurate sales forecasts Inaccurate costing reducing net margins 	<ul style="list-style-type: none"> Margins squeezed by aggressive buyers Loss of internet revenues 	<ul style="list-style-type: none"> Negatively impacted by inaccurate sales forecasts Inaccurate costing reducing net margins 	<ul style="list-style-type: none"> Increase export revenues Superior costing capability Superior financial control

Figure 4.2

Case Study Summary: Case Study 2

Source: Author

4.5.3 Case Study 3: Company 3

Profile

Company 3 (C3) is a relatively new footwear firm compared to many well established UK brands having been established less than 100 years ago.

The roots of the business go back to the sole proprietor of a small shop who advertised himself as a licensed footwear broker and boot and shoe repairer.

Annual revenue in 2017 was above £25 million but well below that in 2016.

The Chairman and majority shareholder of the current business has vast experience from trading in the footwear sector over the last 40 years and has subsequently acquired a firm grasp of the issues both C3 and the industry face in the future. Their core business strategy is the acquisition and management of well-known UK international and global footwear and apparel brands which they describe as a brand family.

Marketing Strategies

C3 market based strategies are led by consumer segmentation where brand and product positioning are determined by targeting specific socio-economic groups in a variety of well differentiated segments.

C3's market research has determined that people are prepared to pay more for brands, such that achieving brand price premiums gives them the opportunity and latitude to pay a little more to their suppliers for a better product, but at the same time there is an expectation of higher specification, better quality and superior performance in wear. However, C3 continue to position some product ranges at the lower end of the market where there is still choice for people with limited budgets.

Brand Management Strategy

Within this environment, C3 are clear that their survival strategy stems singularly from the current strength and further strengthening of their brands. Of particular concern is the limited amount of new business that C3 feel they can generate in the UK, such that they see future growth stemming from exporting to global markets driven by leveraging their brand assets. Ironically,

they are not able to make extensive use the of MiE brand kudos, whilst all of their brands are British their products they are all outsourced offshore.

UK Footwear Sector Development

They observe that the industry continues to evolve and over the last 30 years has restructured from the demise of UK manufacturing and accelerated towards the rapid growth of outsourcing offshore and that, within the context of their business and the competitive environment, they expect this trend to continue.

Retail Distribution Channels and Channel Strategy

At retail, major changes have taken place in the last ten years which continue to impact on C3. The UK footwear market in terms of purely footwear outlets has changed immensely. The retail sector now, in terms of major multiples with over a hundred shops consists, they say, of only three sizeable firms. In the more up market end of the business there are also fewer smaller chains for C3 to sell into.

Two major shifts have occurred which have impacted on C3. The first big change is where footwear retail has grown with businesses that are predominantly clothing led and which have invested more in selling footwear products. With regard to these retailers, C3 recognise that a significant critical change has taken place in terms of the buyer-seller dynamic as they are frequently not dealing with 'shoe people'.

The second major change, where initially C3 were sceptical, is the emergence of Internet selling where C3 have now recognised that the growth in digital channel distribution is potentially enormous. In terms of C3 channel strategy

development, many traditional 'bricks and mortar' footwear retailers are also operating online alongside firms dedicated to trading only in digital distribution channels.

C3 see this as a very efficient omni - channel strategy creating opportunities for repeat sales in each channel and when appropriate, move stock, (condensing) both to the main online site and to the most appropriate stores which C3 regard as benchmarks for highly efficient stock management.

C3 suggest that the shift to online selling is slowing down and that whilst there is considerable ongoing change in retail distribution channels, they suggest that this trend will continue and consequently some traditional 'footwear only' 'bricks and mortar' retailers will survive.

Globalisation

As for globalisation, the market development strategy at C3 has extended to penetrating international, if not global markets. In this regard, around three years ago they invested in the opening of a small sales and administration office in the US employing six people. This investment has proved to be a successful initiative which C3 say is 'part and parcel' of an international growth strategy.

BRICs

In relation to the BRIC emergent economies, C3 are wary of trading with Russia, both from a supply chain (sourcing) and a market penetration perspective. In terms of selling into Russian markets there remain concerns about the presence of organised crime even though C3 recognise it as a potentially a massive market

Brexit

The company is keen to point out in its Strategic Report for 2017 that issues stemming from Brexit have had little or no effect on the performance of their supply chain. In addition it has only been affected marginally from exchange rate fluctuations as they trade exclusively in US dollars.

Product Sourcing

On the supply side, imports now take up the vast majority of the footwear which is sold by them in the UK today and C3 cannot see that situation changing.

Initially, C3 were outsourcing in three principal countries: Taiwan, South Korea and Hong Kong. Significantly, there is now considerably less footwear made in those countries. They foresee that there will be locational shifts in the main countries and firms they are currently sourcing from and for a number of different reasons. Most critically, C3 are highly sensitive to increases in sourcing costs. As sourcing costs in China continue to rise, adversely impacting on C3 competitiveness in their chosen markets, they continuously re-evaluate alternative sourcing locations in SEA.

Near-shoring

C3 are also deploying a near shoring strategy. They already buy more volume from Italy and Spain than they did three years ago. Some European manufacturers are at last showing signs of becoming more competitive in terms of pricing, but C3 remain cautious that this may be purely down to short term Brexit driven exchange rates. They re-stated that C3's sourcing strategy is determined primarily on low sourcing cost, high specification and outstanding quality.

Product Sourcing Strategy: Future

In the medium term, C3 see very little changing in terms of their current and future product sourcing strategy. Further opportunities for near-shoring for them will continue to remain dependent on supplier prices remaining competitive and possibly favourable exchange rates. They become highly reactive when a current supplier's prices rise unacceptably. Under such circumstances, C3 strategy is simply to move to another supplier 'up the road'. A situation they describe as 'a moving target'. C3 have no hesitation in relocating to another low cost sourcing country but take into consideration other factors in making their sourcing location decision, particularly with regard to political and social stability.

Product Sourcing: Low Cost Countries Capacity

C3 remained relatively unconcerned by labour inflation in China and believe that low labour cost will remain the core sourcing strategy within the UK footwear sector and neither they, nor other firms in the UK footwear industry will run out of alternative countries from which to source in the future. However, C3 managers are concerned that some of these countries, have not, as yet, made significant progress in upgrading their infrastructure. There also remain high risk political issues to consider, particularly the likes of Cambodia and North Korea, which surprisingly C3 see as a new potential source of supply, even though they observe that that are unloved politically by the rest of the world.

Eastern Europe

Forty years ago, very high levels of 'boxed' footwear were being sourced in by C3 and other brands from Poland and what was then Czechoslovakia. The quality produced was very good by today's standards. However, C3 are sceptical that outsourcing from EE today would still be as viable as it was then, given that essential support was provided by their own employees operating in supplier's factories. The suppliers back then were much too reliant on British, Italian and German knowledge and expertise.

They are still of the view that a revival of outsourcing from Eastern Europe would only materialise if those countries were prepared to invest further in infrastructure development if they have aspire to establishing footwear supply side capability for UK and European firms. Consequently, without such investment, it is unlikely that C3 orders from these countries will increase from current very low volumes.

Russia

In terms of outsourcing, C3 regard Russian footwear manufacturers as still unable to compete even with other Eastern European states. There is a lack of commercial flexibility, (strictly on contractual pro-forma basis), and there are concerns with regard to the ongoing presence of corruption.

South America

As for South America, whilst C3 admire their ability to manufacture outstandingly high quality products, especially in Brazil, unfortunately they regard South American shoe firms as financially 'fickle' and habitually move in and out of being competitive. Nor are they seen as high volume producers

sufficient for C3's needs, observing that Brazilian firms continue to focus their export strategies on further penetration of North American markets.

Central America

C3 are continuing to monitor developments in Mexico as a relative near-shoring country, largely because few firms are currently importing any large volumes into Europe or the UK from Mexico, yet firms there have demonstrated that they already have the manufacturing capacity to supply high volumes into US markets.

Africa

C3 considered the potential for sourcing out of Africa ten years ago but they remain concerned about the willingness of the indigenous population to make it viable. As they see it, there are currently too many problems with the culture and the mentality of a potentially vast labour pool. In their experience, what has been produced so far by African manufacturers has generally resulted in the delivery of poor quality products, aggravated by low productivity, adversely impacting on delivery performance. From a strategic sourcing perspective, C3 will continue to monitor the situation in Africa but are content to let other firms act as outsourcing pathfinders.

Outsourcing Power Relationships

C3 see little changing in outsourcing supplier power relationships. In the main, the dominant countries manufacturing footwear today, will be in the same position five or ten years from now and then, as now, supplier choice will continue to be determined by the base (FOB) price and who is the most competitive for all other KPIs.

C3 believe China will find ways to remain highly competitive within world market average prices. It is highly probable that if necessary, the Chinese government would intervene to protect the interests of their footwear manufacturing base such as tax breaks. C3 point out that disappointingly, retaliatory protective measures are unlikely from European governments on behalf of their own relatively small domestic footwear manufacturing capability.

Human Resources (Outsourcing Operations)

As for human resources engaged in outsourcing operations, C3 are mindful of the crucial role UK shoemakers continue to play with regard to sustaining efficient outsourcing supply chains and on site supplier oversight. They acknowledge that whilst they represent a significant component of outsourcing overhead cost, these are countered by the contribution they make in improving productivity and resolving technical issues in supplying factories.

Footwear Sector Knowledge and Skills

C3 also have some concerns about footwear technical skills relative to future sourcing initiatives and are encouraged that colleges such as Cordwainers in London and De Montfort University in Leicester are investing in and teaching students about the theories of design and footwear manufacturing processes.

Their main concerns stem from the lack of shoe factory experience these young designers acquire and subsequently the way this adversely impacts on design, manufacturing feasibility and cost. C3 are sceptical that manufacturing shoemakers and development technicians can be recruited directly from colleges. The current situation at C3 brings the problem into sharp focus, given that three of C3's top quality controllers based in their UK office are all in late

middle age. This situation is now forcing C3 management to re-evaluate exactly how they will mitigate the risks associated with the gradual loss of shoemaking expertise and how that might eventually impact on future product sourcing capability.

UK Manufacturing and Re-shoring

In terms of regenerated UK manufacturing, C3 are aware of some growth but only in small volumes. Regardless of some small pockets of re-shoring, their view is that the UK will never return to anything like the domestic output levels of the 70s or early 80s. It is more likely, they say, that small entrepreneurial manufacturing units will emerge and becoming better established in the UK and more able to leverage the kudos from 'Made in England' as part of a 'niched' marketing strategy aimed at growing small volumes of both UK and export sales. They believe that the Union Jack is an invaluable tool for sustaining high export volumes with the potential for driving future growth. Ironically, they suggest that 'MiE' appears to have little or no value in the UK or in the Republic of Ireland!

Ethical Sourcing

Of late, C3 have become more concerned with maintaining ethical sourcing standards. One issue which has arisen is the impact of absorbing rising outsourcing costs driven by their stance on supporting environmental and ethical issues. They are particularly wary of the erosion of margins for products positioned to sell in to more price sensitive lower socio - economic groups.

Automation

With regard to automation and the application of Industry 4.0 technology to footwear manufacturing, C3, are now warming to the idea of its potential for automated low cost domestic manufacturing, given what they have seen can be achieved in the UK automotive industry. Nevertheless, whilst automation may negate considerations of labour cost for C3, other factors will need to be carefully considered. They remain concerned that there may be issues around the viability of rejuvenating upstream material and component supply chains. Consequently a situation might still arise where materials, particularly upper leathers, will still need to be imported, possibly at higher prices which may be offset or partially offset by lower direct labour costs.

A further constraint for C3, is seen as the high cost of footwear specific plant and equipment and robotics. Furthermore, C3 believe that fully UK based automated plants are still going to be competitively challenged because China will respond with similar strategies by producing automated footwear manufacturing machinery and robots cheaper than in other countries.

Costing

With regard to costing capability, C3 have significantly improved the accuracy of their costings but admit that they were "*not very good at it*" in the early days of outsourcing, but have, with more experience and greater knowledge now become much more competent, particularly in identifying previously hidden outsourcing costs. C3 regard themselves as 'prudent', but acknowledge that they need to include a significant and unacceptable amount of contingencies in their costings to mitigate 'unexpected' product sourcing overspends. C3 now

negotiate FOB prices from suppliers in order to avoid paying supplier margins for freight.

Indirect Costs

As for UK operating costs, C3 factor in their own indirect labour costs e.g. designers, UK sourcing people and those out in supplier's factories. They then calculate import duties, tariffs and freight costs which they say, given the volume of containers they bring in every year, represents only a small (negligible) component of total sourcing cost.

Foreign Exchange Strategy

If business grows significantly in China, C3 may decide to revise their FX policy to source product in Chinese currency i.e. Renminbi (RMB) in order to eliminate their supplier's exchange rate contingency costs.

IT Investment

In terms of ongoing investment, C3 mirror other firms in the sector and see their priority need is for investment in leading edge IT, accompanied by recruiting the 'right people' to manage these under resourced upgraded systems.

Risks, Capabilities and Core Competence

From a risk and capabilities perspective, C3 are worried that as a business they have not responded to change as fast as perhaps they should have done. In particular, their relatively late entry into digital distribution and their response to new trading conditions. A very harsh culture has emerged, driven by the ongoing continuance of further margin erosion in retailing. Under these

circumstances there is an immediate need for C3 to adjust to these new buying regimes to protect their own profit margins.

4.5.3.1 C3 Case Study Summary

Shown below in Figure 4.3 is a tabulated summary of the narrative from Case Study 3.

Strategic Imperative	Sourcing Strategies	Dominant Theoretical Lens	Sector Knowledge, Know & Skills Transfer	Supply Chain Agility	Supply Chain Management	Product Sourcing Risk
<ul style="list-style-type: none"> Brand led: multi segment growth Premium globally recognised brands 	<ul style="list-style-type: none"> Entirely cost driven Globally spread but emphasis on FE 	TCE	<ul style="list-style-type: none"> Upgraded costing skills Retention of shoemaking knowledge & skills 	<ul style="list-style-type: none"> Limited (low gearing) Predominant linear from China & FE 	Own supplier based support staff	Maintaining quality standards against high profile brand expectations
Cost & Costing Methodology	Technology	Investment Priorities	Product Development	Operations	Distribution Channels	Financial Performance
Relatively crude costing methodologies both prime costs and overheads	<ul style="list-style-type: none"> Limited upgrading e.g. product development Big data & comms 	<ul style="list-style-type: none"> Increasing internet selling Systems upgrades: costing accuracy 	Targeted niching through multi-segment brands	<ul style="list-style-type: none"> Upgrade in prod. development Retention of knowledge & skills 	Growth of sales to non-footwear retailers	<ul style="list-style-type: none"> Margins squeezed by aggressive buyers Loss of internet revenues

Figure 4.3

Case Study Summary: Case Study 3

Source: Author

4.5.4 Case Study 4: Company 4

Profile

Company 4 (C4) today is a combination of separate trading entities which grew and developed out of footwear manufacturing in a number of product

constructions until the Nineteen Nineties. The operating model was relatively straightforward with most of the production being MTO, for wholesalers and retailers. Their circumstances changed significantly from the Nineties onwards. In mid Nineteen Ninety it was decided that it could no longer compete as a shoe manufacturer due to the importation of cheap footwear, predominantly, at that time, from Southern Europe.

In June 1990, the management of C4 was handed over to a new managing director (MD) with who had come from a background outside the sector but had been involved with the footwear industry all his life through his family's involvement with C4. C4 now operate as a fully outsourcing business from offices and warehouses located on their original manufacturing site.

Strategic Shift

As a result, C4 had already begun to develop, and subsequently deploy, an alternative survival strategy and had taken the decision by then to engage with the footwear import sector and outsource a range of 'full package' products offshore.

Market Shifts

In 2007, C4 also took a bold decision to diversify into selling mainstream 'brown shoe' segments into the UK market. This change of direction would allow C4 to start up a separate business where they could create their own brands and deploy a strategy where they could sell directly to the consumer. According to a senior manager, this decision proved to be the right one as their then biggest customer's business subsequently collapsed in December 2008. By that time, C4 were also having to combat the consequences for the

UK economy as it imploded with the banking sector's demise. By then, their annual revenues had peaked at about £14 million p.a. but were beginning to fall rapidly such that they found themselves in a situation where, if they were to survive, they badly needed to build up their nascent branded businesses.

By 2016 C4 had contracted to around half of its size in 2008. The revenues from their original low price MTO business were stable at about £2 million p.a. but the new 'brown shoe' branded ranges had grown from zero in 2008 to approaching £7 million by 2017. As a further hedge, C4 also developed another business whose principal activities involve warehousing, despatch and returns being generated from growing Internet sales activity and from carrying out footwear repair and remedial rework.

Consumer Behaviour and Product Positioning

C4 are of the view that a greater number of consumers are becoming more fashion sensitive especially in women's markets. For C4 it has prompted a rigorous debate between management and staff about how consumers are reacting to their products and to competitor's products, particularly when they are viewed side by side on digital international platforms where innovative design can be visually compared. C4 are aware that often marginally cheaper competitor's products are not selling in or out at the same volumes as theirs, suggesting that consumers are still able to discern quality and importantly, 'value for money' (VfM).

Impact of Brexit

C4 regard Brexit as a potential challenge but remain optimistic. They do not see a situation where the UK is going to be completely alienated from

Europe or that their European markets sales will disappear overnight. In a worst case scenario, from an administrative perspective, should C4 be subjected to tariffs, they believe their computer systems are advanced enough to cope with the additional workload having invested significant sums in upgrading their IT systems, particularly their capability to interface with European systems.

Product Strategy and Innovation

A characteristic of their success in re-inventing themselves, they say, their greater capability to develop innovative products. C4's own experience of innovation within footwear SMEs is that you must have the people who own the business being prepared to actually becomes 'hands on'.

C4 regard product innovation as the key to survival and growth from their brands. In this regard they place a great emphasis on the knowledge and skills of their design and development team. Their ultimate strength lies in the capability to translate innovative ideas into commercially viable products.

C4 managers say that innovative products have been developed from simple ideas often widely copied by other footwear firms. They continue to be very pro-active developing further innovative new products, testing ideas on a regular basis although they concede that only one in every hundred actually translates into commercial success.

The core C4 strategy is to focus on exhaustively developing more innovative products, attractively priced to sell in the UK and Europe and possibly positioned in mid to higher end selective global markets. They say that their markets are well defined in terms of product and price segmentation and that

their customers will only buy from them within those price points. From a strategic perspective, 'value for money' is the critical success factor (CSFs) and as such underpins their business model, operating system and sourcing strategy.

Pricing Strategies

Given a scenario, where C4 are selling more on platforms such as Groupon, a matter of a few pounds in price can make a massive difference to how well their products are received by digital channel consumers. They are clear that in pursuing a brand based strategy, C4 compete in a highly price sensitive market and their objective has been to make the proposition to the consumer as attractive as possible. In order to hit strategic price points often involves some minor de- specification of their products through the intelligent use of cheaper often 'hidden' components to minimise total cost.

Distribution Channel Strategy

Over the last few years, C4 have directed much of their energy at selling more through the Internet. Their computer programmes and the customised software they have developed has been with the objective of making themselves extremely efficient at what they do in terms of delivery to digital channel consumers. C4 have been forced to make difficult decisions on the deployment of limited resources, choosing to focus their activities away from traditional distribution channels and more towards Internet based growth with 12% of their sales now achieved through online channels.

There remains some risks for C4 around future resource allocation and the additional costs of pursuing an online distribution strategy, particularly with

regard to the costs of customer returns. However, with increased financial security for consumers and the increasing efficiency of online companies such as Amazon, C4 are of the view that further growth in digital channels is a 'given' as the millennials get older and younger generations of digital channel consumers follow in their footsteps.

With regard to risks from 'future market shocks', C4 are mindful of the potential ongoing impact of leading edge technology on consumer behaviour and their expectations e.g. the development of high tech retail zones and the consequences of increased demand for mass customisation (MC).

Distribution Channel Cash Flow

A further benefit for C4 will result from improved cash flows through the more profitable digital distribution channels given the impact of 'up front' payment compared with the minimal net margins gained from selling low price footwear into more conventional channels on ninety days payment terms.

Strategic Alignment

C4 remark that ownership and the operation of its recently acquired warehousing business has aligned well with their growing penetration of new footwear digital distribution channel business and their own Internet fulfilment requirements. Especially for products selling strongly in the UK and Northern Europe, mainly in Germany, France and Italy.

C4 resources remain focused on their primary strategic objectives of growing their branded business online either directly through their own websites or via Internet platforms such as Groupon and Wowcher. Their aspirations also

extend in the next five years to achieving more growth by exploiting a number of worldwide Internet platforms.

Risk Management: Markets and Products

In order to spread their risk, C4 have expanded their product ranges by developing additional outsourcing suppliers, mainly in India. They are now selling upmarket welters products in the UK and Europe, positioned differently to their core brands, and aimed at selling to a higher socio - economic consumer who, for whatever reason, is unwilling to pay 'Northampton brands' prices.

Risk is further reduced by strategies directed towards Europe similarly appealing to their middle class markets. Even in Europe, they are adamant that price is the order winner for these niche market segments.

In relation to over-arching sector risk, C4 accept that managing their business satisfactorily is under-pinned by a belief that constant change is a characteristic of the UK shoe industry and as such must be fully integrated into their culture and modus operandi.

Moving forward, the priority is now about viewing the business and the changing nature of risk through a global rather than domestic landscape. Specifically, they point to the speed of economic growth within China. The development of other emerging economies and the potential for the development of other non UK/European markets. The risk management imperative for C4 is the capability to be able to respond to those opportunities and not be caught out by complacency or lack of agility. C4 are constantly alert to the inherent risks of being left behind and the dangers that

may threaten their business in any form by the invention of new types of product or by the development of new markets.

Buyer - Seller Relationships

C4 see that distribution channel relationships are re-shaping and that adaption is needed for building strong buyer-supplier relationships with on line giants such as Amazon where doing business takes place in a different cultural environment.

They also see little potential for the ongoing pursuit of more MTO business selling into 'bricks and mortar' retail multiples given the squeeze on their margins and the tougher negotiations driven by a very competitive high street.

C4 suggest that independent multiple retailers will need to significantly rationalise their product lines and recruit more experienced buyers to better manage the buying process. Big retailers have, perhaps inadvertently, engaged in 'dumbing down' the footwear buying process and that worrying issues are arising given the lack of sector buying experience, expertise and knowledge that was in evidence fifteen years ago.

With respect to the notion that product sourcing strategies are transitioning more towards buyer-supplier partnerships and away from sourcing cost, C4 are salient about such strategies. They are sceptical as to when a shift of that magnitude might occur given the transient nature of offshore sourcing. Consequently, at this point in time, C4 cannot see anything other than price being the driving factor for maintaining and growing sales volumes and as such, margins can only be maintained by low cost product sourcing.

Outsourcing: China and India

Even with inflationary pressures, C4 believe that China will remain as the world's major shoemaker. Outside of the political arena, China has very impressively upgraded its footwear manufacturing infrastructure in contrast with India. Consequently they will continue to source product from both, but with an increasing emphasis on requiring Indian product specification. Whilst India has been making rapid progress over the last fifteen years, C4 have observed that in China the upgrade in infrastructure has been immense. As a result of that, they are acutely aware that the Chinese have also created their own markets and the possible product sourcing risk implications stemming from such a development. C4 believe that Chinese footwear manufacturing firms will still continue to export large but increasingly dwindling volumes through the next five to ten years simultaneously increasing sales into Chinese middle class markets. They further foresee an opportunity for UK manufacturing MiE brands to turn that to their advantage at the higher end by exploiting increasingly wealthy Chinese tech entrepreneurs.

Product Sourcing Strategy and Market Re-positioning

With regard to past product sourcing strategies, C4's approach has shifted as they have moved further away from sourcing high volume, low value synthetic products such as training shoes from China and into higher value, lower volume market segments. They continue to outsource those products but now in much small volumes in order to continue servicing their dwindling but loyal MTO customers.

As they re-position, C4 have found that for leather shoes and boots, India is a much more suitable source of supply than China, although C4 have for the last ten years continued to source from both countries. However, higher volumes are now being sourced from India given the growth of the weltd branded businesses where their increased buying power has resulted in lowering sourcing costs.

The 'primary buy' is now centred on men's formal shoes, particularly brogues and ladies leather boots and shoes as C4 attempt to compete against the established Northampton 'high end' brands by high spec products pitched slightly below their prices. They say that CA is likely to be achieved from very precise price pointing. Whilst these products currently represent only a small percentage of their men's premium range they are seen as a significant driver of future growth.

Future Product Sourcing Strategy

With regard to future product sourcing strategies deployed by C4, they completely reject the suggestion that 'labour cost arbitrage' strategies are being superseded. They are adamant that there is now a greater sensitivity to price in the segments in which they compete, such that in the immediate future, growth will be heavily dependent on finding ways to hold down sourcing costs.

Near-shoring

With regard to the potential for near shoring, C4 are more optimistic given that they continue to have an *"open constant dialogue with people in Portugal"*

In principle, they are open minded about 'near-shoring' and if they see things that could work, they would consider them given the potential benefits of sourcing closer to home through a potentially more agile SC. However, when prices are considered and compared with sourcing from the Far East, near-shoring, at least in the short term, remains uncompetitive for C4.

Re-shoring

A number of senior managers at C4 have expressed very specific views about re-shoring and whether it will happen in the UK. They observe that there has been some convergence of labour costs between the East and the West through the last ten years, such that the UK has become potentially more competitive. However, they retain the belief that re-shoring' is still not a realistic proposition for the UK sector and particularly their business at this moment in time. Furthermore C4 raise concerns about how receptive a domestic labour force might be to working back in shoe factories. It has been twenty years since they themselves were manufacturing in the UK and that most of their employees then will be well into 'middle age' by now. Equally, they question who might be attracted to a rapidly contracting manufacturing industry. C4 felt it necessary to do no more than retain the services of a highly skilled management, marketing, design, technical and product sourcing team.

Costings and Costing Methodologies

C4 pursue a pricing strategy of attempting a reduction in prices, season on season, wherever it can, such is the competition in the segments in which they trade. The issue for them arises about retaining future competency in

financial control and more specifically the accuracy generated by costing methodologies they use when outsourcing products. In this regard C4 are highly reliant on their SAP system to generate product costings. The elements of total cost of their shoes are input by a combination of efforts. They have their own team on the ground in China agreeing (FOB) prices with suppliers and liaising with UK based sales people who have set retail price points so enabling C4 to apply a reverse costing methodology. The same approach is used in India. C4 then factor in overheads per pair and required net margins. Even though they are confident that their prices are competitive, they factor in a fall back (discounting) contingency in their budgets for their core brands. The C4 MD is the final arbiter on sourcing decisions when required margins are not generated through the system. However, not all C4 outsourcing volumes are FOB, for MTO they use a different approach when sourcing in lower value products. Under these circumstances they source against the MTO buyers guide price but negotiate FOB prices to maintain their own acceptable profit margins. They are, by necessity, beginning to apply more resources to re-evaluating their total cost structure as well as FOB sourcing costs, thereby raising issues relating to the potential for adopting more advanced costing methodologies.

Automation in Manufacturing and Outsourcing

C4 are mindful of the potential impact of automation on UK footwear manufacturing and the way in which they might reduce cost differentials with outsourcing. They raise concerns about the start-up costs, particularly front end capital costs and the complexity of automation coping with product/construction variations, relatively inflexible automated systems and

manufacturing configurations. They challenge the viability of potentially heavy investment compared with the comparative cost of outsourcing and the limited risks compared to investment in big assets increasing overheads such as depreciation, obsolescence and specialist high cost labour when factored in. Bringing just one product line back does not square with the idea that they are able to produce enough volume to satisfy demand in the country/countries in which they currently sell.

C4 are aware of current automated systems based initiatives being pursued by global brands and are attracted by the idea of robots performing production tasks, but suggest that at this point in time, for UK based 'brown shoe' initiatives, start-up funds would be better spent on the advertising budget rather than manufacturing! Consequently, they remain sceptical that re-shoring via automation is a remotely close practical option to outsourcing for them, given that there are still large pools of cheap labour located throughout the world. A further difficulty is the regeneration of a viable upstream supply chain.

Impact of Automation on Labour Availability

However, they acknowledge that automation and Industry 4.0 initiatives will have an impact on jobs in the majority of manufacturing and services sectors and that ultimately people may consider returning to factory work if little else was available. They say cost constraints would limit pay levels of UK firms who may still be competing with those continuing to outsourcing offshore. C4 identify Burberry and other high value brands such as Mulberry who have recently re-shored manufacturing. For these companies, absorbing UK

labour rates is not problematic given the profit margins their huge brand price premiums can command

Future IT Investment (Upgraded Capability): Marketing

For C4, the most critical investment initiative is in upgrading their commercial capability in intelligent software marketing in the belief that it is not really enough to promote their brands and products on social media. They need upgraded systems to more critically and more frequently analyse complex market data. They are aiming to develop market and product strategies derived from the intelligence that can be garnered by the application of 'big data' in real time.

An additional major area of investment for C4 is the implementation of enabling software, (ERP) to fully integrate their 'end to end' operating system, thereby reducing general operating costs. The Internet has created openings for diversification into other product groups within the apparel sector. Through better data a strategy of product extension now includes selling clothing.

Human Resource Needs

Developing the right people with the necessary skill sets and sector knowledge for the future is a constant concern for the management of C4. In this regard they are focusing on developing IT and social media skills and also a greater emphasis on having the appropriate skills in the broader range of differentiated apparel consumer products they want to design, develop and sell.

Government Support

From the perspective of future UK government support e.g. to facilitate re-shoring within the sector, C4 remain sanguine in the belief that it is unlikely that the UK footwear sector, as has been the case in the past, is unlikely to benefit from future government support.

4.5.4.1 C4 Case Study Summary

Shown below in Figure 4.4 is a tabulated summary of the narrative from Case Study 4.

Strategic Imperative	Sourcing Strategies	Dominant Theoretical Lens	Sector Knowledge, Know & Skills Transfer	Supply Chain Agility	Supply Chain Management	Product Sourcing Risk
<ul style="list-style-type: none"> Market repositioning to high end UK & Europe Grow internet sales Global growth 	<ul style="list-style-type: none"> Far-shoring Shift to India 	TCE	<ul style="list-style-type: none"> Knowledge of European 'high end' markets Upgraded costing skills 	Limited (low gearing)	<ul style="list-style-type: none"> Delivering outstanding customer service Re-shoring not viable: lost mfg skills 	<ul style="list-style-type: none"> Need for closer control of suppliers
Cost & Costing Methodology	Technology	Investment Priorities	Product Development	Operations	Distribution Channels	Financial Performance
Limited costing skills offset by high net margins of high end brands	<ul style="list-style-type: none"> 'Brown shoe' mfg. not feasible via automation Technology cannot replace skills permanently lost for re-shoring 	<ul style="list-style-type: none"> Big data capabilities e.g improved market intelligence: real time Upgraded logistics 	<ul style="list-style-type: none"> High specification products Innovate niche products 	<ul style="list-style-type: none"> Closer control of suppliers Retention of support skills & knowledge, esp. prod. dev. 	CA via upgraded physical distribution esp. internet	<ul style="list-style-type: none"> Incremental revenue growth from new brands Increasing margins from Indian suppliers

Figure 4.4

Case Study Summary: Case Study 4

Source: Author

4.5.5 Case Study 5: Company 5

Profile

Company 5 (C5) was established in the post WW2 period as a footwear manufacturing business which had been struggling to compete against increasing competition from cheap imports. Its fortunes were revived in the mid-Eighties by the creation of new innovative brands in UK 'brown shoe' mid-market segments for both genders, but predominantly aimed at women's comfort market segments.

In 2007 it began investing heavily in expansion, particularly in upgrading the factory, warehousing and distribution operations and an onsite call centre to support digital distribution channel growth.

The company currently employs well over 500 people and has over 3 million customers globally. It trades through multi-channel sales platforms including stores in the UK and throughout the EU. It remains one of the largest footwear manufacturers in the UK. For the financial year ending 2017, C5 revenue exceeded £50 million.

Core Strategies and Core Competence

C5 continue to focus on their core customer which has traditionally been within the mature segments of the UK and international markets. Their strategy has been influenced by other brands repositioning initiatives but they remain committed to supplying their forty year old plus customer base which it says it understands as well as any of its competitors. As such it allows them to build product ranges around them which C5 regard as their greatest strength alongside the fully integrated structure of the business. Specifically C5 are, they say, '*not attempting to be somebody else's brand*'.

Markets, Market Response and Brand Management

C5 see the market changing quickly. They see speed of response, to shifts in customer demand becoming a critically important capability in the UK footwear market. Twenty years ago, every stakeholder in the footwear manufacturing sector talked about quick response and then as a result of virtually all product sourcing moving off-shore, similar initiatives died.

C5 are adamant that unless you are selling shoes exclusively on low cost, low price or if you are a brand at the other end of the spectrum, then the big problem is how to operate in a branded environment without loss of markdown and damage to the brand proposition. This is, they believe, the current dilemma for many firms outsourcing offshore, given the long lead times out of China, Vietnam and the other SEA suppliers, making markdowns an inevitability because the UK market and others in the Western hemisphere are moving faster in terms of fashion than product can be delivered.

Given the speed of change, it is now extremely difficult for C5 to forecast what fashion trends will emerge because people are being influenced by many different aspects of life, culture and technologies, as a consequence markets have become highly diffused.

Markets and Sourcing Strategy

C5 believe that the UK market is starting to polarise. A market segment still exists where there remains a strong demand for very cheap products, and the likelihood is that this demand will always continue to be sourced from low

cost manufacturing countries, but at the other extreme, consumers are buying niched and bespoke products from UK manufacturers selling very high end premium shoes retailing between £350 and £800 a pair.

Nevertheless, C5 see an opportunity for continued growth for mid-market 'brown shoe' brands but insist that they have to be clear about what the brand proposition is going to be. It cannot be based on being average e.g. price, cost, fashion or comfort. The brand has to be significantly differentiated. It has to stand for something unique. In the case of C5, it stands for outstanding, (unmatched) comfort with an element of style.

Market Trends, Social Media and Responsiveness

C5 are acutely aware of the impact of social media on fashion trends in footwear. This places greater emphasis on achieving a more insightful understanding of their own customer groups if these people are active online e.g. on Facebook or Twitter. If 'celebrities' discuss their product or brand then almost immediately it can impact on sales or brand perception in a very extreme way. Being able to respond to that situation quickly creates opportunities if they are agile enough to respond. An inability to respond they suggest, is potentially lethal for the brand and the business. A strong brand presence in the market is meaningless if a product is out of stock. In this regard C5 is as vertically structured agile organisation as it is possible to get within the UK footwear industry, with their own on site 'call centre' enhancing its growing presence and agile capability in digital distribution channels.

Servitisation

Even so, C5 are aware that their customers also expect outstanding service and subsequently demonstrate their displeasure if a good product is not supported by good pre and post sales service. In this regard they have been critical of the UK footwear sector in the past when UK shoe firms were reluctant to offer a package of quality, price and outstanding service and saw the opportunity to achieve a CA. Consequently, in today's market they believe that you have to deliver all three in order to survive.

Markets and Product Development Ethos

C5 see the most important roles within the business as those creating the right product, even if you have the most efficient global supply chain, a brand in today's markets is only as good as its products. As such, C5 have already recognised the potential in their markets for product individualisation (customisation). Consequently, they are already evaluating the benefits of offering their customers the opportunity to tailor the product and design using their own criteria but are mindful of the implications for costs and the loss of agility in their manufacturing operations and on the upstream SC. Nevertheless, they are clear that C5 will need to develop a degree of customisation capability in the near future and that experiential 'bricks and mortar' retailing will most likely benefit from such initiatives.

Retail Channel Distribution

With regard to retail channel distribution strategy, C5 are sensitive to what they see as increasing and protracted turbulence in all retail distribution

channels, what one of their senior managers colourfully describes as “*a massive roller coaster ride*”.

They observe that there is a substantial amount of retail centralisation taking place around regional centres in the UK where people will be drawn in by a variety of attractive facilities located on one site, where buying is pursued as a pleasure, not just a transaction, as the line between going shopping and social time becomes less distinct. These changing conditions are driving, in some places, massive investment into retail that is experiential and is emerging as a form of ‘retail theatre’.

Stock Management and Supply Chain Agility

C5 management recognise the criticality of getting the balance right. If a product is ‘stock backed’ too heavily with high volume orders it creates +*enormous mark down risks and if it is not stocked heavily and it sells, it is745. likely to result in ‘stock outs’ very quickly such that repeat orders will be too late given that the supply side lead times, particularly out of Asia or India, are very long.

Given the need for greater agility to respond to faster moving markets, C5 have created a capability where through automation and investment, the factory has survived when no other UK factory of any significance has. As a result the factory has become a significant high volume UK manufacturer of conventional shoes. In this regard C5 say that they will continue to deploy a strategy of manufacturing from a UK base to service UK markets, underpinned by ceaseless product innovation and further cost reducing automation.

Example of C5 Agility

A manager provided an example of their operational agility, (set against outsourcing), by describing their response to the supply of a shoe style which unexpectedly sold extremely well against a low initial sales forecast. The factory were able to substantially increase production very quickly, within a 'matter of days'. If C5 had been outsourcing from the Far East, they say they would be looking at sixteen week lead times with deliveries once a month or at best once a week!

Upstream Supply Chain Agility

Equally, C5 must also manage and influence the necessity for greater agility in the fragmented UK upstream material and component supply chain. They are particularly mindful of sourcing materials and components as locally as possible, bearing in mind the need for appropriately specified leathers and the highly numerous types of components that are needed to make a shoe.

In order to create greater agility upstream, a massive change for C5 has been the way they specify their shoes. They have rationalised the number of suppliers and the number of materials they use in an attempt to give them maximum buying leverage and maximum SC agility.

Manufacturing longevity in the UK for them depends critically on the outstanding performance of their suppliers. Current relationships, they say, are sound with companies who have been supplying them for over twenty years. Nevertheless, C5 regularly hold "*robust commercial discussions*" with all their suppliers. In essence, their supply side strategy is critically reliant on

complementary supplier agility dovetailed with 'smart' C5 scheduling. Consequently, they have found it increasingly difficult to work with suppliers outside of the UK, largely because of the protracted summer breaks, especially in Italy, which severely disrupt their work patterns. They have also tended to move away from UK suppliers who are operating very traditional footwear sector working practices. Nevertheless, they still compare all potential suppliers' prices and "*chase nearly every cent*". With regard to the cost impact of upstream sourcing risks, especially the continuity of supply, C5 dual source their biggest selling leathers and routinely do buying trials to ensure that have adequate alternative sources of supply.

Organisational Agility

In order to bring about greater organisational agility, C5 emphasize that managing the business is very much a team game involving their designers thinking about the materials they use, the suppliers they work with, how they interface with their product engineers and how all that comes together. It is finding ways, they say, to service the market through organisational agility as well as SC agility. Such a capability has necessitated a massive cultural and operational shift across the whole business, far removed from the firm's historical 'antagonistic' silo culture and as such are no longer prepared to waste energy and resources by fighting each other. C5 now direct all their resources on fighting the competition and the pressures in the markets.

C5 have also stripped out layers of organisation. They have made managerial responsibilities wider, (skill set agility), in order that their employees are able get a broader view of both the opportunities within the

business and at the same time are more exposed to market conditions and are therefore much more directly aware of the competitive threats they are constantly facing in their day to day roles.

Product Sourcing and Outsourcing

C5 now believe they are reaping the rewards from retaining and investing in a UK manufacturing capability. There has been a long period since the late Eighties where low cost sourcing out of the FE was seen as a significant competitive advantage. However, costs in the Far East continue to rise significantly, year on year, and their view is that trend is going to continue for a protracted period of time. Brexit might initially increase the cost of imported footwear. This in turn, could impact on a number of consumer confidence issues, and it has meant that businesses have had to become very careful once again about working capital and risk.

Trading Conditions

In this environment, C5 maintain that their footwear still has to be seen as 'value for money' in order to sustain CA. In positioning mid-market it cannot be regarded as an expensive brand given the ongoing cost pressures and depressed UK and US retail prices. The current trading environments have had a profound effect on their capabilities in financial control. The approach now is predicated on an assumption that the shoes are going to have to cost the same as last season and if there is inflation or a currency issue, they have to find that money from elsewhere within the business.

So from C5's perspective, they regard the current trading environment as continuously tough and extremely dynamic such that greater agility in manufacturing, PMG outsourcing and organisational structure and skills combined with a 'lean' capability are the only viable responses to ongoing market turbulence.

Product Sourcing: A 'Make' Strategy

C5 still 'source in' a very small volume of closed uppers (PMG) to supplement their own constraints in closing capacity and to dampen down high closing labour costs e.g. hand woven vamps. Up until a year ago, they had occasion to outsource small volumes of 'full package' footwear as they were then cheaper to buy abroad and additionally free up bottlenecks in their own production capacity. However, they have recently 'repatriated' these products back to their UK manufacturing base. The products were originally sourced in from China and from Vietnam and were similar to the products now made in the UK, but they maintain that it is now cheaper for them to make these shoes in the UK rather than offshore. In considering this move, C5 looked at the overall cost/benefit rather than just considering FOB prices. They agree with the views of the 're-shoring lobby' in that if you factor in the very long lead times and the increased risks associated with stock obsolescence, manufacturing in the UK becomes a 'no brainer'.

With regard to long term cost pressures on product sourcing decisions, a senior manager reflected on working for a competitor at a time when the new CEO had made the decision to close all of their domestic manufacturing sites and pursue a strategy of outsourcing all product offshore in the Far East. He

suggested that the opportunity cost of '*not making today's sale*' was not recognised, nor the very high risks that would result from high costs generated by structural stock obsolescence.

Competitor Product Sourcing Strategies

As regards competitor sourcing strategies, C5 are of the view there are a number of different approaches being taken by other UK firms and that there will be no single trend. They are sure that low cost manufacturing of high volume products will continue to keep 'hunting' the next 'lowest cost country' wherever that might be e.g. the Philippines, Cambodia or Laos.

C5 openly admit that they are involved in Africa but only with the World Bank on a project where some shoe factories are already operational. They suggest that it will be very difficult to establish Africa as a new source of low cost footwear. The environment is not conducive with achieving high levels of productivity, nor does the population possess a number of the basic physical characteristics needed for shoemaking such as good hand and eye coordination.

China

C5 considered the question of China and its continuance as the world's dominant shoemaker. Currently twenty one billion pairs of shoes are being made in the world every year. Fourteen billion of which are made in China. Given that the current capacity in India stands at two billion pairs and Viet Nam and the others, such as Indonesia, make just over a billion pairs each, it is clear to them that there is little chance that these other low cost countries

are able to absorb even part of China's annual output. According to C5 senior management, China will consequently continue to be a major source of footwear output, but in order to remain competitive they will also have to automate.

The pressures on China, they say, to do that will be two fold. Firstly, costs will continue to rise at odds with commercial pressures to keep costs down. Secondly, the developed economies, are in no position to respond, as a large percentage of the work force do not want to work in factories if other options are available e.g. working flexi hours in a shop is socially more acceptable and easier to accommodate.

Re-shoring

C5 are sceptical about both the viability and likelihood of re-shoring, but as with many others in the industry are reluctant to say it will never happen. In principle, they feel that they could become the UK benchmark for those seeking to re-shore, not only for footwear manufacturing but also the regeneration of upstream supply chains and in other closely associated sectors.

With regard to the broader issue of footwear manufacturing repatriation within the UK sector they have concerns about financial investment, human capital and specifically, the difficulty recruiting the number of people needed who know how to manage a 21st century shoe factory and beyond that the greater challenge of setting one up without a benchmark or core structure to build on.

Government Support for Manufacturing Repatriation (Re-shoring)

From a manufacturing repatriation perspective C5 suggest that greater rewards are needed within the UK sector to offset risks associated with re-shoring on any significant scale. As such, for them, it is not about requiring subsidies but securing tax breaks to encourage training and capital investment within the sector. However, they are sceptical that higher levels of investment in UK footwear manufacturing are likely to happen. Many current footwear firm owners, often family members, are satisfied to achieve modest growth and relatively modest rewards from exposure to lower risks. A further constraint is a lack of entrepreneurial flair within the sector and a lack of interest, greater ambition and drive by younger generations of family owned firms shown by some of the predecessors and founders of well - known UK brands.

Leveraging Manufacturing Assets/Automation

Maximising manufacturing assets is also critical to C5 in terms of sustaining revenues and aiming for growth from their UK manufacturing base. To this end, parts of the factory work 24 hours a day for 51 weeks of the year. Their fully automated robotic direct moulding machines operate continuously in a 'dark' environment. Similarly, automated closing and lasting machinery play their part in holding down direct labour costs.

Further Manufacturing Automation

C5 are already well advanced by industry standards, both in the use of the most advanced robots in the factory and leveraging maximum benefit from

'leading edge' sector specific manufacturing technology. Alongside greater automation in upper making (closing) and lasting, such as auto roughing, they have successfully introduced computer assisted 'loading' on closing production lines and maximising 'last turns'. They make extensive use of automated computer controlled 'flatbed' upper stitching technology which has been in operation in the UK footwear sector since the Eighties. However, the technology has not yet been developed to facilitate stitching 'on the round', (closing the upper), using 'post' sewing machines. But C5 think it is just a case of when, not if.

Their future aim is to automate wherever practicable, but remain pragmatic given the need to preserve the aesthetic 'craft' characteristics of their product. Nevertheless, C5 are encouraged by the greater reliability and accuracy that the current generation of robots can work to. But it is not just the robotics which have potential, it is also the development of instinctive software and as such the benefits to be derived from other Industry 4.0 technologies. Their 'wait and see' approach may have merit given that they have not yet seen the full scope of automation, but their expectation is to adopt wherever possible the availability of "*very clever robots*".

C5 evaluate further implementation of leading edge technology against the backdrop of concerns surrounding likely increases in the minimum wage. Under these circumstances, if the minimum wage was to reach £10 per hour, they are certain that for them it will further make the case for more robots. As they operate on a shift work basis the payback from robots is already very substantial given that a robot replaces three operatives.

For C5 the big issue is whether advanced robots are capable enough to do the whole job. One of the most difficult footwear manufacturing processes to automate is upper leather cutting. C5 still cut uppers traditionally in pairs by hand but are aware that other firms have already adopted computer controlled cutting machines utilising electronic scanners to identify defects in the hides and then use this data to maximise material usage.

Warehousing and Distribution

At the point of physical distribution, their warehouse is operating 'picking, packing and despatching' products on a continuous 24/7 basis in order to service both 'bricks and mortar' outlets and digital distribution channels. Increasingly, consumers are demanding more instantaneous product consumption as they are no longer prepared to wait ten days or sometimes longer to buy their shoes. C5 are clear this can only be achieved by an 'end to end' highly agile organisation.

Automation in Logistics and Distribution

Surprisingly, whilst C5 have automated manufacturing to the extent that it is practicable and manageable, as yet they have not invested in fully automating their finished goods warehouse. This is partly put down to having other investment priorities and their concerns with the risks associated with changes to current remuneration systems.

Organisational IT Applications

C5 have recently invested in upgrading their ERP systems. A recent initiative in upgrading SAP represents the biggest single financial commitment they

have ever made. For them it is a critical strategic initiative which will combine a fully integrated IT system with a fully integrated operating system that they are convinced will create a business that is “*incredibly powerful*” within the context of further market penetration. From a competitive position, they say it will create the capability to manufacture and deliver on the same day.

C5 intend a further enhancement to their IT capability through better utilisation of ‘big data’, a ‘game changer’ they believe, given that they sell most of their shoes through their own distribution channels. As such they see the capability to undertake more detailed analysis of market and consumer data as a potential source of greater competitive advantage.

Costs

C5 are wary of cost complacency given the fragility of the current business environment and that other extraneous factors such as currency fluctuations, terrorism and Brexit may all aggravate uncertainty even further.

Remuneration and Incentives

If a production team in the factory have been set a target of making hundred pairs per hour and fail to do so then they have to record and manage the ‘variances from standard’ (cost). In essence, used, C5 still maintain close control over productivity and efficiency. Nevertheless, for them the fundamental difference from traditional ‘piecework’ payment systems is underpinned by an alternative philosophy. That is one of rewarding employees through a combination of salary based rewards and creating a culture in which employees understand the need to focus on what is in the

company's best interest, not what is necessarily in an individual employees interest.

C5 assess efficiency quite broadly and that means developing KPIs which measure performance based on their response to meeting customer demand. They concede that they still need operational efficiency, but that efficiency needs to come from people working together. Of greater importance is that the biggest efficiency they can achieve is that they *'make only what they need to make as they need to make it'*.

Costing Methodologies

In terms of costing methodologies, C5 still derive a 'standard cost' for each product, line and variant and use standard cost benchmarks for material and component buying. They still use variance analysis based on standard minute values (SMVs) to monitor and control costs and calculate non-productive costs for all direct operatives and machine downtime e.g. on direct injection moulding machines.

Costing Models

C5 have as yet have given little thought to using a more precise methodology such as ABC. An area currently of interest to them and under cost scrutiny lies outside of manufacturing and relates to order picking and freight cost differentials between online channels and distribution to 'bricks and mortar' shops and factory outlets.

Freight/Shipping/Extended SCs/Costs

With regard to extended surface transportation in global supply chains, C5 take the view that freight has been cheap recently. Oil prices have been low and fracking, especially in the US, has played a big part in depressing global oil prices.

For them, it is inevitable that outsourcing freight costs will need to rise in order to sustain investment and profitability for shipping companies, thus giving rise to more consideration to supply chain agility and manufacturing resources located in closer proximity to markets (on-shoring), especially for global brands. In this respect, C5 are, like many other footwear firms, evaluating the potential of manufacturing in the country in which they are trading in order to become highly adjacent to existing or target markets. They now sell a significant volume of their shoes in the US. At the present time they are made in the UK and then shipped to the US. There is a possibility going forward, that C5 may decide to make the shoes for the UK market in the UK and make the shoes for the US market in the US.

For C5, these factories are likely to be extensively automated but controlled centrally from the UK. They will be programmed centrally, optimised and balanced efficiently via common software programmes. They will manufacture the same products using common sources of materials e.g. upper leather sourcing may present some issues in their upstream supply chains. They say that Trump's actions in the US and Brexit in the UK are likely to accelerate these initiatives. Add to that the ongoing adverse reaction from Western consumers to further globalisation and the disparities between living standards may accelerate the emergence of 'in country'/'in region' dedicated supply chains.. If globalisation continues to further depress wage

rates in emergent low cost countries, Western governments will find it difficult to defend it. Equally, at the firm level, globalisation has been characterised by being able to locate and then relocate a resource by moving it to the availability of lower cost labour. Under such circumstances, C5 have concluded that this may lead to greater pressure on global firms' corporate social responsibilities, consequential costs and influence the criteria currently used to determine outsourcing location.

Risks: Retention of Shoemaking Skills

A critical success factor for C5 has been their ability to retain shoemaking skills that many UK firms discarded when they closed factories and switched to offshore outsourcing strategies. They are adamant that in particular, skilled footwear technicians such as skilled pattern cutters save the company significant amounts of money. Their inability to retain such skills or find young people prepared to enter the industry is seen as a potentially serious risk to their long term growth

Risk: Continuity

C5 undertake frequent contingency planning exercises with regard to the fine tuning of business operations needed to sustain agile capabilities e.g. material and resource planning (MRP).

With regard to risk management, they operate both a risk and a business continuity panel which they view as complementary. A primary focus is placed on scenario planning based around '*what if*' major unexpected events. Unlike many of their competitors whose risk management focus is on

interruptions along the outsourcing supply chain, fire is considered to be the biggest risk to operational continuity given that apart from their eighty retail outlets, the whole business is located on one site.

Risks: Environmental

Within the context of being one of the UKs biggest domestic footwear manufacturing brands, C5 is highly pro - active from an environmental perspective. They have adopted a corporate stance of embracing, rather than resisting, environmental pressures in the same way as they approach other areas of compliance, whether that be the natural environment, labour laws, modern slavery or chemicals and chemical waste. As a result, they have invested heavily to reduce power consumption and increase waste recycling.

4.5.5.1 C5 Case Study Summary

Shown below in Figure 4.5 is a tabulated summary of the case study narrative from Case Study 5.

4.6 Comparative Case Study Summaries

This section brings together the issues emerging from the case study narratives so that they can be viewed and considered together comparatively.

Strategic Imperative	Sourcing Strategies	Dominant Theoretical Lens	Sector Knowledge, Know & Skills Transfer	Supply Chain Agility	Supply Chain Management	Product Sourcing Risk
<ul style="list-style-type: none"> CA from 'lean and agile capability Org. agility 	<ul style="list-style-type: none"> Domestic mfg Limited PMG (closed uppers) 	RBV	<ul style="list-style-type: none"> Retention of footwear mfg knowledge & skills Multi-skilling support/ technical 	Highly Agile (high gearing)	<ul style="list-style-type: none"> Superior CA to competitors Fastest time to market 	<ul style="list-style-type: none"> Deployment of fully automated mfg plants Strengthening upstream supply chains
Cost & Costing Methodology	Technology	Investment Priorities	Product Development	Operations	Distribution Channels	Financial Performance
<ul style="list-style-type: none"> Superior costing capability in situ Enhance Competence in financial control esp. overhead costs 	<ul style="list-style-type: none"> Heavy investment in mfg technology Heavy investment in support systems 	Upgraded support systems e.g. ERP & 'big data'	Predicated on design and development agility	<ul style="list-style-type: none"> Multi-skilling Deployment of fully automated mfg plants Strengthening upstream SC 	Strengthening internet sales from own call centre	<ul style="list-style-type: none"> Increase export revenues Superior costing capability Superior financial control

Figure 4.5

Case Study Summary; Case Study 5

Source: Author

4.6.1 Theoretical Perspectives from Case Studies

TCE perspectives emerge as the current and likely future dominant strategic imperatives for case study respondents C2, C3 and C4 product sourcing strategies in the form of a continuance far-shoring labour cost arbitrage driven initiatives.

However, for C5 pursuing a domestic manufacturing resourcing strategy, their focus remains on RBV and specifically the potential for achieving CA via incremental advances in the application of sector specific and generic Industry 4.0 technologies.

CI has adopted a strategic plan which embraces both TCE and RBV given the urgent need create more agility in its sourcing supply chains whilst at the same time continuing to control or reduce costs across the business.

All the case study respondents are investing significant funds in RBV based initiatives upstream, downstream and around product sourcing operations in order to sustain CA and improve financial performance.

4.6.2 Primary Case Study Comparative Summary

Set out below in Figure 4.6 (a) and Figure 4.6 (b) are quick references and comparisons of the key points and critical issues emerging from all the case study narratives. They demonstrate both a convergence of views and initiatives in some areas of organizational activity and differences of approach in others.

Figure 4.6 (a) aligns with the Product Sourcing Literature Framework (Figure 2.5) set out in the literature review (Chapter 2). Figure 4.6 (b) has been derived from other emerging issues contained within the primary case study narratives. Together they present a more comprehensive picture of the views expressed by the case study respondents.

For those engaged in outsourcing the emphasis is mainly focused on upgrading resources and capabilities, particularly to take advantage of real time data to improve the accuracy of sales forecasting and reduce overhead costs. There appears to be little concern for improving supply chain agility with a continued focus on labour cost arbitrage sourcing strategies. A number consider the potential for re-shoring within the sector as unrealistic given the loss of shoemaking knowledge and skills especially for 'brown

shoe' segments of the market. Automation is not seen as financially viable given the risk averse culture in many UK footwear manufacturing firms.

However, the only domestic manufacturer in the case study sample regard agility as the primary strategy to achieve sustainable CA and as such have invested heavily in both hybrid manufacturing technology and support systems. They see full automation (Adidas/Nike) as the way forward in delivering outstanding market responsiveness and simultaneously low cost manufacturing through locating plants located close to existing and target markets. PMG

4.7 Key Informant (KI) Narratives

Set out below are seven key informant narratives which cover a wide range of key roles within the footwear sector. All the KIs in this research project have extensive experience in the industry both within the UK and globally, especially as they relate to product sourcing. Collectively, they mirror many of the primary case study narratives.

As with the Case Study key themes all the respondents are UK based with the exception of the Country Sourcing Manager who resides in the Far East.

4.7.1 KI 1 Case Study in Manufacturing Repatriation: Doc Martens:

Made in England

A potential long term sector survivor in manufacturing appears to be the Doc Martens (DMs) branded business based in Wollaston, Northamptonshire. Griggs had been producing Doc Martens since 1960 based on the purchase of a licence to produce the soles from Dr Klaus Maertens, (a German army doctor), and Herbert Funk, who made the prototype boots from soles made

with discarded Luftwaffe aircraft tyres they found on German airfields after WW2.

	C1	C2	C3	C4	C5
Strategic Imperative	Creating a more focused digital business	<ul style="list-style-type: none"> Improving buyer-supplier relationships Reducing sourcing costs 	<ul style="list-style-type: none"> Brand led: multi segment growth Premium globally recognised brands 	<ul style="list-style-type: none"> Market repositioning to high end UK & Europe Grow internet sales Global growth 	<ul style="list-style-type: none"> CA from lean and agile capability Organizational agility
Sourcing Strategies	<ul style="list-style-type: none"> Mostly linear outsourcing (far-shoring) Limited near-shoring 	<ul style="list-style-type: none"> Rebalancing from Far East to India 	<ul style="list-style-type: none"> Entirely cost driven Globally spread but emphasis on FE 	<ul style="list-style-type: none"> Far-shoring Shift to India 	<ul style="list-style-type: none"> Domestic Manufacturing Limited PMG (Closed uppers)
Dominant Theoretical Lens	TCE	TCE	TCE	TCE	RBV
Sector Knowledge, Know & Skills Transfer	<ul style="list-style-type: none"> Internet Platforms Development Improving foot fitting skills 	<ul style="list-style-type: none"> Re-skilling technical capabilities Retaining and upgrading shoemaking knowledge 	<ul style="list-style-type: none"> Upgraded costing skills Retention of shoemaking knowledge & skills 	<ul style="list-style-type: none"> Knowledge of European 'high end' markets Upgraded costing skills 	<ul style="list-style-type: none"> Retention of footwear manufacturing Knowledge & skills Multi-skilling support/technical
Supply Chain Agility	<ul style="list-style-type: none"> Far-shore & Near-shore (Mid-Gearing) Predominantly linear from China & FE 	<ul style="list-style-type: none"> Limited (Low Gearing) Reducing complexity of product ranges 	<ul style="list-style-type: none"> Limited (Low Gearing) Predominantly linear from China & FE 	<ul style="list-style-type: none"> Limited (Low Gearing) 	<ul style="list-style-type: none"> Highly Agile (High Gearing)
Supply Chain Management	<ul style="list-style-type: none"> Achieving greater SC agility Improved stock mgt 	<ul style="list-style-type: none"> Reducing lead times Greater SC agility unachievable 	<ul style="list-style-type: none"> Own supplier based support staff 	<ul style="list-style-type: none"> Delivering outstanding customer service Re-shoring not viable: lost mfg skills 	<ul style="list-style-type: none"> Superior CA to competitors Fastest time to market
Product Sourcing Risk	<ul style="list-style-type: none"> Ongoing redundant stock mgt build up Inability to reduce lead times 	<ul style="list-style-type: none"> Supply side capacity restrictions 	<ul style="list-style-type: none"> Maintaining quality standards against high profile brand expectations 	<ul style="list-style-type: none"> Need for closer control of suppliers 	<ul style="list-style-type: none"> Deployment of fully automated mfg plants Strengthening upstream supply chains
Costs & Costing Methodologies	<ul style="list-style-type: none"> Experienced in using standard costing Better mgt of overheads 	<ul style="list-style-type: none"> Inaccurate costing reducing net margins MTO products based only on historical costs 	<ul style="list-style-type: none"> Relatively crude costing methodologies both prime costs and overheads 	<ul style="list-style-type: none"> Limited costing skills offset by high net margins of high end brands 	<ul style="list-style-type: none"> Superior costing capability in situ Enhance Competence in financial control esp. overhead costs
Technology	<ul style="list-style-type: none"> Advanced support systems e.g. 3D CAD/CAM; 3D printing; Automatic stock replenishment 	<ul style="list-style-type: none"> Limited to upgrading support systems 	<ul style="list-style-type: none"> Limited upgrading e.g. product development Big data & comms 	<ul style="list-style-type: none"> 'Brown shoe' mfg. not feasible via automation Technology cannot replace skills permanently lost for re-shoring 	<ul style="list-style-type: none"> Heavy investment in mfg technology Heavy investment in support systems

Figure 4.6 (a)

Summary of Case Study Narratives

Source: Author

	C1	C2	C3	C4	C5
Investment Priorities	<ul style="list-style-type: none"> Brands/sub-brands Systems upgrades 	<ul style="list-style-type: none"> Re-skilling Retaining and upgrading knowledge Environmental initiatives 	<ul style="list-style-type: none"> Increasing internet selling Systems upgrades: costing accuracy 	<ul style="list-style-type: none"> Big data capabilities e.g improved market intelligence: real time Upgraded logistics 	<ul style="list-style-type: none"> Upgraded support systems e.g. ERP & big data
Product Development	<ul style="list-style-type: none"> More focused sub brands Improved fitting service 	<ul style="list-style-type: none"> Reducing complexity of product ranges 	<ul style="list-style-type: none"> Targeted niching through multi-segment brands 	<ul style="list-style-type: none"> High specification products Innovate niche products 	<ul style="list-style-type: none"> Predicated on design and development agility
Operations	<ul style="list-style-type: none"> Improving buyer - seller interfaces Reduce lead times 	<ul style="list-style-type: none"> Limited investment in new technologies Improving product development processes 	<ul style="list-style-type: none"> More accurate costing methods required Retention of knowledge & skills 	<ul style="list-style-type: none"> Closer control of suppliers Retention of support skills & knowledge, esp. prod. dev. 	<ul style="list-style-type: none"> Multi-skilling Deployment of fully automated mfg plants Strengthening upstream SC
Distribution Channels	<ul style="list-style-type: none"> Improving sales via internet channels globally 	<ul style="list-style-type: none"> Retaining MTO business Contraction of high street retailing 	<ul style="list-style-type: none"> Growth of sales to non-footwear retailers 	<ul style="list-style-type: none"> CA via upgraded physical distribution esp. internet 	<ul style="list-style-type: none"> Strengthening internet sales from own call centre
Financial Performance	<ul style="list-style-type: none"> Reduce discounting Reduce overheads especially stock costs 	<ul style="list-style-type: none"> Negatively impacted by inaccurate sales forecasts Inaccurate costing reducing net margins 	<ul style="list-style-type: none"> Margins squeezed by aggressive buyers Loss of internet revenues 	<ul style="list-style-type: none"> Incremental revenue growth from new brands Increasing margins from Indian suppliers 	<ul style="list-style-type: none"> Increase export revenues Superior costing capability Superior financial control

Figure 4.6 (b)

Summary of Additional Issues Emerging Case Study Narratives

Source: Author

The products, some with steel toe caps, were originally aimed at the safety footwear market in competition with brands such as Totectors. However, through a stroke of luck in the mid - 80s, DMs became 'de rigueur' for followers of the Punks/ Skinheads movements. The eight eyelet tie boot is still worn today as an anti - establishment gesture, particularly by the young and students. It is also an acknowledged product in terms of its sturdiness and durability.

In the late Eighties, Griggs began to see the long term potential for global development of the DMs products and so ploughed more resources into front end activities around marketing and brand management including the launch

of their export brand, Airwair. By 1989 Griggs had sales of £38 million and employed 1100 directs in twenty factories across the East Midlands. By the mid - 90s they were the most profitable shoe business in the UK.

Prophetically, Griggs were also outsourcing closed uppers offshore from Romania, Vietnam and China to ease pressure on restricted closing production capacity and reduce manufacturing costs. However, businesses with close links to musical genres are always at risk to sudden shifts in musical tastes as was the case with DMs as the Punks/Skinheads era gave way to American street music e.g. Gangsta Rap and its links to high specification fashionable sports shoes being marketed by big global brands such as Nike and Reebok and niche brands such as LA Gear.

As demand in the UK fell, exports, especially to Japan, rose and accounted for over 70% of Griggs output. With substantially reduced UK volumes came growing pressure on profitability aggravated by high overheads. This precipitated the transfer of all Griggs manufacturing to the Far East and in particular China. The effect on the Griggs UK factory cluster and its supply chains was the loss of over 800 jobs. By the early part of the millennium, all that remained of UK operations was located on the Wollaston site in order to manage marketing, design and development, finance and administration, sample production and a small resource to manufacture low volume promotional pairages and 'specials'.

The growth of the middle class in China resulted in a high demand for DMs from young affluent Chinese, many of them students. However, there was little interest in DMs manufactured in China but a growing demand for DMs

made in England. As a direct result, in 2004 the DM factory in Wollaston was re-opened to manufacture bulk volume of the eight eyelet tie boot and were producing 100K pairs per annum for the Chinese and Japanese markets and selling at premium prices endorsing the value of a MiE label as a manufacturing repatriation strategy. They have recently announced plans to invest £2 million to increase capacity to 165K pairs pa in 2020 in Wollaston in order to meet growing demand in Europe and the Middle East.

4.7.2 KI 2 Material/Component Supplier

**** **** is a director of a well-established UK based material, component and sundries supplier to UK and non UK footwear firms. They export their products to offshore suppliers manufacturing for a number of Western hemisphere brands most of whom are trading in global markets.

**** **** says they did not see Brexit coming and it will present significant trading difficulties. The business has not changed dramatically, in terms of product offering but that the Brexit threat going forward is potentially huge. If they have to pay tariffs to bring the material in from Europe and then re-export to Europe, a significant percentage of their production would be uncompetitive against the Italians and in that situation they are not sure what they would do.

With regard to footwear manufacturing automation, **** are aware of the difficulties in producing a 'brown shoe' on an automated track, even for relatively simple shoe constructions. ***** **** is of the view that an understanding of how shoes are traditionally made is an essential prerequisite before you can proceed to automate shoemaking processes.

**** are concerned that there should always be shoemakers involved with material/component buying if the risks associated with firms sourcing poor quality products based only on price are to be avoided.

**** are now selling substantial volumes of their products to global trainer brands and believe that the one automated plant working successfully is Adidas 'Speedfactory' and that Adidas now have the capability to drop a 'Speedfactory' into any country to gain competitive advantage by being physically closer to athleisure markets.

Regarding footwear manufacturing repatriation, **** acknowledge the current constraints, particularly the struggle to employ or re-employ shoe operatives.

**** are sceptical about the younger generation working in manufacturing given that younger people prefer to work with computers. **** have real concerns about their own labour pool having recently experienced a problem with staff retention resulting in them having to undertake costly training of inexperienced shop floor operatives and first line supervisors.

Fifteen years ago, in an attempt to reduce costs, **** took out a whole middle management layer to better compete and as a result lost a huge amount of skills knowledge, particularly supervisory skills, much of it tacit, regarding how to produce good quality materials and components.

**** **** observes that the supply side is also very different than it was. **** are now trying to outsource as much additional 'raw materials' as they can, e.g. buying more partly finished material from Italy. From a sourcing perspective, **** are moving closer to adopting a near-shoring strategy by

buying in Europe. However, they might have to revert to a more globalised strategy if post Brexit import duties are imposed.

***** are mindful that there is much talk about shortening the supply chain to satisfy the customers of fashion more quickly and the implications for them in managing their upstream (secondary) supply chain. They suspect, however, that many shoe firms remain cautious about moving away from the dominance of Chinese and other Far East sources of supply. ***** is sceptical about whether the British consumer, realistically, apart from consumers of high end British brands, would really value a 'Made in England' or Made in Britain' brands.

**** are sensing that footwear firms currently outsourcing offshore are realising that they need more speed and agility in their supply chains and from their experience are now beginning to deploy limited near-shoring strategies in Italy and possibly return to some sourcing from Portugal. However, **** US customers continue to outsource offshore regardless of US government policies. As far they are aware, there are US firm's near-shoring significant volumes from the Dominican Republic and Mexico which may in turn adversely affect their own long term business plans.

**** market intelligence confirms that within the context of near-shoring, there is little evidence of any heightened activity in Eastern Europe. They are not currently selling any materials or components into any footwear manufacturing firms in Eastern European countries.

To improve supply chain agility, ***** air freight their products to customers outsourcing footwear from factories in the FE which currently adds US twenty

two cents per unit on top of the standard price compared to sea freight at only US three cents. Whilst comparatively costly, it reduces the delivery time of footwear into UK customer's warehouses by around 28 days.

***** have themselves also outsourced some manufacturing operations via a joint venture in the Indian sub-continent. They were of the view that it would be cheaper to send their semi-finished materials there, do some preparatory work involving a number of conversion processes and then bring it back to finish in their UK factory. Their experience proved to be a salutary one, as by identifying and quantifying the hidden costs in outsourcing, (many of them overhead costs), it became significantly less attractive than had been initially thought. The outcome has been that in the last two years they have brought the work back to the UK. ***** concluded that whilst the prime costs were in reality, fairly comparative, they shortened their own supply chain by four or five months" by repatriating the work which not only improved their own delivery performance but reduced their finished stock cost risks.

***** are also concerned by the loss of shoemaking skills and knowledge in the UK sector and the potential negative impact it may have on their own business. ***** perceives the younger generation appear to be "*very much spreadsheet kids*" now and that there is an absence of mature managers left that are aged between 45 and 55. It is a worry for *****, particularly if big global UK brands do not possess the depth of knowledge in middle management that ***** need to effectively deal with from a supplier perspective. ***** consider that the best leaders within their customer's organisations were probably developed from within. The subsequent reduction of this sector specific managerial and technical leadership

represents a threat for **** from lower cost Chinese footwear component suppliers in the absence of shoemakers who understand the added value of their products.

For ****, the relationship with their customer's material and component buyers is changing, such that it is not as close or deep as it once was. The relationships, partly as a result of outsourcing, have changed from having close contact with opposite numbers in raw material/components warehousing, production and quality management being reduced to a single point of contact. Therefore **** are having to fall in line as their major customers adopt a different supplier model where they appoint a much smaller number of preferred material and component suppliers.

For **** environmental costs are under pressure from rising environmental standards. **** have recently invested heavily in the installation of a state of the art effluent treatment plant. In order to qualify as a preferred supplier to the major brands **** must set up to improve a range of environmental standards for material and component manufacturers across the globe. **** confirm that major global brands are now buying ninety five per cent of their material almost entirely from accredited global suppliers.

As a final comment, **** **** thinks it would be a significant step forward if the broader UK shoe industry and especially the major brands, could make shoes in the UK again. The way forward for **** may be by growing additional volume 'up market' by supplying higher specification leather to the 'high-end' MiE brands.

4.7.3 KI 3 Ex Regional and Country Resident Sourcing Manager (Asia)

**** spent his entire working life in the footwear industry starting as a graduate trainee in the early 1970s for well - known vertically structured UK branded footwear firms, subsequently rising into senior operations roles in the UK and finally into senior outsourcing positions as a 'country/regional' manager in SEA for various well – known global brands. **** gave his distilled thoughts on sourcing in SEA which he remarks are also subscribed to by several other senior UK sourcing executives who have extensive experience within the region.

His objective in his submission, was to deal with the issue of change by trying to debate what needs to happen in the UK footwear sector and also what can and what cannot change in SEA within the context of product sourcing strategy and the emergence of a more turbulent globalised supply chain environment.

The general feeling amongst his counterparts is that the world has changed significantly from the 'golden age' of sourcing from China and the FE in the 1970's and 1980's. In the UK today, the footwear retail sector is still under pressure on margins, aggravated by the exponential growth of 'on line' selling. However, the mind-set of footwear firms has changed very little since the 1980's, when China meant cheap, high volume imports and importers, whether big brands or unbranded wholesalers who had still not fully recognized that it is not the buying price that matters, but the selling prices which create the conditions such that you could move high volumes of shoes in UK markets.

***** well remembers the now defunct British Shoe Corporation (BSC) buyers eulogizing over Chinese pricing to the extent that they appeared willing to destroy their UK supply base! Whilst initial sales and margins were good, the huge stock build up at BSC's central warehouse at Braunstone in Leicestershire meant 20'-40' containers full of synthetic court shoes had to be left in the car parks because the main warehouse was filled to the rafters. The disaster which followed for BSC and which ultimately led to its demise, was a direct result of over purchasing cheap product which did not sell and had to be written off to a price at which even on good sales volumes could never be profitable. Unfortunately, ***** believes that most other British retailers fell into this same trap. At that time, several UK manufacturers had adopted quick response methods in an attempt to head off the threat from China, but UK retailers did not or could not understand the principles of holding zero stock. This blinkered approach to seeing outsourcing as the only viable strategy to a large extent was fuelled by what ***** calls the '*canonisation of design*' i.e. by young untrained designers, supported indirectly by accounting philosophies that placed little, if no importance on lead time, order size and crucially the cost of increased stock holding. This state of affairs will continue ***** argues until designers understand the need for margins in line with the company's goals and are able to fully cost their own designs and modify those lines that fail to meet target margin.

Ladies footwear, in the main, in real terms retailed in 2018 at prices lower than in the 1990's because it is part of a sourcing policy that encourages volume purchasing from the Far East such that retail prices have to offer margins that will ostensibly meet the cost of warehousing and unsold stock.

As further evidence of the reticence of the UK retailer to support a UK manufacturing base, in 1988 the **** shoe factories in the East Midlands had 'quick response' off to a fine art, such that orders placed on a Monday could be delivered into a **** finished stock warehouse for weekend trading. Albeit, China was cheaper, but could only offer 12 week delivery at best. According to ****, **** footwear operations made their best margins when sourcing in the UK, not when they were fully dependent on Asia. He remarks that it is surprising that big global brands who control their own retail and wholesale businesses do not consider it worthwhile to make the capital investment necessary to run a fully robotic line. This is not new technology as the **** line at **** had 4 people on the line plus 2 utility men at a time when the average Chinese line had 80-90 people working on it.

When **** thinks about China, he views it as a massive manipulation by the Chinese government to further political goals. He finds it ironic that China can criticize their US counterparts for placing tariffs on steel and aluminium, whilst for years they have continued to provide subsidies, incentives and manipulation of raw material prices to offer cut price shoes to the world. In so doing they were also able to get vast numbers of unemployed citizens back to work.

He observes that the UK footwear industry fell for this strategy "*hook, line and sinker*" to the point where, when due to internal pressures, wage levels in China had to rise. There was, and still is, no UK domestic supply base to fall back on and the fact that China developed a comprehensive infrastructure such that it became difficult to buy the volumes necessary to satisfy UK demand from other low cost countries. The better organized Chinese

businesses dealing with US and European brands were able to maximize margin while continuing to allow inefficiency to proliferate in their factories.

In this regard a substantial degree of responsibility must be laid at the feet of Chinese factory management, which in the main remains under trained, subject to nepotism and unwilling to act on its own initiative to make changes to a model that best worked in the 1970's and 1980's. **** is adamant that future sourcing strategies will critically be deployed around greater proximity to market, (near-shoring), to the extent that the biggest export market for China will remain the US and therefore the attractiveness of countries such as the Dominican Republic and El Salvador must be considered as future major sources of supply.

From his own experience, **** knows the latter to be highly efficient and with a good infrastructure, but once again as with the UK, the Chinese model has been influential in attracting a local footwear business such that the ADOC corporation in El Salvador has recently made the decision to relocate its manufacturing to China. The issues, he says, are often not manufacturing related. **** recalls that **** **** opened their own factory in El Salvador in the 1980s, but following an incident in which one of their Chinese management had been kidnapped, the operation was closed down.

From a European near-shoring perspective, ***** also tried to transfer production out of China to Slovenia to be closer to European markets but their venture also failed. They are now successfully making boots for ***** in Bangladesh.

**** believes that the only viable future alternative to China is India, which, having been in the market earlier than China, allowed the Chinese to overtake them as footwear suppliers to the world. Manufacturing techniques in India are more advanced, but labour productivity lags behind, and as in China, management is inefficient and wasteful. He is of the view that there are only two viable alternative sourcing strategies going forward.

Firstly, given pricing in China is no longer advantageous, the cost of repatriation finally make sense from the implementation of more robotic production in the West. This has been done before, Carl Toosbuy, had a line at ECCO in the 1980s with only two people on it.

Secondly, Chinese entrepreneurs, unable to recruit the labour needed to provide enough manpower to resource the old model and with the Chinese government now walking away from low cost manufacture, will once again seek the expertise of Western technicians and will in all probability introduce robotic manufacturing themselves.

Turning to the potential for outsourcing from Africa, **** suggests that they have some, if not all of the credentials necessary e.g. low cost labour force but they currently lack the infrastructure. Several Chinese companies are involved in joint ventures or wholly owned subsidiaries in Africa e.g. Pau Chen and Kingmaker in Ethiopia. In all cases these Chinese companies have replicated the Chinese model of manufacture demonstrating the same problems of long lead times and high volume order size requirement.

4.7.4 K I 4 Global Technical/Shoemaking Consultant

**** is a highly experienced footwear technician, product developer and manufacturing consultant having spent all his working life, spanning over 50 years, initially in the UK and then subsequently on a global scale advising global brands on all aspects of footwear product development and problem solving footwear production issues. He has been particularly active in the FE, China and India. He continues to take on assignments to this day.

**** considers how the UK footwear manufacturing sector is likely to evolve over the next five years. He believes C5, (case study), will continue to manufacture in the UK, but in contrast, nobody else is investing in skills for cutting and closing uppers in this country. In **** factory they employ no young people at all. Their operatives, especially in Closing, are current fifty year olds, but they do not appear to have a succession plan. Nor are they recruiting apprentices, which suggests a future strategy deployed around only lasting and finishing to qualify for 'Made in England' brand status, but will bring the uppers in from Asia, just as other Northampton firms are doing.

**** would be pleased to see the resurrection of UK shoe manufacturing. However, manufacturing is going to keep moving as he thinks China will cease to be the major footwear manufacturing power within the next ten years. The Chinese government wanted to stop labour migrating from rural areas to the bigger cities. They are very disturbed about social mobility, bringing people from Hunan Province to Pacific Rim locations which has created some unrest.

Nevertheless, in future, he believes that footwear manufacturing plants will relocate to rural areas with large populations. So in a reversal, *** **** are building a massive new factory in Hunan Province, which is a twenty two hour drive from the present location, also a port of loading. All this is happening in the face of dramatically rising costs and the rising aspirations of the workforce. Local governments are controlling what they pay their workers, so the shoe companies no longer have total control of their costs. **** suggests that there are fewer drawbacks in Vietnam and Cambodia apart from a little bit more corruption, which is containable.

As a hedge, Chinese companies such as Pau Chen are investing heavily in countries such as Bangladesh. To ensure success, they have moved their best production managers and their most able technicians from China.

From a re-shoring perspective, **** is adamant that if it was to happen, it will be the Chinese who will come here to teach people how to make shoes again. The upstream supply chain will also need to be re-established. The upstream SC has virtually disappeared as **** has observed it is impossible to buy a steel shanked sandwich insole now, in this country". **** points to the re-shoring benefits it has brought to Doc Martens who have repatriated some manufacturing to the UK bringing some of their suppliers back on-shore.

He thinks India will grow larger and faster given that China is also now hampered as a result of its one child policy constraining future manufacturing labour capacity. **** believes Pakistan may also grow as a footwear

manufacturing source as China invests even more in infrastructure by opening a direct link via the construction of the Northern Corridor.

In Eastern Europe, **** is aware that some massive shoe factories are still operating, especially in Bulgaria. A number of German brands continue to buy in EE, but many have switched to sourcing uppers from China and from India.

As for South America, **** considers that Brazil is still successful but they continue to have problems with currency fluctuation. As a consequence, they can go from 'feast to famine' in the space of a year. C1, (case study), at one time had a strategy of trying to keep Brazil going because they wanted to create alternative sources of supply but when the government created the 'New Real' currency it increased costs dramatically virtually overnight.

**** is worried about the continuity of the UK industry in so far as he believes that it is facing substantial challenges in the near future, particularly in terms of having the knowledge and technical skills to supervise offshore suppliers. **** attended a meeting with the BFA where it was decided to attempt to redress this deteriorating situation. The aim was to train footwear technicians so that they can be sent around the world to offshore suppliers in order to continue to satisfactorily resolve specific manufacturing problems within the shoemaking production process. **** has pointed out that it is important for brands to retain a good technical base if only to demonstrate some integrity as retailers!

**** has observed that a number of UK firms outsourcing are increasingly transferring out more and more pre-production activities and trusting more to

the suppliers than they used to do, which in his opinion is increasing their risk of loss of control of the product development process. In such a situation **** argues, it is both strategically and operationally essential to retain a sample making section in the business with a comprehensive range of product development, production problem solving and engineering skills.

**** echoes some of the comments made by the managers of footwear firms outsourcing offshore with regard to cost reduction, noting that during a factory visit to Lahore that better pattern cutting would save over 10% in leather utilisation.

**** thinks that near-shoring has to be considered as an option if Chinese firms continue to increase FOB prices. Given this scenario, sourcing managers will need to go and see a Romanian or Hungarian factory or consider South America as they have at least the nucleus of skills to manage the transfer of supply effectively. **** is aware that that a significantly greater volume of 'lasting' and 'finishing' operations are now being performed in Eastern Europe, especially in Romania and Bulgaria, and in his view are making a good quality, well designed, elegant product.

With regard to the UK footwear sector, he sees manufacturing growing but only marginally. However, he does not envisage much more volume being outsourced offshore. Moving forward he regards C5 as the benchmark for sustainable cost effective footwear manufacturing in the UK. Nevertheless, **** exercises caution given that much of C5 growth has stemmed from forming their own retail division and most significantly by going 'on-line' relatively quickly. For such a comparatively small, brand led business,

getting the money in before they were making the shoes took much of the risk out of their growth strategy. He sees the call centre they have at C5 working so well as to create CA given that it is staffed by professional shoe sales people.

**** is encouraged by the current emergence of a 'hot bed' of ambitious young footwear designers, especially those graduating from St Martin's in London, who would prefer to see their designs produced in the East End of London.

**** remains highly sceptical about the potential for establishing automated footwear manufacturing in the UK as a catalyst for re-shoring. As a fashion industry he argues, the strategy is for more fashion and more changes which he says are not conducive to automated procedures but is aware that ECCO have achieved some success automating their factory in Thailand. **** sees its limitation as the cost of tooling, especially direct moulding, given the increasing complexity of sole design. He describes the opportunity for technology driven mass customisation as limited to 'quasi-bespoking'!

With regard to stock levels, discounting and outsourcing offshore, **** is highly critical of management and particularly the cavalier attitude to sales forecasting in some shoe firms. With reference to a US shoe company, he observed that they did little more than continue to expand warehousing to accommodate more and more product until financial management pointed out the risks attached to higher volumes of slow stock.

**** is not convinced that Government investment in the UK footwear sector would deliver positive results, suggesting that Governments are less than efficient with how they spend money.

4.7.5 K I 5 Wholesaler/Agency CEO

**** **** is the MD of a footwear agency (****) based in the UK. **** describes the agency as a niched sports casual business which avoids trading in outdoor or formal segments of the market. His role is primarily as the senior administrator but he occasionally works with senior managers across all functions in the business to ensure that the strategy is delivered and the agency remains financially sound. His focus is primarily on how the agency can interface with their retail partners and to view retail reaction to their products and their merchandising.

Currently, the agency outsource all their footwear products from Portugal and China. **** apply a costing methodology working from the basis of FOB outsourced prices and then add duty and freight. They are in the process of working on an exercise that goes into more detail about the costs associated with handling and distribution and depending on the brand, they also pay royalties which may be due on some products.

He views risk from concerns stemming from a proposed move to a fixed costing model in terms of currency fluctuations. These risks, he argues have been mitigated as the agency now hedge against all their trading currencies but can benefit from any upside movement. Beyond that, he says, their main risk is always down to retailer apathy around the product and the strength of their brands on positively increasing sales levels.

**** is mindful that their target markets have become much more dynamic such that long lead time supply chains from the Far East leave them exposed to market fluctuations, as a consequence they have increased volumes outsourced from Portugal. Their deployment of a 'near-shoring strategy' for the agency is structured around 'split buys' from suppliers for different brands in order to minimise exposure from continuing to pursue a 'far-shoring' sourcing strategy. However, their approach is dominated by near-shoring brands that they do not already source, through agencies in China. **** uses a non-exclusive outsourcing firm to manage product sourcing on their behalf. Their own agent makes the sourcing location decision based on sample specification, guide price and the type of shoe construction.

Whilst their lead times from China are very long i.e. usually ninety days production, thirty days shipping and some delays at the ports i.e. up to five and half months, they try not to carry any stock. Part of their philosophy is to be as stock free as possible by achieving strong forward selling.

**** maintains close control of product development such that they have the capability and resources to produce their own samples in order to very rapidly wholesale the product. They place orders with suppliers against the 'sell in' of firm orders from retailers. There are occasions, **** says, where reluctantly they will be obliged to place a production minimum (MOQ) with their suppliers e.g. five hundred pairs per colour or a thousand pairs per style. On other occasions, the agency needs an extra few hundred pairs to add to the orders as back up stock in order to get the product over the line with their customers. Under these circumstances they will try to mitigate stock risks by negotiating a degree of flexibility with their supplying factories.

Although **** is aware of labour cost inflation in China, he still regards it to be the most competitive for costs of production which can be absorbed in the short term. From their perspective, their sourcing strategy is focused on trying to build closer relationships with their suppliers in order to work compliantly together. For ****, relationship building with potential suppliers is more important than sourcing cost.

However, **** is very clear that in relation to future product sourcing strategy, flexibility is the key factor. For **** the quality of sampling, the quality of production and on time delivery are 'givens'. Flexibility, on the other hand reflects a supplier's willingness to be responsive to changing patterns of demand rather than deliver rigidly to pre agreed MOQs.

In terms of the future for the business, **** is concerned about the increasing dynamic and turbulence within their segments of the market, the rapid movement of trends and the speed of consumption. Seasonality is disappearing from range development, other than responding to the cold in winter, which in turn impacts on sourcing. When asked what might impact most on the future sourcing location decision, **** replied that he is a businessman and it boils down to price, convenience, shorter ordering and more control on smaller volumes.

4.7.6 K I 6 Shoe Designer

**** **** went to a university in the Midlands which he says was one of the four best design universities in Europe at the time. He then undertook an internship in a global brand footwear firm for a further six months. He has,

subsequently, stayed in the footwear sector working for a number of high profile brands both in the UK and overseas as a shoe designer.

**** considers the UK footwear market to be highly cyclical, given that basically there are trends that re-merge again and again.

He considers technology as the other primary influencing factor. **** is a strong supporter of 3D printing given its extension from a rapid prototyping tool used to make hard models of sole designs to its current use in footwear manufacturing. **** mentions that Under Armour and Adidas ('Futurecraft') are both deploying three dimensional printed '*future form*' where it impacts on improving aesthetics, reduces costs and increases the speed of development to bulk manufacturing.

The remaining major obstacle, he says, in manufacturing is the speed at which 3D printed outsoles can be produced. His comments have particular resonance with those within the sector who regard automation facilitating supply chain agility as the key to manufacturing repatriation.

Beyond the initial investment, a low cost 3D printing capability extended to the manufacture of very small, batch sizes could respond to unexpected shifts in demand. As such, product sourcing strategies could be optimised with complementary high volume outsourced products manufactured in China, Vietnam, Thailand, Brazil and India. Given such a scenario, limited manufacturing repatriation to the UK, he believes, becomes much more feasible.

He suggests that the bigger athleisure brands such as ***, ***, and **** in order to stay ahead of the intense competition are looking more closely at the

future needs of the consumer and are consequently designing for the future. He maintains that for today's markets, the impact of social media is a huge part of the way marketing is now driven. As a result, it is having a greater impact on apparel brand strategies.

From the perspective of distribution channel strategies, **** regards the Internet as having already become the more dominant distribution channel. He observes that what is happening, especially for the big brands, is a strategically retained high street presence which is more about maintaining face to face contact with the customer, having a tactile product showcase and less about actually selling product.

In terms of physical distribution **** sees a future state where drones are delivering direct to customers, 'bricks and mortar' outlets are going to suffer from declining footfall, lower sales volumes and consequently will become unprofitable.

His own firm's product sourcing strategy is based on offshore outsourcing to a target price. With regard to sourcing for their premium (new) brands, they will outsource good quality shoes, sourced in at a price that is still competitive in their markets by deploying a near-shoring strategy by working with a very reputable supplier in Southern Europe.

For **** as a designer, the issues around product sourcing offshore relate primarily to maintaining good communications. They work through agents, so have none of their own people on the ground, working with their suppliers. **** is conscious of the risks of working, mostly at a distance, even with European suppliers, let alone those manufacturing in the FE.

In relation to product sourcing risk, **** is primarily concerned with upholding high standards of sourcing ethics and is therefore wary of inadvertently collaborating with an unethical supplier. **** is a strong supporter of improved pay and conditions for suppliers workers but recognises that frequently, it results in a loss of jobs when relocation of sourcing is required to maintain low sourcing costs. However, relocation frequently involves set up costs such as training new staff and operatives and as such too frequent relocation becomes an issue. As such **** is supportive of initiatives aimed at re-shoring in the UK and recognises its potential value to improving brand integrity. As regards the possibility of his firm sourcing in the UK in the near future, he feels at their current target price points and volumes it is not yet a realistic proposition.

Big brands on the other hand, he argues, by outsourcing large volumes, are able to offset the higher manufacturing costs of repatriation from smaller volume SC agility. A further benefit would be the potential re-generation of a domestic upstream raw materials and components supply chain.

In relation to supply chain development, **** recalls working for **** and their then strategy to sustain CA by developing a greater agile capability in order to facilitate speed to market and develop a core competence for season-less continuous style release. Initially, this strategy was limited to apparel products but then extended to footwear. However, **** is more sceptical of such a strategy when it comes to footwear given the relative complexity of developing a shoe as opposed to a garment

However, **** is convinced that footwear protracted development lead times will at some stage be offset by technological shifts. He is certain that 3D printing will inevitably filter down into commercial product supply volumes and facilitate more regular, possibly three week drops, of much smaller production runs.

On product customisation, **** sees the combination of advanced real time CAD/CAM systems and 3D printing and its potential for creating a unique product for a customer as very desirable. Through the growth of digital distribution channels, **** is certain that the whole interaction with the customer will completely change and therefore the customer's behaviour will change as a result. He believes technology will drive it, the consumer will react to it and then the company will react to the consumer. **** also suggests that 3D printing will fundamentally change the way that shoe firms currently source their products, particularly in relation to customisation.

With reference to the automation of the whole manufacturing process, **** visualises a knitted (synthetic) upper made by 3D and a sole printed by 3D with the two bonded together by a robot. Yet **** does not foresee the emergence of a multitude of robotic driven factories and modules springing up in the near future, given the very substantial set up costs involved.

**** final comments return to his views on offshore outsourcing. He remains most concerned about environmental issues and further employee exploitation driven by a firm's need to source shoes faster and cheaper, such that the environment suffers and people continue to be exploited.

4.7.7 KI 7 Robotics Manufacturer

**** **** is a senior manager of **** UK, a global manufacturer of robots. He has substantial experience of implementing robotics based manufacturing systems in a wide range of sectors including the UK footwear sector. His vision for the future is everyone seeing automation as a natural evolution that brings benefits to any industry.

He remarks that China is currently taking every one in five of robots manufactured in the world. **** reflects on the irony of that statistic in so far as China was and remains a relatively low cost economy that everyone was offshoring to, yet is now one of the biggest investors in robotics. The Chinese, given the pressures on labour cost in a highly inflationary economy, have also recognised that robotics is the ultimate in lowest cost production and when combined with other automated systems is the solution to retain their global manufacturing dominance and CA.

**** believes the Europeans, and especially the UK, have been slower in adopting robotics but suggests that investment in robotics and automation generates growth and growth generates jobs.

For manufacturing in the shoe industry, **** UK provided the robots adapted to the application of adhesives used for sole attachment in **** UK factories and they fully expected that this would have been extended to other footwear manufacturing operations. At the time their client identified a number of additional operations within the footwear production process which had the potential for robotic applications such as lasting and boxing, even to the point of 'final inspection'.

**** reflects on the decline of UK footwear manufacturing and their own lost sales as a result of a move to widespread offshore outsourcing. **** have monitored the low cost economies and what they are currently doing in the automation of shoe production. In their view, there is some evidence of limited initiatives by shoe firms in various parts of the world, but in their opinion from a **** UK perspective it reached its pinnacle some years ago. Robotics applications in shoemaking began to develop not long before the mass transition to offshoring really ‘took off’ in the mid Nineties. **** is convinced that if you look at the history of labour within the UK, it is not as transient as it is in other countries. As a result, the UK is more reticent to look towards automation because there is a greater emotional attachment between employers and their workforce. Looking forward, **** also has serious concerns about human resources and capabilities in developing key skills in engineering. **** refers to the absence of these people as the ‘*lost generation*’ and the negative impact this has had on the application of robotics and automation in the UK. He maintains that this ‘lost generation’ has been largely responsible for company failures to deploy strategies focused on the application of robotics across a wider number of industrial sectors.

**** spells out why he thinks China is ahead of the UK with regard to robotics applications. From **** UK point of view, the Chinese people are looking to reach ‘middle class’ status, and enjoy a more ‘Westernised’ life style and **** UK see little changing in that upward aspirational trajectory. However, as with countries in the Western hemisphere, they observe that manufacturing

is becoming less attractive as an occupation or a career, such that automation actually becomes the default strategy.

**** also sees that China has taken a massive lead in what is happening with investment initiatives in Africa, because Africa will, in his opinion, become the ultimate, (and last surviving), low cost economy. In the long term therefore, global cost convergence driven by rising living standards in Africa, means that the only option will be global full automation in manufacturing.

**** does not envisage the end of craft based footwear manufacturing in the UK, given the steady demand for 'hand-made' shoes at the high end of domestic and international markets. Nevertheless, **** is confident that the UK can compete at any level of product complexity if the UK footwear manufacturing sector eventually automates to its full potential. **** suggests that given this will inevitably lead to competing on a 'level (global) playing field' the investment necessitates trading in mass markets.

With regard to initial investment costs, **** maintains that automation has a fast pay back i.e. anywhere between twelve months and three years in most sectors on condition that high return applications are identified at the outset. Referring to the potential for automation in footwear SMEs and their limited access to interactive robotics and leading technology, **** is optimistic with regard to positive outcomes. He points to the example of the 'Mittelstand' in Germany and family owned middle sized firms in the UK, as some of the earliest adopters of leading edge technology implementation. Their motivation is driven by organic growth, not acquisition, such that technology becomes a lower risk incremental strategy to achieve their objectives. In his

experience, **** has discovered that it is often SMEs who adopt leading edge technology, often in order to overcome resource and capacity constraints.

In relation to risks, legislation is the biggest risk as robots have to be inherently safe and clearly that risk is likely to be greater with the wider application of more collaborative robots. **** regards it as inevitable that we will exist in a world dominated by cyber physical systems (CPS) such as Industry 4.0, IoT and beyond, which heighten safety and data security risks still further. For the robotics industry this remains the most significant current and future challenge, especially as technology moves beyond Industry 4.0.

For **** there are definitely new opportunities in the footwear industry, largely resulting from significant complementary advances already being made in footwear manufacturing automation. Apart from increasing productivity, the continued existence of a UK manufacturing presence may mitigate many of the supply chain risks associated with outsourcing offshore, particularly unpredictable weather events and the turbulence associated with political, economic and social instability.

**** holds similar views to others in the sector on future product sourcing location. The technology creates the opportunities to produce in a low cost environment for home markets or for other markets around the world and serve those markets from a greater number more localised positions.

4.8 Findings

In the next chapter, Chapter 5, the key themes emerging from the literature review (Chapter 2) are compared and considered with the perspectives of the primary and KI respondents, especially the opinions expressed in their

interviews with a view to establishing converging or divergence between the three.

CHAPTER 5 DISCUSSION of FINDINGS

5.1 Introduction

This Chapter compares the key themes emerging from the literature review with the outputs generated by the field data analysis. These core themes are re-presented below in Figure 5 (a). The discussion is underpinned from the dual theoretical perspectives of TCE (Williamson, 1979, 2008, 2005; Tadelis and Williamson, 2012) and RBV (Barney, 1991, 2012; Wenerfelt, 1985, 2020) given that TCE (Williamson, 1979, 2008; Tadelis and Williamson, 2012) product sourcing strategies, (labour cost arbitrage) are currently dominant approaches within the UK footwear sector.

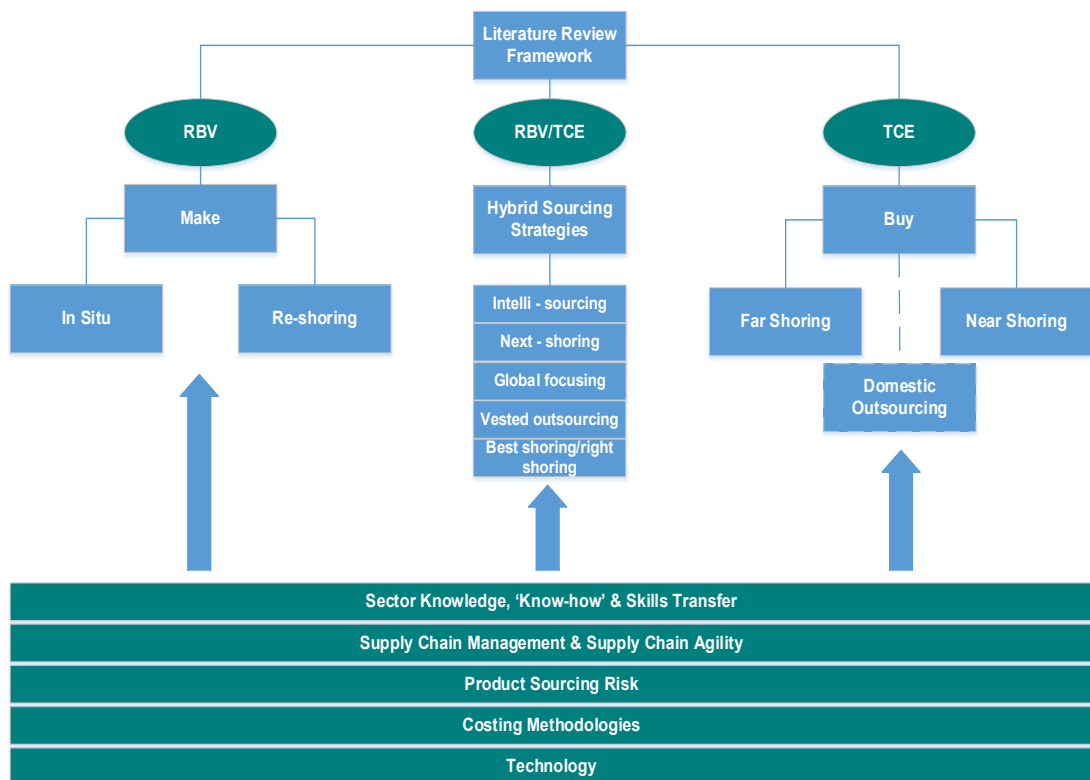


Figure 5 (a) (Figure 2.5 from Literature Review)

Product Sourcing Literature Review Framework

Source: Author

Chapter 4 presented narratives relating to the product sourcing strategies of the case study companies in terms of *what* and *how*, which were further contextualised by the key informant (KI) narratives. The findings also identify significant '*downstream* and *upstream*' challenges for the supply chains of the focal companies. A comparative tabulated summary of the case study narratives is presented above in Figure 4.1 (a) and 4.1 (b) on pages 247 and 248 respectively.

The chapter is structured in line with the case study and KI respondent's strength of views with regard to the issues they raised. By its very nature, as a pathfinder research project, it is characterised by breadth of perspective rather than depth.

5.2 Sourcing Dynamics: The Application of TCE and RBV Theoretical Lens

Transaction cost economics (TCE) and the resource-based view of the firm (RBV) both provide useful theoretical frameworks for understanding the decision-making dynamics of outsourcing. TCE specifies the conditions under which a firm should manage an economic exchange within its boundaries (i.e. manage in-house) and the conditions most suitable for managing an economic exchange within an external market (i.e. outsource) (Bremen et al., 2010). The primary focus of TCE theory is on the properties of the transaction. Whereas, RBV perceives the firm as a bundle of resources (assets and capabilities) that if employed in distinctive ways may create competitive advantage. (Foss and Knudsen, 2003). Therefore, the primary focus of RBV theory is on identification and development of critical resources. A further significant difference between

the two theories, especially with regard to outsourcing, is how the boundary between in-house and outsource is perceived. In TCE the focus is on finding the most efficient governance structure (internal hierarchy versus external market) for optimising transaction economies; the boundary between insource and outsource is determined by market efficiencies. By contrast, in RBV the focus is on the relative organisational abilities of firms (internal and external) to manage critical resources effectively to gain superior competitive advantage; the boundary between insource and outsource is determined by resource management efficiencies. This means that

“...in some outsourcing decision-making contexts the predictions of each theory can be contradictory” (McIvor 2009). A small number of studies have examined the respective properties of TCE and RBV as outsourcing decision frameworks and have tended to choose one or the other. Other studies have analysed outsourcing case studies through the theoretical lens of both TCE and RBV (McIvor 2009). However, none appear have attempted to combine all the core elements of both RBV and TCE into a single conceptual framework for analysing sourcing decisions.

The underlying assumption underpinning the development of an integrated analytical model within the context of this study is as follows.

The outsourcing of significant volumes of manufacturing capability (and in some cases all manufacturing capability) represents strategic decision-making regarding the nature of a firm's business model and how it achieves both competition advantage and superior performance.

Therefore, with the benefit of hindsight, it seems clear that managerial policy in some of the case study companies was shaped by a resource-based view of the firm – essentially that domestic manufacturing was unsustainable due to very high direct labour costs, (i.e. it could not deliver competitive advantage), in a brand-led business and thus pairage should be outsourced. Ironically, it is unlikely that the policy makers consciously took a resource-based view of their business models per se. Outsourcing appeared to be at that time (mid-Nineties) as the only viable strategic sourcing option if many of these firms were to survive.

In this regard, such policy decisions were necessarily shaped by a short-term goal of increased profit margins via labour cost arbitrage mechanisms, such as outsourcing to offshore low labour cost countries-essentially a focus on the economics of the transaction (i.e. TCE). However, it is reasonable to state that both RBV-related and TCE-factors were at play in the sourcing decisions of the case study companies. This assumption is subsequently supported by the empirical findings of the study, (as discussed later in this chapter), and justifies the author's decision to create a sourcing dynamics model combining the core elements of RBV (resource development efficiency) and TCE (market efficiency).

RBV theory is founded on the proposition that firms will achieve competitive advantage by developing superior performance positions, (relative to competitors), in resources/activities that are of value to customers. Therefore, firms should create internally, capabilities that deliver competitive advantage. Two interrelated dynamics are central to this premise: (i) identification of which resources are critical to competitive advantage; and (ii) determination of

whether such resources are superior to similar resources possessed by other firms where both are considered relevant to effective sourcing decision-making. Determining *why* firms in a sector differ in performance is considerably more complex to analyse and understand. Superior performance in an activity is considered sustainable when it is difficult for competitors to replicate. Determining the basis of managerial perception of resource performance superiority, (and/or lack of it), is an important factor in assessing the validity of sourcing strategy. Resourcing performance relative to other firms, (i.e. *resource position*), may be considered to be either distinctive or non-distinctive. According to RBV theory, activities in which a firm has a distinctive capability should be performed internally, whereas those with a non-distinctive capability position are candidates for out-sourcing.

The dynamics of TCE theory revolve around the interaction of two sets of assumptions about: (i) the characteristics of the transaction; and (ii) the behaviour of the parties engaged in the transaction. The transaction assumptions relate to 'asset specificity' (De vita et *al.*, 2011) and 'economic uncertainty'. Asset specificity refers to the level of customisation associated with the transaction. Investments in assets that are highly specific to a transaction will have little or no value outside the transaction. Such investments may relate to human, physical, knowledge and locational resources. The underlying assumption is that activities requiring high levels of asset specificity should remain in-house and those with low-to-medium levels of asset specificity are candidates for outsourcing. The timing and frequency of transactions have additional consequences in that frequent and predictable transactions equal economic and market certainty, whereas low-frequency

and less predictable transactions indicate economic and market uncertainty. The existence of high levels of uncertainty attached to an activity indicate that it will be regarded by the external market as relatively unattractive and incur high levels of transaction costs, and therefore more likely to be performed in-house. The behavioural assumptions concern 'bounded rationality' (Foss, 2003) and 'opportunism'. Bounded rationality refers to the limits to managerial understanding of the complexities of all decision options, and it is one of the few behavioural assumptions shared by most management scholars across a broad range of management research fields (March 1994, Mumby & Putnam 2002). It has three interrelated dimensions (Foss 2003: Simon 1997) (i) the processing capacity of decision-makers (Simon, 1947) (ii) 'cognitive economising' where decision makers take short-cuts in reaching a decision (Fiske & Taylor 1991; Simon, 1990); and (iii) the cognitive biases of decision-makers (Tversky & Kahneman 1974). These three aspects progressively build on each other to bound human rationality. A pragmatic interpretation of bounded rationality is the assumption that managers do not know everything they need to know in order to make an optimal decision. The key implication for outsourcing is that both parties to a transaction require a similar understanding of the details of what is to be transacted. In other words, optimal decisions about transactions require high levels of information symmetry. Information asymmetry will lead to incomplete contracts. High levels of information symmetry are likely to result in lower transaction costs, whereas lower levels of information symmetry are likely to result in higher transaction costs. Opportunism refers to decision-makers, both buyers and suppliers, acting out of self-interest and with guile. Opportunism is often a result of

information asymmetry whereby one party leverages an information advantage at the expense of another and raises the transaction costs incurred by the second party. Therefore, theoretically, the higher the potential for opportunism on the part of an outsourcing partner, the more likely an activity will continue to be performed in-house.

5.3. The Sourcing Dynamics Model

The Sourcing Dynamics Model shown in Figure 5.1 integrates the strategic resource dynamics of outsourcing decision-making found in RBV theory, (competitive advantage and resource position), with the market structure dynamics at heart of TCE theory, (asset specificity, uncertainty, bounded rationality and opportunism). In so doing, it combines the core elements of resource development efficiency (RBV) and market efficiency (TCE) that are critical for understanding the logic of product sourcing strategies.

The Sourcing Dynamics Model was developed as a conceptual framework to guide the analysis of the logic of the product sourcing strategies of the case study companies. It was not designed as a rules based model. However, as it does propose a series of inter-related resource and transaction dynamics, based on the respective theories of RBV and TCE, to explain possible positions on a make-or-buy/make and buy, (*insource, outsource or both*), decision-making continuum (see figure 6.4) integral to product strategy formulation, it may be beneficial to evaluate the possibility of constructing the development of a rules-based model which does not negatively impact on SC agility. Consequently, whilst the development of a rules-based model is

considered to be outside the scope of this study, it could form the basis for further research.

5.4 Resource and Transaction Dynamics Analytical Template

In order to gain a clearer picture of the conclusions drawn from a theoretical lens perspective, a framework has been constructed and is shown below in Figure 5.1. The resource and transaction dynamics of the case study company sourcing strategies were synthesised from the interview transcripts and are presented in Table 5.2. These findings are discussed below.

It is hoped that this diagnostic tool can be applied both in future academic research and in management practice.

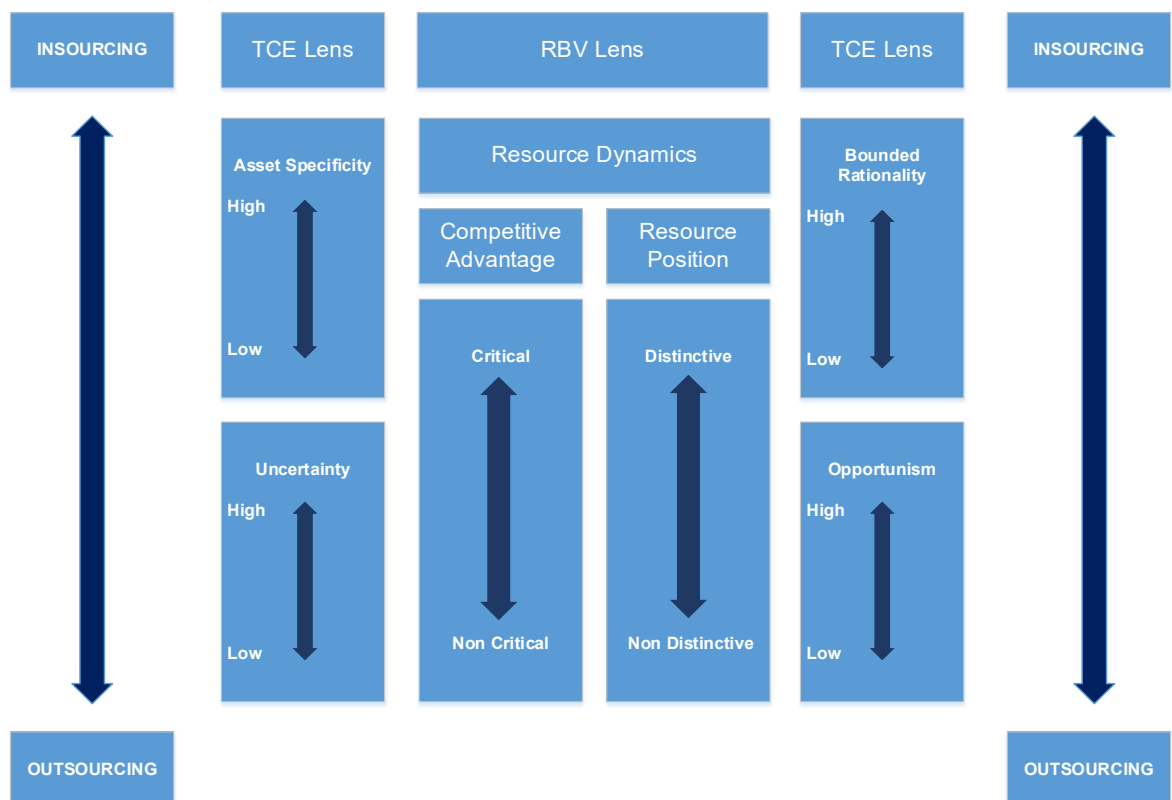


Figure 5.1

Resource Dynamics Conceptual Model

Source: Author

5.5 Product Sourcing Overview

Many of the sourcing strategy issues raised in the literature review appeared to be of little concern to case study respondents. In terms of where product sourcing strategy is heading, the most vociferous comments have come from a number of the key informants who are highly critical of UK footwear firms not learning from the experience of making serious mistakes in the past:

“The general feeling is that the world has changed from the golden age of China in the 1970’s and 1980’s. The retail sector in the UK, under pressure on margins with increased online selling, has changed the mind-set very little from the 1980s, when China meant ‘cheap’ and have not fully recognized it is not the buying price that matters but the selling prices at where you can move volume”. (KI 3)

The Figure shown in 5.2 is a reconfiguration of Figure 5.1 where the aim is to convert the Resource Dynamic Conceptual Model into a flexible i.e. ‘non rules based’ working decision support tool for management practitioners engaged in developing and deploying product sourcing strategy within the UK footwear industry as well as possibly introducing them to both TCE (Williamson 1979, 2008; Tadelis and Williamson, 2012) and RBV (Barney, 1991, 2012; Wernerfelt, 1985, 2020). The model presents an opportunity to develop a strategic base line which considers the underlying approach to considering strategic options It is anticipated that Figures 5.1, 5.2 will encourage both researchers and management practitioners to adopt non-linear perspectives to product sourcing by developing a greater awareness of the relationship between linear economic strategies and resource based initiatives which consider a longer term view.

In order to aid understanding the author has presented a populated template in Figure 5.3, based on the outputs from case study respondents.

	Company 1	Company 2	Company 3	Company 4	Company N
Salient Sourcing Strategy					
Agility Potential					
Resource Dynamics					
Strategic Driver					
Competitive Advantage					
Resource Position					
Transaction Dynamics					
Asset Specificity					
Uncertainty					
Bounded Rationality					
Opportunism					

Figure 5.2

Resource Dynamics Base Template: Case Studies

Source: Author

The view expressed by KI 3 was reinforced by a case study respondent who see the future very much in terms of superior brand value being recognised by the consumer such that price becomes less of an issue and as such

present an opportunity to move beyond labour cost arbitrage sourcing strategies (Williamson, 1979, 2008; Tadelis and Williamson, 2012):

“People will pay for brands. Brands gives the opportunity for us to pay a bit more, because it’s acceptable and the people who want brands do want the quality”. (C3)

	Company 1	Company 2	Company 3	Company 4	Company 5
Salient Sourcing Strategy	<ul style="list-style-type: none"> Labour cost arbitrage All outsourced Mostly China & FE 	<ul style="list-style-type: none"> Labour cost arbitrage All outsourced Mostly FE & India 	<ul style="list-style-type: none"> Labour Cost Arbitrage All outsourced FE & Selective Global 	<ul style="list-style-type: none"> Labour cost arbitrage All outsourced Mostly China & FE 	<ul style="list-style-type: none"> UK Mfg: Rapid Response to Market Shifts Cost Reduction: Impact of Automation
Agility Potential	Very Low: Near shoring Viable	Low	Moderate	Very Low	High: Restricted by PMG Outsourcing
Resource Dynamics	<ul style="list-style-type: none"> High UK Mfg. Costs Diminishing Margins High UK Costs Frequent Labour Disputes Growing Aggressive Import Competition 	<ul style="list-style-type: none"> Diminishing margins High UK Mfg. costs Growing aggressive Import Competition 	<ul style="list-style-type: none"> Continuous Search for Lowest Cost Sourcing 	<ul style="list-style-type: none"> Survival Critical Market/Product Switch No ‘Brown Shoe’ Mfg Capability 	<ul style="list-style-type: none"> Gaining CA from Quick Response to Rapid Market Cost Advantage from Agile
Strategic Driver	New CEO (Survival Threat)	Brand & MTO Costs	Multi-Brand/Multi-Segment	Costs & Product Innovation	Customer Responsiveness
Competitive Advantage	Brand & Strong High Street Retail Presence	Distinctive Brands/Multi Segment	Brand Awareness: High Profile	Differentiated Constructions	First to Market
Resource Position	Non-distinctive except Mens	Non-distinctive	Non-distictive	Non-distinctive	Distinctive
Transaction Dynamics	<ul style="list-style-type: none"> No alternative sourcing strategy at time of decision Loss of Margin High Volume Contracts (MOQs) 	<ul style="list-style-type: none"> No alternative strategy Unable to compete with imports No alternative strategy Competition sourcing offshore 	<ul style="list-style-type: none"> Outsourcing existing MO Established Wholesaler Capability Brand Credibility/ Integrity 	<ul style="list-style-type: none"> Driven by switch from slipper mfg. to trading in ‘brown shoe’ markets Absence of requisite skills 	<ul style="list-style-type: none"> Owners decision to continue UK mfg. PMG outsourced to reduce mfg. costs
Asset Specificity	<ul style="list-style-type: none"> Low: Capital Investment Moderate; Know-How Transfer High: Supplier Oversight 	Low: Know -How Transfer & IP	Low: Know-How (esp. Brand Mgt. Knowledge)	Low: Know-How esp. innovative product construction	High: especially technology
Uncertainty	<ul style="list-style-type: none"> Low: Stock-out Moderate: S C Disruption High: Market Response 	<ul style="list-style-type: none"> Moderate: SC Disruption High: Costing Integrity 	<ul style="list-style-type: none"> Low: Stock-out Moderate: SC Disruption High: Brand Integrity (QC) 	<ul style="list-style-type: none"> Low: Stock-out Moderate: SC Disruption 	<ul style="list-style-type: none"> Low: Markets Response High: Capacity Constraints
Bounded Rationality	Moderate: Tiered Oversight/Governance	Relatively High	Very High: Chairman & CEO	Very High: MD only	Moderate: VC Influence on Board of Directors
Opportunism	Low: IP Theft & Tacit Knowledge	Low: IP Theft & Tacit Knowledge	Moderate: IP Theft by Supplier & Brand Capability	Moderate: IP Theft esp. Product Innovation	High: Mfg. Replication

Figure 5.3

Populated Resource Dynamics Model: Case Studies

Source: Author

On the other hand they believe that the lower end of the market will continue to be dominated by supply side costs:

“If we look at the budget end of the market with people with limited budgets, then Shoe Zone do a very, very, good job. I would guess that the majority of their product comes from China”. (C3)

An increasingly more viable locational alternative is seen as India, where there is an abundance of shoemaking (low cost) capacity, high level of skills and a rapidly developing infrastructure. Consequently, it has massive potential, particularly for higher specification brown shoe product sourcing:

“The thing about India is that it’s got great access to raw materials. It’s got a great supply line for leather so for the branded footwear ‘brown shoe’ industry. It’s always got labour and its one of the oldest democracies in the world as well”. (C2)

Africa is considered as the last bastion of low labour cost product outsourcing, (Addikorley et al., 2016; Ayers, 2013) and as such a number of high profile Chinese manufacturers are already operating in Ethiopia, where there is a growing upstream SC presence, especially of upper leather tanneries, but there are a number of significant ‘structural’ risks:

*“I forgot to mention the possibility of Africa. They have some of the credentials necessary e.g. low cost labour force but apart from ***** in South Africa they lack infrastructure. In all cases these Chinese companies have replicated the Chinese model of manufacture with the same problems of lead time and order size requirement”. (KI 3)*

KI 3 sees the future of global footwear product sourcing driven almost entirely by extensive automation of manufacturing within the sector:

“So what of the future. Pricing in China is no longer advantageous and the cost of repatriation finally make sense to allow more robotic production in the West”.

If this direction is followed, it potentially precipitates a paradigm shift in sourcing strategy in so far as it enhances the possibility of viable investment in manufacturing locations, highly adjacent to any global market (Source: author).

Even then, one KI remains sceptical of the impact of automation on the location decision (McIvor 2013):

*“I think we are a fashion industry and the secret is more fashion and more changes are not conducive to automated procedures. I never subscribed to that robotic revolution. **** have got it as far as it will go”.* (KI 4)

From a domestic sourcing perspective, although relatively small in volumes and having some strategic benefits, it is suggested that the UK footwear manufacturing sector continues to contract.

“Nobody is doing anything about cutting and closing in this country, even the people who are making their own in Northamptonshire.. They have no young people at all. So when their current fifty year olds in Closing move on, they haven’t got a succession plan”. (KI 4)

Within the Case Studies and KI interviews there were a number of conflicting views with regard to the future role of China, particularly concerning defensive manufacturing strategies, (of Chinese footwear firms), stemming from a need to offset increasing labour costs (Ganesan et al., 2009). This suggests that China is still keen to retain its grip on low-tech labour intensive

manufacturing sectors such as footwear. Also seen as significant was their desire and ability to harness leading edge technology faster than firms in the UK (Enderwick, 2011).

As one key informant has observed:

“China is currently taking every one in five of robots manufactured”. (KI 7)

Chinese government direct intervention (Enderwick, 2011; Huang et al., 2013; Fleisher et al., 2010; Pecht and Zuga, 2009)) is also impacting on the footwear manufacturing sector as they dictate to firms where they can and where they cannot locate their factories and have also give local authorities the power to interfere in localised wage policy:

*“So, **** ** are building a massive new factory in Hunan Province which is a twenty two hour drive from the present location in the Pearl River Delta. They will have some continuity because of that, but costs are rising dramatically and the aspirations of the workforce are rising dramatically. “... if the local government says you will pay your workers forty percent more next year it has to happen, so the companies are no longer having total control on their costs”. (KI 4)*

Simultaneously, China has, ironically become very active through investments offshore via a strategy that has been dubbed ‘China Plus One’ (Enderwick, 2011; Zhang and Huang, 2012).

A KI has recognised the implications of these investments for the UK footwear sector with regard to the diminishing potential for UK re-shoring if, ironically, China can offset spiralling labour costs by successfully transplanting very high volume manufacturing elsewhere e.g. Africa:

“China has taken a massive lead in what’s happening in Africa, because Africa becomes the ultimate low cost economy and the Chinese, not are

they only adopting automation, they are also really investing in Africa and we are not..” (KI 7)

The situation is succinctly summarised within a case study interview such that future product sourcing strategies will need to be considered within a wider context than labour cost arbitrage and a sharper focus on numerous global risks:

“In general, I would therefore characterise macro –economic conditions in our major markets as having neither deteriorated nor significantly improved. What does appear to be happening is that the political and economic landscape is becoming more volatile and unpredictable. This effect is of course due, in part, both the greater level of interconnectedness of global trade and to the wider spread of our own business model. (C1 Annual Report, 2015)

Nevertheless, for both case study respondents and key informants, cost control remains at the forefront of their thinking with regard to the continuity of outsourcing and the future development and deployment of outsourcing strategy. One consequence of inflation in China is likely to be a more rigorous scrutiny of supplier prices and until now their largely hidden cost structures:

“Then there’s a little bit of an issue of looking into the pocket of the manufacturer and working out how big a margin you’re going to allow them to get!” (C4)

In every case except one, the responding firms in the study had, or were, experiencing significant falls in both turnover and the erosion of net profit margins resulting from the impact of increased costs:

“..... our work has revealed that the costs associated with the operations of the business have increased at a greater rate than the rate of growth in the margin”. (C1 Annual Report. 2016)

C1 was effectively ‘caught between a rock and a hard place’ as ‘bricks and mortar’ retail sales fell but digital sales did not fully compensate:

“The retail side of the business has continued to decline fast and we have not seen compensating growth in Digital..... “. (C1 Annual Report 2019)

At the same time, profit margins were being further decimated by cost pressures driven on the back of heavy discounting of slow stocks resulting directly from the placing of high MOQs for which there was little ‘real’ consumer demand.

“Firstly, inventory management. As a consequence of over ambitious business plans and excessive focus on short term performance, the business accumulated a significant amount of excess inventory in 2015, particularly during the second half of the year.

There is also likely to be a further impact on future margins in the financial year to January 2017 as we dispose of elements of the excess inventory at above the cost of the product but significantly lower than we would ordinarily have planned. (C1 Annual Report, 2016)

However, this initiative is proving highly intractable for C1 as observed in their most recent financial reporting:

“.....continued focus on managing inventory through tighter buying controls reducing its inventory holding whilst absorbing more clearance pairs from the business”. (C1 Interim Report 2020)

The sector dilemma was succinctly summed up by a key informant who remarked that:

“Ladies footwear in the main retails in 2018 at prices lower than in the 1990’s. Because in part of a sourcing policy that encourages volume purchasing from the Far East that retail prices have to offer, on paper at least, margins that will meet the cost of warehousing unsold stock”. (KI 3)

Tellingly, there was widespread and severe criticism of the influence on cost escalation arising from a lack of control in the design and development process and the lack of involvement from sourcing management, (Christopher, 1997, 2000) particularly the latitude offered inexperienced designers within the sector (Fontana and Miranda, 2017), compounded by the lack of financial control. An observation made by KI 3 with reference to another, now defunct, major high street retailer:

“To a large extent this was fuelled by the canonisation of “design” and young untrained designers at that, supported by accounting philosophies, that placed little if no importance on lead time, order size, and the cost of stock holding. This state of affairs will continue until designers understand the need for margins in line with the company’s goals... and are able to fully cost their own designs and modify those lines which fail to meet target margin”. (KI 3)

Such cost pressures are forcing firms to put additional resources behind lean thinking and lean initiatives across the whole business including product design: *“It does involve being as innovative as we can to minimise the cost”. (C4)*

Other aggravating factors included costs stemming from a further loss of full price revenues from stock outs as repeats of big sellers were unavailable due to long, complex and highly inflexible SCs (Cooper et al., 1997; Svenson, 2005; Harland, 2003):

*Most notably of all in terms of commercial impact, the group has experienced a slower than planned build-up of shipping capacity in the early months of transition in the new **** distribution centre leading to delayed despatches to wholesale customers and a lack of new season merchandise in own retail stores”. (C1 2015 Interim Report)*

The best performing firm, financially within the case study sample, was the only one manufacturing in the UK (C5), whilst all the others continued to deploy a fully offshored cost based outsourced strategy in search of increased margins within an environment experiencing the “...*continuing cost of goods inflation*”. (C1 Annual Report, 2019).

For C5, the constant increases in outsourcing costs triggered an immediate response:

“Costs in the Far East moved up significantly and that trends being going on for quite a long time. So we would in the past have bought some shoes from China and some shoes from Vietnam but now I’m very clear, it’s cheaper for us to make them here”. (C5)

With regard to mid-size, non-globally branded UK firms, there remain concerns about their ability to compete profitably in markets dominated by the global brands, given they are unable to benefit to the same degree from economies of scale generating sourcing cost advantages associated with placing higher volume MOQs.

“So the global brands are going to be able to command economies of scale and therefore more, better price pointing and the smaller businesses are going to have a more costly business model with more localised supply lines, but it’s more expensive to bring product to market and so it’s a tautology that it’s a difficult one to see where it’s going to end up”. (C2).

For some respondents, further margin reducing costs are absorbed where they choose to engage pro-actively in ethical sourcing (Choi et al., 2007) and environmental initiatives such that they incur relatively greater cost damage than the bigger brands:

“... it costs a lot. It’s a full time job”. We have to audit. We have to do ethical trading policies”. (C2)

A more recent cost driver concern relates to the threats from Brexit. Firstly, in relation to additional burdensome administrative costs and volume related costs such as tariffs, and what impact they might have on their competitive position within their current and future target markets.

For some respondents they intend to invest in upgraded IT (Oberoi et al., 2007; Huang et al., 2006, Sanchez and Nagi, 2003; Sanchez and Mahoney, 2001) to improve agility, offset increased sourcing and other central costs and those arising from additional bureaucracy incurred from Brexit outcomes.

“Well everything we do, first of all, is now on our SAP system. We have invested in a fully integrated computer package”. (C4).

The C1 Annual Report for 2019 refers to the:

“de-stabilising effect of the ongoing effect uncertainty regarding Brexit”.

such that some additional risk mitigation strategies will be needed. For some, firms, revenue generating strategies within the context of Brexit, remain dependent on maintaining high product specification, high quality standards and higher yet competitive prices at both the wholesale and retail level across all distribution channels, especially in European markets:

“So I think there’s definitely more quality, more high prices, than there were say fifteen years ago”. (C3)

An additional problem was the damage caused by FX losses. As such this uncertainty is likely to remain turbulent for some time to come, consequently more attention is being directed towards FX strategies (Huang et al., 2013):

“Profitability was impacted by the second tranche of post Brexit exchange rates”. (C1 Annual Report, 2019)

One case study firm already mitigates its FX cost risk by trading outside of pounds sterling:

“We trade in US dollars, so then it takes us to the point where we buy in US dollars and sell in US dollars so there’s no exposure to exchange rate changes”. (C3)

For all respondents the ongoing general level of uncertainty surrounding the Brexit outcome was regarded as worrying. Nevertheless, the potential for added value and at the same time maintaining margins is still underpinned by a degree of flexibility in deciding on the location decision where costs remain a concern:

“I think it’s a moving target, so that on more than one occasion we’ve had to change our countries of manufacture”. (C3)

The fallout from the ongoing trade war between the US and China is also viewed as potentially problematic from a sourcing cost perspective where firms are selling into US markets:

“... the volatility surrounding US trade tariff policy continues and footwear sourced from China has now been impacted”. (C1 Annual Report, 2019).

5.5.1 Product Sourcing Capability

Respondents, in the main, appeared comfortable and confident in terms of their outsourcing capabilities and core competence within their sourcing teams. (Fine, 2013). They are all vastly experienced as global buyers, especially in mid-market 'brown shoe' segments. Yet they recognised the need to continue to strengthen their sourcing teams skill sets as some see UK footwear manufacturing in further decline against a backdrop of ongoing demand and supply uncertainty (Johnson, 2001) as a hedge against further human resource scarcity within the sector.

5.5.2 Manufacturing Capability

Manufacturing capability (Zhang et al., 2003) is now seen by some of the research respondents as being located mostly in China, and other SEA countries rather than the UK. They are supplemented by clustered firms in Italy, Brazil, Spain and Portugal but with India emerging as strong competition for 'high end' footwear manufacturers in Southern Europe and the UK, especially welted constructions.

The primary focus of a number of the case study respondents going forward, especially for brands, is on the implementation of upgraded retail distribution strategies, particularly in digital channels coupled with post sales service enhancement' strategies e.g. servitization (Vandermerve and Rada, 1988) in order to sustain CA.

5.5.2.1 Leveraging ‘Made in England’ Brands

The potential value of ‘Made in England’ (McClaren et al., 2002) as a catalyst for increasing domestic manufacturing, increasing export sales, re-shoring and higher value added remains, in the view of many of the respondents, largely un-exploitable for mid-market products and is more likely to benefit high end niche brands who already have strong global export sales.

5.5.2.2 Potential CA from UK Manufacturing

A further significant finding from the research project relates to the one case study which is characterised by the firm (C5), pursuing a commercially viable, brand led, semi-automated manufacturing strategy within the UK. However, for most UK footwear SMEs the costs of replicating such a set up are highly prohibitive without third party support to provide access to finance and technological skills:

“I would say owners of shoe companies today are probably not minded to invest for the longer term because they either perceive the risk to be too great or returns will be too little”. So I think there will need to be greater rewards to offset the risks of investment to get manufacturing on a big scale back in the UK”. (C5)

5.5.3 Impact of Further Globalisation

Within the context of product sourcing strategy, the direction and speed of further globalisation (Brenton et al., 2000; Breznitz and Murphee, 2015; Graziani, 1998; Buxey, 2005; Amighini and Rabellotti, 2006; Locke, 2002) and its impact on business performance and future strategy covered a number of issues arising from the case studies. For one global brand the issues are widespread:

“The slowing of economic activity in key growth economies such as China and India has been well documented. Political turbulence in the Middle East, the devaluation of the Japanese Yen and Indian Rupee.....”.

“There was significant disruption to the pattern of trade in important markets such as Russia, Greece and Turkey, resulting variously from political instability, macro-economic crisis and unplanned changes in the fiscal environment”. (C1 Annual Report, 2015)

One case study respondent suggested that there was a lack of clarity in terms of understanding what globalisation means and its relevance to product sourcing:

“Well, firstly you’ve got to understand, what’s the meaning of it? What is globalisation? I’m not quite sure. From our point of view the meaning of it for me is, yes we’ve got to operate around the globe in key countries. So yes, selling in, around the globe is part and parcel of what we’re doing. However, which is clear, we’re not making it here”. (C3)

Other respondent’s views were negative in relation to the benefits of further globalisation of the footwear sector:

*“But in actual fact it’s a very inefficient as a model ... but really I haven’t seen any evidence in footwear of globalisation working, whether it be ****, whether it be ****, whether it be****, possibly the sports brands have got it better mastered than traditional footwear branches, but it’s such a complex product”. (C2)*

It is suggested that some difficulties arise from the misconception that footwear as a so called ‘low tech’ product is relatively easy to manufacture:

“It’s not a commodity in the same way as a can of beans is or even a motor car is. It’s not a commodity, so it’s really hard to see how globalisation is going to benefit many”. (C2)

In terms of the impact of globalisation on the sector structure, it has been suggested that mid-volume, mid-market branded MEs will be the major casualties of further globalisation:

"It'll benefit a few, and the casualties will be the people in the middle. So, this perfect storm of globalisation, frustration to retail channels, loss of knowledge in the sector, loss of specialist knowledge in the sector and the market being artificially propped up by private equity is a challenge going forward I think". (C2)

Lowder (1998) believes globalisation is more than just about sourcing costs but suggests that there are other strategic objectives which encompass the aspirations of global MNCs including geopolitical considerations.

It is argued that globalisation will eventually slow down as sourcing costs converge, (Broadberry, 1993; 1994) albeit at a relatively slow pace, until such time as all low cost labour countries have disappeared as living standards rise:

"..there are just an awful lot of people out there globally who want to achieve a certain status and have certain income, whereas at this moment in time for years and years and we've shifted towards those low cost economies. Well, it won't be an option once you run out". (KI 7)

A view shared by a case study respondent:

"I think what we've seen, well, unquestionably what we have seen is a degree of rebalancing in labour costs between the East and the West over the last ten years". (C4)

Brenton et al., (2000) view globally located outsourcing as effectively a defensive strategy (Ellegaard, 2008; Buxey, 2005), in the absence of

technologies to overcome labour shortages. A perspective which resonates with one case study respondent:

“The truth is the Chinese were very good initially at low cost..... their costs have moved up. I think they’re gonna find it more challenging getting numbers of people to work in factory environments but that’s a pressure that automation and robots will resolve”. (C5)

This suggests that globalised product sourcing, if continuing to be driven largely by labour cost arbitrage will ultimately be significantly impacted by the implementation of Industry 4.0 technologies (Lasi et al., 2014; Branger and Pang, 2015). There are other potential benefits. Li (2017) suggests automation is essential for added value creation. McHenry (2012) argues that automation will be critical in order to facilitate mass customisation (Dietrich et al., 2007).

However, global labour shortages are considered by case study respondents and key informants as the main drivers for greater automation. Automation might be perceived from a different perspective as a catalyst for de-globalisation for a number of reasons. Firstly, in order to mitigate the risks from natural disasters and major world ‘events which have significantly disrupted offshore sourcing SCs. Secondly, to accelerate more agility within supply chains (Christopher et al., 2004; Forsberg and Towers, 2007; Christopher, 2000; Fine et al., 2002):

“....therefore produce in a low cost environment for your home markets or for markets around you. Why would you not have more geographic locations and serve those markets from a more localised position. And of course they (robots) lend themselves to be part of any new factory that opened up again”. (KI 7)

5.5.4 Near-shoring

One of the main concerns for the case study respondents in relation to consideration of deploying near-shoring sourcing strategies is whether higher outsourcing costs in Europe can be offset by moving production closer to markets (Gray, 2013; De Treville, and Trigeorgis 2010). It is suggested that higher sourcing costs would most likely be incurred in Italy, Spain and Portugal or to a lesser extent in Central or Eastern Europe, the major European producers of footwear. However, rising costs in China and the need for greater SC agility are attracting more attention from case study and key informant respondents: *“China is starting to get more expensive. Europe’s got a chance, more of a chance”*. (C3)

Some firms within the study have been maintaining contact with Southern European, (and some Eastern European), footwear firms in relation to sustaining close relationships with regard to their future outsourcing strategy and operations (Christopher, 2000): *“Yes, we have an open constant dialogue with people in Portugal, with people in Spain”*. (C4)

The attractiveness of lower transport costs (Doorey, 2011) and other indirect benefits of greater supply chain agility e.g. lower stock and write down cost risks resulting from smaller contractual volumes may help to offset higher European supplier’s prices.

A potential additional strategic gain from near-shoring in Southern Europe is the opportunity to reposition some products i.e. higher specification materials and better made shoes. For some firms, managing a re-balancing of product sourcing, (optimisation) with more being sourced from Italy, Spain and

Portugal is partly predicated on pursuing a strategy to spread outsourcing risk. (Hallikas et al., 2004; Holweg et al., 2011; Harland et al., 2005; Manuj and Mentzer, 2008). It may also reduce the risks associated with cultural differences impacting negatively on buyer-supplier relationships such as Guanxi in China (Puffer et al., 2010; Millington et al., 2006; Jia and Rutherford, 2010).

As a wholesaler (KI 5), put it, in response to a question about their near-shoring location decisions:

"I don't mind telling you that, Portugal. Some of it with different brands, so I am exposed. I don't near shore some of the same brands that I do in China. I just work on a different branding model nearer shore than some of the others. I'm a businessman, it boils down to price, convenience, shorter order.... Portugal I mentioned. More control on smaller numbers". (KI 5)

In this regard, sourcing out of Southern Europe has been generally confined to small volume strategic niched supplementary inputs for product range enhancement, telling brand stories or special promotions:

"We're doing more business in Italy and in Spain than we'd be doing two or three years ago and we're buying, if you go back six or seven years ago, we we're virtually doing none". (C3)

However, there was a word of caution:

"They do appear to becoming more competitive, but I think a lot of that is just down to the exchange rate". (C3)

Nevertheless, as FE sourcing costs rise, more attention is being paid to near-shoring opportunities within the EU. Sourcing from Eastern Europe has been seen as the optimal solution for near-shoring (Graziani. 1998; Totev and

Sariiski, 2010; Smith, 2003) by taking advantage of relatively low labour cost in EE footwear factories and the benefits of closer proximity to UK and European markets. Unfortunately, due to the lack of EE governments' support, a somewhat subdued entrepreneurial spirit, lack of investment the necessary infrastructure, higher production capacity has failed to materialise. For others, disincentives have revolved around the high costs arising from the necessity to put their own people on the ground in Eastern European supplier's factories to give close technical support and to better manage quality and delivery.

"Eastern Europe again doesn't have much of an infrastructure. There are pockets of it, but not the scale that would need to replace China". (C2)

Not all agreed with this view:

"If China suddenly say they are putting up prices someone somewhere has got to go and see a Romanian or Hungarian factory". (KI 4)

Whilst not as close as European countries, further evaluation of the potential in Mexico (Kumar and Kopitzke, 2008; Rabelloti and Schmitz, 1995; Kessler, 1999) and other Central American countries has increasing significance for UK firms looking to penetrate further into NA markets.

"So where to next? Closeness to market is proving to be important and to that extent the biggest potential export market, (for some UK firms), remains the USA and therefore the attraction of the Dominican Republic and El Salvador spring to mind". (KI 3).

A very experienced country sourcing key informant is adamant that near-shoring for UK outsourcing footwear firms is a 'non-starter'.

“The only viable alternative to China is India, which having been in the market earlier than China allowed the Chinese to overtake them as footwear suppliers to the world. (KI 3)

For one case study respondent the location decision remained absolutely focused on far-shoring:

“But as we look at the operations at the moment, as we look at the prices that we are paying at the moment, if we compare them to how much it would cost for similar products to be made close to home, we’re not at this moment in time seeing any motivation to bring the operation geographically closer”. (C4)

5.5.5 Re-shoring

The initial motivation for this research project stemmed from the growing interest of the researcher in trends towards manufacturing repatriation, more commonly known as re-shoring, in the UK footwear sector. (Ellram, 2013; King, 2013; Tate, 2014).

In terms of the case study respondents and key informants there were found to be mixed views on the viability of high volume re-shoring of footwear manufacturing back to the UK. C5 have already taken action to repatriate what small volumes it had previously outsourced:

“We are now at a point where we’ve already moved all of those shoes back into UK manufacturing”. (C5)

In the main, the consensus amongst other respondents is that, whilst desirable, it is unlikely to come to fruition, as a positive development for the UK sector but qualified their comments by remarking that it would be highly dependent on a massive shift in global and UK economic conditions, further

environmental pressures and a significant re-think by UK government on the scope and direction of its industrial strategy.. One respondent was sceptical it would yield substantial volumes:

“In terms of UK manufacturing- yes definitely,! How big it’s going to grow again? It’s never going to grow big in my opinion”. (C3)

Others believed that labour cost arbitrage would continue to limit re-shoring initiatives:

“Emotionally I’d very much like it to happen. I just think that when you look at the cost of the product and the fact that there is still throughout this world a massive labour market that is prepared to work as cheaply as they are, then I don’t see how it’s going to work”. (C4)

Another case study respondent viewed it as a potential catalyst for de-globalisation: *“It’s really hard to see how globalisation is going to benefit many”*. (C2)

The most significant factors which may precipitate reshoring initiatives are likely to be driven by:

- (i) growing kudos of location based quality and brand status i.e. ‘Made in England’ (McLaren et al., 2002) as a core proposition for international and global brand led strategies

“... the biggest selling thing that we have got in the UK if we are trading abroad is ‘Made in the UK’, ‘Made in England’, ‘Made in Britain’. The Union Jack is invaluable”. (C3)

Doc Martens (KI1) is a perfect example of the potential of MiE in export markets, especially young Chinese consumers. (Daily Telegraph, 28th February, 2019)

(ii) hard evidence to support TCO claims relating to identifying the true magnitude of outsourcing costs (Ellram et al.,2008; Ellram and Siferd, 1998)

(iii) re-focusing and investing in initiatives to improve SC agility in footwear supply chains especially for SEs (Martinez – Mora and Merino, 2014)

“Equally, (re-shoring), provides an opportunity in markets for smaller operators and that’s where perhaps the notion of repatriating manufacturing might be relevant”. (C2)

(iv) risks associated with Chinese manufacturers choosing to use their capacity to supply an increasingly affluent and growing domestic market for higher specification and higher quality footwear.

“And the danger also comes in China when the domestic market becomes affluent enough to buy the brands that they’re making and it becomes more attractive to serve the domestic market than the international market”. (C2)

(v) mitigation of risks associated with a global catastrophe such as an unprecedented disasters (Olson and Wu, 2010) e.g. a weather event, global conflict or global pandemic

“... to be honest things like the Tsunami happened and terrible events as they are, they then make people think about the time you lose in production, the time on ships and the rest of it for reaching the market”. (KI 7)

- (vi) continuance of intense pressure from environmental groups with regard to the damage from further globalisation and the ongoing exploitation of cheap labour which is recognised by some UK shoe firms

“The consumer is ridiculously hypocritical about, you know, the world we live in. They want everybody to have an equal wage. At the end of the day, they, (buyers), would serve the world better if they could command a slightly higher premium from the consumer and they could pay decent wages in the factories they are getting the shoes from....”.
(C2)

- (vii) re-shoring would further reduce the costs associated with managing compliance criteria underpinning ethical sourcing.

“We have to audit. We have to do ethical trading policies. So the obvious things like child labour, the sanitation, and food are the real priorities. We are absolutely scrupulous. There are lots of factories we just won’t touch”. (C2)

- (viii) the successful application of full or extensive automation (Lasi *et al.*, 2014; Heiner *et al.*, 2014; Branger and Pang, 2015; Lu, 2017; Xu, 2017; Ganzarin and Errasti, 2016; Li, 2017) to brown shoe manufacturing and its impact on reducing labour cost as evidenced by the comments below

“I do think that automation is probably the one thing that would transform the cost competitiveness (C5)

“The UK can compete on any level if you ultimately automate to the extreme i.e. lights out operations, then you are manufacturing at the lowest cost. Because you are on a flat playing field with everybody else...”. (KI 7)

5.5.5.1 Constraints to Re-shoring

On the downside, the potential for re-shoring back to the UK is severely constrained by a number of factors:

- (i) high cost of capital investment especially in automation and robotics. (Clarks sunk costs in Morelight project were circa £2.5 million, mostly in capital costs). (Source: personal contact)
- (ii) current low productivity of fully automated modules. (Adidas Speedfactory produces only around 600 pairs per shift (Koelblin, 2017)
- (iii) lack of both footwear manufacturing knowledge and skills and the further absence of advanced technology skills:

“Re-shoring? I don’t see how it can come back here when the skill base isn’t here”. (C2)

- (iv) lack of attractiveness of sector in terms of careers, prospects and constraints of factory environments

“How receptive are the labour force going to be to it? You know it’s the best part of twenty years since we were manufacturing.....we’re a contracting industry”. (C2)

- (v) macro-economic shifts e.g. changes in tariffs and currency exchange rates

“Brexit comes along and Brexit took an already dramatic set of dynamics and accelerated it so the value of the pound went down and it meant that the cost of imported shoes from abroad went up”. (C5)

A key informant expressed a strongly held view that in the unlikely event that re-shoring occurred, it would be implemented with skills imported from the Far East or Southern Europe:

“Re shoring? “Not in my lifetime, no! “If it does come, it will be the Chinese who are coming here to teach people how to make shoes. Maybe people from Portugal, Spain or Italy may come and teach us how to make shoes again but I do not see it happening because India will grow more”. (KI 4)

5.5.5.2 Re-shoring and Technology

It is therefore, that the most likely catalyst for re-shoring is through the implementation of advanced sector technology deployed alongside advanced robotic capabilities given that partial ‘brown shoe’ automated manufacturing has already been successfully achieved using Industry 3.0 (Tantawi et al., 2019) technologies at C5:

“Pricing in China is no longer advantageous and the cost of repatriation finally makes sense to allow more robotic production in the West. Carl Toosbuy had a line at Ecco in the 1980’s with only two people on it”. (KI 3)

Under these circumstances it may be possible to use C5 as a re-shoring benchmark/pathfinder strategy. In this way, UK footwear firms would be able to selectively and incrementally apply leading edge technology. However, investment costs remain prohibitively high and therefore out of the reach of most UK manufacturers, especially if they have limited access to finance unlike Chinese footwear firms:

“.....if the big issue is not labour, surely it’s going to be cost of plant, because this stuff is going to be very, very, expensive”.

“We’re still going to be up against it because you can bet your bottom dollar that somebody like China will produce that plant cheaper than anybody else”. (C3)

If current initial investment costs can be reduced over time, and ironically much may depend on engineering innovation in China, the potential for re-shoring for SMEs is substantially increased:

“I’m sure that any plant manufacturers in China will be very happy to ship a load of stuff over to the UK”. (C3)

Should this also lead to the creation of new, more highly skilled graduate roles and careers for younger people entering the world of work then it may also remove the constraining perceptions of industry unattractiveness on sector recruitment. Much may depend on UK financial institutions, if SMEs in particular, who now form the majority of footwear firms in the UK, are able to present a viable business case for high tech investment in a high risk sector, especially if the UK government is prepared to underwrite the risks.

A manager within C4 also reflected on the demise of current component supply chain capability in supporting re-shoring:

“I mean the people that we used to deal with were people like Murmar Phipps and..... I can’t even remember who they all are now, I’d have to think”.

However, perhaps encouragingly for the re-shoring lobby, some upstream suppliers (KI 2) have already experienced outsourcing for themselves and concluded that once hidden costs were factored in, it remains cheaper to manufacture in the UK. In this respect, they suggested that an upstream

supply chain may be encouraged to re-emerge if there was perceived higher volume traction in footwear manufacturing re-shoring.

5.6 Current Resources, Capabilities and Core Competences

From the data derived from the cases and key respondents it would suggest that UK footwear firms core competences are now more focused on 'front end' functions and downstream in retail distribution and logistics and physical distribution as drivers of sustainable competitive advantage (SCA) rather than pursuing more agile SC initiatives.

5.6.1 Markets and Consumer Behaviour

Of major significance to the consideration of future product sourcing strategies is the significant shift in UK and global markets behaviour with regard to all aspects of pre-production activities including marketing (Hines, 2015), range building, pricing and positioning strategies, design and product innovation (Soares et al., 2014), product research and development (Paris and Handley, 2004) and achieving the capability to meet the need for effective sourcing response to market reconfigurations and product differentiation (Jin, 2004; Christopher and Holweg, 2011):

“The markets polarising, so there’s a whole group of customers who want very, very cheap products and I guess that will always continue to come out from low cost manufacturing countries, China, Pakistan, wherever they are, but there’s also the other extreme people are buying really niched bespoke... there is a good opportunity in the middle but you’ve got to decide..... you’ve got to stand for something....”. (C5)

Consumer demands are changing at a much faster rate than ever before, (Christopher and Holweg, 2011), putting huge pressure on those responsible

for analysing trends and fashion and consequently deciding how to respond to these shifts with unintended as well as intended consequences, (Jain et al., 2011) such that UK footwear firms need to re-evaluate their marketing and range building capabilities:

“We need to improve our product across the board. We need to make them more desirable – consumers need to be attracted by our shoes and we need to get better at understanding what our consumers really want, and are prepared to pay. Today, lack of innovation and dated designs are evident”. (C1 Annual Report, 2019)

Such issues are more acutely felt in ‘brown shoe’ middle market segments where many of the bigger UK branded firms are positioned. Inaccurate customer profiling, poor market information are frequently leading to inappropriate market segmentation (Laforet and Chen, 2012).

“Skill sets: we are currently working hard to adjust the level of capabilities required to be a leading brand in the shoe world today”. (C1 Annual Report, 2019)

“There is a good opportunity in the middle, but you’ve got to decide what you’re offering”. (C5)

An aggravating factor is that many have drifted into adopting ill-disciplined and sluggish bureaucratic range building processes which are not structured to provide rigorous commercial scrutiny.

The problem is further exacerbated as firms venture into nascent export markets where cultural norms and nuances are not well enough understood (Pearce and Robinson, 2000; Puffer et al., 2010; Jia and Rutherford, 2010), often leading to consumer rejection of their core products.

“A further challenge facing the (firm) is the need to respond to changing market conditions in China”. (C1 Annual Report, 2019?)

Outsourcing offshore has experienced the ‘knock on effect’ of further limiting UK footwear firms’ capability to rise to the new challenge of getting product to consumers much more quickly, an irony observed by one case study respondent.

“So you know if you go back twenty years ago we all talked about quick response and then what happened then was all shoes went offshore and all talk of quick response died”. (C5)

The accelerating nature of market dynamics is forcing UK firms to re-evaluate how efficiently they interpret and responding to consumer wants and its impact on CA. As one case study respondent observed:

‘OK so for me the market is changing quickly. I think speed is becoming an incredibly important dimension in the market’.

“.... it’s quite difficult to guess what’s going to work, what’s not going to work. If you stock back it too heavily you take enormous mark down risks and if you don’t stock it heavily and it works, you run out of stock in no time at all because the lead times are so long”. (C5)

This enforced and accelerating churn in rolling out new products in an attempt to satisfy rapidly shifting consumer demand in fast fashion market segments (Bruce and Daly, 2006;) is increasing the sourcing and financial risks associated with product proliferation of unattractive styles and designs:

“Our range is very confusing: similar styles of the same colour but with very different pricing are displayed alongside each other”. (C1 Annual Report, 2019)

“Central to this process will be a simplification of the product offering to enable a stronger focus on the most profitable categories”. (C1 Interim Report 2020)

The unintended consequences of product proliferation (Barrett and Freeman, 2001; Oxborrow, 2000; Chu, 2005) frequently leads to highly expensive, below sourcing cost stock write downs and the knock-on effect associated with the poor management of season change overs, often resulting in poor product quality, late deliveries to markets of new styles hindering a lack of controlled sales growth.

“The truth is we have all got used to wanting it when we want it and we’re pretty impatient, all of us. So we have to be incredibly quick and agile ...”. (C5)

Shifts in shopping and leisure habits and a decline in ‘bricks and mortar’ retailing are also impacting on SC performance. What one respondent (C5) described as ‘fuzzifying up’ of consumers leisure time and their propensity to spend, are now interwoven between large retail complexes and digital channel buying.

Markets have become much more diffused particularly in ‘fast fashion’ (Bruce and Daly, 2006). There is greater scrutiny of ‘value for money’ in a retail environment which is depressed by a lack of consumer confidence leading to expectations of discounts:

“Discount remained the key call to action across the high street and online with retailers battling to attract consumer interest and secure a share of spend. (C1 Annual Report, 2018)

As such there is a greater need for close attention to precision in market positioning and for mid-market brands product innovation inspiration to be drawn from all aspects of society, and especially the diverse and fickle nature of social media. At the same time, the marketing focus also needs to consider the servicing of traditional core customers of the brand.

Concerns surrounding a total offering was expressed by a number of those interviewed, given the view that innovation is regarded as one of the key future initiatives to UK 'brown shoe' firms survival in the UK:

"They're competing on price and product innovation and those are the only two criteria that you can compete on". (C2)

However, other respondents disagree, suggesting that product differentiation in mid-market is less significant and that competition is now based primarily on price:

"My take on the market place is governed by how our target consumers respond to the offering that we put in front of them and the one thing that I have seen over the last three years in particular, is an inextricably greater focus on price. I've never seen as price sensitive a marketplace as were in now. And the idea that short term someone suggests we should focus on anything other than price for me at this moment in time is from a different planet". (C4)

5.6.2 Design and Product Development

Consideration was given to the role and competence of design and product development in relation to improving performance in sourcing operations.

(Jain et al., 2011; Tan et al., 1998; Kotabe et al., 2008; Christopher et al., 2004):

“We have strong internal shoe-making expertise. It is a deeply impressive and rare organisation that begins the process of design commercialisation by hand, integrating high level digital capabilities in data transfer, 3D model making and rendering with the age old skills of the last maker”. (C1 Annual Report, 2016)

From the perspective of agility in product development, there is seen to be a need to responding more decisively to a more fashion sensitive market, by operationalising a season-less product development process to ensure greater congruence of ranges and products with consumer expectations in all selected distribution channels:

“It will require us to make significant shifts in organisation structure, channel balance, digital capabilities, processes, ways of working and brand focus.

In addition we will optimise our product development calendar and metrics to improve efficiency and unlock value, getting the right product to the right consumer at the right time and right price”. (C1 Annual Report 2019)

Others issues were specifically related to product proliferation on outsourcing performance e.g. KI 3's comments relating to the '*canonisation of design*' and shoe designers' lack of understanding of design implications on product cost and manufacturing complexity (Masson, 2007; Harland, 2003; Christopher, 1998, 2000) as it relates to product sourcing either on-shore or off-shore. A view supported strongly by a case study respondent:

“...the danger lies when you lose control of your lasts and your process and it doesn't matter whether you source everything or nothing, if you've lost control of those components you've lost control of your brand and your business”. (C2)

Continuous, rather than seasonal product development if well managed could make a positive impact on improving supply chain agility. In this regard lean 'design and development' practices play an important role (Womack and Jones, 1996, 2003):

"This is the designers thinking about the heels we use, the suppliers we work with and the product engineers thinking about how we use common materials to achieve different looks from performances of product". (C5)

5.6.3 'Bricks and Mortar' Retailing Contraction

The shift in distribution channel strategy was considered a major influence on determining sourcing strategy. Shoe shops are disappearing from the high street faster than those in almost any other sector with 164 closures in 2018. (Daily Telegraph, 12th April, 2018):

The role of the retail store continued to evolve with the gap between retail and online blurring quicker than ever.... and consumers gravitating towards an integrated omni – channel approach". (C1 Annual Report, 2019)

From the field data, it is clear that the case study respondents are giving more attention to the SC downstream, particularly with regard to re-balancing distribution channels. They are placing greater emphasis and investment in digital channel growth whilst simultaneously trying to grapple with the demise of 'bricks and mortar' retailing, especially where they have a substantial 'store estate'. The observations are widely spread amongst footwear firms and commentators:

"Retail declined significantly as consumers in the US and the UK continued to abandon "bricks and mortar" locations in favour of shopping online;

*consumers that shopped with us continued to trade down to lower price points. It is critical in the digital age to recognise that consumers' primary method of engaging with **** is online (and increasingly on a mobile device)". (C1 Annual Report 2019)*

"Lots of businesses with too much infrastructure in bricks and mortar are trying to move to the online channels but the online channels are dominated by the global brands..." (C2)

The problem is particularly severe amongst independent footwear retailers:

"I looked a couple of years ago, the independent sector was 3% of the market. It's probably half of that by now, so distribution is limited through that route. We have multiples in the country who are in complete chaos, so there's not much distribution to be had there". (C2)

"We've seen some well-known names impacted as they face a perfect storm of issues, a fall in consumer confidence and reduced spending along-side a number of cost headwinds". (Zelf Hussain, PwC, 2018)

However, this was not expected by some retail analysts:

"I am surprised to see shoe shops losing out so much as they are usually more protected from shoppers going online instead of to a physical store". (Clive Black, Shore Capital).

Issues relating to downstream activities in the SC surfaced frequently for case study respondents with the demise of traditional 'high street' footwear retailing:

"Again we are in for a massive roller coaster ride I think. I think regional centres are growing and there is a lot of investment that's basically becoming very expensive, and then you've got small towns, even smaller cities, where there isn't the same draw". Some town centres are looking very empty". (C5)

Consequently footwear firms such as C3 see little choice but to consider re-balancing distribution channel strategies in order to provide an appropriate,

more agile response to rapidly changing consumer behaviour in apparel markets (Brewis-Leavie and Harris, 2000), especially in digital distribution channels:

“And of course all of that means you’ve got have a fantastically agile supply chain...”. (C5)

5.6.4 Digital Distribution

All cases respondents indicated a desire to grow business through digital distribution channels and were deploying strategies accordingly:

“If you look at the Internet sector, it’s continuing to grow year on year. It accounts for approximately 12% of retail sales now and there’s no reason why we shouldn’t develop as a business, not just within the UK, but internationally”. (C4)

Some respondents expressed concerns about the magnitude of costs they may incur by moving into digital distribution channels, particularly from increased domestic freight costs such as delivery and returns. However, in some cases these were offset by other financial advantages e.g. improvements in cash flow:

“It’s much more profitable for us to sell a shoe at hundred and fifty quid on the Internet and get paid straight away than it is to sell one at two dollars fifty and get paid in ninety days, if we’re lucky”! (C4)

Other firm’s initiatives, especially C1, were driven by the need to ensure that customers had an enjoyable online experience and that they themselves had a much better understanding of how and why browsing could be more successfully converted into ‘in basket’ sales. In this regard there was an

acceptance that a step change would be needed in terms of their internal IT capabilities, particularly those relating to website performance.

“Our business strategy and future growth potential is reliant on consumer facing activity including aggressive product development and a continued roll out of a global e-commerce platform”. (C1 Interim Report 2015)

For such bigger brands there was a critical need to create a more effective ‘omni-channel’ experience for their customers (Verhoef et al., 2015).

For those already engaged in multi-channel distribution or those who had opted to remain primarily with traditional bricks and mortar, assessing the threats from digital channels and the degree to which they should re-balance has become a central strategic issue, significantly more pre-occupying than supply side concerns:

“In the last 5 years the consumer landscape in the Western world has completely changed with online and on the high street. Footfall has been down year on year for the last 6 or 7 years. So now we have lots of over - capacity in the retail sector. There are lots of businesses with too much infrastructure in bricks and mortar trying to move to the online channels.....”. (C2)

This aligns with an observation made by a case study respondent being caught ‘wrong footed’ by the exponential growth of digital distribution:

“I think the other thing which is massive and has grown, and I was not a believer at the outset, is the online business and the growth of online is enormous, absolutely enormous. Far, far, more than I ever dreamt it. I didn’t buy into it at the beginning. Totally proven wrong”. (C3)

5.6.5 Logistics

Logistics issues (Aitken et al., 2005; Stock and Lambert, 2001; Gligor and Holcomb, 2012b; Zeng and Rossetti, 2003) appeared not to be at the forefront of case study firms thinking in terms of investment or operational priorities, but nevertheless reflected more of a focus downstream in the supply chain than upstream. Much of the feedback regarding physical distribution related to upgrading warehousing, improved goods handling facilities and more responsive logistical operations via more advanced technology, much of it to facilitate a reduction in costs to counter the increase in digital distribution channel activity where expected discounts are further squeezing margins:

*“We successfully rolled out our SAP systems solutions to **** and Japan in the summer to enable more standardised transaction processing and better reporting and controls”. (C1 Annual Report 2015)*

A concern was expressed that the automation of finished goods warehousing, ongoing investments for two case study respondents, must be achieved without being trapped by existing punitive payment schemes based on outmoded (Spanish) working practices:

*“I do know what the costs of that place are and they’re bloody high. I mean I think it will change, but all warehouses are a big investment.....and even today all it’s meant is that **** have incurred huge costs, huge, and we don’t have anything like that”. (C5)*

Other concerns stemmed from operational issues resulting from over stocking causing storage and handling problems in warehousing capacity and productivity.

5.6.6 Leadership and Management

Within the context of all aspects of the product sourcing process, issues arose from the perceived absence of leadership and appropriate management styles within the sector, especially at senior levels, such that future responsiveness to change and expected turbulence is better managed within the UK footwear sector.

“I just see a lot of change and a lot of opportunity. That’s what I see, but in terms of what keeps me awake at night is being able to respond to those opportunities and not get caught out by not responding in a way that suddenly takes away our business”. (C4)

A number of key informants, (KI 3 and KI 4), raised concerns relating to management competence in supplier factories, especially in China:

“In China a large slice of responsibility must be laid at the feet of factory management which in the main is undertrained, subject to nepotism and unwilling to act on their own initiative and make changes from a model that worked in the 1970’s”. (KI 3)

There is also a belief that the erosion of family control and direct leadership in running major UK and European brands and firms is damaging performance within the sector and expressed a view that owners need to remain ‘hands on’ and as such ensure that initiatives requiring strong strategic leadership cascade down, through the organisation structure to transfer ‘knowledge’ and provide motivation at all levels.

*“.....lots of footwear businesses are family owned or have been family owned. ****, ****, ****, lots of ***** brands and they’re in the generations now where their knowledge and the passion has not been handed over”. (C2)*

Perhaps most crucially, is the absence of technological leadership (Broadberry, 1994), from within the UK footwear sector, especially when compared with technology savvy footwear firms in Germany e.g. global brands such as Adidas:

“You quite often see that the Mittelstand in Germany are family owned, are some of the earliest adopters of the technology followed by the big boys later on. (KI 7)

Robotics is the ultimate in lowest cost production when you put it together with other systems and the Chinese see this. You know the UK is very slow in adopting this”. (KI 7)

5.6.7 Knowledge and Skills

In discussing UK footwear firms’ shoemaking knowledge, a case study respondent and key informant expressed their concerns about firms wholly outsourcing their products when they have lost essential knowledge of the shoemaking process:

*“going back to the generation zoned businesses whether it’s ****, whether it’s ****, whether it’s ****, whether it’s ****, those sorts of businesses, the knowledge is lost”. (C2)*

“.....the skills have gone and I was at a meeting ...where it was decided to redress this, even if only to train technicians so that they can send them around the world, could go on that fore-part laster, could sit down at the post machine, and ‘drive it to’ show them, what they meant because they have rapidly lost this ability”. (KI 4)

Domestically, there remain many concerns about both business and manufacturing continuity as the sector loses experienced managers and technicians who are switching to other more rewarding sectors or retiring such that the human resource pipeline within the sector is effectively drying up.

“.....here you have a generation, the last generation with craft knowledge. . . There’s no one to hand that on to, because the youngsters aren’t interested”. (C2)

Whilst more investment in training within shoe firms might offset some of these resource constraints, there are now fewer opportunities in a sector to gain broader hands on experience, and most critically to acquire the tacit knowledge which in practice makes everything work:

“We’ve got three guys on our quality here and all of them have come out of the local manufacturing, you know, and they’re good. But where are the next one’s going come from? I’m not quite sure of the answer”. (C3)

These resource constraints are particularly significant for the entire UK sector whether firms are engaged in outsourcing operations, future repatriation initiatives or are existing domestic manufacturing firms. There also remains a high risk of further turbulence within the SC if firms fail to replace staff located in supplying countries and opt to rely entirely on their suppliers to oversee all pre-production activities beyond design. In such a situation the threats from opportunism (Williamson, 1979, 2008; Tadelis and Williamson, 2012) are dramatically increased.

Other responses focused on the shortage of sector personnel who currently possess the knowledge and ability to manage or supervise in a shoe factory in the UK let alone how to set one up, even from human resources outside the UK:

Taiwanese, Vietnamese, all those people who might have been persuaded to come to the UK and work, actually they've heard all this stuff about Brexit". (C5).

In an attempt to respond to future needs, more is now being done, by influential firms, to invest in advancing manufacturing and product development knowledge. Crucially attracting 4IR technologists, will present a future challenge. A concern raised by McKinsey's George and Ramaswamy (2014) in their paper 'Next shoring' which discusses the future of outsourcing in the apparel sector.

For the sector as a whole there is additional support from trade associations such as the BFA, universities and further education colleges (FECs) offering a range of courses covering all management and technical disciplines relating to the UK footwear industry.

Outside of manufacturing and its support functions a number of respondents expressed concerns that young trainees engaged in marketing, design, range management and buying roles will not acquire the full range of skills needed to successfully build efficient inter-firm relationships which is currently hindering increasing trust within the sector, mainly between buyers and suppliers (Fawcett and Magnan, 2002) and those needed to maintain continuity in outsourcing supplier factories (Hallikas et al., 2004; Hallikas and Virolainen, 2004; Handfield and Nicholls, 2004):

"We see young recently qualified graduates with not much knowledge of footwear highly dependent upon people who have that knowledge to actually deliver and deal with all the technical issues". (C4)

"... we're actually very often not dealing with 'shoe people'". (C3)

5.6.7.1 Global Sector Knowledge

Other issues related the need to better understand shifts in the global landscape and consequently for growth of global business knowledge, global skills whilst combating the erosion of footwear sector knowledge (Merino *et al.*, 2020) featured significantly in the interviews with case study and KI respondents and the links to long term strategic planning. What one case study respondent (C1) described as further developing the *capability to 'gaze forward'*.

5.6.8 Supply Chain Agility

In essence, the root cause of many footwear firms' difficulties is summed up by one case study respondent who suggests that most critically for those outsourcing offshore:

"the market is moving faster than the supply chain" (C5).

Another case study respondent expressed their frustration at the protracted attempts to shorten the pipeline given the increasing complexity supply chains (Masson *et al.*, 2007):

"The lead times were typically, typically sixteen weeks and the task was to see how quickly we could reduce the lead timeand obviously there were lots of complexities". (C2)

Under such circumstances it raises questions about the future capability of any established footwear supply chains, particularly 'surface transported' volumes from China, India or other FE countries, to satisfy these shifting consumer expectations for near 'instantaneous' consumption. Consequently,

the search for improved supply chain agility (Christopher, 2000; Fayezi et al., 2017; Gligor et al., 2014; Gligor and Holcomb, 2012b; Fliedner and Vokurka, 1997a, 1997b; Vokurka, 1998; Bernardes and Hanna, 2009; Vasquez-Bustelo et al., 2007) for UK footwear firms' financial and operational performance looks set to continue as evidenced by one case study participant:

"The group faces an escalating challenge to control product costs as labour costs in Far East factories continue to escalate, leather prices rise in response to structural imbalance of global supply and demand.

"A pre-requisite for expanding our core presence in existing distribution will be continuing improvement in our supply chain performance".

"During the course of the year our inventory holding level increased significantly to a level we consider to be far too high". (C1Annual Report, 2016)

Such a situation lends weight to the growing arguments surrounding re-shoring (Moser, 2010; Ellram, 2013; King, 2013; Tate, 2013) or at least for more near-shoring to create a more agile SC strategy in order to become better aligned with consumer demand and improve profitability.

In contrast to case study respondent's views, the extant literature strongly suggested that 'relationship development' between buyer and supplier (Christopher, 2000), not SC agility would most likely supersede labour cost arbitrage (Williamson, 1979, 1985, 2008; Tadelis and Williamson, 2012) as a future core product sourcing strategy.

The UK manufacturing respondent and a number of KI's suggest a need to focus on achieving greater agility across end to end SCs as the single most important strategic imperative in order to achieve the speed of response needed to service rapidly changing market conditions (Christopher, 2000;

Christopher et al., 2004; Christopher and Holweg, 2011; Kumar and Motwani, 1995):

"I think speed is becoming an incredibly important dimension in the market. Flexibility and agility become more important and that will play to the whole problem of how do you predict fashion in a world where there is no one fashion? There's now a big opportunity for fast response, agility".
(C5)

On the other hand, those respondents who intend to continue deploying wholly outsourcing off-shore, especially far-shoring, demonstrated something of an indifference to the suggestion that greater SC agility should be regarded as the strategic focus and considered it as a secondary rather than primary strategic objective for their firms.

For a wholesaling key informant, the need was directed at achieving more supplier flexibility.

"Some flexibility is the key factor. ".....when I mention flexibility I more mean the willingness to work with the order book, not just - it's a thousand per colour minimum. Have some give and take....". (KI 5)

The challenge for one UK firm also stems from achieving more supplier options as well as from greater agility:

'In our supply chain, we will aim to balance the security of product supply with the search for cost advantage by flexing the mix of supplier factories and their locations'. (C1Annual Report 2019?)

A further challenge is to create greater SC agility without incurring additional cost which may threaten competitiveness and profit margins. Some respondents were unsure as to whether or not the need for more agility

would advance the adoption of near-shoring sourcing strategies (Gray, et al., 2013, 2017).

"I think companies will want to be closer to (the consumer) 'buy', agility plays towards manufacturing moving back closer to markets. That doesn't necessarily mean in the market, but closer to the market". (C5)

In the case of the UK manufacturer engaged in this study (C5), they hold strong opinions that they are now in a position to gain a significant strategic advantage over their competitors, given that their greater agility has been achieved via automation and through more precise control over production scheduling leading to CA by way of a superior response to sudden markets shifts (Beach et al., 2000).

"We have ended up in this place where in order to survive through automation and investment, the factory survived when no other factory did really of any consequence". (C5)

However, in order for C5 to successfully deploy an agile strategy they are adamant that it is imperative for C5's suppliers to also develop an agile capability (Fayezi et al., 2017):

"Having local supply chains is incredibly important, difficult to do and it takes time to build up". (C5)

Current outsourcing SCs, it is suggested, remain too inflexible, too complex too costly (Harland et al., 2003; Cooper and Kaplan, 1988) and too long and increase risks relating to effectively and efficiently service current consumer needs in UK footwear markets. Yusuf et al., (2004) are critical of

manufacturing firms' inability to better manage changes in turbulent market conditions.

Nevertheless, for some firms, agility is likely to extend to little more than switching suppliers (Porter, 1985) when current sourcing requirements are not fully met by existing providers:

"It's a bit of a moving target....., so that on more than one occasion we've had to change our countries of manufacture. We have to go where we can get the right products at the right price to the right quality. So if we say today, then we're working extensively in China Vietnam, India, a bit in Europe and that might change". (C3)

Unlike UK based manufacturers who have considerable control over manufacturing operations and processes, this is not the case with most third party suppliers based in China, India or other FE countries such as Vietnam, Laos or Cambodia. Under these circumstances buyers will need to better understand exactly how greater SC agility can be operationalised in increasingly more complex fashion SC networks (Forsberg and Towers, 2007; Christopher, 2004) rather than simply presented in strategic plans as a statement of intent.

Both from the extant literature references and from the research participants, there is an expressed wish for more free flowing pipelines which will lend themselves to the potential for greater agility. Yet amongst the footwear firms surveyed only C5 has declared SC agility as its primary strategic capability.

For those outsourcing, regardless of their strategic preferences, greater agility may be beyond their reach if suppliers or others operating within the supply chain are reluctant or unable to cooperate to achieve such an aim

(Yang and Feng, 2006). Such notions are broadly supported by Finch (2004) who challenges the value of collaboration between buyers and suppliers.

There would appear to be little enthusiasm and motivation for investment financially and operationally in deploying an agile off-shore strategy beyond supplier switching (Porter, 1985) whilst low cost labour remains available in abundance. In conclusion, regardless of aspirations, there are some experienced senior managers within the sector who are highly sceptical of many footwear firm's capabilities to become more agile:

"So the point that I was just making then is that my experience over the last 30 years is that agile is a buzz word that everyone tries to use and we have become progressively slower in the last 30 years". (C2)

5.6.8.1 Note on Supply Chain 'Lean' (and Agile)

In specific terms there is a perceived requirement for a simultaneous focus on smarter manufacturing (Womack and Jones, 1996, 2003). It emerged from the interview data analysis that complementary to greater agility was the need to implement lean principles across the whole supply chain including in supplier's factories:

"We will also work closely with the source factories to maximise the benefits of value engineering, materials rationalisation and reduced complexity in shoemaking terms".

"In the overheads arena we will scrutinise all areas of spending and work towards a leaner, more efficient cost structure". (C1 Annual Report 2015)

5.6.9 Organizational Agility

Organisational agility (Sherehiy et al., 2007; Fawcett and Magnan, 2002) was considered to be a critical component of achieving greater SC agility for C5, particularly the necessity for multi skilling senior and middle management in order to significantly upgrade organisational responsiveness to short term shifts in market conditions:

“.....suddenly you’ve got a way of servicing the market in a very agile way without massive risk, but that requires a big change to the whole company, not just a guy sat in a sourcing office. So we’ve stripped out all the layers so that people get a broader view of all the opportunities and threats....” (C5)

In contrast, as a result of pursuing lower central overhead costs, many UK shoe firms now lack the organisational agility which accrued from exposing staff to wider over-arching perspectives and experiences which provided them with cross functional skills e.g. visits to supplier sites in the FE.

Other issues were raised relating to the complexity of current operating models. In this regard there was seen to be a real need for a simpler infrastructure and redesigned ‘leaner’ processes i.e. try to keep the business simple yet effective:

“.... arguably most critically, to create an agile business model that is responsive, cost efficient and lean”. (C1 Annual Report, 2019)

A C5 manager was keen to emphasize the high levels of investment in people they have made to upgrade organisational agility and the positive impact it is having on performance:

“The thing I’m bound to say is the integrated nature of the business and the fact that the factory in particular and the call centre is important to this”.

In essence, C5 have adopted a ‘lean’ cost culture which operates in tandem with greater agility. As a senior manager remarks:

“It’s an amazing environment, so when we do our budgets every year - in the old days it used to be what did you spend last year and what’s the cost of inflation adjustment your gonna make to all the costs. We don’t start that way at all now, it’s all about we need to assume the shoes are going to cost the same and if there’s inflation or a currency, we’ve got to find that money from elsewhere”.

However, outsourcing case study respondents made very little direct reference to pursuing similar ‘lean’ initiatives either within their companies or with their suppliers.

5.6.10 Supply Chain Risk Management

The general consensus from the research participants was that SC risks are more prevalent of a more disparate nature, are increasingly more difficult to mitigate and that most relate to offshore outsourcing activities.

5.6.10.1 Increasing Sourcing Cost Risks in China

From a sourcing strategy perspective, firms are evaluating risk within the context of the supplier relocation decision (McIvor, 2013), especially if there is perceived to be a pressing need to move out of China. (Enderwick, 2011) Jiang, 2002; McCann, 2011)

The main concern stems from continuing labour cost increases in China as living standards rise (Breznitz and Murphee, 2015; Platts and Song, 2010;

Enderwick, 2011; Carillo and Goodman, 2012). For other respondents this transition is already underway:

“... people were pulling out of China anyway because the cost of labour and the overhead was going up significantly and have done so for the past five years or longer maybe seven years. So China is no longer the super cheap source that it was”. (C2)

5.6.10.2 Continuity of Supply

Case study and KI respondents were constantly mindful of, but expressed little concern with regard to risks associated with continuity of supply (Tang, 2006; Tomlin, 2006) given that there are alternative untapped viable sources of supply and that switching suppliers is not seen as overly problematic.

With regard to mitigation, case study respondents showed little enthusiasm for sourcing out of Eastern Europe, largely because of risks relating to lack of infrastructure:

“Eastern Europe again doesn’t have much of an infrastructure. There are pockets of it but not the scale that would need to replace China”. (C2)

However, not all case study respondents agreed:

“...in Eastern Europe you’ve still got a lot more prospects of success with the Poland’s and the Croatia’s, Bulgaria and the like”. (C3)

Russia as the dominant globally emergent BRIC, although considered as having potential is viewed as very high risk:

“As far as a country to buy out of and we look at the East European area, any small amount of experience I’ve had of looking at factories in Russia has told me they’re too expensive”. (C3)

North Africa (Addikorley et al., 2016) is seen as having long term potential but is still too high risk for most UK firms at this point in time:

“Ultimately, it will come but I think it’s politically too volatile and there’s no infrastructure. But for most of the general people looking for sourcing I don’t think it’s an opportunity at the moment”. (C2)

Nevertheless, the risks appear not to have deterred inward investment from Chinese shoemakers, (Enderwick, 2011; Zhang and Huang, 2012; Addikorley et al., 2016). Seeking to mitigate SC domestic disruption risks:

*“Several Chinese companies are involved in joint ventures or wholly owned subsidiaries for example **** * in Ethiopia”. (KI: 3)*

Central and South America continue to attract attention but similarly come with attendant risks:

“Mexico is potentially great, but if we’re buying, then Brazil, depends what kind of products we’re doing. They’ve got great factories. Great quality but there’s limitations for us. Mexico, that’s one to watch”. (C3)

“Brazil is still successful. They seem to have problems with currency fluctuation. They can go from ‘feast to famine’ in a year. When they created the ‘New Real it put the costs up, dramatically overnight”. (KI 4)

5.6.10.3 Stock Related Risks

Concerns have centred on the ‘knock on’ effects of failing to avoid labour cost arbitrage generated (toxic) stock related risks arising from long complex supply chains, (Harland, 2003) and suppliers increasing pressure for larger MOQs in the face of simultaneously attempting to service increasingly more fickle consumers in UK markets (Simchi-Levi and Zhao, 2005)

“The cost of write downs now is massive, massive if you’re a brand at the other end of the spectrum then the big problem is how do you operate in a branded environment without loss of markdown? Which is both expensive and very damaging to your brand proposition”.

“.....if you take into account the fact that you are dealing with lead times which are so much longer and therefore the stock obsolescence risk is much greater, then the first cost, the benefit of sourcing from overseas, when you add to the obsolescence cost for me it’s a no brainer”. (C5).

However, until recently some of the stock risks associated with outsourcing have been mitigated by the non-coincidental emergence of factory outlets big enough to scoop up huge volumes of redundant or slow moving stock of branded footwear they can sell through attractively discounted prices in self-service channels.

5.6.10.4 Production Capacity Risks

The risks posed by a reduction in Chinese production capacity (Breznitz and Murphee, 2015; The Economist, 2019; Enderwick, 2011) currently taken up by UK firms was of concern to a number of interviewees who envisage growing opportunities for bigger Chinese manufacturers to switch capacity (Porter, 1985) at short notice in order to exploit higher margin domestic sales particularly as they transition from OEMs to OBMS. Under these circumstances, UK firms would be more or less forced to relocate their sources of supply and run the risks associated with such disruption. (Federgruen and Yang, 2008).

As a manager at C2 explains:

“.... now the American brands are pulling out (of China) and they’re going into other sources like Vietnam and Cambodia, India to a lesser extent, so it’s becoming more competitive in those markets because obviously the big brands have more clout because they command the volumes. So smaller

businesses are getting squeezed out of those formerly lucrative areas. That's a trend that's been going on for a while and I see that continuing". (C2)

Bringing with it additional risks:

"... some of those countries which are now up for the taking, haven't made progress and the political issues in a number of those countries, in fact the countries I am referring to, would be the likes of Cambodia, North Korea, those are the two that initially spring to mind". (C3)

"So they're getting pushed into Laos, Cambodia, in some instances North Africa, some are looking at Burma but those countries don't have infrastructure in supply lines. Some are going back to Indonesia, Indonesia's a bit volatile, so it's not been the nirvana that it was 15 years ago". Which is why I prefer to keep a bit of a spread base so you can move things around". (C2)

This may well mean coping with the risks of supplier factories compromised on cost, quality and delivery performance without sufficient UK managerial and technical support.

The growth of capacity and manufacturing capability in India has had a significant impact as a mitigating factor in reducing continuity risk and capacity risk, especially in relation to China and to a lesser extent Pakistan:

"I think that India will grow and Pakistan may grow because now that China is opening this direct link, the Northern Corridor, I think Pakistan could get some benefit from that". (KI 4)

5.6.10.5 Quality and Productivity Risks

For one case study respondent, the growing capability in India, especially their skills in producing relatively more complex constructions has reduced

their sourcing risks particularly associated with quality and MOQs when repositioning in their existing and target markets:

*“In more recent years since the development of *****, we’ve targeted a more premium market and we find that for leather shoes and boots, India is a much more suitable market for us. There’s definitely been, let’s say, for the last ten years, we’ve been importing both from China and India, but as the ***** business grows we are much more focused on India simply because of the volume of trade”. (C4)*

However, for some case study respondents and key informants there are still considerable risks associated with switching supply to India:

“Manufacturing techniques in India are more advanced but labour productivity lags behind and as in China, management is inefficient and wasteful” (KI 3).

“So in terms of actually doing business, it’s easier but that’s not to say it doesn’t need a lot of management. It does need a lot of management”. (C2)

5.6.10.6 UK Manufacturing Risks

The single UK manufacturing case study respondent also referred to risks which are associated with SC disruption and producing ‘on-shore’ (Kliueva and Bekk, 2013; Desai et al., 2012; Barff and Austen, 1993), particularly the continuity of upstream domestic sources of raw material and component supply (Giunipero and Eltantawy, 2004).

Capacity constraints due to the unavailability of recruiting additional labour to fuel domestic manufacturing growth present additional risks in terms of SC disruption and constraining future growth plans:

“...if I’d to triple the size of the work force here I’d struggle because working in a shop with flexi hours is just socially more acceptable and easier to accommodate”. (C5)

Equally, the domestic case study manufacturer were keen to spell out other risk related concerns:

"I chair the risk and business continuity panel and these are often complementary people always imagine they are not but they are so I think we need to think of disasters, fire is the biggest one we've got here as a business fire is a big risk..... Therefore if this site was to be damaged in any significant way you know that is a major threat to the business". (C5)

Future UK manufacturing continuity risk also extended to recruiting the wrong people, given their strategic objectives:

"There is a risk that if you've got the wrong people doing that, it might perform very badly". (C5)

For C5, the further implementation of robotics and advanced footwear manufacturing technology are viewed as mitigation from the risks associated with uncontrollable increased labour costs e.g. from expected future increases in the UK minimum wage.

"...if the minimum wage today was ten pounds instead of seven pounds and I'm sure that's gonna happen, then that will further make the case for more robots as the factory works shifts means this is already attractive".

5.6.10.7 Political, Economic and Social Risks

Other risks were mentioned during the interviews and ranged from concerns around:

- (i) political risks (Giambona et al., 2017; Ayers, 2013) especially those concerned with SC disruption/turbulence caused by supplying countries governments' legislation and in turn their fiscal policies:

“Changes in duty and tariffs really, changing laws are the things that are at the moment it’s just a nightmare. You’re just working blind. We had one last week. The Indian government put 200% duty on anything, any material coming out of Pakistan immediately”. (C2)

- (ii) social and economic risks (Tomlin, 2006; Tang, 2006) around five years ago a global brands sourcing programme for an iconic product was severely disrupted by fire in a Far East location resulting from a riot:

“The past year was coloured by the loss of factory production capacity in Vietnam. Whilst I am pleased at how effectively the business responded both in operational terms..... the normal pattern of our seasonal trading was disrupted for several months”. (C1 Annual Report, 2015)

5.6.10.8 Natural Environmental Risks

Whilst widely acknowledged, little concern was expressed with regard to the increasingly frequent occurrence of environmental disasters e.g. hurricanes; tsunamis and global pandemics. e.g. Severe Acute Respiratory Syndrome (SARS), (Olson and Wu, 2010) and the need for mitigating risks to supplier continuity. (Note: all interviews preceded the Covid 19 epidemic).

5.6.11. Cost Reduction and Productivity

Given that the majority of case study respondents deploy fully outsourced product supply side strategies, the issue of low productivity raised its head but only briefly. Little concern was expressed in relation to increasing supplier productivity levels except in two instances where:

- (i) the issue of super skilling was raised relative to the potential negotiated reduction of direct labour costs:

“...it always struck me years ago that you agree a price for a shoe and you can agree a price based on a forecast of 30000 even if make 23000 so why don't they reduce the prices because you're clearly driving more efficiency up”. (C2)

- (ii) high wastage levels of expensive materials such as upper leather were in evidence:

“...that's the sort of skill that just doesn't exist in my experience in Asia. So much waste on the floor let's cut this skin more efficiently and I'll get another 30% off the price because there's so much being left on the floor”. (C2)

Interestingly, for C5, lower, (post piecework), productivity was not seen as a major issue. They have to a large extent abandoned shop floor incentive schemes, (piecework), that characterised UK footwear manufacturing at its peak in the late 1970s early 1980s, in favour greater flexibility i.e. modular manufacturing (Castro et al., 2005; Shaik et al., 2015) and multi skilling:

“There' no piecework. I've always had a philosophical problem with piecework anyway which is you know, manufacturing businesses need to be efficient but most importantly they need to be efficient in the round..... the fact that we've got 20% of the seasons as mark downs because we bought too many nobody really measured that”. (C5)

On the upside, within UK footwear manufacturing generally, further cost reduction is likely to be more dependent on internal initiatives such as improved productivity via 'lean' initiatives (Womack and Jones, 1996; 2003), partial implementation of advanced technology e.g. 'big data'.

Given the state of the market, the firms surveyed acknowledged that there seemed to be little chance that overly long discounting extending beyond normal seasonal sales was coming at an end.

Ultimately, warnings from key players operating as manufacturers within the UK sector, such as C5, have not been heeded with regard to the consequences of failing to establish whether or not those outsourcing off-shore are confident that they have fully identified and correctly quantified their true costs (Ellram, 1993; Ellram and Siferd, 1998; Harland, 1993):

“The cost of making those products in an agile way was not being compared adequately or properly with the cost of making them at much longer lead times, nor is the obsolescence cost of having too much stock that can’t then be easily cleared. That’s been here a long, long, time and a lot of people have been very, very, very slow to recognise that issue”. (C5)

Also of concern in the case of the global brands are the “toxic effects” on brand damage caused by the “ongoing clearance of old and slow moving stocks” and the cumulative effect this had on “controlling working capital”.

(C1). A view endorsed elsewhere:

“Now if you also look at the damage you do to the brands by heavy discounting of surplus products then suddenly this is a big, big gap that’s opening up”. (C5)

Additional concerns with regard to distribution operating costs (Fernie and Temple, 2019; Cigolini and Rossi, 2006) centred on the congestion (Sharma and Yu, 2010) being caused in distribution channels. The consequences of this congestion in the UK supply chain and the knock on effect were summed up by a manager within C2:

“It is difficult to see how strong recovery strategies can be achieved whilst this (clearance) process is still underway. This situation is aggravated as large volumes of new stock arrive from suppliers each day..... “

5.6.11.1 Cost Management and Skills

From an outsourcing cost management standpoint, an element of labour cost inflation in China has, to date, largely been absorbed, or offset, in part by the negotiating skills of experienced footwear buyers. Such an approach resonates with Fine's (2013) 'intelli-sourcing' approach to product sourcing through the capability to manage ongoing market turbulence through, amongst other things, supplier switching (Porter, 1985):

"So if we want to look at cheap labour costs, we haven't run out of countries, the world has not run out of countries to give cheap labour costs. Then I think in the main, the main countries that are manufacturing footwear that are around today, that'll be the same position five or ten years from now and then it will be down to, you know, there's a base price and who is being the most competitive". (C3)

Reference was also made for the need to upgrade all levels of management and technical skills in expediting improved cost performance (Cooper and Kaplan, 1988):

"We've got to cut patterns, so lots of businesses have long lost the art of cutting patterns. We've got our own pattern cutters here, they are incredibly important to us because cutting a pattern doesn't just affect the fit of a shoe, but it determines the cost of the shoe". (C5)

Within the UK there is also critical need for younger footwear designers to acquire considerably more shoemaking experience alongside understanding the cost implications of design:

"I still think that people like Cordwainers and the college in Leicester are doing a pretty good job of teaching youngsters about design, and if you like, manufacturing processes. The kids that come out of college. I think one of the problems you've got is the difference between theory and practice".

“And they’ve all been taught to how to make a shoe. I’ve seen it! But you know, they’re making a ‘one off’ shoe. They’re cutting by hand. They’ve not got the experience, so it probably is a potential problem”. (C3)

5.6.11.2 Costing and Costing Methodologies

Many of the issues relating to costing and sourcing centred on costing capability and costing accuracy (Ellram et al., 1993; Brierley, 2011; Hughes, 2005; Fleischman and Tyson, 1998; Gunasekaran and Sarhadi 2001; Lindholm and Suomaia, 2004). In some cases, the costing methodologies applied by the respondents may be misleading, especially if based on historical data, the danger was summed up by a senior manager at C2 in relation to costing skills: *“We don’t know what we don’t know”*.

Two respondents were applying standard costing methodologies, considered as the industry norm: *“We still do all of that, so when it’s costed everything has a standard cost”. (C5)*

However, there is a growing awareness amongst those outsourcing that there has been a degree of indifference to FOB prices given the surfeit of alternative sources of capacity thus there has been little incentive to identify the magnitude of individual costs or better understand supplier cost structures (Wheatley, 2013):

“Now often, when it comes to price there’s another factory up the road which is just as good. So we don’t look into how the factories cost, right?” (C3)

A more rigorous approach is adopted by another case study firm:

“The component costs as we see them, are input by a combination of efforts. We have a team in China and they service directly our sales people here and

the same is happening in India, so they're feeding through the costs, they're put into our programme that works out and allocates our overhead allowance, we are working to certain margins". (C4)

The wholesaling key informant (K5) also take a similar, relatively 'high level' approach to costing, but is now looking deeper into their costs but mainly downstream in their SC:

"We would tend to work from the FOB price, duty and freight. We are actually just working on an exercise which goes into more detail about the costs associated with handling and distribution, but from a loading systems perspective it's FOB, duty and freight". (K1 5)

C3 are more sceptical and cautious with regard to costing:

"So how do we go about doing the costing? I think we are pretty prudent really, we need to be, because there are still hidden costs. And then there's a little bit of an issue of looking into the pocket of the manufacturer and working out how big a margin you're going to allow them to get". (C3)

From the interviews conducted, there appeared to be little enthusiasm or perceived need for adopting more advanced, more precise costing methodologies such as ABC (Kapan and Atkinson, 1989) or TCO (Ellram et al., 1998). There was some recognition (C2) that the application of parametric costing (Camargo, 2003; Mileham et al., 1993) to direct labour costs in suppliers factories would assist in identifying 'super skilling' cost reduction as a basis for renegotiating supplier prices where high volume were being manufactured:

"I'd love it if it were that sophisticated, (using standard costs). Ours are like open costings". (C2)

C5 continue to use costing standards to monitor manufacturing financial performance: *"We compare variances, every week, every day"*.

5.6.12 Automated Manufacturing and Related Technologies

Automation and the application of robotics is likely to become a challenging central issue within the UK footwear sector for those manufacturing domestically and many of those currently outsourcing, particularly the impact of Industry 4.0 technologies. (Branger and Pang, 2015; Lasi et al., 2014; Li, 2017; Ganzarin and Errasti, 2016) on sourcing location. The increasing costs of outsourcing from China and the difficulties of forecasting the nature of demand in UK consumer markets may accelerate such initiatives once other global forces are factored in e.g. environmental pressures.

The issue revolves around the motivation and capability to semi - automate or fully automate footwear manufacturing processes (Rooks, 1996; Spencer, 1996) given that only limited application of robots, mostly Industry 3.0, have been in evidence in the UK footwear industry since 1996 (Kochan, 1996). For current domestic manufacturers it may be the only way to ensure long term survival.

Unsurprisingly, the manufacturing case study respondent, supports such a view, and strongly believes that the use of robots will become a necessity through the medium to longer term given the ongoing challenges associated with achieving greater SC agility and to counter the probability of severe labour shortages in the sector. (Skipper and Hanna, 2004):

"There are going to be some jobs done by robots because robots are available, people aren't (C5)

A key informant, (KI 7), a major player in robotic development and the advancement in robot manufacturing strongly supports such initiatives:

".....they (robots) lend themselves to be part of any new factory that opened up again in the UK, and would make those shoes intelligently and at the lowest cost of production".

Automation is also likely to dovetail with Fine (2013) and his intelli-sourcing concept, linked to the more influential future role of sourcing intermediaries, (Weismann et al., 2017) accelerated by on-shoring initiatives:

"for markets around you why would you not have more geographic locations and serve those markets from a more localised position". (KI 7)

As a key informant (KI 2) confirms:

"Adidas, have developed this factory (Speedfactory) they can drop into any country and completely automate the shoes.....".

Yet, Speedfactory, (Koelblin, 2017) is something of a misnomer as the productivity from current systems remain very low in comparison with conventional factories in China i.e. 2 thousand (2K) pairs per day v 200K pairs per day.

Nevertheless, such initiatives must be regarded as making ground-breaking progress with regard to the strategic benefits of a step increase in SC agility.

However, success will critically depend on significantly increasing the productivity of these automated systems and their capability to produce more complex products if they are to be utilised in 'brown shoe' segments. Apart from severe financial constraints, much may depend on a willingness and

indeed enthusiasm within the sector to invest in new skills needed to run alongside 'embodied' footwear craft knowledge (*'practical men'*) (Hansen and Serin, 1997).

From a strategic perspective, automation was seen by C4 as an industry lifeline:

"Well potentially it could have enormous impact. In the past we always used to work on the labour costing as two thirds the total cost of the product, so if you can eliminate that labour cost then all of a sudden the playing fields are dead level!" (C4)

There is some evidence of further moves in that direction within the sector:

"I'm reluctant to say never, but I've got to say I think the next big thing that's going to happen to our factory is full automation. We already use lots of robots in the factory to automate (C5).

From a comparative cost perspective of make v buy (McIvor, 2013) it was succinctly pointed out that fully automated or even semi - automated manufacturing systems present a relatively attractive and quick 'return on investment' (ROI):

"The fact we works shifts means that the payback from robots is already pretty attractive, frankly a robot replaces three people because of the three shift nature of the work. So you're not replacing one person on one wage your replacing three wages. I mean it's incredible the payback!" (C5)

Nevertheless the start-up costs, especially for SMEs are prohibitive and it is likely that any future developments will only be undertaken by the big global brands who possess the financial clout to carry the future capital costs

needed for multi-module production. The question then arises as to who will be prepared to fund initiatives for automating manufacturing of 'brown shoe' products given the likely reticence of banks to lend where there is a higher operational risk of failure within a low tech sector. (Soares, et al., 2014; Spencer, 1996; Thomas et al., 2012).

The game changer for the sector as a whole may depend on it becoming a beneficiary of a revised UK government industrial strategy aimed at stimulating low tech SME manufacturing in a post Brexit Europe.

On the other hand there are those within the UK footwear industry who are sceptical that fully automated manufacturing will ever come to fruition:

"I think we are a fashion industry and the secret is more fashion and more changes are not conducive to automated procedures. I never subscribed to that robotic revolution. Echo have got it as far as it will go (KI 4)

However, attitudes are slowly changing based on the success in other sectors:

"I mean if you look at the car industry, they've proved a point there with automation. I'd have said you can't do it in the footwear industry. Well there's every chance I'm wrong". (C3)

5.6.12.1 Speed of Manufacturing Automation

The UK footwear industry will need to move quickly if one of its aims is to retain current levels of domestic manufacturing. China, by necessity is already at the forefront of widespread robotics deployment due to increasing labour costs in current urban footwear manufacturing clusters (Huang et al., 2008).

China's footwear manufacturing sector will probably develop automated shoemaking at a faster pace than in the UK, given the more substantial and ongoing development of its infrastructure, high levels of government financial and technical support for Industry 4.0 capability (Li, 2017).

"Chinese entrepreneurs unable to get the labour needed to man the old model and with the Chinese government walking away from low cost manufacture, will once again seek the expertise of Western technicians and will in fact introduce robotic manufacturing themselves". (KI 3)

5.6.12.2 Other Technology Applications

Unfortunately, many of the current initiatives within the UK footwear sector are restricted to non-manufacturing 'Industry 3.0' rather than 'Industry 4.0' technologies. However, some elements of Industry 4.0 or IoT, such as advanced stereo-lithography (3D printing) to produce volume and facilitate mass customisation (McHenry, 2012; Moser et al., 2007; Piller, 2007; Piller et al., 2012; Piller and Muller 2007; Kieserling, 1999; Sievevanen and Peltonen, 2006b; Lee and Chen, 1999; Luximon et al., 2003) are now being viewed by some research participants where 3D printing may be the catalyst.

"I can see much more advantage in digital printing, in 3D, printing..... so perhaps 3D printed shoes will be the disruptor of a manufacturing model and that will then lead onto customisation in more of a mass scale of the traditional labour intensive footwear manufacturing model. (C2)

"... I do think 3D there's some phenomenal stuff being 3D printed in the sports brands and I do think that there's a lot of potential there for mass market 3D printing". (C2)

Downstream of production, automated physical distribution systems which can keep pace with the expectations of consumers, especially those in digital

distribution channels are benefiting from more investment in automation technology (Wahlster, 2014).

5.6.12.3 Information Technology (IT) Investment

A number of responses also indicated a greater need within the UK sector for deploying advanced technology to improving business performance e.g. the potential impact of real time big data analysis to upgrade market intelligence for more accurate forecasting and scheduling:

“..... big data is the other big thing..... because we sell most of the shoes through our own channels, we do a lot of data on our customer base, that is another big competitive advantage the business has. If you know who your customers are. There’s a lot you can do with clever software these days. Where, frankly, we can predict those customers, what they’re likely to be interested in before they’ll even think of it themselves. (C5)

“One of the biggest areas of development for us is software and intelligent marketing”. (C4)

For C1 greater investment to become more agile in pre-production functions has also become an investment priority.

As part of that shift we have built our own in – house digital engineering capability to enable us to quickly respond to changing consumer trends. (C1)

C5 were also continuing to invest in IT to develop greater organisational agility to support its SC agile strategy.

“.....we’re putting a new ERP system in here. A four million pound investment.....,and when you’re an integrated business like this, that is incredibly powerful”.

5.7 Summary of Findings

The following themes emerging from the data are likely to be the most critical in considering future product sourcing strategy for the UK footwear sectors future development:

- (i) poor business performance where the root cause is at the front end i.e. range building and design failures in responding appropriately to dynamic consumer demand
- (ii) continuance of TCE based approaches costing accuracy relating to offshore outsourcing, especially the issue of testing advanced methodologies such as TCO or parametric costing
- (iii) criticality of supply chain agility with regard to future product sourcing strategy
- (iv) growing concerns surrounding the erosion of knowledge and skills within the UK footwear sector and its failure to replace them
- (v) capabilities and constraints to implementation of advanced sector technologies and automation
- (vi) failure in sector and firm leadership and management

The most striking issue arising from the data, is the apparent indifference to the significance of upgraded SC agility present in current off-shore outsourcing supply chains in comparison with its predominance in the literature. In some cases, there were fringe incremental initiatives which acknowledged the need for greater agility e.g. improved market data resulting in product ranges more aligned with consumer demand.

It suggests that there is an acceptance that if sourcing cost remains as the dominant strategic imperative on which sourcing location decisions are to be made, then actions will be limited to tinkering at the edges of an agile capability e.g. near-shoring small volumes, using air freight tactically or shifting to a new location, but only when it is absolutely necessary to do so.

CHAPTER 6 CRITICAL ISSUES AND NEW APPROACHES

This chapter aims to draw some conclusions from the research findings in Chapter 5 and subsequently make a number of recommendations for future product sourcing strategy development and deployment aimed primarily at improving firm performance, both financially and in response to shifts in consumer demand. The aim is to present a new approach, (via a set of tools and frameworks), to aid the development of future, more agile, lower risk product sourcing strategies.

6.1 Critical Issues Impacting on Future Product Sourcing Strategies

As has been suggested by academics and other industry commentators, the new strategic imperative is to enhance CA predicated more on improved buyer-supplier relationships (Christopher, 2000) and, incremental improvements in agility and less focus on supplier costs. If this is the case, how can UK footwear firms especially global brands respond, given the relative lack of agility in their current, predominantly linear structured supply chains?

The UK footwear industry faces significant downstream and upstream challenges that will require its firms to reconsider their sourcing strategies supply chain operations, processes and structures and associated risks. Downstream, shifts in customer preferences, shorter product life cycles (Subic *et al.*, 2012), the need to fulfil market demand via smaller, more customised, product volumes, greater innovation in design and materials, continuous development driving responsiveness to consumer wants in an environment of increasing volatility in consumer markets and most crucially where speed to

market will become the order winner. Upstream, a combination of a loss of control, (or at least limited degrees of purchasing freedom), by many firms of their supply chains, the prevailing far-shored sourcing model of large production volumes and long lead times, and reduced buyer power resulting from major economic shifts (e.g. from export to domestic consumption) in major supply markets, (especially China), mitigates against both cost arbitrage strategies and responsiveness to changing consumer market dynamics. Moreover, technological solutions based on intelligent machine platforms in terms of re-configuring manufacturing process, automation and sophisticated information management systems, whilst both seductive and valid, may be prohibitively expensive for small firms in the sector. And there is an even more fundamental issue undermining the long term survival of such firms: inappropriate price arbitrage product costing models that, by hiding the true cost of product ownership (TCO) (Ellram, 1993; Ellram and Siferd, 1998), perpetuate potentially erroneous assumptions that outsourcing, especially far-shoring, offers greater economic benefits compared to near-shoring or on-shoring.

6.1.1 Market Volatility

What has emerged from the data is that the increasing dynamics within almost all segments of the UK shoe markets cannot be satisfactorily serviced by current offshore sourcing supply chains. In short the footwear market is moving faster than its supply chains. These difficulties are manifesting themselves in a number of ways:

- (i) inability of footwear firms to more accurately forecast sales volumes in more fickle markets
- (ii) consumer demand shifts before shoes arrive in UK footwear firms warehouses and distribution centres, becoming almost redundant stock
- (iii) inflexibility of seasonal range development processes to respond to changes in consumer demand
- (iv) pricing strategies which are compromised by expectations of lower prices in digital distribution channels
- (v) generally lower spends on footwear within fmcg consumption
- (vi) under costing of the total costs of outsourcing
- (vii) sluggish delivery performance in upstream raw materials and component supply chains
- (viii) lack of agility and heavy congestion from 'work in progress' (WIP) in very high volume supplier factories aggravated by multiple buyer scheduling for big global brands
- (ix) the transfer of capacity in China to increasingly service high value domestic markets

The consequences of the above are leading to over budgeted stocks of shoes and subsequently heavily spread discounting over protracted selling periods, in addition to digital channel discounts, for global, international and domestic brands and MTOs. In this scenario, revenues are falling but sourcing costs continue to rise, squeezing profitability and ultimately constraining further investment and shrinking shareholder returns.

The challenges to the development of appropriate agile sourcing and supply chain strategies required to cope with market volatility require urgent rigorous re-evaluation rather than tinkering at the edges e.g. more air freighting.

6.1.2 China and Beyond: Continued Dominance of Labour Cost Arbitrage in Outsourcing Strategies

For all that has been said about the potential contraction of footwear manufacturing volumes for Western hemisphere firms, the data suggests that China's forecasted future decline in export volumes of footwear (see Table 1.1) is more likely to stem from a greater focus on servicing more profitable domestic demand given their greater competency as OBMs as opposed to OEMs. For China, overall trade is growing but exports in general have declined from 28% to 22.5% (Source: McKinsey Global Institute (MGI)). Nevertheless, China manufacturing remains strong given its skilled labour force and extremely robust infrastructure. (The Economist, 2019).

"China still retains the CA via speed.....the growth in online retailing is driving up flexibility/agility in order to meet growing domestic demand as spin off for export markets. (Suresh Dalai: Senior Director, Alvarez and Marsal)

Within the garment sector, Pravin Rangachar, (buyer at Haggar) is sticking with fabric suppliers from China who are, he maintains, using more flexible automated manufacturing mills. A similar approach is likely in the footwear sector given the financial 'muscle' of very high volume producers such as Stella and Pau Chen, especially when supported, by well resourced, competent research organisations such as SATRA (China) to provide research and development (R&D) and highly influential sourcing

management agents such as Hong Kong based Li and Feng. Furthermore, the growing involvement of established Asian venture capitalists, provides a stable source of capital for longer term investment. As such, they provide a platform for Chinese global expansion. In this regard it is pertinent for UK footwear firms to more thoroughly consider the potential benefits of alternative sourcing strategies to far-shoring as a defensive strategy to dilute the growing power of Chinese and other Asian suppliers.

Of major significance is the glaring opportunity for UK and Western hemisphere footwear firms, especially global brands and for some lesser brands, to embrace leading edge technology to influence supply location.

Susan Lund at the MGI remarked that:

“more production is happening in proximity to major consumer markets”
and that *“globalisation is becoming regionalisation”*. (The Economist, 2019)

However, Chinese footwear firms may not be overly concerned if the global branded Western firms decide to source outside China, given the exponential increase in domestic demand for higher specification, higher priced footwear. Chinese manufacturers have now acquired a huge amount of ‘know-how’ and shoemaking knowledge from Western hemisphere shoemakers, as have welled shoemakers in India. Both are poised to attack the big Western hemisphere global brands on price in their own domestic and export markets. Simultaneously, footwear expertise is being lost at an alarming rate in the UK and other parts of the Western hemisphere, such that there is little by way of meaningful response, leaving SEA manufacturers with a robust supply side CA. Furthermore, and crucially, China will be at the forefront of automation in

all manufacturing sectors including footwear. Whether it chooses to continue investing in manufacturing low value products such as footwear will most likely be highly influenced by government economic policy.

In addition to the need for greater cost scrutiny, UK buyers will require assurances from well-established Chinese suppliers that their factories reserve the required capacity to service Western hemisphere markets. The long term trend of sourcing prices rising in the Far East has resulted in many of the big Western brands pulling out of sourcing from China (The Economist, 2019) to buy elsewhere e.g. Central America.

The most likely threat to China is a shift in footwear product sourcing from a reviving India, especially for higher specification, higher value products such as welted construction. As a hedge against the Indian threat, there are some signs of significant direct investment from Chinese firms (Huang and Wang, 2013) such as Pau Chen who are already established in Ethiopia. A possible further scenario is one of further contraction and fragmentation of Chinese clusters such as Wenzhou also accelerated by government economic policies. The challenge for forward looking UK buyers is how to turn this situation to their advantage e.g. by supporting initiatives of their Chinese and FE based suppliers to improve supply side SC agility even if they are only incremental (Jang, 2014).

From the perspective of UK shoe firms who intend to continue sourcing from low cost countries no matter what, (including the case study respondents in this research project), the concentration of their resources may be better

directed toward production capacity and increasingly more supportive of improving infrastructures in Vietnam, Cambodia, Laos, Indonesia and India.

As one industry 'player' observes:

"Investment in SEA (is still) going into labour intensive industries. Nike and Adidas are now making more trainers in Vietnam than in China".
(George Yeo – Kerry Logistics).

A possible existential threat to UK mid-market footwear brands and especially non-branded MTOs are China's ambitions to invest globally by establishing an advanced manufacturing capability as a 'defender strategy' in the UK, Europe or the US providing potentially additional benefits to the Western consumer but with the possibility of dire consequences for what is left of the UK footwear manufacturing sector.

A further consideration is whether Chinese footwear firms will succeed in North Africa. It remains to be seen if they can achieve the quality standards and levels of productivity to become competitive. Interestingly, prestige brands such as Calvin Klein and H&M are already investing in Ethiopia. However, labour rates at only US \$1 dollar a day are too low to meet workers basic needs (Baumann-Pauly et al., 2020: Stern Centre for Business and Human Rights,) causing unrest on the shop floor thereby aggravating already comparatively low productivity and high labour turnover. Consequently, Western firms are somewhat reluctant to follow China's lead thereby limiting their sourcing strategy options.

Strategically, this presents Chinese financed North African based footwear producers with an unimpeded opportunity to supply relatively 'near-shored'

footwear into Southern Europe and hence into Northern Europe and the UK via a number of well-located Mediterranean ports in Spain, France, Italy and Greece. They will be able to do so at very competitive prices and at the same time tell an eco-friendly story around reducing the environmental damage inflicted by 'slow steaming' shipping from Chinese and Asian ports!

Will North Africa becomes the last global low cost economy? As Paul Walsh of the New Times Group puts it: *"We've run out of magic countries"*. Given Africa as a manufacturing source is considered to be a long way from being fully developed and exploited, Walsh's comments appear to be premature.

6.1.3 Sourcing Location Options

Regardless of many of the academic perspectives expressed in the literature review, it would appear that labour cost arbitrage (Williamson, 1979, 2008; Tadelis and Williamson, 2012) will remain the mantra of UK footwear firms as their primary strategic sourcing imperative, certainly in the short term. In this respect they are faced with a number of challenging locational options to consider.

6.1.3.1 Far-shoring: Default Strategy

Far-shoring will in all likelihood continue to be driven by a fixation with low labour cost, especially for non-fast fashion women's segments. The data from the case study respondents and a number of the KIs clearly indicate that for them and other UK footwear firms current sourcing strategies are unlikely to deviate from this path. They will argue that current SCs are well

established, most suppliers are very reliable, have production capacity, are ethical and contractually trusted.

The far-shoring sourcing strategies of most of the case study companies examined in this study reflect a managerial mind set of what may best be described as a '*linear sourcing*' mentality which is becoming progressively more problematic as a 'single strand' strategy that may not be viewed as increasingly less viable by buyers (Vissak, 2010).

Many firms within the UK footwear sector are demonstrably losing control of core functions within their SC operations evidenced by their deteriorating financial performance. A possible cause of this increasingly poor sector performance is illustrated by the model shown in Figure 6.1. The model draws on a range of issues around accurate product costing e.g. the failure to apply advanced costing methodologies such as ABC, TCO and parametrics, poor stock management and contractual constraints such as MOQs. Additionally, a number of elements within the model are not derived from any previous research literature but from the researcher's own considerable experience in footwear product sourcing management. The model demonstrates how many UK footwear firms are caught in a vicious downward spiral where the root cause is located upstream of production i.e. misinterpretation of consumer demand and inappropriate design response further compounded by a sourcing strategy decisions deployed around high volume driven contracts (MOQs). This combination is already toxic and potentially lethal through the long term for many UK footwear firms given the risks associated with unchecked cumulative stock build-ups of products saleable only in secondary (discounting) distribution channels.

If firms do continue to pursue far-shoring sourcing strategies, their SCs must by necessity become more agile but the question is how? So far all previous attempts have failed, if anything they have become less agile. However, if further action is not taken it is likely that many footwear firms will become further entrenched in an endless downward spiral, (effectively a closed loop), where 'front end' errors are amplified throughout the whole SC.

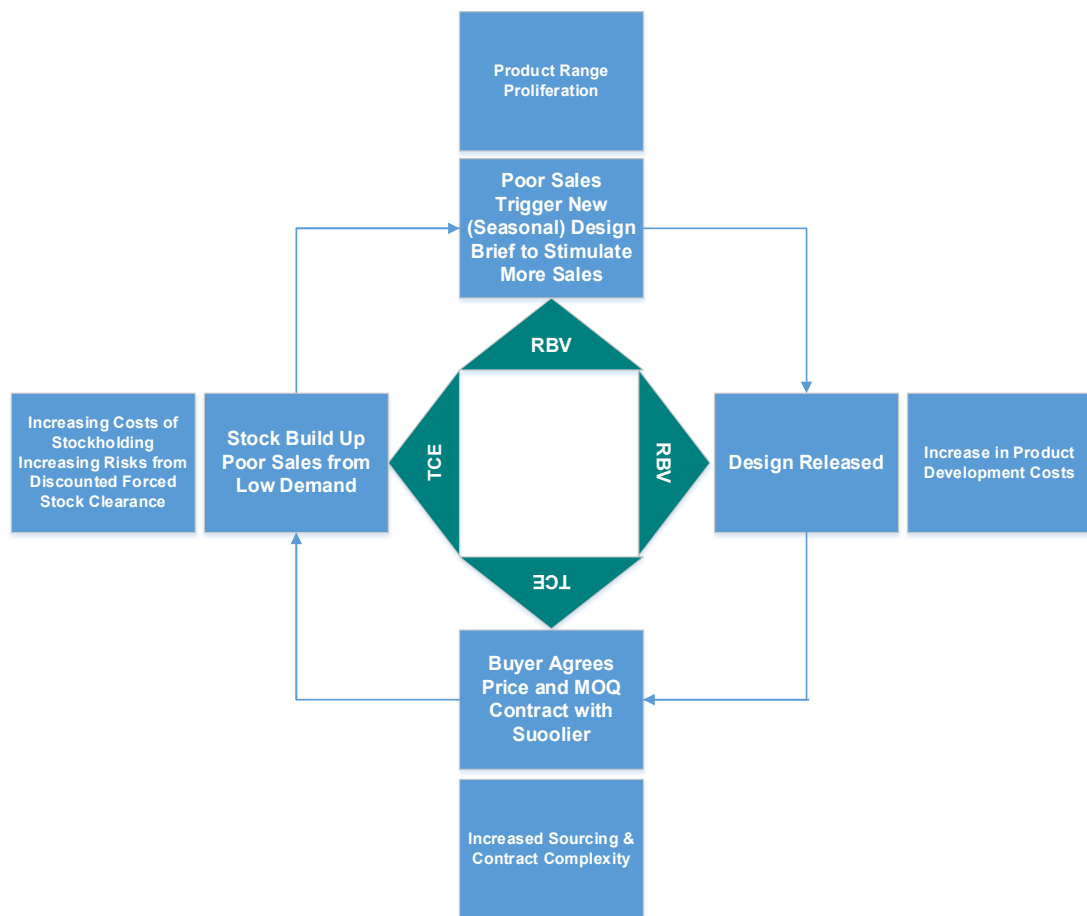


Figure 6.1

Outsourcing Vicious Circle: Design Capability (RBV) and Negotiated Product Cost (TCE) Complementarity Cost Spiral

Source: Author

However, greater SC agility will bring with it new risks:

- (i) Tran (2010) has observed that many fashion companies including footwear firms are tending to rely more heavily on their supplier networks. More responsibility has shifted across to the supplier for upstream pre-production functions e.g. pattern cutting and the grading of lasts
- (ii) as this occurs there is a potentially a greater risk of opportunism (Williamson, 1979, 1985, 2008) on behalf of the supplier. The opportunities for suppliers may encompass a number of potential benefits including inflating costs and prices especially where site governance has been reduced or where a buyer has little understanding of footwear manufacturing processes. These risks will increase as UK firms lose more technical knowledge and fail to retain core shoemaking skills

6.1.3.2 Domestic Outsourcing: A Non Cost Driven Sourcing Strategy

The continued use of domestic outsourcing capacity for short run sampling or promotional volumes would seem to make strategic sense, particularly for MTO manufacturers and micro-firms without manufacturing resources or skills. Under such circumstances, deploying a domestic outsourcing strategy to limit disruption to volume manufacturing, for short runs, promotions or bulk sampling remains wholly appropriate and conducive with supporting domestic SC agility.

6.1.3.3 Near-shoring: Responding to UK Market Shifts

The potential for near-shoring will be critically dependent on the ability to offset higher supplier costs. Near-shoring from Southern Europe, (Italy, Portugal and Spain) may be driven by diverse market forces further reflecting consumer expectations of the availability of more innovative, higher specification products in UK market segments.

Near-shoring strategies become substantially more attractive as viable strategic options if the existing footwear manufacturing resources in Central and Eastern Europe could be leveraged by fully functioning infrastructures capable of supporting significantly large volumes manufactured to higher quality standards and delivered on time at the right prices.

It might be argued, that too many firms in the UK footwear sector dismiss near-shoring as too expensive without considering the wider strategic benefits it could deliver, regardless of the potential for cost neutral outcomes from pursuing hybrid sourcing strategies.

6.1.3.4 Partly Made Goods Outsourcing: Improving SC Agility, Facilitating Near-shoring

It is likely that many UK footwear firms will continue to outsource PMG from the FE, India or EE, especially where closing work content is exceptionally high e.g. hand woven uppers.

From a brand strategy perspective it also allows firms to last and finish in their own UK factories and legitimately claim that their footwear is 'Made in England'. Equally, PMG should be viewed as a complementary strategic

sourcing option, (release valve), and as such a potentially valuable mechanism for facilitating greater SC agility.

6.1.3.5 On-shoring: Adjacency to Existing and Target Markets

On-shoring may become the new product sourcing dynamic, bringing with it maximised SC agility, lower cost via automation and very close proximity to target markets. In effect it is a 'win-win' product sourcing strategy which should result in superior CA for 'first mover' firms with the resources, capabilities and required competencies to deliver it. Such initiatives will require massive financial investment and present new relatively unknown challenges to footwear firms to make it succeed within brown shoe segments of the market with the knowledge that other well-resourced branded footwear firms have so far failed. On the upside is the opportunity to learn from previous mistakes.

6.1.3.6 Re-shoring: Catalysts and Constraints

Doc Martens stands out as the only significant example of a UK firm re-shoring driven on the back of MiE brand demand in China. A Key Informant (KI 3) believes that only the application of advanced technology and robotics in the sector will open the way for meaningful re-shoring. The key question revolves around whether intermediate manufacturing configurations might be both operationally and cost effective enough to deliver both SC agility and an acceptable return on investment, sufficient to encourage other re-shoring initiatives within the UK footwear sector.

In all probability, through the short term, hybrid (non-linear), may provide a relatively cost neutral 'quick fix' for coping with market turbulence delaying consideration for re-shoring opportunities.

6.1.4. Footwear Costing Accuracy: Foundations for Making the Right Sourcing Location Decision

Costing management capability which emerged as an issue for a number of case study respondents suggests that costing competence within the sector needs to be upgraded in order to better inform the location decision.

6.1.4.1 Sector Costing Competence

Whilst a number of major brands display high levels of competence in product costing, in general, industry costing methodologies appear to rely heavily on the application of barely adequate historical cost data and at best advanced standard costing systems utilising synthetic task timed data bases.

Alternatively, some UK shoe firms, especially those outsourcing, engage in reverse costing approaches run the risk of unwittingly paying their suppliers too much. In general with regard to the sourced product cost component, such approaches are dependent on high levels of trust and integrity in the buyer-supplier relationship which appears at odds with short notice 'supplier shifting'.

In terms of building a viable case for challenging and possibly reducing supplier costs, there is a need to move towards understanding and effectively applying more advanced methodologies to achieve greater precision of calculating both prime and overhead costs to open up non-linear sourcing options. In such circumstances these advanced methodologies

become the building blocks of a TCO high integrity robust costing model. In essence, acquiring advanced costing skills creates an entry point for re-strategizing and identifying viable multi-locational sourcing options.

From the outputs derived from the case studies, three supplier costs have been identified which deserve considerably more attention than is currently the case, having the potential to significantly influence negotiations around supplier prices:

- (i) demonstrate how supplier margins increase through productive labour gains i.e. moving up the learning curve of highly repetitive tasks in high volume manufacturing shortens task times
- (ii) eliminate excessive material waste, particularly incurred by failing to apply leather saving incentives through maximising upper leather cutting utilisation
- (iii) work more closely with suppliers to advance the implementation of LEAN practices and other related cost reducing programmes in their factories

6.1.4.2 Implementing Advanced Costing Methodologies

Intelligent sourcing strategies (Fine, 2013; PwC, 2013) demand a much more rigorous approach to product costing than is currently the case. The TCO argument (Ellram, 1993; Ellram and Siferd, 1998) is a strong one underpinning the re-shoring lobby's case for manufacturing repatriation, especially in the US (Moser, 2010) and in Europe (Fratocchi et al., 2016) although their efforts have tended to focus on higher value added products rather than garments or footwear.

It would appear that, for whatever reason, the respondents in this study have chosen not to exhaustively evaluate the potential strategic value of implementing advanced costing methodologies. Nevertheless, they should be of interest at least as a cost/benefit exercise and as a learning curve in the use of TCO models if only initially for sourcing cost comparative purposes. An example of a TCO model, is shown below (Figure 6.2) (Also shown as Figure 210 in Literature Review).

It may further benefit shoe firms from the perspective of exposing deep seated hidden product costs. The aim would be to establish if 'true' total cost magnitudes are lower or higher than those they have assumed apply in their firms. It might then act as a catalyst to facilitate the deployment of 'geared' sourcing strategies (discussed in Section 6.2 below).

The application of ABC (Cooper and Kaplan, 1988; Cooper, 1987) should not present any significant difficulties for many footwear firms given the availability of substantial cost data already accrued, their costing knowledge and the requisite IT skills and computer resources already in situ.

Parametric costing (Camargo et al., 2003; Mileham et al., 1993) whilst presenting application challenges for SMEs, should be well within the capabilities and resources of MNCs/global brands who already use relatively advanced financial control systems, deploy advanced computing power and will possess the human resource capacity to construct a multi-disciplinary evaluation project team.

6.1.5 Technology and Future Sourcing Locations

On-shore or re-shored manufacturing facilities leveraging robots and Industry 4.0 is a tantalising solution in response to a rapidly changing and turbulent global as well as UK domestic markets. It is further suggested by KI 3 that the only long term 'route' open to fully revitalise the UK footwear manufacturing sector is to go much further and invest in the development of market adjacent SC strategies i.e. an on-shore/re-shored capability utilising cyber physical systems (CPS) alongside other Industry 4.0 applications supported by real-time data systems.

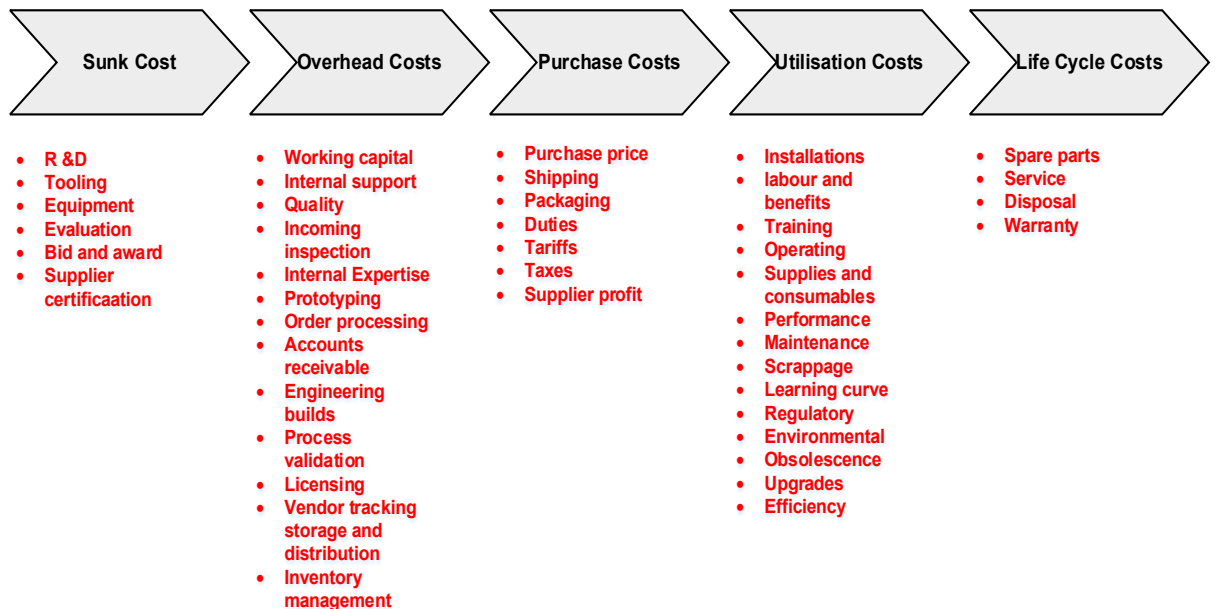


Figure 6.2

TCO Model (also presented in Literature Review as 2.10)

Source: Internet: Powerpoint Template: Sketch Bubble, research bubble.com (2016)

In the footwear sector, this would include intelligent robots, for product placement and positioning used in combination with leading edge automated footwear machinery and equipment e.g. computer aided upper leather

cutting, computerised stitching, automated roughing and lasting, quality inspection, supported by diagnostic data analysis on machine performance and reliability.

Two of the world's biggest athletic/athleisure global brands: Adidas and Nike have already heavily invested in successfully operationalising fully automated modules/manufacturing 'tracks'. Adidas have been running 'Speedfactory' in Germany for some years and now have another module manufacturing in the US, producing athleisure footwear for their European and US customers with further strategically located roll-outs. These should be used as pathfinders for UK footwear firms. The challenges are greater for conventional footwear products and constructions. Automation becomes more problematic where the main raw material is leather, when work content in closing is high, especially when stitching 'on the round', where lasting constructions are used such as direct stuck soles, sandalveldt (SV), moccasin stitched or welted are produced and where finishing processes may be multi-layered. Nevertheless some of the 'groundwork' has already been done

Even though the Clarks Morelight project failed, it need not have been wasted if what they learned can be passed on to other firms within the UK footwear sector. The strategic thinking that lay behind it would appear to be sound.

Whilst Clarks cited technical problems with their automated machinery, resulting in very low productivity, as the main reason for closure it is likely that this was aggravated by a combination of the lack of shoemaking

knowledge and 'know-how' coupled with an insufficient understanding of how to manage the advanced technology. Nevertheless, there remain sufficient technical problem solving skills available within Europe, particularly in Italy, to pursue a revised approach.

A model of current Industry 3.0 and Industry 4.0 applications is presented below in Figure 6.3 to demonstrate how far 'leading edge' technology has penetrated the sector. It is interesting to observe that the UK footwear industry has not yet, for whatever reason, fully implemented wide ranging technology based initiatives to improve UK manufacturing performance, based on a full Industry 3.0 offering (Tantawi et al., 2019). As for Industry 4.0 initiatives, few if any, are in evidence within UK footwear firms factories.

Unfortunately, the experience of Clarks may have acted as a future deterrent for other leading footwear firms who may have been inclined to follow suit.

Nevertheless, there are some scenarios where these current limitations could be overcome. Much may depend on the impact of 4IR in other UK manufacturing sectors.

From a pragmatic, strategic perspective, a fully automated system may not be absolutely necessary to sustain on-shoring or accelerate re-shoring if a cost effective capability can be achieved given the proven effectiveness of intermediate/hybrid manufacturing systems such as those deployed by C5. Yet, for most UK shoe firms, even intermediate (semi-automated) systems may be well beyond their reach. Apart from the criticality of acquiring new knowledge, the 'front end' capital costs are clearly prohibitive especially for SMEs. Given the available output data from the Clarks Morelight project, it is

reasonable to project forward that for many SMEs to manufacture current volumes to meet market demand for relatively low work content products would require minimum start-up investment in plant and machinery and robots in the region of £15 million to £25 million.

Looking at the much bigger picture, it is possible that for the footwear sector and, indeed other similar fmcg sectors, technology driven on-shoring or near-shoring could eventually slow or even reverse further globalisation.

Alternatively, technology facilitated re-verticalisation, (Broedner et al., 2009), an approach similar to early supplier involvement (ESI) (Zsidisin and Smith, 2005) may accelerate regionalisation of SCs.

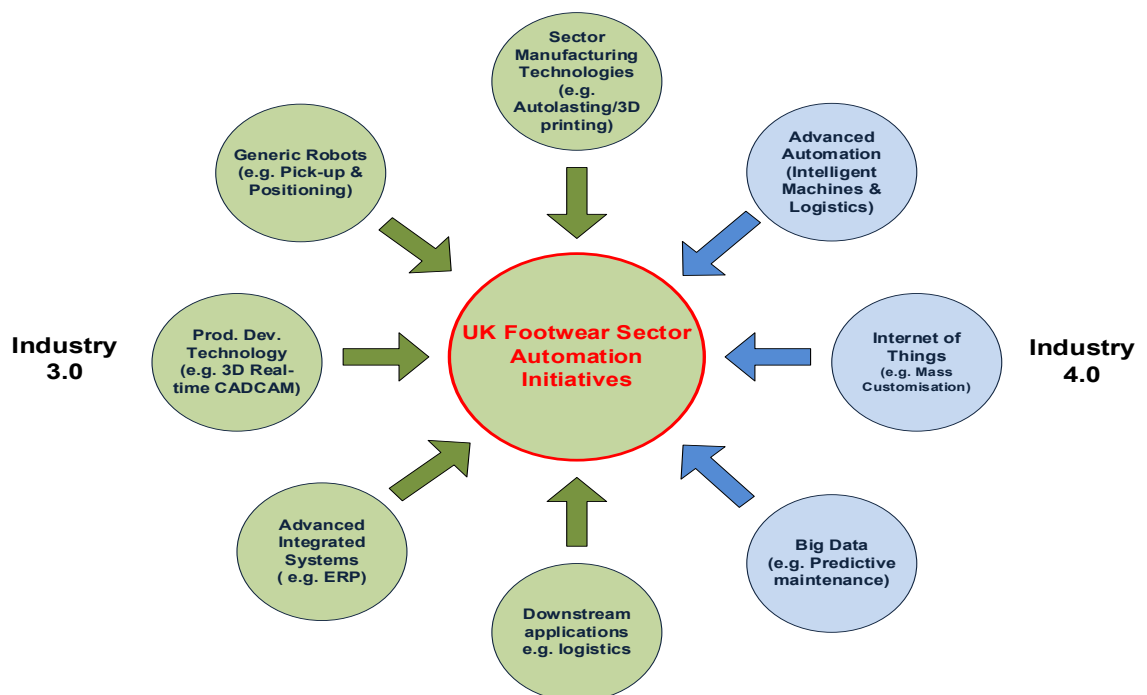


Figure 6.3

Current Industry 3.0 and 4.0 Technology Applications within Footwear Sector: UK & Non-UK Manufacturing Firms

Source: Author

6.1.5.1 Other Technology Applications

There is some evidence from the case studies that smaller UK shoe firms have already recognised that they will only be able to achieve greater agility by pursuing incremental upgrades, from more restricted capital budgets, for non-manufacturing elements within their end to end supply chains. Such approaches will be driven primarily by harnessing, (cherry picking), a number of Industry 3.0 and 4.0/ IoT technologies e.g. via better (real time) data management for sales forecasting, improved market intelligence (Dwivedii and Chakraborty, 2017) and shortening design and product development processes (Zsidisin and Smith, 2005) e.g. via advanced real time 3D CAD/CAM systems (Paris and Handley, 2004), improving communications with suppliers working in different time zones. This may also have knock-on benefits such as reduced supplier costs to subsidise more air freighting.

6.1.6 Section Summary

UK footwear firms outsourcing off-shore must find workable solutions to the lack of SC agility. The reluctance to consider adopting advanced costing methodologies to provide more accurate costs should be addressed. A neglect by footwear manufacturers to exhaustively assess the impact of greater automation and commit to investment is surprising, given the early success of EUROShoE (Dulio and Boer, 2004). Most significantly, C5 have demonstrated how automation in domestic manufacturing can be achieved to support a claim of consolidating their CA in a dynamic, even fickle UK market.

Given such shortcomings, the most serious constraint to deploying agile non-linear sourcing strategies is the rapid erosion of sector knowledge, expertise and skills (Kucera, 2020) which if not reversed may accelerate further decline

in sector capability. Alongside the development of technology savvy management skills, shoemaking ‘know-how’ represents the fundamental building block for deploying so called intelligent product sourcing strategies, (Fine, 2013). However, others disagree:

“The new focus is on speed rather than cost” (Suresh Dalai, Senior Director, Alvarez and Marsal).

6.2 New Approaches to Product Sourcing Strategy

The aim of this section is to consider potential new approaches to footwear product sourcing based on the observations discussed in section 6.1, which may aid the future development and deployment of more effective UK footwear product sourcing strategies. They are intended to identify a number of pathways to better address many of the current issues which are entrenched in many UK footwear firms.

The root causes of the current difficulties appear to stem mainly from a lack of supply chain agility combined with increasing global market turbulence, which, in order to fix, necessitates more nuanced (‘finely tuned’), approaches to product sourcing which by necessity engages with every part of a footwear firms activities.

It is proposed that most firms within the sector could benefit from using a wider range of diagnostic tools that will enable them to:

- (i) develop a better understanding the more complex nature of pursuing intelligent sourcing strategies
- (ii) deploy a much more sophisticated approach to product costing, and that this will require a substantial upgrade in a range of

managerial skill sets and new knowledge not just in costing competence

- (iii) adopt a more pro-active stance in evaluating the potential for automation, regardless of whether they are manufacturing or outsourcing offshore, by recognising the future role of technology in achieving survival level SC agility to increase the range of location options for CA
- (iv) be operationally ready i.e. aware of operational needs, possess the necessary new skills and the management of technologies should a paradigm shift in consumer demand occur e.g. product customisation emerging in volume

Consequently, the new broad strategic imperative is to rigorously review and evaluate every phase within the SC. A single (obsessive) focus with reducing outsourced product cost, is unlikely to succeed as a supply side strategy in the medium, let alone longer term. Nor will it deliver satisfactory performance in terms of revenue or profitability as firms further accumulate missed market unsold stocks.

As part of this broad-based strategic review, UK footwear firms will need to consider the viability of a combination of sourcing location options. Equally critical is to develop mechanisms capable of identifying all incremental shifts in sourcing costs across the whole supply chain, wherever they are identified, and are sensitive as to how collectively they impact on business performance.

A rigorous in depth analysis would provide a foundation for developing and deploying non-linear sourcing strategies that will achieve the degree of SC

agility required to deal with increasing levels of volatility in specific segments of footwear markets. This in turn, necessitates managerial decision-makers to adopt a wider resource based perspective of their product sourcing strategies, as opposed to the prevailing sector transaction cost dominated strategic imperatives.

6.2.1 Redefining Make-Buy Decision as a Product Sourcing Continuum

This research study culminates in the presentation of a 'toolkit' or portfolio of models, which have been constructed around the 'make or buy' product sourcing decision. Most of these models can be used in both a theoretical and management practice context. Resource based (Barney, 1991, 2012; Wernerfelt, 1985, 2020) product sourcing strategies should be further considered as the most far-reaching initiatives in broadening strategic options to the 'make' decision i.e. manufacturing in proximity to markets but equally recognises that the continuance of transaction based approaches (Williamson, 1979, 2008; Tadelis and Williamson, 2012) to the 'buy' decision remain viable as they are currently deployed within the UK footwear sector but become significantly more effective when non-linear strategies are pursued.

With this in mind, a complementary TCE/RBV model has been constructed, (Figure 6.4), which views the relationship as a continuum along which footwear firms can configure their strategic approach. Indeed complementarity between RBV and TCE (McIvor 2009; Ellram et al., 2008; Leiblein and Miller, 2003) is already in evidence within the UK footwear sector. Increasingly, more UK firms, including high end brands are making

the decision to outsource PMG and components. Optimisation is achieved through reducing prime cost (TCE) whilst protecting production capacity (RBV). Consequently, this model becomes an additional framework to add to the toolkit. In simple terms, they mix and match sourcing strategies based on their strategic objectives, determined market penetration strategies, their own evaluation of their strengths and weaknesses and the way to optimise their (scarce) resources and capabilities. It is acknowledged that sourcing decisions are already made with regard to footwear firms experience of managing in turbulent market conditions but much of this 'know-how' is based largely on an awareness of prevailing environments and as such, future strategies will necessarily need to be responsive in different ways i.e. revised more frequently over time requiring a range of upgraded capabilities such as the construction of very advanced real time data bases and continuous rather than seasonal product releases.

However, even a theoretical model based on an RBV/TCE continuum is still less than adequate in terms of reflecting the complex interactions between firms and markets. In reality, a wide range of scenarios and resource deployments may need to reconfigure at short notice to 'fine tune' product sourcing strategy where nuanced market segments require it. As such, this research project presents the construction of a new theoretical framework which recognises these increasingly complex relationships within the context of better understanding organisational behaviour (OB) and how that impacts on responsiveness in relation to product sourcing. For example: what is the relationship between transaction frequency and inbound/outbound logistical performance and stock management? How does a buying firm better

manage the risks associated with supplier opportunism? How can true outsourcing costs be calculated in the absence of shoemaking knowledge?

As a result an additional theoretical make or buy model (Figure 6.5) has been constructed to work in conjunction with the theoretical perspectives developed from those identified by Hatonen and Ericsson (2009) (see Figure 2.2).



Figure 6.4

Make-Buy Product Sourcing Continuum

Source: Author

The model assumes that:

- (i) work of Hatonen and Ericsson (2009) is relevant
- (ii) theoretical lens i.e. TCE and RBV are the most appropriate for product sourcing research

The aim is to provide a usable, appropriately complementary flexible diagnostic tool which will further assist in the consideration of both the 'or' and 'and' options with regard to product sourcing strategy. As with similar frameworks, its intended purpose is to bring greater analytical rigour to the 'make or buy' decision making process.

An additional benefit is to bring theoretical concepts (TCE and RBV) relevant to footwear product sourcing into the thoughts and possibly actions of management practitioners engaged in all aspects of the SC.

Considering a Porterian (1985) view of achieving and sustaining competitive advantage within the UK footwear sector, there is now little scope for pursuing a differentiated or cost based strategy in isolation. The model shown in Figure 6.5 is an additional framework which acts as 'sense check' facilitating the application of an over-arching strategy development tool which reduces the risk of missing a trick' e.g. misalignment between sourcing strategy and operating systems (Judson, 1990). It assumes that the most critical areas of product sourcing strategic options have been identified. In this regard it is complementary to other tools developed e.g. Supply Chain Capability and Risk Model (Figure 6.16).

In summary the contribution to theory made through this research is to say that current RBV and TCE as stand-alone theoretical models have limited value in better resolving or supporting the 'make or buy' product sourcing decision for UK footwear firms. A deeper understanding as to how these decisions and hence strategies are arrived at now require a greater awareness of the complex inter-relationship of organisational routines.

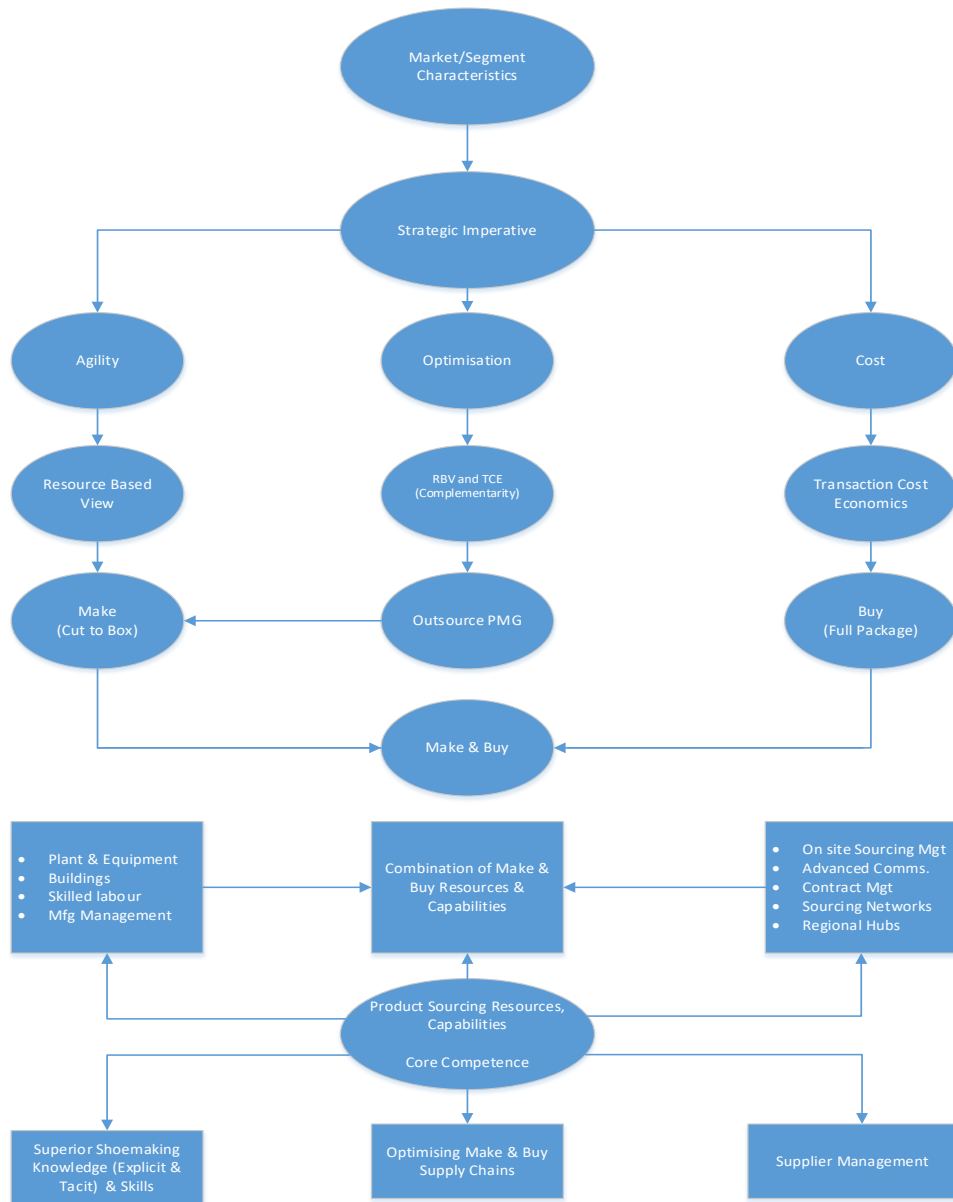


Figure 6.5

Make or Buy/Make and Buy Framework

Source: Author

6.2.2 Geared Product Sourcing Strategies

The thinking behind the development of geared sourcing concepts is an extension from the concept of what PwC (2013) describe as ‘right-shoring’ i.e. most effective way to combine supplier locations via far-shoring, near-

shoring or on-shoring to achieve greater agility and minimise significant product sourcing risks (Allon and Von Meighem, 2010; Clinton, 2004). The potential value of geared sourcing concepts is likely to be most effective if accompanied by more accurate sourcing product costing. The objective is to illustrate that linear sourcing strategies (Vissak, 2010) can and should be challenged given the latitude afforded to sourcing strategists when precision costing methodologies identify costing 'slack' (technically surplus funds). These in turn facilitate opportunities for developing a number of alternative non-punitive, (zero sum), agile strategies which in turn creates greater competition within supply chains (Christopher 2000). Three examples are set down below, based on degrees of SC agility such that they further stimulate a potentially more diverse bundle of risk mitigating strategic sourcing options.

The deployment of geared sourcing should be further directed at fulfilling differentiated consumer market segments and/or targeted niches within a domestic or global strategy. In not thinking more critically about gearing, UK footwear firms are not doing enough to rigorously test the robustness of their current sourcing financial models. The conceptual models shown below (Figures 6.6, 6.7 and 6.8) are also intended to stimulate more rigorous debate in order to challenge 'linearity' in sourcing strategies (Vissak, 2010). In this context, a highly geared sourcing strategy (or gearing ratio) indicates that a firm has a greater commitment to a linear sourcing, (far-shoring), solution (e.g. large batch sourcing from China or F.E suppliers often characterised by huge contractually binding financial commitments).

The 'mid' geared model, (Figure 6.7) is aimed at the optimisation of agility and sourced product cost, particularly by emphasizing the central role of near-shoring.

By contrast, a low geared strategy (Figure 6.8) reflects the desire to deploy a non-linear highly agile sourcing strategy resulting in far less commitment to long term supply contracts, and hence with more degrees of freedom to source small batches (minimised MOQs) of product from a variety of alternative suppliers bought within a relatively narrow time frame.

This non-linear strategic imperative is directed at maximising quick response to markets such as that pursued by C5. The potentially higher manufacturing costs can be offset reduced or even negated by leveraging leading edge technology to operationalise fully automated or semi-automated configurations to create 'win-win' strategies whilst limiting financial (investment) risk.

The model shown in Figure 6.9 aims to illustrate the combined impact of all the tools within the strategy toolkit available to support sourcing strategists and operations managers. It seeks to demonstrate the potentially central roles of a firms core competences and geared sourcing as a focal point in maximising sourcing performance outcomes.

The model relies heavily on developing upgraded resources, capabilities and upgraded core competences across the whole firm in order to be more effective and stresses that high performance product sourcing management cannot operate in partial isolation. The core competencies required to effectively implement geared sourcing are discussed in detail below.

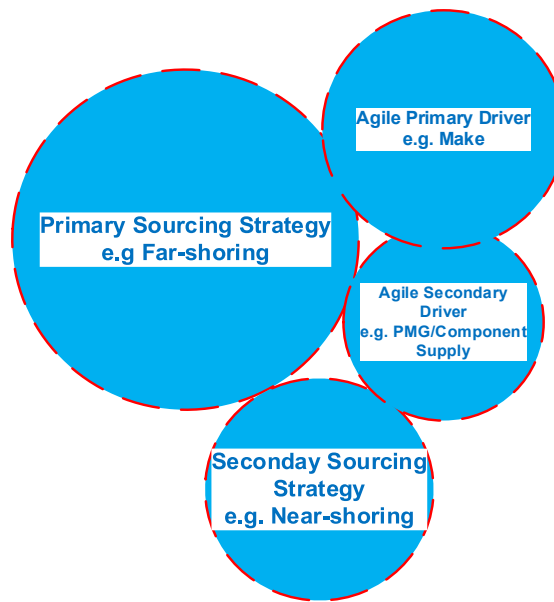


Figure 6.6

High Geared Product Far-shoring Strategies (Low Agility)

Source: Author

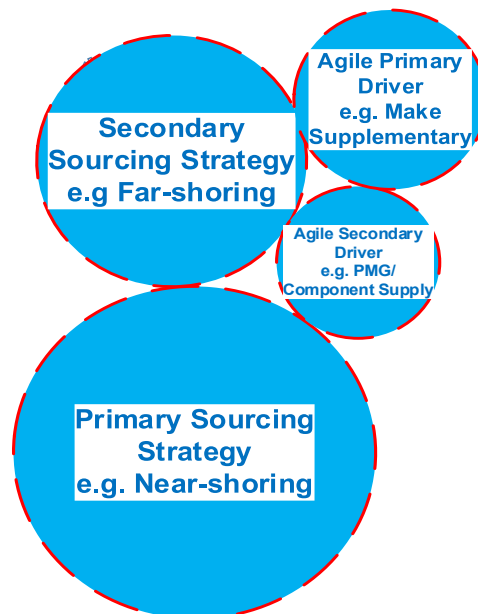


Figure 6.7

Mid Geared Product Sourcing Strategies (Near-Shoring): Moderate Agility

Source: Author

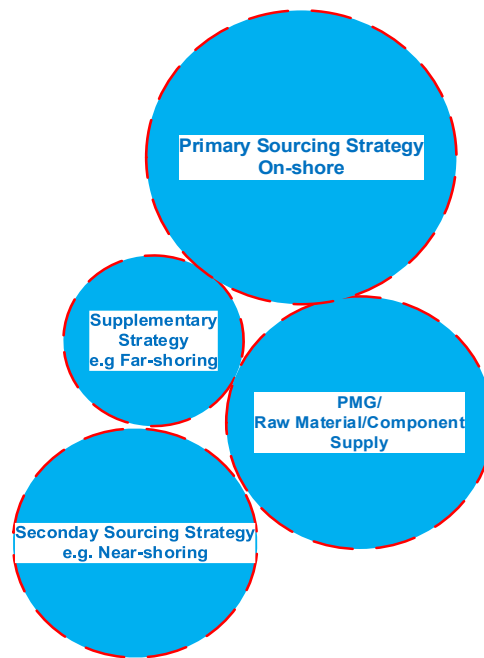


Figure 6.8

Low Geared Product Sourcing Strategies: (High Agility)

Source: Author

6.2.3 Future Costing Approaches: Establishing True Sourcing Costs of Outsourcing as a Base Position

There is evidence from the case studies and from key informants that the deployment of inaccurate costing methodologies is leading to a loss of control within their sourcing operations, largely aggravated by the absence of competent costing skills and the application of advanced costing methodologies within buying firms. Whilst it is not the intention in this research project to develop an upgraded fully operational sector specific costing process model, it is a worthwhile exercise to outline how this could be developed in principle.

This may conceivably form the basis for further research (see Chapter 7 below), whether undertaken in an academic environment or within the UK footwear sector itself (e.g. by the BFA or SATRA).

6.2.3.1 Standard Costing: Levelling Up

As a starting point, a step by step approach to achieving a higher degree of standard costing accuracy is shown in Figure 6.10 below and is intended to do little more than to stimulate thinking with regard to adopting a revised more incremental approach to improving current cost allocation skills. The model is based on a four stage costing process which calculates:

- (i) accurate buyer generated costings based on standard costing principles applied to all prime costs i.e. both labour and materials, (using synthetic labour cost data)
- (ii) overhead costs based on ABC as a platform for developing bespoke TCO methodologies as opposed to applying a percentage uplift on prime cost
- (iii) an intermediate cost (FOB), agreed between buyer and supplier for the production of an agreed pathfinder bulk pairage
- (iv) a revised cost (FOB) agreed between buyer and supplier based on (a) revised prime material prices e.g. greater leather cutting efficiency and (b) reduced direct labour cost from 'super-skilling' productivity gains, 'lean' or other mutually agreed method improvements

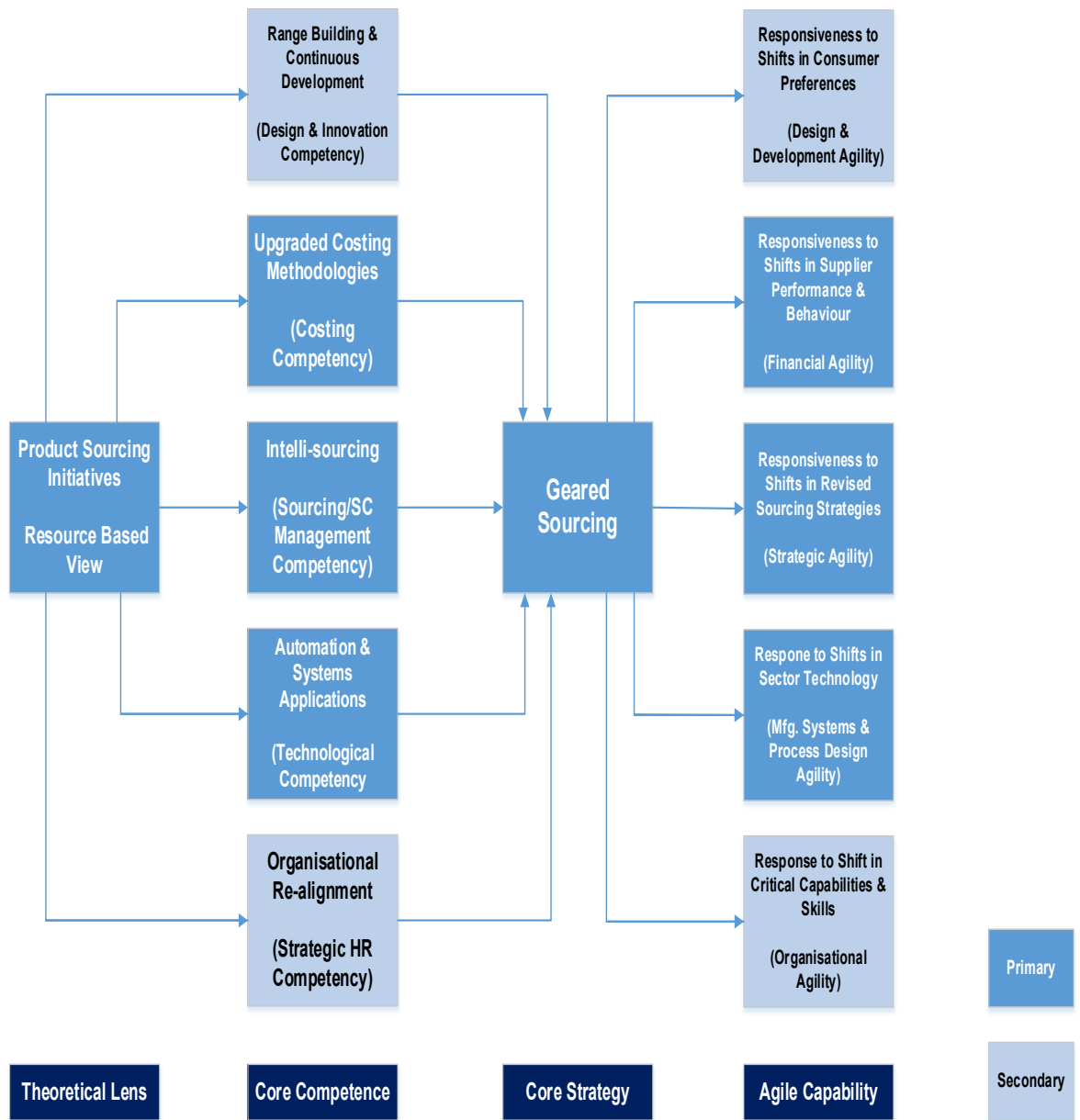


Figure 6.9

RBV: Role of Organizational Agility in Product Sourcing

Source: Author

The approach is of further benefit to the UK footwear industry to assist in facilitating the construction of a viable comparative sourcing cost data (Lindholm and Suomaia, 2004).

For the sector the future aim must be to:

- (i) roll-out an awareness across the sector of the benefits from deploying advanced costing methodologies
- (ii) pro-actively support their implementation across the UK industry where firms indicate a willingness to adopt them

In this regard there is a need to emphasize the critical role of footwear sector support organizations such as the BFA and SATRA in achieving the above objectives.

6.2.3.2 Upgraded Costing Methodologies

The Costing Framework shown in Figure 6.11 may be used as a 'road map' for future advanced costing methodology development which not only upgrades existing buyer approaches but might also incorporate advanced supplier side costs analysis. It is also intended to establish current costing capability, (as a firm's benchmark), along a costing skills upgrade continuum.

A further advantage of this model is to utilise it to bring greater clarity by viewing costing from a strategic as well as an operational and financial perspective, which potentially makes a contribution to achieving sustainable CA.

Whilst the author regards ABC and para-metrics as elements to construct a sector specific TCO costing model it is acknowledged that a firm may choose to adopt other stand-alone generic TCO models.

It is further recognized that individual firms will need to make their own judgements as to whether they feel there is an evidenced need to transition to what they may perceive as a challenging step change in costing approach.

Nevertheless it may have revealing consequences for sourcing decision making.

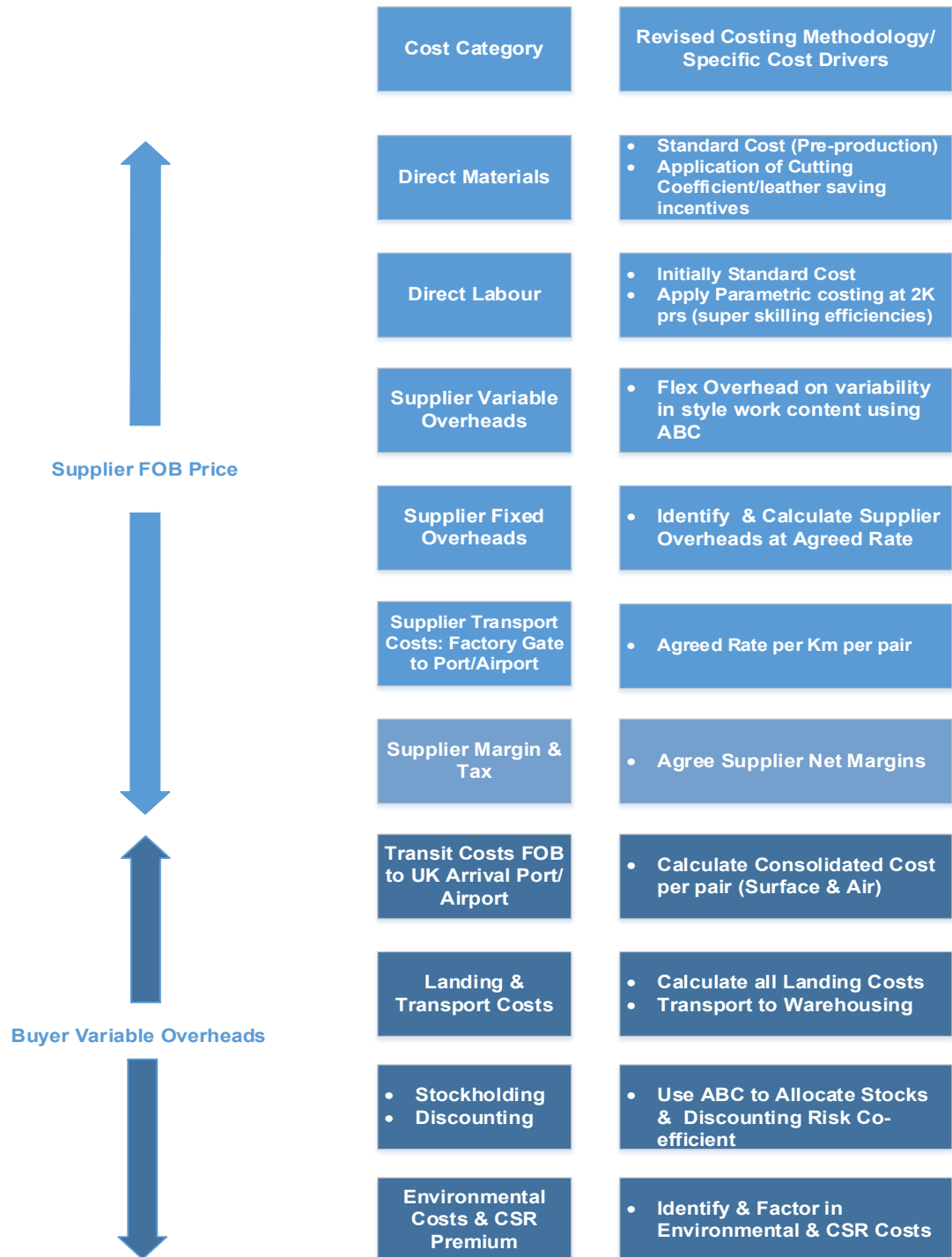


Figure 6.10

Conceptual Upgraded Sourcing Costing Model Framework

Source: Author

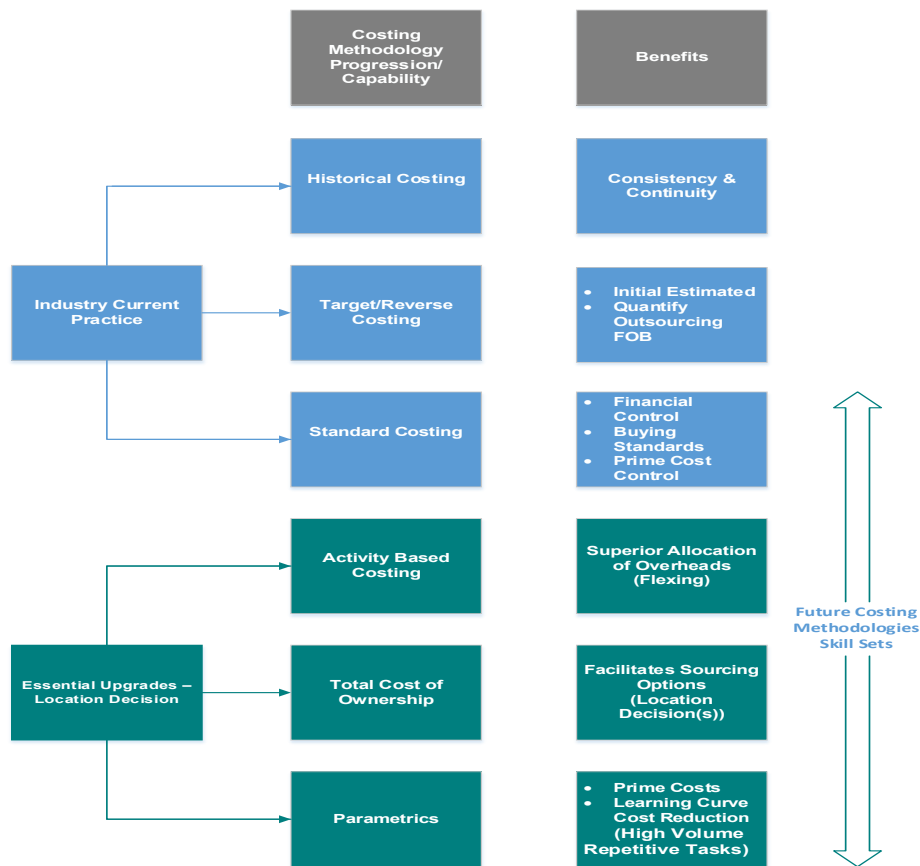


Figure 6.11

Costing Methodologies: Sector Capability v Sector Needs

Source: Author

6.2.3.3 Buyer-Supplier Interactive Costing Process

The process developed and shown in Figure 6.12 is intended to be complementary to those developed in Figures 6.10 and 6.11 and has the added benefit if it is developed in tandem with initiating a more pro-active buyer engagement for joint costing at a time when the trend has been in the opposite direction i.e. reverse costing (Feil et al., 2004; Dekker, 2003).

There are significant risks in adopting such an approach for both buyers and suppliers, especially if suppliers resent what they see as draconian

intervention in their internal processes, potentially damaging buyer-supplier relationships which may threaten the continuity of strategic supplier partnerships.

The interactive model (6.12) as with others, has been designed to stress the requirement for:

- (i) cross-party disciplined high level costing process
- (ii) criticality of supplier involvement in the costing process and the consequences of supplier exclusion from it
- (iii) how advanced costing methodologies might fit into a changed relationship which can be demonstrated as beneficial for all principal parties in the SC e.g. avoid pre-emptive supplier switching by buyers reacting to supplier prices
- (iv) 6.12 has heightened significance for 're-verticalization' (Olsen and Ellram, 1997, Applebaum, 2008; Smart, 2008) within the supply chain.

Given the potential strategic advantages, cost savings, especially on prime costs, the research outputs, (from interviews and key informants), suggest that at least one UK footwear firm will actively seek to upgrade their costing capabilities using a similar pathway.

Costing Phase	Pre - sourcing	Initial Bulk/ Initial MOQ	High Productivity (Skills Learning Curve)	Advantages (Selective)	Disadvantages (Selective)
Costing Source	Buyer – HQ Site	Buyer and Supplier	Buyer on Supplier Site/ Buyer on HQ Site	(i) greater accuracy of HQ benchmark costing (ii) better quality and cost control of initial volumes (iii) eliminates supplier excessive margins	(i) increased O/H costs for database maintenance (ii) increase conflict in price negotiations (iii) marginal increase in on site supplier oversight costs
Costing Method	Buyer/Industry Derived Standard Costs (Synthetic Data or Measured)	Agreed with Supplier (Against Buyer Standard Cost Calculation FOB)	Upper Leather Utilisation Based on Agreed Cutting Standards (Graded Leather Cutting Co - efficients)	(i) improved leather utilisation (ii) potential cost reduction above 20% (iii)	(i) supplier resistance to intervention (ii) collusion with leather supplier to hike price (iii) poor leather quality - disagreement on grading co - efficients (iv) contract terminated
			Direct Labour Adjusted Against Parametric Cost Curve	(i) reduced task times increases capacity (ii) reduced direct labour cost potential circa 10% - 20%	(i) supplier resistance to intervention (ii) lack of supplier incentive to maximise efficiency/productivity (iii) issues with cost reduction calculation (parametric) e.g. manipulation of cost data by supplier (iv) contract terminated
			Variable O/H Based on ABC/TCO Uplift	(i) better identified cost drivers (ii) improved cost oversight (iii) cost allocation to more complex styles	(i) Expensive to maintain (ii) requires highly skilled staff (iii) Often creates conflict if used as basis for incentive schemes
Costing Sign Off	At Bulk Release	Initial Agreed Order (MOQ)	At Agreed Volume (e.g. 5K Pairs per New Style/Design)	(i) authorised sign off (ii) more accurate costing (iii)	(i) risk of bureaucracy (ii) inflexibility (iii) culture/guanxi in China

Figure 6.12

Buyer-Supplier Interactive Costing Process Model

Source: Author

6.2.4 Automation and Sourcing Costs

When and if costing as a core competence can be combined with the implementation of advanced technology, such a combination could create a new platform which potentially sustains CA. The current status of automation within the UK sector has been presented above in Figure 6.3 and demonstrates how little progress has been made to implement 4IR initiatives.

Even more concerning, many UK footwear firms in the survey have not yet fully exploited Industry 3IR technologies, (Tantawi et al., 2019). The objective for the future should be to consider a systematic and structured approach which encompasses moving manufacturing or supplier operations to at least full Industry 3.0 capability and then assessing the feasibility of directly upgrading to Industry 4.0 which may better support the selection of product sourcing strategies to be deployed.

In the short to medium term, the likelihood is that only the big global brands will consider such initiatives. Nevertheless, there is an opportunity for those firms constrained from adopting Industry 4.0 technologies to at least understand both their potential within their own businesses and the possibility that they may present an existential threat if adopted elsewhere ('early movers'), e.g. domestically or offshore. Under such circumstances it would be appropriate for footwear sector support organisations and academia to act as the catalyst to engage in a programme of knowledge transfer and training for future deployment of Industry 4.0 technologies and which may generate the momentum for financial investment and from those sectors who already have Industry 4.0 implementation knowledge, expertise and experience e.g. automotive (KI 7).

In the short term, SMEs are more likely to direct their resources towards incremental upgrades to enhance their IT resources and capabilities either side of sourcing operations. Such investments are being made by at least three of the case study respondents involved with this research project.

6.2.5 Intelli-sourcing: Product Sourcing Supply Chain Management Re-structuring

This section discusses two fundamental shifts in perspectives for product sourcing supply chain management to consider. Firstly, the strategic value of 'intelli-sourcing' (Fine, 2013) or a similar modified approach. Secondly, to raise awareness of 'virtual re-verticalisation' to create a seamless, cost reducing, interface between buyer and supplier.

6.2.5.1 Intelli-sourcing: A Revised Approach

Given the prominence afforded intelli-sourcing (Fine, 2013) within the literature to enhancing future product sourcing performance, an attempt has been made to more specifically define what this actually means in relation to SCs operating within the UK footwear sector. In order to develop a clearer understanding, a conceptual high level model 6.13 illustrates the primary functions within a conventional footwear sourcing SC. The potential benefit is its usefulness as a 'sense check' on the critical resources, capabilities and core competence needed for intelli-sourcing to become a more effective, possibly dominant strategic capability. As such it provides firms with a methodology with which to 'health check' multi-functional 'end to end' SC capability.

Further to Fine's (2013) intelli-sourcing assertion that '*the most competent sourcing team wins*', the research conclusions challenge Fine's assumptions from a number of perspectives:

- (i) idea of intelli-sourcing as a dominant sourcing strategy is self-evident if a firm possesses superior resources, capabilities and core competences (RCCA) in all its activities
- (ii) buyers are looking for more radical solutions to substantially reduce outsourcing overhead costs
- (iii) SC relationships within global sourcing operations are shifting. Power is now transferring from buyer to supplier as increasingly wealthy suppliers, especially in China, see opportunities to both defend their manufacturing base and take an opportunistic approach to FDI in the Western hemisphere. (C&J Clark has recently been acquired by a Hong Kong based venture capitalist)

Whilst the model, (Figure 6.13) is a simplification of key tasks which are undertaken within current outsourcing supply chain operations, it nevertheless demonstrates the very wide scope of knowledge and skills to be performed by personnel operating within it. In this regard, the achievement of CA is more challenging than Fine's observation might suggest, since the relative linearity of current SCs amplify the risks associated with failure at any single point along it, let alone multiple points along the SC. (Analogous with series rather than parallel electricity currents).

There is mounting evidence from case study respondents and from key informants that many footwear firms are experiencing poor performance in a number of these key functional silos. Many of these difficulties are emerging well ahead of outsourcing operations, often stemming from serious weaknesses in 'front end' operations.

Ultimately, it is hoped that along with other models developed in this research project, a revised approach to RCCA will complement intelligent sourcing practices and provide footwear firms with a more comprehensive overview of actual rather than desirable resource capability for strengthening/upgrading each functional within their own sourcing operations.

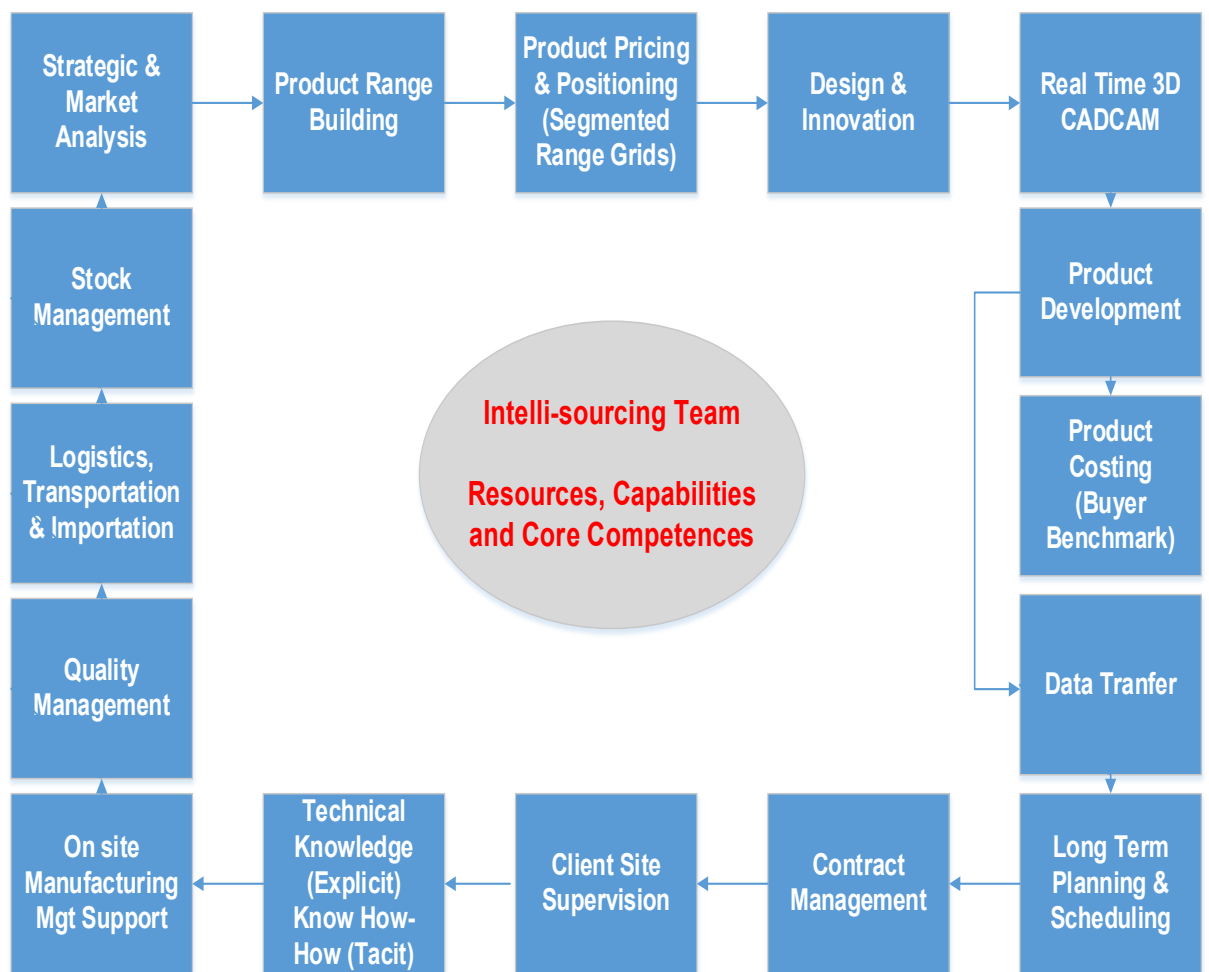


Figure 6.13

Conceptual Intelli-sourcing RCCA

Source: Author

6.2.6 Elimination of the Buyer-Supplier Interface: Virtual Re-verticalisation

As footwear firms grow more confident with their suppliers' capabilities, the opportunity arises that through the longer term that many current interface costs can be eliminated by effectively adopting a virtual vertical organisation structure. Zsidizin and Smith (2005) use the term '*early supplier involvement*' on which re-verticalisation is based (Olsen and Ellram, 1997). In this scenario, suppliers take over all functions beyond design and product range development with buyer personnel in support, but clearly do so at a considerable geographical and physical distance. Such a structure is made more efficient as technological advances impact positively on communications. Other benefits stem from differences in time zones such that work, on say, product development, can be undertaken on an almost twenty four hour basis i.e. both at buyer base and on supplier site.

A conceptual model is shown below in Figure 6.14 and is modified from the model of intelli-sourcing shown in Figure 6.13.

Re-verticalisation brings with it three significant benefits:

- (i) for far-shoring, very substantial reduction in overhead costs by removing buyer operational personnel from the extended SC e.g supplier based oversight
- (ii) potentially creates greater organizational agility within the SC
- (iii) accelerates buyer-supplier strategic partnerships as suppliers become a virtual extension of the buying firm

A visual interpretation of how this virtual docking might be structured is shown in Figure 6.15.

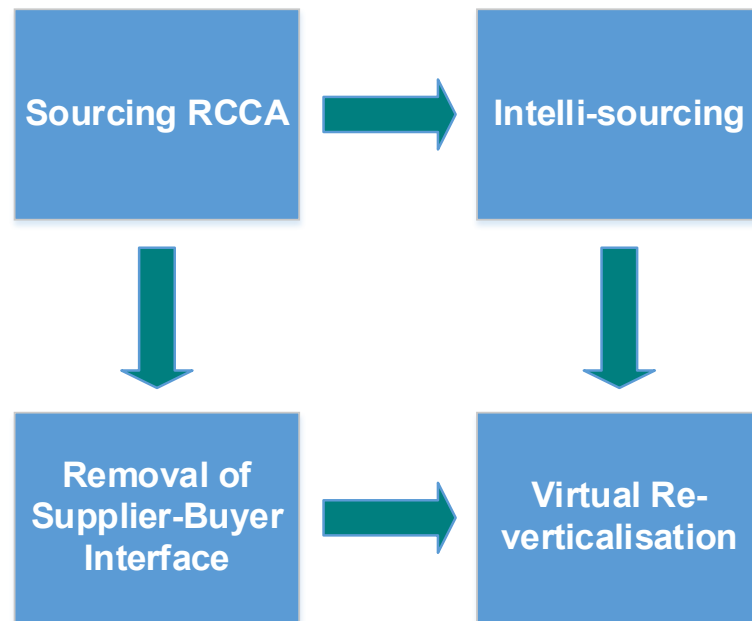


Figure 6.14

Conceptual Model: Virtual Re-verticalisation

Source: Author

6.2.7 Supply Chain Capability and Risk

The aim of this section is to briefly consider ways in which product sourcing risk can be more comprehensively viewed, assessed and mitigated from a strategic as well as operational perspective. From the field research data very few respondents remarked at length about their concerns relating to product sourcing risks or risk management. However, a model has been developed to create a sector specific strategic risk assessment tool and is presented in Figure 6.16 below.

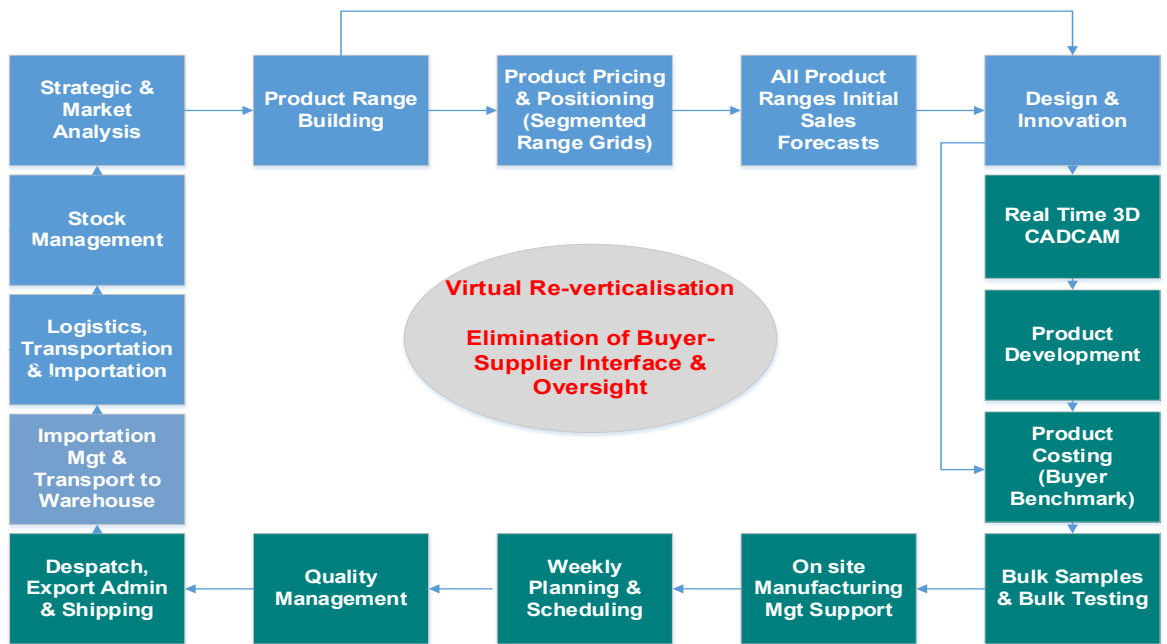


Figure 6.15

Virtual Re-verticalisation: Docking Model (Blue: Buyer/Green: Supplier)

Source: Author

6.2.7.1 Supply Chain Capability and Risk Model

The Supply Chain Capability and Risk Model provides an additional template for developing both a product sourcing strategy over-arching framework and also assessing specific sourcing strategy risks associated with alternative sourcing strategies. As with other models developed within the research project, it is hoped to have both theoretical and practical value for informing product sourcing strategy.

In practice, it can be used to construct a range of risk models to aid the development of alternative risk scenarios associated with either existing product sourcing strategies or the evaluation of risk for future revised sourcing initiatives that may be considered. Its value lies in its simplicity in

use and also its ability to further mitigate sourcing risks i.e avoidance of falling into risk 'black holes'.

Any footwear firm could, if they felt it necessary, modify such a model to meet specific characteristics, nuances and conditions relating to their specific sourcing needs. The model itself is self-explanatory. It revolves around the changing nature of sourcing risk when and if sourcing strategies are modified. The central mechanism for the model hinges on the degree of agility present or desired within the SC and seeks to emphasize that risk is ever present and only that it changes in nature and magnitude as sourcing strategies are revised.

The model might be used to evaluate risks relating to:

- (i) linear strategies seeking out lowest cost sourcing
- (ii) develop a near-shoring SC
- (iii) deploying hybrid strategies by developing a combination of far-shoring, near-shoring and domestic or on-shored supply chains (two and three tier configurations)
- (iv) global brands re-locating/re-directing manufacturing resources to sites highly adjacent to target markets ('in country' sourcing)

6.2.8 Sourcing Strategic Alignment

In order to further support footwear firms to develop the most appropriate product sourcing strategy the researcher is proposing that they should consider adopting a simple model to both test the robustness of the strategy and correct alignment of the operating system via which it is to be delivered.

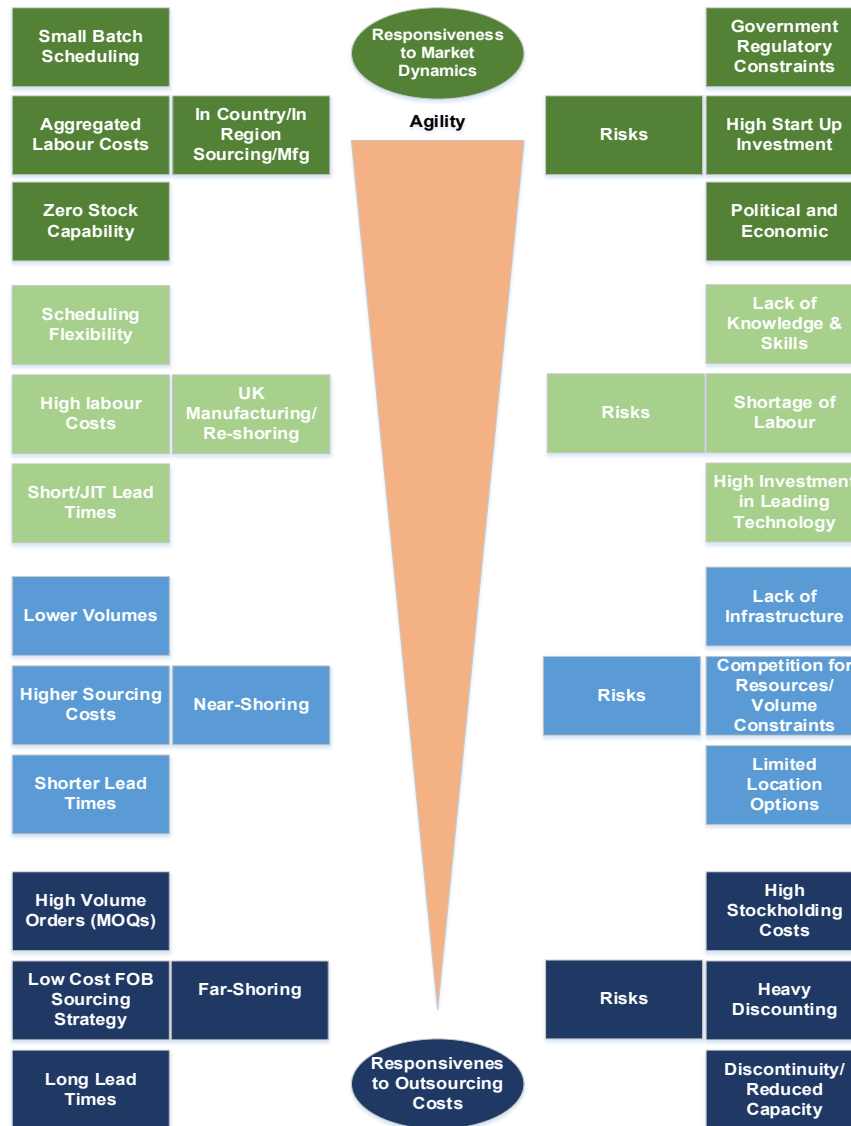


Figure 6.16

Supply Chain Capability and Risk Model

Source: Author

This alignment model is shown below in Figure 6.17. The principle of the model, as with many other alignment models, is to ensure that every facet of strategy development and their deployment are fully consistent (aligned) and can be successfully delivered (Avison et al., 2004; Shimizu et al., 2005). Most strategic failures occur as a consequence of mis-alignment between

the strategy and the operating system constructed to deliver it (Judson, 1990).

As has already been mentioned, footwear markets as with many other fmcg product sectors, are now much more dynamic than they were even five years ago. Given these rapidly shifting conditions it is unlikely that current resources and capabilities within the sector will be adequate to meet future consumer expectations.

Under these circumstances, UK footwear firms will need to more frequently undertake rigorous resources, capabilities and core competence analysis (RCCA) with regard to sourcing strategy and to test if sourcing operations are 'fit for purpose' if they are to continue successfully competing in their markets existing and more significantly in target markets.

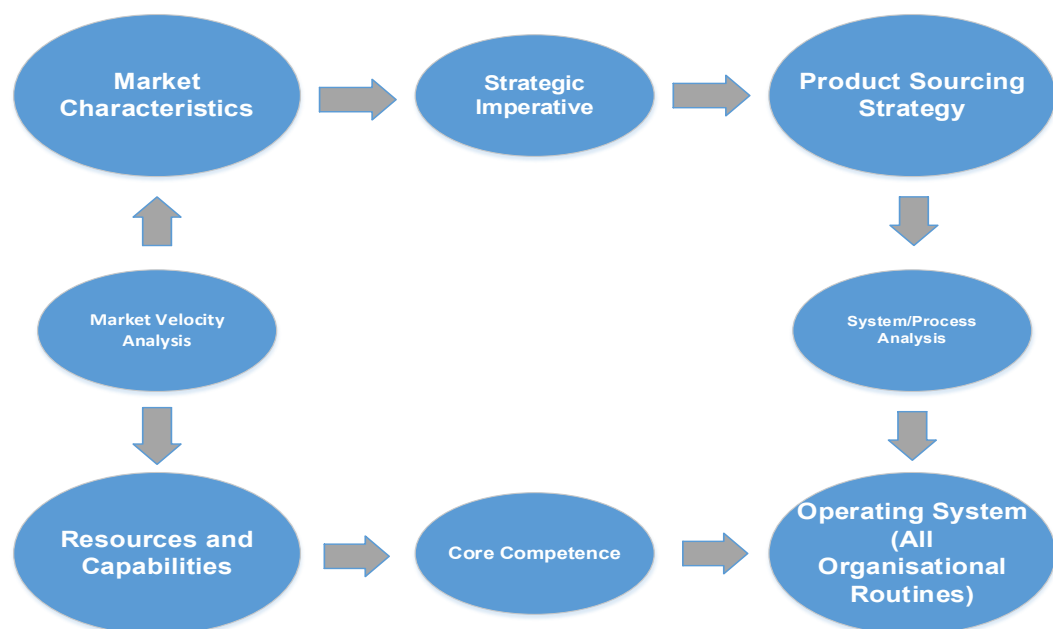


Figure 6.17

Strategic Sourcing Alignment Model

Source: Judson (1990): author modified

Within the alignment model the need is to better understand not only the shift in market behaviour but also the velocity at which these shifts are taking place. Only if this velocity is better understood will firms adequately align the necessary (sourcing) capability with market conditions. In effect, exceptional, organizational agility must replace current organizational rigidities as exemplified by case study respondent C5. Responsiveness becomes the new mantra in an environment now characterized by 'just too late'.

6.2.9 UK Footwear Sector: Short-Term Future and Long-Term Consequences

Strategically, in the longer term, the future of UK footwear manufacturing appears tenuous given the now financial clout of global manufacturing giants in the FE. Beyond and above that, from a global perspective, and in consideration of Williamson's (1979, 1985, 2008) concerns relating to 'opportunism', the potential, especially for well-established Chinese manufacturing firms, to mount aggressive reverse take-overs of vulnerable Western brands giving them direct, possibly unchallenged access to their IP and lucrative distribution channels, could emerge within the next five years. In this regard, the ownership of many well-known UK footwear firms could be held outside the UK and possibly by firms influenced by their governments domestic and foreign policy such as China seeking to protect its manufacturing based economy. Their investment in North Africa is a clear manifestation of their intent to not let manufacturing fragment even as their own labour costs continue to increase. In such circumstances the future of UK footwear firms takes on a different strategic perspective if there is little or no capability to put shoes on people's feet from domestic sources.

Such scenarios are more likely if UK footwear firms continue to pursue linear outsourcing strategies, especially in the FE and if UK based manufacturing firms are unable to sustain their current levels of output, which are in the main produced for niche high value markets many of them for export.

Furthermore, if footwear manufacturing is not considered by UK government as a strategic resource e.g. putting boots on its soldiers, sailors and airmen's feet, then its salvation may weigh heavily on three factors:

- (i) growing kudos of 'Made in England' brands (Doc Martens are now calling their factory in Wollaston the 'Made In England Factory')
- (ii) manufacturing repatriation driven by automation
- (iii) supply chain lessons learned from the Covid-19 PPE (personal protection equipment) fiasco

The recent take-over of the UK's best known 'high street' footwear brand has created a precedent which may have a profound effect on other high profile Western brands and fundamentally change the product sourcing landscape and should be considered as a 'wake-up call' for the UK footwear industry. However, given the likelihood of little government support for the sector at this point in time and without the industry addressing their own shortcomings, these constraints are likely to force UK footwear firms by following a path of least resistance i.e. to continue to pursue linear off-shore outsourcing strategies, thus heightening their vulnerability to hostile off-shore take-overs by Asian venture capitalists. Substantial investment is needed now if similar scenarios are to be avoided. Consequently now might be the time for the UK government to re-consider its low level of support for so-called low tech manufacturing sectors.

Figure 6.18 is a simple model demonstrating that with the resources, capabilities and core competences China now possess, such moves are likely to become more frequent in the medium term. Under these circumstances opportunism takes on a completely different complexion and magnitude. However, case study respondents appeared to remain almost complacently obsessed with pursuing far-shored cost based sourcing strategies as a senior manager at C5 succinctly pointed out:

“I don’t think there’s gonna be any one trend, so I think low cost based manufactured product, big volume products are just gonna keep hunting the next lowest cost place wherever that might be the, Philippines, Cambodia you’ve heard all the places”. (C5)

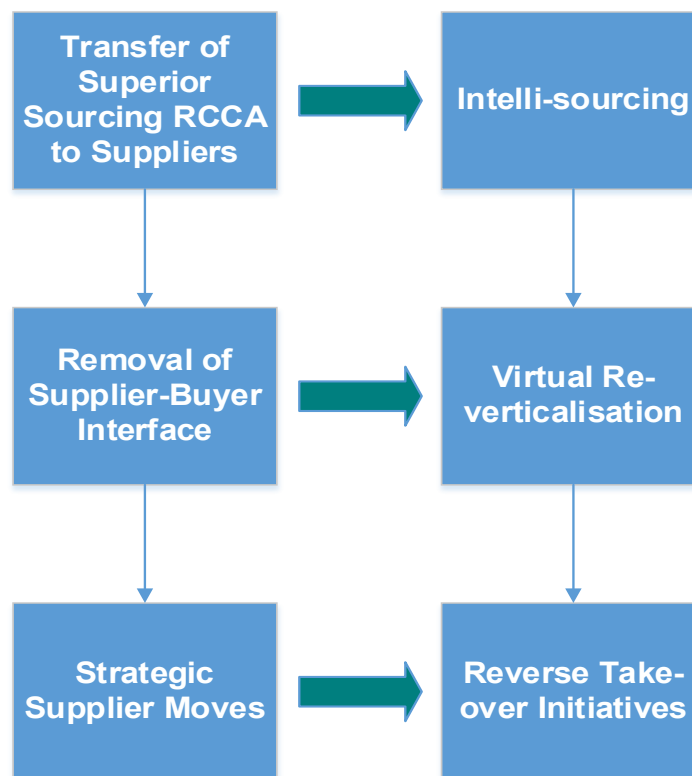


Figure 6.18

Reverse Take-over Risk Model

Source: Author

6.2.10 Product Sourcing Strategy Taxonomy

Finally, in order to stimulate more rigorous thinking around strategic options a product sourcing taxonomy has been developed (Figure 6.19). Used in conjunction with other models and frameworks it becomes an additional component of a comprehensive decision support, diagnostic toolkit.

Strategy	Strategic Imperative	Location (s)	Advantages	Disadvantages	Primary Risks	Dominant Technology	Agility Rating
Far-shore	Labour Cost Arbitrage	<ul style="list-style-type: none"> China FE South America India 	<ul style="list-style-type: none"> Easy Switch Suppliers Minimal Use of Fixed Assets Simplified Org. Structure 	<ul style="list-style-type: none"> Loss of SC Control MOQs Environmentally Damaging 	<ul style="list-style-type: none"> High Stock Redundancy/ Discounting Late Delivery IP 	<ul style="list-style-type: none"> Conventional Limited Industry 3.0 	Very Low
Near-shore	Optimisation of Cost & Product Differentiation	<ul style="list-style-type: none"> Southern Europe Central Europe Eastern Europe Central America North Africa 	<ul style="list-style-type: none"> Product Range Extension Better SC Control Shorter Transit Times 	<ul style="list-style-type: none"> Increased Aggregated Costs Partial Loss of SC Control Limited IP Protection 	<ul style="list-style-type: none"> Disruption to Supply (Italy in August) Fickle Suppliers Loss of Product Design Exclusivity 	<ul style="list-style-type: none"> Conventional Limited Industry 3.0 	Low/ Moderate
On-shore (1)	<ul style="list-style-type: none"> Speed to Market MiE 	UK	<ul style="list-style-type: none"> Quick Response to Market Shifts Close SC Control Smaller Batch Sizes Superior Skills 	<ul style="list-style-type: none"> High Fixed Assets Continuity of Skills & Knowledge Regulatory Constraints 	<ul style="list-style-type: none"> Lack of Competitiveness (Price) Labour Availability 	<ul style="list-style-type: none"> Conventional Limited Industry 3.0 	High
On-shore (2) (Full or Partial Automation)	Speed to Market (Export Markets)	<ul style="list-style-type: none"> UK US China 	<ul style="list-style-type: none"> Local Knowledge/ Respond to Market Nuances No Import Costs 'Made in' (US) Low Cost 	<ul style="list-style-type: none"> Huge Investment in Mfg. Technology Massive Depreciation Relatively Low Productivity Disruption 	<ul style="list-style-type: none"> Bankruptcy Lack of Investment Cyber Crime Technological Obsolescence Inadequate High Tech Knowledge & Skills 	<ul style="list-style-type: none"> Advanced Industry 3.0 & 4.0 	High
Outsource Partly Made Goods	<ul style="list-style-type: none"> Delivery (Capacity Constraints) Cost Reduction 	<ul style="list-style-type: none"> UK EE Southern Europe India China FE Africa 	<ul style="list-style-type: none"> Facilitates New Style Launch Outsource High Work Content (Uppers) Mitigates Labour Shortfalls 	<ul style="list-style-type: none"> Quality Partial Loss of SC Control Factory Disruption (Late Delivery) 	<ul style="list-style-type: none"> Late Delivery Redundant PMG Stocks Supplier Failure 	<ul style="list-style-type: none"> Conventional 	Moderate
Re-shore	<ul style="list-style-type: none"> Response to Market Shifts MiE 	UK	<ul style="list-style-type: none"> Enables MiE Strategy Regain Control of SC Reduction in O/H Costs e.g. Stock Driven Financial 	<ul style="list-style-type: none"> Significant Increase in Prime (Labour) Labour Availability/ retention Loss of Knowledge & Skills 	<ul style="list-style-type: none"> Skills Shortage Failure to Locate Upstream (Additional) Supply 	<ul style="list-style-type: none"> Industry 3.0 & 4.0 	High

Figure 6.19

Product Sourcing Strategy Taxonomy

Source: Author

6.2.11 Section Summary

In summary, the most relevant strategic capability, especially from a long term perspective, given it took the UK the footwear industry nearly twenty years to become competent in moving the majority of product sourcing offshore, may ultimately rest on Fine's (2013) intelli-sourcing as a catalyst to stimulate thinking around the core components of improved SC agility e.g. 'geared' sourcing.

Nevertheless, there needs to be more clarity around what exactly Fine means, particularly in terms of the combined core competences of these teams, which extend above and beyond price negotiating skills or resolving supplier technical problems and consequently must be viewed within the context of a need for greater operationalised SC agility. In this regard, there remain many fundamental questions still to be answered going forward.

Nevertheless, it is hoped that the models and ideas set out above will form a basis to consider:

- (i) investing in retaining shoemaking knowledge and skills to assist the retention of domestic centres of excellence in footwear manufacturing or to facilitate more collaborative initiatives on supplier sites underpinned by mutual advantage and shared values e.g. implementation of lean practices; supplier cost reduction programmes; achieving greater upstream efficiencies to reduce raw material and component costs
- (ii) more attention given to the benefits which can be derived by using advanced costing methodologies (ABC, TCO or parametric costing) in

order to better evaluate the attractiveness of all supplier location decisions whether offshore or domestic

- (iii) undertaking a critical review of near-shoring via a rigorous cost-benefit analysis
- (iv) assess the organisational and cost implications of developing a 'two tier' or 'three tier' sourcing strategy
- (v) identify and review all current manufacturing initiatives adopting:
 - a. initially Industry 3.0 applications
 - b. followed by evaluating Industry 4.0 applications using existing pathfinder projects e.g. Adidas Speedfactory and Clarks Morelight project
 - c. evaluating hybrid automated manufacturing systems using benchmarks such as ECCO and Hotter
 - d. further evaluate the potential benefits of all Internet of Things (IoT) applications across the whole span of the 'end to end' supply chain e.g. big data
- (vi) evaluate UK footwear firms current organisational resources and capabilities, (organizational agility), against those which will be required for quicker response to further market turbulence
- (vii) carry out an exhaustive risk assessment for all the above recommendations

6.2.12 Post Research Note

Whilst beyond the scope of this research project it is acknowledged that the recent events surrounding the COVID 19 pandemic will in all probability significantly impact on product sourcing strategy risk (van Hoek, 2020), the

debate surrounding the potential for reshoring, (van Hoek and Dobrzykowski, 2021) and the strategic sourcing progress (Frederico et al., 2021). A recent search of research initiatives relating to SC and COVID-19 suggests that academics are beginning to undertake research initiatives to better understand what impact the pandemic has had. In this regard, this has been added as a priority research topic relating to footwear product sourcing in the list set down in Chapter 7.

CHAPTER 7 CONCLUDING REMARKS

This research project is considered by the author to be potentially ground breaking research project within the context of current research initiatives critically examining product sourcing strategy within the UK footwear sector. It is complementary to other research being undertaken around the world e.g. Kucera (2020) in the US.

This chapter consists of four major sections. Section 1 sets out the underlying initial assumptions guiding the research pathway. Section 2 is aimed at providing a brief summary with regard to answering the research questions and how well it has met the research objectives. Section 3 is focused on a discussion surrounding the research projects contribution to new:

- (i) theoretical knowledge
- (ii) practitioner knowledge

Section 4 considers the strategic significance of footwear firms achieving significantly more SC agility.

7.1 Initial Research Assumptions

Whilst the researcher has extensive experience within the UK footwear industry, his direct involvement ended over twenty five years ago. Most of his experience was gained in footwear manufacturing and support services. His involvement in outsourcing was limited and related mainly to buying in partly made goods, (closed uppers). Consequently, there was little by way of any pre-conceived ideas relating to how the sector might have evolved since 1996. However, the researcher was directly involved in the upheaval of

moving product sourcing offshore and its serious impact on jobs as a result of widespread factory closures in all areas of manufacturing clusters.

In this regard it is assumed that his experience is valid.

In the period since then he has been generally aware via conversations with ex colleagues that the industry remains in a state of flux but that it continues to be dominated on the product supply side by outsourcing offshore. As such there were very few initial assumptions made in terms of specific issues and challenges facing the sector at the commencement of the research project.

There was a general awareness that shifts in global economic conditions appeared to be adversely affecting many UK footwear firms currently outsourcing and consequently they were beginning to experience serious structural problems within their supply chains from what had been a relatively stable period of profitable labour arbitrage based sourcing strategies since the mid nineteen nineties. In essence, the research project started with only vague notions of what might emerge from the literature search and the field research data and outputs. The motivation to undertake the research stemmed from nothing more than articles in the media commenting on the potential for manufacturing repatriation.

The research findings brought greater clarity to the specific root causes of the decline in UK footwear firms' current financial performance, particularly the strategic significance of the lack of agility in product sourcing supply chains. It was initially expected that the research findings would shed more light on exactly how footwear firms could begin to develop sourcing strategies which went some way to address the difficulties being experienced

on the supply side i.e. their inability to respond more effectively to fickle consumer behaviour. Such responses, would by necessity, require a step increase in a number of resources and capabilities which would counteract the negative effects of dominant far-shoring initiatives.

7.2 Research Questions Answered?

In conclusion, it is appropriate to return to the research questions posed.

7.2.1 Question 1

How have UK footwear firms responded to shifts in economic global conditions within the context of their global sourcing strategies?

In order to answer this question two objectives were set namely:

To rigorously evaluate a representative sample of UK footwear firms resources and capabilities with regard to the development and deployment of future product sourcing strategies

To critically review product sourcing strategies of UK footwear firms to facilitate the creation of new theoretical frameworks relevant to the sector and possibly to the wider apparel industry.

In essence this research question and its attending research objectives have been comprehensively covered in Chapter 5.

7.2.1.1 Research Objectives Met: Objectives 1 and 2

7.2.1.1.1 Objective 1

The evaluation embraced both a broad and in depth literature review of both generic product sourcing issues and those more footwear sector specific and

then compared with the outputs and findings from the field research. The findings were in many cases well aligned with the literature but diverged in others.

Nevertheless, given the scarcity of footwear sector research initiatives, particularly in the UK it is considered that Objective 1 has considerably increased knowledge of footwear product sourcing and as such provides a pathfinder for future more in depth sector research.

The figures 7.1 and 7.2 shown below summarise the contributions made to meet Objectives 1 and 2 respectively.

Objective	Contribution	Chapter
1 Rigorously evaluate a representative sample of UK footwear firms resources & capabilities with regard to the development & deployment of future product sourcing strategies	Sector specific product sourcing literature review to identify key themes in extant literature Pathfinder Literature Search Framework (Figure 2.1) & Product Sourcing Literature Review Framework (Figure 2.5)	Chapter 2
	Developed research methodologies in order to generate relevant data from field research	Chapter 3
	Selection of representative small sample of primary case study respondents & key informants	Chapter 3
	Generated detailed narratives from interview transcripts to create rich pictures and summary of case study respondents main challenges and issues moving forward	Chapter 4
	Generated seven key informant narratives to achieve triangulation/ verification of primary case study narratives	Chapter 4
	Findings from field research data comprehensively reviewed and compared with key themes from literature review	Chapter 5

Figure 7.1

Tabulated Summary to Achieve Objective 1

Source: Author

7.2.1.1.2 Objective 2

From a theoretical standpoint it is hoped that many of the models developed above in Chapter 6 have both theoretical and practitioner value e.g. geared sourcing and as such can contribute to the ongoing debate surrounding current sourcing strategy and the controversy relating to all aspects of low cost country outsourcing and re-shoring.

However, given such a small but representative cross section of the UK footwear sector it has been concluded that the findings cannot safely be extended to the sector as a whole but is more representative of mid-market 'brown shoe' products and their associated sourcing strategies. Lincoln and Gubbe (1979) maintain that it is not possible to generalise beyond the case studies or the KIs: "*The only generalisation is that there is no generalisation*".

The combined initiatives to achieve Objective 2 are summarised below in Figure 7.2. The research does not claim that any contribution to theory or management practice is generalizable beyond the boundaries of the UK footwear sector. Similarly, the researcher is mindful of Stake's assertion that: "*the real business of case study research is particularisation not generalisation*" (p. 8) (1995?)

Nevertheless, given the degree of technical and functional uniformity across the industry, it is likely that the implications from the research outputs will have some relevance to a wider cross section of the industry manufacturing or outsourcing 'brown shoe' products.

For the case study respondents and some KIs there appeared to be little enthusiasm for alternative strategic initiatives. They recognised the role that

technology may play in the future with regard to re-shoring/on-shoring but considered it a distant prospect particularly given the level of start-up investment required.

Objective	Contribution	Chapter
2 Critically review product sourcing strategies of UK footwear firms to facilitate the creation of new theoretical frameworks relevant to the sector and possibly to the wider apparel industry	New theoretical models have been derived from Resource Dynamics Conceptual model (Figures 5.1, 5.2 & 5.3) to support development of new conceptual models which underpin better understanding of product sourcing issues & challenges	Chapter 5
	Clearer understanding of factors accelerating continuous decline in footwear firm performance Outsourcing Vicious Circle Model (Figure 6.1)	Chapter 6
	Development of a model which illustrates how technology can assist in both increasing SC agility and simultaneously reducing overhead costs Conceptual Models: Vertical Re-verticalization (Figure 6.13, 6.14 & 6.15)	Chapter 6
	Notion that Theoretical Lens (TCE & RBV) can be viewed as a continuum along which firms can balance cost driven strategic options with evaluation of upgraded resources & capabilities Make-Buy Product Sourcing Continuum(Figure 6.4)	Chapter 6
	Support for footwear firms to consider a wide range of strategic scenarios Make or Buy/Make and Buy Framework (Figure 6.5) and Geared Sourcing Strategies (Figures 6.7, 6.8 & 6.9)	Chapter 6
	Combined Contribution to Knowledge of Conceptual and Practitioner Strategic Support Tools (Figure 7.4)	Chapter 7

Figure 7.2

Tabulated Summary to Achieve Objective 2

Source: Author

Whilst there are concerns increasing costs in China, those currently outsourcing there believe there will be little difficulty in simply re-locating supply to another, probably adjacent low cost country in the FE or elsewhere e.g. India, Pakistan or Africa, given the improving infrastructure in many of those countries.

Case study respondents appear to have few concerns relating to the impact of global political, social, economic or environmental events or environmental protection issues.

Chapter 4 conveys a number of relevant and enlightening case study narratives, ('rich pictures'), which it is believed reflect a sample cross section of UK firms either manufacturing or outsourcing significant volumes of footwear across a number of core segments servicing both UK and other markets. They reflect both convergence and divergence of views relating to current and future product sourcing strategies and as such go some way, along with the findings in Chapter 5 to answering Research Question 1.

Chapter 5 brings together observations drawn from the data, (case studies and key informant narratives), in the shape of perceptive and powerful views expressed by the case study respondents compared set against the extant literature (core research initiatives) relevant to footwear product sourcing strategy.

7.2.2 Research Question 2

What might be done to improve the product sourcing strategies of UK footwear firms?

Chapter 6 presents a comprehensive response to this research question and the objective set. A number of practitioner frameworks, taxonomies and models have been developed which are aimed at providing a more relevant and comprehensive strategy development toolkit than is the case with other generic models e.g. costing.

Chapter 6 is also entirely consistent with answering Research Question 2 and the stated Objectives 3 in so far as a number of new theoretical and management practitioner models have been developed in order to better understand product sourcing strategic thinking and as importantly give those developing and implementing sourcing strategy a set of new diagnostic tools to aid the location decision process. As such they should be regarded as new knowledge relating to footwear product sourcing.

7. 2.3 Objective 3

In the main Objective 3 centred on developing a range of practitioner support tools which includes:

- (i) focused on either 'levelling to reach competent standard costing capability (2.8; 2.9) and then upgrading costing using advanced costing methodologies (6.11)
- (ii) reviewing and evaluating technological applications, particularly to reach at least Industry 3.0 or preferably Industry 4.0 competency (6.3)
- (iii) reviewing and upgrading risk mitigation in relation to product sourcing strategic risk (6.12; 6.16; 6.17; 6.18; 6.19)

(iv) full impact of the research outcomes are illustrated in Figure 7.4

The combined initiatives to achieve Objective 3 are shown below in Figure 7.3.

Objective	Contribution	Chapter
3 Develop a usable set of revised or additional sector specific strategic decision support tools	Outline Standard Costing Models: UK Manufacturing and Outsourcing (Figures 2.8 & 2.9)	Chapter 2
	Current Industry 3.0 & 4.0 Technology Applications within Footwear Sector (Figure 6.3)	Chapter 6
	Costing Methodologies: Sector Capability v Sector Needs (Figure 6.11)	Chapter 6
	Buyer-Supplier Interactive Process Model (Figure 6.12)	Chapter 6
	Supplier Capability & Risk Model (Figure 6.16)	Chapter 6
	Strategic Sourcing Alignment Model (Figure 6.17)	Chapter 6
	Reverse Take-Over Risk Model (Figure 6.18)	Chapter 6
	Product Sourcing Strategy Taxonomy (Figure 6.18)	Chapter 6
	Combined Contribution to Knowledge of Conceptual and Practitioner Strategic Support Tools (Figure 7.4)	Chapter 7

Figure 7.3

Tabulated Summary to Achieve Objective 3

Source: Author

7.3 Contribution to Knowledge

Given the large volume of knowledge relating to supply chain management in general, the opportunity to create new sector knowledge presents a massive challenge. However, it became clear in the early stages of the research that one of the aims must be to relate new knowledge to specific aspects and nuanced characteristics of the UK footwear sector.

Stemming from the literature review there appears to have been little SC research undertaken which is focused exclusively on the contribution of knowledge from footwear as a low technology labour intensive sector. It has received considerably less attention than garment manufacturing within the over - arching context of apparel research. A view supported by Harland et al., (2005) who suggests there is a case for the addition of knowledge which is sector specific within the field of supply chain research.

Inevitably, any research undertaken is likely to be new knowledge given that the nature and characteristics of the supply chain and footwear manufacturing processes are virtually unique to the sector and are relatively complex in nature even within the 'needle trades'.

Within the context of new knowledge, the research has specifically sought the views of senior management within footwear firms trading at the global, international and domestic level within the UK footwear sector including those manufacturing domestically and those deploying dedicated exclusive outsourcing strategies. Additional outputs have been derived as Key Informants from industry experts covering supplier site outsourcing oversight;

technical consulting; design and development; sector manufacturing automation and robotics; upper material supply; retailing.

It is mainly from these sources that new nuanced concepts and approaches to sector product sourcing have emerged. The contribution of the extant literature has been, in the main, to act as 'signposts' to the most critical/central issues facing the sector (Figure 2.12). In this regard TCE and RBV theoretical concepts have formed the bedrock for many of the conceptual models developed in Chapters 5 and 6.

It is anticipated that new knowledge will have practical application in the form of more usable decision support models and frameworks and go some way to developing new concepts relative to footwear product sourcing and supply chain management in general which can in turn be modified for practitioner use.

7.3.1 Contribution to Theory

With regard to the contribution to theory, the models developed in Chapter 6 which have underpinned this research project, have been constructed around the 'make or buy' decision and consequently the location decision (McIvor, 2009) within the context of product sourcing strategies currently developed and deployed by UK footwear firms.

RBV (Barney, 1991; 2001; Wernerfelt, 1985, 2020) has been applied as the most over-arching appropriate/relevant theoretical to the 'make' decision i.e. manufacturing in situ on the firms site(s) and TCE (Williamson, 1979, 2008; Tadelis and Williamson, 2012) to the 'buy' decision given the prevalence of

outsourcing strategies deployed within the UK footwear sector predicated on labour cost arbitrage as the strategic imperative driving actions.

These two theoretical lens have been used throughout the research project and are threaded through this thesis. From a theoretical perspective, it is apparent that with regard to gaining a better understanding of management practices relating to product sourcing, that these theoretical lens as stand - alone frameworks represent too simplistic a model to be of full value to better informing 'make or buy' strategies. In other words, they are frequently perceived as a 'one or the other' sourcing decision lens i.e. you make or you buy. From the case study and KI outputs this is clearly not the case in reality.

In many respects they are more beneficial when applied together as a complementary construct. Complementarity between RBV and TCE (McIvor 2009; Ellram et al., 2008) is in evidence within the UK footwear sector e.g. increasingly more UK firms are making the decision to outsource PMG and components as well as 'full package'. Optimisation is achieved through better managed labour cost arbitrage (TCE) and more efficient deployment of resources (RBV) working in tandem to gain competitive advantage through more competence in a wide ranging organisational routines such as greater costing accuracy and more appropriate application of automation in manufacturing with the objective to substantially improve supply chain agility. Consequently, a more appropriate theoretical framework would be to regard RBV and TCE as a continuum along which footwear firms make strategic sourcing decisions based on a bundle of strategic initiatives (Figure 6.4). In simple terms, they mix and match sourcing strategies based on their strategic objectives, determined market penetration strategies, their own

evaluation of their strengths and weaknesses and the way to optimise their (scarce) resources and capabilities. It should also be pointed out, that sourcing decisions must be aligned with regard to market dynamics (Christopher and Holweg, 2011), and is not a static process, but based on prevailing environments requiring access to state of the art technologies such as big (real time) data to create market intelligence capability guiding the nature of market responsiveness.

However, even a theoretical model based on an RBV/TCE continuum is still less than adequate in terms of reflecting the complex relationships that exist within a footwear firm making a product sourcing decision. In reality, a wide range of scenarios and resource deployments will interact to influence product sourcing strategy. As such this research argues that there is a critical need to construct a new theoretical framework which recognises these complex relationships if a better understanding of organisational behaviour in relation to product sourcing phenomenon is to be developed

A Theoretical Make or Buy model (Figure 6.5) has been developed in an attempt to construct a more advanced model of theoretical perspectives from that constructed by Hatonen and Ericsson (2009). In essence it provides an opportunity to consider both the 'or' and 'and' options with regard to product sourcing strategy.

Considering a Porterian (1985) view of achieving and sustaining competitive advantage within the UK footwear sector there is now little scope for pursuing a differentiated or cost based strategy in isolation. In this regard an appropriate theoretical framework must move beyond RBV and TCE even if

the core components of TCE and RBV are incorporated into a new theoretical construct.

Some existing research (McIvor, 2000, 1997, 2009) has attempted to 'short circuit' the development of a new theoretical framework by suggesting that taxonomies can be constructed to support the sourcing location decision. It is difficult to see how, given the myriad of permutations of considerations, underlying organisational capabilities, constraints and cultures, such taxonomies can be developed as fully effective.

In summary the contribution to theory made through this research is to say that RBV and TCE as stand - alone theoretical models have limited value in better understanding or supporting the 'make or buy' product sourcing decision in UK footwear firms, since such understanding as to how these decisions and therefore strategies are arrived at are more complex in nature and require a greater understanding of organisational routines, processes and behaviours within the firm.

7.3.2 Contribution to Management Practice

The primary contribution to management practice from this research project stems from

- (i) the opportunity to identify the most critical aspects and underlying issues pertaining to future 'make or buy'/make and buy' product sourcing strategies and decisions for UK based footwear firms
- (ii) opportunity to make use of some or all of the tools developed in this research project (Chapter 6).

The findings and discussion, (Chapters 5 and 6) might initially provide firms with a product sourcing 'health checklist' or at least challenge current dogma. Beyond that, aspects from the literature review, the key themes and discussion may further assist in undertaking a more critical evaluation of a firm's performance in relation to product sourcing and the most appropriate way forward.

The research has identified that agility is emerging as the most critical 'driver' of future supply chain design and not consolidating buyer – supplier relationships as is frequently stated in the literature e.g. Christopher, 2000), as an advance on TCE based strategies. However, there seems to be little understanding of exactly how this can be achieved, especially with far-shoring. This finding alone should activate more rigorous thinking with regard to the willingness to challenge within the sector, well established, product sourcing strategies and SC operations such that a firm is absolutely clear about the way it seeks to configure its resources and capabilities in rapidly shifting consumer behaviour footwear markets. It is clear that many product sourcing decisions are, as argued by those in the re-shoring lobby, frequently based on woefully inadequate costing criteria and data as evidenced in the primary and KI narratives.

Nevertheless, for those firms who remain committed to offshore outsourcing an opportunity presents itself to take the outputs from this research and rigorously scrutinise every aspect of its sourcing operations. A number of case study respondents have made it clear, that in relation to a better control of prime costs, more direct intervention in their suppliers operations are justifiable and essential to upgrading supplier performance.

In terms of strategic choice, the available options identified in the research suggest that what may appear to have been a limited range of alternatives i.e. make, far-shore or near-shore have now been joined by a range of 'hybrid' strategies identified in the literature review and that some of which have the potential for further development such as Fine's (2013) concept of intelli-sourcing or 'right-shoring' (PwC, 2013).

This concept is described in Section 2.4.3.4 of the literature review. Whilst 'intelli-sourcing' (Fine, 2013) is an interesting concept, Fine offers no explanation of exactly how firms might use it in practice. However, it does have value in acting as a powerful catalyst for more agile operational improvements. As a result, this research study regards Fine's (2013) thinking as a stimulant by identifying which activities within the 'end to end' SC are most likely to achieve more flexibility and agility. It is clear from the research, that effective operationalisation of the proposed core interlocking intelligent sourcing initiatives to achieve this upgrade in SC agility are predicated on a combination of superior market intelligence (Dwivedi and Chakraborty, 2017) retaining footwear manufacturing knowledge, more accurate product costing, supplier cost efficiency and the more use of advanced technologies (e.g. Industry 4.0/IoT), deployed across the whole business whether outsourcing or manufacturing.

Moreover, this necessitates a managerial perception that sourcing is essentially a tailored investment strategy to achieve and maintain competitive advantage (Porter, 1985) in target customer markets. The combined contribution of the outputs, (mostly developed in Chapter 6), have been re-

configured above in Figure 7.1, 7.2 and 7.3 and are drawn together below in below in Figure 7.4.

However, it is recognised that whilst the case study sample spans high revenue global brands at one extreme and medium sized enterprise with a limited international reach at the other, a distinction must be drawn between an 'ideal' sourcing strategy and that which is viable within the context of a firms current or achievable resources and capabilities, particularly where the pursuit of the ideal strategy is constrained by financial limitations. The underlying issue then becomes one of resource availability but this should not detract the firm from considering the 'right' strategy rather it should seek to remove the constraints from deploying the 'right' strategy rather than using these constraints to determine a less than ideal product sourcing solution.

If supply chain agility is the strategic imperative and only achieved through automation then the issues are likely relate to front end (scarce) investment. Automation favours the global brands financial 'clout'. A number of global sports/leisure brands have already demonstrated the feasibility of fully automated manufacturing footwear albeit for products of much simpler construction than those in brown shoe segments. Nevertheless there are big global brown shoe brands with the resources to follow up on the initiatives shown by those in the sports segments who have so far not followed suit.

A view expressed by a very experienced footwear sector key informant with full exposure to offshore outsourcing, who believes that re-shoring via automation is the only viable long term sourcing strategy for UK footwear firms.

Whilst not supported by views expressed by case study respondents, the KI respondents regard labour cost arbitrage strategies as having 'limited shelf life' particularly given the paradigm shift occurring within distribution channels. In this respect the researcher is advocating that UK footwear firms who display a tendency to adopt short term product sourcing strategies need to look and plan for the longer term if they wish to survive in a rapidly changing market landscape.

The contribution to practitioner knowledge made by this research project is to attempt to stimulate the UK footwear sector and offer up ways in which to begin to address critical issues. What lies before it demands a drastic re-evaluation of how the firms within it currently source product and how robust those strategies remain going forward. They ignore the impact of global economic shifts, the advances in technology and the increasingly fickle nature of Western hemisphere markets at their peril. The outputs of the research present UK footwear firms with a template (of sorts) on which to begin a more searching re-evaluation of their product sourcing strategies.

7.4. Closing the Circle

In the preface to this research project is a quote from Peter Clothier, who was at that time Managing Director of C & J Clark. In spite of subsequent, investment in resources deployed on numerous initiatives by individual firms and trade bodies to improve SC agility within the UK footwear industry, very little has been achieved. In reality, it has been suggested that the sector has gone backwards case study respondent C4, largely as a result of the continuing dominance of linear offshore sourcing, particularly far-shoring in

the FE and China combined with a lack of leadership and investment in UK footwear manufacturing.

The literature review unearthed little of significance to assist a highly idiosyncratic industry in achieving the aim of 'shortening the pipeline' or improving firm 'manoeuvrability' both throughout the 'end to end' SC and within an organizations established practices and processes, resources and capabilities.

The key (critical) themes emerging from the literature review presented in summary at the end of Chapter 2 in Figure 2.12 are re-presented below in Figure 7.4

For the researcher, this model is highly significant in identifying that within the literature, SC agility is frequently perceived in many ways as a component of strategy, not as it should be as an over-riding strategic aim. For example, Christopher (2000) discusses agile supplier partnerships (ASPs) as a sourcing strategy to succeed labour cost arbitrage. McIvor (2013) has made a contribution by way of developing a wholly inappropriate footwear product sourcing costing model. But little else emerges apart from other suggestions such right-shoring (PwC, 2015) or Fine's (2013) notion of intelli- sourcing which is considered in this project as way of thinking about SC agility not as a solution to achieve it.

From the standpoint of costing competence and its relevance to sector agility, the literature holds no surprises in so far as there is sufficient (raw) material e.g. ABC (Kaplan and Atkinson, 1989; Dwivedi and Chakraborty, 2017); TCO (Ellram and Siferd 1998) and parametrics (Camargo et al., 2003;

Mileham et *al.*, 1993) which cover the range of potentially applicable methodologies yet there is still much work yet to be done to develop a workable hybrid costing model/methodology.

With regard to the impact of technology, little has emerged apart from extensive papers on the potential impact of Industry 4.0 and IoT (Branger and Pang 2015). Within the footwear sector most initiatives have come from within the industry itself, much of it from Europe e.g. EUROshOE, Adidas Speedfactory and within the UK, Clarks' development of 3D CAD/CAM systems and the application of stereo-lithography stand out. However, the literature has some value in relation to better application of big data (Dwivedi et *al.*, 2021).

Much of the literature relating to risk is generic in nature. In relation to SC agility the extant literature is slightly 'thin' e.g. Braunschiedel and Sureshi (2009) and as such from a footwear sector perspective whilst relevant, fails to fully identify and recognize the inherent dangers in supply side footwear product sourcing operations.

Literature on footwear sector knowledge, know-how and skills retention is not covered within the extant literature nor was expected to be given its highly idiosyncratic nature. However, given the significance of leading edge technology in the pursuit of greater sector SC agility, the need for new skills to complement the old is of paramount importance. The industry needs to learn from the experience of the Clarks failed Morelight project. As such the role of the British Footwear Association in driving such initiatives becomes a central issue.

In summary, whilst the extant literature provides a solid platform of relevant largely generic concepts and theories, it does very little by way of offering pathways to achieving sector specific upgraded SC agility or provide the frameworks needed to achieve such an objective. It is suggested that the outcomes from this research project go some way to generating greater momentum for doing just that but given the Cinderella nature of the UK footwear industry it is unlikely to attract much academic research interest apart from actions initiated within the industry itself.

Consequently, this research has focused on the development of new ideas and approaches to support more rigorous analysis of footwear product sourcing strategy, given that it has not emerged, in any significance, from either within the sector itself or via mainstream academic channels.

These new ideas and how they form a viable mechanism (pathway) to conceptualize or operationalize SC agility in footwear product sourcing SCs are presented in Figure 7.4. This model identifies the basic building blocks for finding (achieving) the holy grail of footwear product sourcing.

7.5 Voyage of Discovery

The nature of this research thesis has been in a large part to act as a new solid platform, benchmark or pathfinder from which future more in depth research projects can be launched which will address more specific, survival critical complex issues in footwear product sourcing as global economic turbulence grows and presents additional SC challenges.

In essence, this research project has been a 'voyage of discovery' for the researcher in the sense that it has uncovered aspects of the UK footwear

industry some twenty years on from when he was involved as a manager and consultant. At that time, product sourcing offshore was just gaining momentum, especially in the Western hemisphere as direct labour costs and manufacturing overheads rose steadily and inexorably severely constraining net profit margins.

In this regard, the project is in large part aimed at encouraging the academic community to take more interest in the UK footwear sector and in bringing the most critical product sourcing issues to the forefront of managers thinking within the UK footwear industry which urgently need addressing especially in a post COVID-19 world (Frederico et al., 2021; van Hoek, 2020; van Hoek and Dobrzykowski, 2021).

7.5. Novel Contribution

Whilst it is not claimed that this research project is unique in focusing attention on a largely ignored low tech sector, there appears to be little other international research initiatives with such a focus on a specific craft based industry other than Kucera (2020) in the US.

Most crucially, the research outcomes do not rely centrally on a review of extant literature or for that matter the perspectives of key industry players but more significantly is predicated on whether this research project remains isolated in a substantially under researched sector.

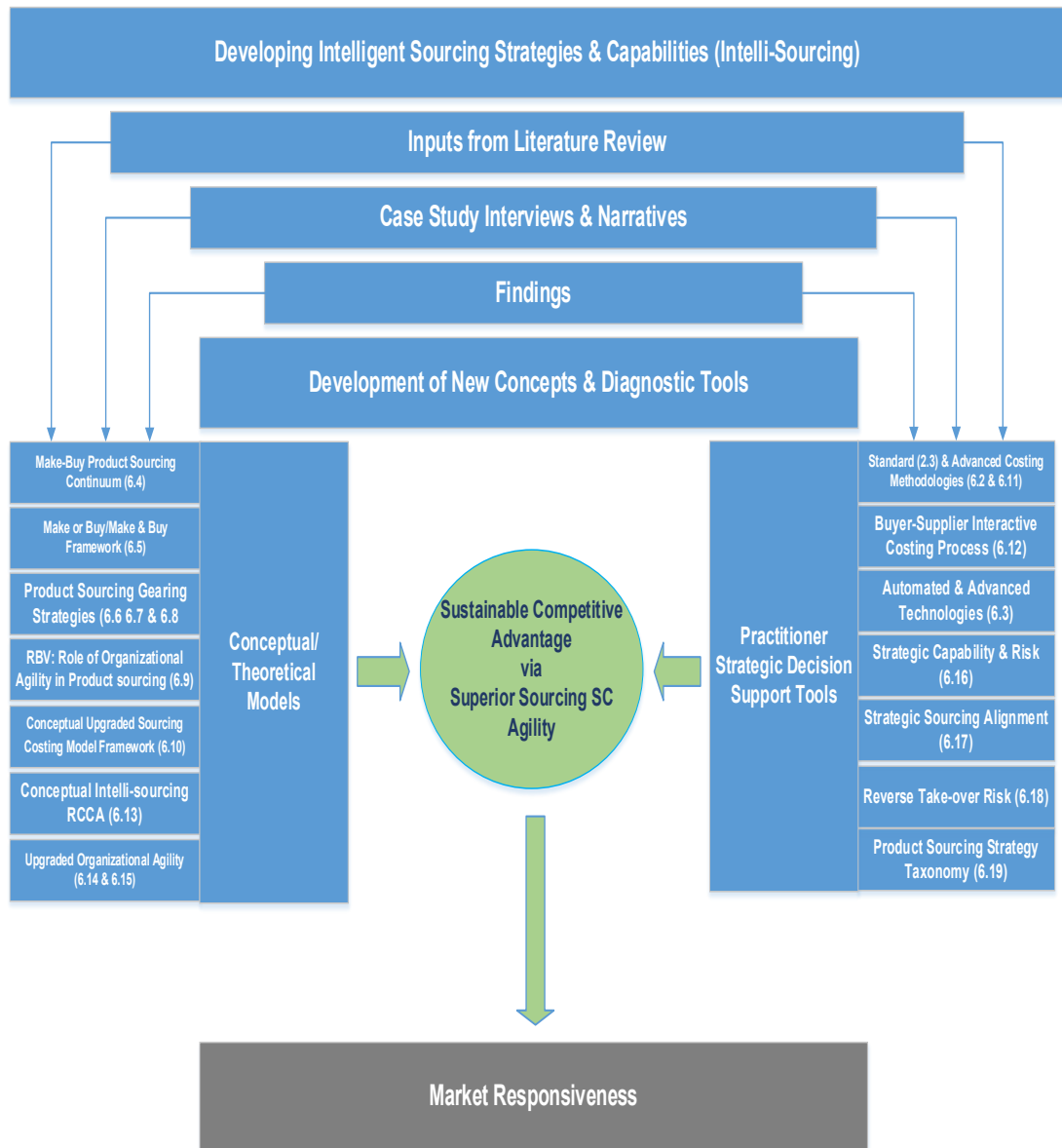


Figure 7.4

Combined Contribution to Knowledge of Conceptual and Practitioner
Strategic Support Tools

Source: Author

7.6 Future Research Initiatives

It is hoped that this short section will stimulate more interest in the UK or global footwear industry. Whilst not an industry sector that generates significant added value, footwear industry research may act as a catalyst for

other 'craft' based sectors with similar issues to resolve such that the potential impact of further research projects may have much wider benefits to the UK economy.

In this regard it identifies the critical need for further more focused research to be carried out. This is particularly the case if the introduction of advanced/leading edge technology results in its transition from a low tech to a high tech sector.

The priorities for future research it is believed can be reasonably generated from the discussion above. It is difficult to decide where the starting point should be. The 'wish list' below has a wide span, but a good start would be to rigorously evaluate those activities which would make an immediate impact on footwear product sourcing performance.

7.6.1 Specific Projects

In relation to theory they include:

- (i) greater clarity regarding the ongoing arguments relating to TCE or RBV as the dominant model supporting product sourcing decisions e.g. threats from 'opportunism (Williamson, 1979)
- (ii) relationship between TCE driven and RBV theories relative to footwear product sourcing especially magnitude and nature of complementarities
- (iii) evaluation of RBV from the perspective of resources, capabilities and core competencies, most critically a framework for evaluation of firms within the UK footwear sector

- (iv) construction of advanced hybrid theoretical costing models
blending Activity Based Costing (ABC), Total Cost of Ownership (TCO) and para-metrics
- (v) impact of further market turbulence on SC agility
- (vi) potential impact of global systemic shocks, such as pandemics, on product sourcing strategies is a recommendation for further research
- (vii) root causes of poor firm performance stemming from deployment of inappropriate product sourcing strategies
- (viii) evaluation of further sector specific initiatives and constraints on improving SC agility e.g. strategies, systems or processes
- (ix) development of useable (practitioner) sector specific 'hybrid' advanced costing methodology and models
- (x) impact of specific advanced technologies on SC agility and sourcing location decision e.g. cost/benefit of Industry 4.0/IoT and big data
- (xi) innovative approaches to the retention of footwear manufacturing knowledge and skills
- (xii) more rigorous analysis of sector product sourcing risks with a view to the development of upgraded risk management tools to further mitigate risks

REFERENCES

- Achrol, R.S., Reve, T. and Stern, L.W. (1983) 'The environment of marketing channel dyads: A framework for comparative analysis', *Journal of Marketing*, 47 (3), pp. 55-67.
- Addikorley, R.D., Thorney-Barletta, K., Joines, J. and Rothenberg, L. (2016) 'Apparel Sourcing in Sub-Saharan Africa', *Research Journal of Textile and Apparel*, 21 (3), pp.203-218.
- Agrawal, V. and Seshadri, S. (2000) 'Risk intermediation in supply chains', *IEEE Transactions*, 32 (9), pp. 819-831.
- Aitken, J., Childerhouse, P., Christopher, M. and Towill, D. (2005) 'DESIGNING AND MANAGING MULTIPLE PIPELINES', *Journal of Business Logistics*, 26 (2), pp. 73-96.
- Alchian, A.A. and Demsetz, H. (1972) 'Production, information costs and economic organization', *The American Economic Review*, 62 (5), pp. 777-795.
- Alexander, C. (1964) *Notes on the Synthesis of Form*. Cambridge, MA: Harvard University Press.
- Alix Partners (2017) 'Homeward bound: near-shoring continues, labor becomes a limiting factor and automation takes root'.
https://emarketing.alixpartners.com/rs/emsimages/2017/pubs/EI/AP Strategic_Manufacturing_Sourcing_Homeward_Bound_Jan_2017.pdf
- Allon, G. and Von Mieghem, J.A. (2010) 'Global Dual Sourcing: Tailored Base Surge Allocation to Near-and Offshore Production', *Management Science*, 56 (1), pp. 110-124.
- Alvanon CEO Rebutts Sourcing Journal Reshoring Article', *Sourcing Journal* (December 2014).
- Alvarez, S.A. and Busenitz, L.W. (2001) 'The entrepreneurship of resource-based theory', *Journal of Management*, 27 (6), pp. 755-775.
- Amankwah-Amoah, J. (2017) 'Integrated v add-on: A multi-dimensional conceptualisation of technology obsolescence', *Technological Forecasting and Social Change*, 116, pp. 299-307.
- Amighini, A. and Rabellotti, r. (2006) 'How do Italian footwear districts face globalization?' *European Planning Studies*, 14 (4), 485-502.
- Andersen, M. and Skjoett-Larsen, T. (2009) 'Corporate social responsibility in global supply chains', *Supply Chain Management: An International Journal*, 14 (2), pp. 75-86.

- Anderson, M.G. and Katz, P.B. (1998) 'Strategic Sourcing', *International Journal of Logistics Management*, 9 (1), pp. 1-13.
- Anderson, E. and Schmittlein, (1984) 'Integration of the sales force: an empirical examination', *Rand Journal of Economics*, 15 (3), pp.385-395.
- Anderton, B. and Brenton, P. (1998) 'Outsourcing and Low Skilled Workers in the UK', *CSGR Working Paper*, 12/98.
- Annamma, J., Sherry Jr., J.F. Venkatesh, A., Wang, J. and Chan, R. (2012) 'Fast Fashion, Sustainability and the Ethical Appeal of Luxury Brands, Fashion Theory', *The Journal of Dress, Body and Culture*, 16 (3), pp. 273-295.
- Applebaum, R.P. (2008) 'Giant Transnational Contractors in East Asia: Emergent Trends in Global Supply Chains', *Competition and Change*, 12 (1), pp. 69-87.
- Arljborn, J.S. and Mikkelsen, O.S. (2014) Back-shoring manufacturing: Notes on an important but under-researched theme', *Journal of Production and Supply Management*, 20 (1), pp. 60-62.
- Arrow, K. and Lind, R.C. (1970) 'Uncertainty and the Evaluation of Public Investment Decisions', *American Economic Review*, 60 (3), pp. 364-378.
- Asaeda, J. (2008) *Retailing: General*. New York: McGraw-Hill.
- Audia, P.G. and Rider, C.I. (2010) 'Close, but not the same: Locally headquartered organizations and agglomeration economies in a declining industry', *Research Policy*, 39, pp. 360-374.
- Avison, D., Jones, J., Powell, P. and Wilson, D. (2004) 'Using and validating the strategic alignment model', *The Journal of Strategic Information Systems*, 13 (3), pp. 223-246.
- Ayers, A.J. (2013) 'Beyond Myths, Lies and Stereotypes: The Political Economy of the 'New Scramble for Africa'', *New Political Economy*, 18 (2), pp. 227-257.
- Backhouse, C.J. and Burns, N.D. (1999) 'Agile Value Chains for Manufacturing: Implications for performance measures', *International Journal of Agile Manufacturing Systems*, 1 (2), pp. 76-82.
- Baculo, L. (2006) 'Tackling informal employment: the case of Southern Italy', *International Journal of Manpower*, 27 (6), pp. 552-57.
- Bai, C., Dallasega, P., Orzes, G. and Sarkis, J. (2020) 'Industry 4.0 technologies assessment: A sustainability perspective', *International Journal of Production Economics*, 229, pp. 1-15.
- Baker, T. and Nelson, R.E. (2005) 'Creating something from nothing: Resource construction through entrepreneurial bricolage', *Administrative Science Quarterly*, 50 (3), pp 329-366.

- Balakrishnan, S. and Koza, M.P. (1993) 'Information asymmetry, adverse selection and joint ventures', *Journal of Economic Behaviour and Organization*, 20 (1), pp.99-117.
- Baldwin, C.Y. and Clark, K.B. (2002) 'Modularity in the Design of Complex Engineered Systems' In D. Braha, A. Minai, Y. Bar-Yam (eds.) *Complex Engineered Systems. Understanding Complex Systems* Berlin, Heidelberg: Springer.
- Bamford, D.R. and Land, N. (2006) 'The application and use of the PAF quality costing model within a footwear company', *The International Journal of Quality and Reliability Management*, 23 (3), pp. 265-278.
- Baptista, R. (2003) 'Productivity and the density of regional clusters'. In J. Broucker, D. Donse, and R. Soltwedel (eds.) *Innovation Clusters and Inter-regional Competition*, Berlin, Heidelberg: Springer. pp. 163-181.
- Baptista, R. and Swann, P. (1998) 'Do firms in clusters innovate more?' *Research Policy*, 27, pp. 525-540.
- Barbieri, P., Ciabushi, F., Fratocchi, L. and Vignoli, M. (2018) 'What do we know about manufacturing re-shoring?' *Journal of Global Operations and Strategic Sourcing*, 11 (1), pp. 79-122.
- Barff, R. and Austen, J. (1993) 'It's gotta be da shoes: domestic manufacturing, international sub-contracting and the production of athletic footwear', *Environment and Planning A*, 25, pp. 1103-1114.
- Barney, J.B. (1991) 'Firm Resources and Sustained Competitive Advantage', *Journal of Management*, 17 (1), pp. 99-120.
- Barney, J.B. (2001) 'Is the Resource Based Theory a Useful Perspective for Strategic Management Research? Yes', *Academy of Management Review*, 11 (3), pp. 656-665.
- Barney, J.B. (2012) 'Purchasing, Supply Chain Management and Sustained Competitive Advantage: The Relevance of Resource Based Theory', *Journal of Supply Chain Management*, 48 (2), pp. 3-6.
- Barrett, W.P. and Freeman, J. (2001) 'Too Much of a Good Thing? Product Proliferation and Organizational Failure', *Organizational Science*, 12 (5), pp. 539-558.
- Barrie, L. and Ayling, J. (2009) 'Apparel Industry Outlook for 2009', *January/February Management Briefing*, Aroq Limited, Bromsgrove, UK.
- Bartolmiej, N. (2014) 'Integrated cost management in supply chain', *Performance Measurement and Management*, 345, pp. 74-84.
- Bates, H.E. (1954) *The Feast of July*. London: M. Joseph.
- Baumann-Pauly, D., Massa, L. and Sheriff, N. (2020) 'Manufacturing in Ethiopia: Decathlon's Partnership Model', NYU Stern School of Business Forthcoming, November, pp. 1-13.

- Beach, R., Price, D.H.R., Muhlemann, A.P., Sharp, J.A. and Paterson, A. (2000) 'A Review of Manufacturing Flexibility', *European Journal of Operations Management Research*, 122 (1), pp. 41-57.
- Belso-Martinez, J. A. (2008) 'Differences in Survival Strategies among Footwear Industrial Districts: The role of International Outsourcing', *European Planning Studies*, 16 (9), pp. 1229-1248.
- Bennett, H. (1995) 'Legacy Systems: Coping with Success', *IEEE software*, 12 (1), pp.19-23.
- Bernard, C. (1938) *The Function of the Executive*. Cambridge, MA: Harvard University Press.
- Bernardes, E.S. and Hanna, M.D. (2009) 'A Theoretical Review of Flexibility, Agility and Responsiveness in the Operations Management Literature: Towards a Conceptual Definition of Customer Responsiveness', *International Journal of Operations and Production Management*, 29 (1), pp. 30-53.
- Bhagwati, J. (1958) 'Immiserizing Growth: A Geometrical Note', *Review of Economic Studies*, 25, pp. 201-205.
- Bi, Z., Da Xu, L. and Wang, C. (2014) 'Internet of Things for enterprise systems of modern manufacturing', *IEEE Transactions on Industrial Informatics*, 10 (2), pp.1537-1546.
- Bloor, M. and Wood, F. (2006) *Keywords in Qualitative Methods: A Vocabulary of Research Concepts* (1st edn.). London: Sage Publications.
- Boer, C.R. and Dulio, S. (2007) *Mass Customisation and Footwear: Myth, Salvation or Reality?* London: Springer-Verlag Limited.
- Boer, C.R. and Dulio, S. (2010) 'The EUROShoE Project: Europe's largest MCP research project', *2nd Mass Customization and Personalization Congress*, Munich, October.
- Boer, C.R., Dulio, S. and Jovane, F. (2004) 'Editorial: Shoe design and manufacturing', *International Journal of Computer Integrated Manufacturing*, 17 (7), pp. 577-582.
- Bonacich, E. and Applebaum, R.P. (2000) *Behind the Label: Inequality in the Los Angeles Apparel Industry*. Berkeley: University of California Press.
- Bonoma, T.V. (1985) 'Case research in marketing: opportunities. Problems and a process', *Journal of Marketing Research*, 22 (2), pp. 199-208.
- Bowen, F.E., Cousins, P.D., Lamming, R.C. and Farukt, A.C. (2001) 'THE ROLE OF SUPPLY MANAGEMENT CAPABILITIES IN GREEN SUPPLY', *Production and Operations Management*, 10 (2), pp. 174-189.

- Bowman, C. and Ambrosini, V. (2000) 'Value Creation Versus Value Capture: Towards a Coherent Definition of Value in Strategy', *British Journal of Management*, 11 (1), pp. 1-15.
- Branger, J. and Pang, Z. (2015) 'From automated home to sustainable, healthy and manufacturing home: a new story enabled by the Internet-of-Things and Industry 4.0', *Journal of Management Analytics*, 2 (4), pp. 314-332.
- Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research Psychology*, 3, pp 77-101.
- Braunscheidel, M.J. and Sureshi, N.C. (2009) 'The organisational antecedents for risk integration and response of a firm's supply chain agility', *Journal of Operations Management*, 27 (2), pp. 119-40.
- Bremen, P., Oehmen, J., Alard, R. and Schönsleben, P., (2010) 'Transaction costs in global supply chains of manufacturing companies), *Journal of Systemics, Cybernetics & Informatics*, 8, pp.19-25.
- Brenton, P., Pinna, A.M. and Vancauteran, M. (2000) 'Adjustment to Globalisation: A Study of Footwear Industry in Europe', *Centre for European Policy Studies (CEPS)*, Working Document No. 151, October. pp. 1-30.
- Brewis-Levie, M. and Harris, P. (2000) 'An empirical analysis of buyer behaviour in the UK high street womenswear retailing using the Dirilicht model', *The International Review of Retail, Distribution and Consumer Research*, 10 (1), pp. 41-57.
- Breznitz, D. and Murphee, M. (2015) *The Run of the Red Queen: Government, Innovation, Globalisation, and Economic Growth in China*. New Haven, CT: Yale University Press.
- Brierley, J.A. (2011) 'A Comparison of the Product Costing Practices of Large and Small-to-Medium Enterprises: A survey of British manufacturing firms', *International Journal of Management*, 28 (4, Part 1), pp. 184-195.
- Broadberry, S.N. (1993) 'Manufacturing and the Convergence Hypothesis: What the Long-Run Data Show', *The Journal of Economic History*, 53 (4), pp. 772-795.
- Broadberry, S.N. (1994) 'TECHNOLOGICAL LEADERSHIP AND PRODUCTIVITY LEADERSHIP IN MANUFACTURING SINCE THE INDUSTRIAL REVOLUTION: IMPLICATIONS FOR THE CONVERGENCE DEBATE', *The Economic Journal*, 104, pp. 291-302.
- Broedner, P., Kinkel, S. and Gunter, L. (2009) 'Productivity effects of outsourcing: new evidence on the strategic importance of vertical integration decisions', *International Journal of Operations and Production Management*, 29 (2), pp. 127-150.

- Bruce, M. and Daly, L. (2006) 'Buyer behaviour for fast fashion', *Journal of Fashion Marketing and Management*, 10 (3), pp. 329-344.
- Bryman, A. and Bell, E. (2011) *Business Research Methods*. Oxford: Oxford University Press.
- Buckley, P.J. and Casson, M.C. (1976) *The Future of the Multinational Enterprise*. London: Homes and Meier.
- Bucklin, L. (1965) 'Postponment, Speculation and the Structure of Distribution Channels', *Journal of Marketing Research*, 2 (1), pp. 26-31.
- Burgess, K. and Singh, P.J. (2006) 'A proposed integrated framework for analysing supply chains', *Supply Chain Management: An International Journal*, 11 (4), pp. 337-344.
- Busi, M. and McIvor, R. (2008) 'Setting the outsourcing research agenda: the top 10 most urgent outsourcing areas', *Strategic Outsourcing: An International Journal*, 1 (3), pp. 285-295.
- Buxey, G. (2005) 'Globalisation and manufacturing strategy in the TCF industry', *International Journal of Operations and Production Management*, 2, pp.100-113.
- Cachon, G.P. (2004) 'The allocation of inventory risk in a supply chain. Push, pull and advanced purchase discount contract', *Management Science*, 50 (2), pp.222-238.
- Cagliano, A.C., De Marco, A., Rafele, C. and Arese, M. (2012) 'A decision making approach for investigating the potential effects near-sourcing on supply chain', *Strategic Outsourcing: An International Journal*, 5 (2), pp. 100-120.
- Callam, A.A. and Ryder, M.J. (1977) 'Standard Costing', *A Foundation in Business Accounting*. London: Palgrave. pp. 291-314. (REFERENCE IN TEXT)?
- Camargo, M., Rabenasolo, B., Jolly-Desodt, A-M. and Castelain, A-M. (2003) 'APPLICATION OF THE PARAMETRIC COST ESTIMATION IN THE TEXTILE SUPPLY CHAIN', *Journal of Textile and Apparel Technology and Management*, 3 (1), pp. 1-12.
- Cardinaels, E., Roodhooft, F. and Warlop, L. (2004) 'The value of activity-based costing in competitive price decisions', *Journal of Management Accounting Research*, 16 (1), pp.133-148.
- Carillo, B. and Goodman, D.S.G. (2012) *China's Peasants and Workers: Changing Class Identities*. Cheltenham: Edward Elgar.
- Carr, L.P. and Littner, C.D. (1992) 'Measuring the cost of ownership', *Journal of Cost Management*, 6 (3), pp. 42-51.

- Carr, A.S. and Pearson, J.N. (2002) 'The impact of purchasing and supplier involvement on strategic purchasing and its impact on firm performance', *International Journal of Operations & Production Management*, 22 (9), pp. 1032-1053.
- Carter, C.R. and Carter, J.R. (1998) 'Inter-Organizational Determinants of Environmental Purchasing: Initial Evidence from the Consumer Products Industry', *Decision Sciences*, 29 (3), pp 659-684.
- Carter, C.R. and Ellram. L.M. (1998) 'Reverse logistics: a review of the literature and framework for future investigation', *Journal of Business Logistics*, 19 (1), pp.85.
- Castro, W.A.S., Castro, R.C., Miron, S.I. and Martinez, P.U.A. (2005) 'Modular manufacturing: an alternative to improving the competitiveness in the clothing industry', *International Journal of Clothing Science and Technology*, 16 (3), pp. 301-309.
- Ceci, F. and Prencipe, A. (2013) 'Does distance hinder coordination? Identifying and bridging boundaries of offshored work', *Journal of International Management*, 19 (4), pp. 324-332.
- Cerruti, C., Mena, C., Skipworth, H. and Tavoletti, E. (2016) 'Characterising agile supply partnerships in the fashion industry', *International Journal of Operations and Production Management*, 36 (8), pp. 923-947.
- Chahal, H., Gupta, M. Bhan, N. and Cheng T. C. E. (2020) 'Operations management research grounded in the resource-based view: A meta-analysis', *International Journal of Production Economics*, Volume 230.
- Chan, R.Y.K. and Lau, L.B.Y (2001) 'Explaining Green Purchase Behaviour: A Cross-Cultural Study on American and Chinese Consumers', *Journal of International Consumer Marketing*, 14 (2-3), pp. 9-40.
- Chan, J., Pun, N. and Selden, M. (2013) 'The politics of global production: Apple, Foxconn and China's new working class', *New Technology, Work and Employment*, 28 (2), pp.100-115.
- Chaturvedi, A. and Martinez de Albeniz, V. (2016) 'Safety Stock or Excess Capacity: Trade-off under Supply Risk', *IESE Business School Working Paper*, University of Navarra, Barcelona.
- Checkland, P.B. (1989) 'Soft Systems Methodology', *Human Systems Management*, 8 (4), pp. 273-289.
- Chen, D., Wei, W. and Hu, D. (2016) 'Survival strategy of OEM companies: a case study of the Chinese toy industry', *International Journal of Operations and Production Management*, 36 (9), pp. 1065-1088.
- Chiang, C-J., Kocabasoglu-Hillmer, C. and Suresh, N. (2012) 'An empirical investigation of the impact of strategic sourcing and flexibility on firms supply

chain agility', *International Journal of Operations and Production Management*, 32 (1), pp.49-78.

Chiou, J-S., Wu, L-Y. and Hsu, J.C. (2002) ' The adoption of form postponement strategy in a global logistics system: the case of Taiwanese information system industry', *Journal of Business Logistics*, 23 (1), pp. 107-124.

Choi, C.J., Eldiomy, T.I. and Kim, S.W. (2007) 'Consumer Trust, Social Marketing and Ethics of Welfare Exchange', *Journal of business Ethics*, 74 (1), pp. 17-23.

Chopra, S. and Meindl, P. (2010) *Supply chain management: strategy, planning and operation*. (3rd edn.). London: Pearson Prentice Hall.

Chopra, S. and Sodhi, M.S. (2004) 'Managing risk to avoid supply chain breakdown', *MIT Sloan Management Review*, 46, (1), pp. 53-61.

Christensen, C.M. and Bower, J.L. (1995) 'Disruptive technologies: catching the wave', *Harvard Business Review*, January-February, pp. 43-53.

Christopher, M. (1998) *Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service* (2nd edn). London: Pitman Publishing.

Christopher, M. (2000) 'The Agile Supply Chain: Competing in Volatile Markets', *Industrial Marketing Management*, 29 (1), pp. 37-44.

Christopher, M. and Holweg, M. (2011) 'Supply Chain 2.0: managing supply chains in the era of turbulence', *International Journal of Physical Distribution and Logistics Management*, 41 (1), pp. 63-82.

Christopher, M. and Lee, H. (2004) 'Mitigating supply risk through improved confidence', *International Journal of Physical Distribution and Logistics Management*, 34 (5), pp. 388-396.

Christopher, M., Lowson, R. and Peck, H. (2004) 'Creating Agile Supply Chains in the Fashion Industry', *International Journal of Retail and Distribution Management*, 32 (8), pp. 367-376.

Christopher, M., Peck, H. and Towill, D. (2006) 'A taxonomy for selecting global supply chain strategies', *The International Journal of Logistics Management*, 17 (2), pp. 277-287.

Chu, P. (2005) 'Excellence in European apparel supply chains: ZARA'. *MIT Global Scale Network*, Doctoral Dissertation.

Churchill, F. (2017) 'Nike will use robots to near-shore products', www.cips.org/supply-management/news/2017/November/

Ciccone, A. and Hall, R. (1996) 'Productivity and the Density of Economic Activity', *American Economic Review*, 86, pp. 54-70.

Cicconi, P., Russo, A.C., Germani, M., Prist, M., Pallotta, E. and Monteriu, A. (2017) 'Cyber physical system integration for Industry 4.0: Modelling and simulation of an induction heating process for aluminium-steel moulds in footwear sole manufacturing. In *IEEE 3rd International Forum on Research and Technologies for Society and Industry (RTSI)* pp. 1-6. (IEEE).

Cigolini, R. and Rossi, T. (2006) 'A note on supply chain risk and inventory outsourcing', *Production Planning and Control: The Management of Operations*, 17 (4), pp. 42-437.

Clarke-Sather, A. and Cobb, K. (2019) 'On-shoring fashion: Worker sustainability impacts of global and local apparel production', *Journal of Cleaner Production*, 208, pp. 1206-1218.

Cleaver, S. (2015) *UK Stuart Cleaver Annual Report*.

Cleaver, S. (2017) *UK Stuart Cleaver Annual Report*.

Cleaver, S. (2020) *UK Stuart Cleaver Annual Report*

Clinton, H.R. (2004) 'Best-shoring beats outsourcing', *The Wall Street Journal*. Retrieved from:
<http://www.wsj.com/articles/SB10907943578247.3263>

Coase, R.H. (1937) 'The Nature of the Firm', *Economica*, 4 (16), pp. 386-405.

Coase, R.H. (1960) 'The Problem of Social Cost', *Journal of Law and Economics*, October, pp. 1-44.

Coates, T.T and McDermott, C.M. (2002) 'An exploratory analysis of new competencies: a resource based perspective', *Journal of Operations Management*, 20, pp. 435-450.

Cocuzza, S., Fornasiero, R. and Debei, S. (2012) 'Novel automated production system for the footwear industry', In *IFIP International Conference on Advances in Production Management Systems*, pp. 542-549. Berlin, Heidelberg: Springer.

Cole, R. and Atkin, J. (2020) 'The role of intermediaries in establishing a sustainable supply chain', *Journal of Purchasing and Supply Management*, 26 (2).

Collis, D.J. (1994) 'Research Note: How Valuable are Organizational Capabilities?' *Strategic Management Journal*, 15 (S1), pp. 143-152.

- Conaghan, C. (1996) 'A Deficit of Democratic Authenticity: Political Linkage and the Public in Andean Politics', *Studies in Comparative International Development*, 31 (3), pp. 32-55.
- Cooper, R. (1987) 'Does your company need a new cost system?' *Journal of Cost Management*, Spring, pp. 80-83.
- Cooper, R. and Kaplan, R.S. (1988) 'Measure Costs Right: Make the Right Decisions', *Harvard Business Review*, September-October, pp. 96-103.
- Cooper, M.C., Lambert, D.L. and Pugh, J.D. (1997) 'Supply Chain Management: More than a New Name for Logistics', *International Journal of Logistics Management*, 8 (1), pp. 1-13.
- Cornwall, J. (1977) *Modern Capitalism: Its Growth and Transformation*. New York: St Martin's Press.
- Cousins, P., Lamming, R., Lawson, B. and Squire, B. (2008) *Strategic Supply Management: Principle, Theories and Practice*. Prentice-Hall Financial Times.
- Crewe, L. (1996) 'Material Culture: Embedded Firms, Organizational Networks and the Local Economic Development of a Fashion Quarter', *Regional Studies*, 30 (3), pp. 257-272.
- Cutrini, E. (2011) 'Moving Eastwards While Remaining Embedded: The Case of the Marche Footwear District, Italy', *European Planning Studies*, 19 (6), pp. 1-38.
- Dachs, B., Ebersberger, B., Kinkel, S. and Wasser, B.R. (2006) 'Offshoring of production-a European perspective: Frequency, target regions and motives', *European Manufacturing Survey*, 2, pp. 1-16.
- Dekker, R. (2011) 'Impact of strategic decision making for outsourcing on managing manufacturing', *Journal of Operations and Production Management*, 31 (9), pp. 935-965.
- Dekker, H. and Smidt, P. (2003) 'A survey of the adoption and use of target costing in Dutch firms', *International Journal of Production Economics*, 84 (3), pp. 293-305.
- De Boer, L., Labro, E. and Morlacchi, P. (2001) 'A review of methods supporting supplier selection', *European Journal of Purchasing and Supplier Management*, 7 (2), pp.75-89.
- Deloitte Economic Intelligence Unit (2015) *Deloitte Services LP economic analysis*. Deloitte University Press.

Deloitte (2016) 'Global Manufacturing Competitive Index'. *Deloitte Services LP Competitive Analysis*. Deloitte University Press.

Desai A., Nassar N. and Chertow, M. (2012) 'American Seams: An Exploration of Hybrid Fast Fashion and Domestic Manufacturing Models in Re-localised Apparel Production', *Journal of Corporate Citizenship* 45, pp.53-75.

De Santis, L. and Noel-Ugarriza, D. (2000) 'The concept of theme as used in qualitative nursing research'. *Western Journal of Nursing Research*, 22, pp. 351-372.

De Treville, S. and Trigeorgis, L. (2010) 'It may be cheaper to manufacture at home', *Harvard Business Review*, 88 (10), pp. 84-87.

De vita, G., Tekaya, A., and Wang, C. (2011), 'The many faces of asset specificity: A critical review of key theoretical perspectives', *International Journal of Management Reviews*, 13 (4), pp 329-348.

De Vor, R., Graves, R. and Mills, R.R. (1997) 'Agile manufacturing research: accomplishments and opportunities', *IIE Transactions*, 29 (10), pp. 813-823.

De Witt, R-L. (1998) 'Firm, industry and strategy influences on choice of downsizing approach', *Strategic Management Journal*, 19 (1), pp.59-79.

Dickson, M.A. (2000) 'Personal values, beliefs, knowledge and attitudes relating to intentions to purchase apparel from socially responsible business', *Clothing and Textiles Research Journal*, 18 (1), pp.18-30.

Dickson, M.A. (2013) 'Corporate responsibility in the global apparel industry: Toward an integrated human rights-based approach', *In* S. Black, J. Entwistle, A. de la Haye, A. Rocamora, R. Root, and H. Thomas, (eds.), *The Handbook of Fashion Studies*. London: Bloomsbury Publishing. pp. 241-253.

Diener, E. and Crandall, R. (1978) *Ethics in Social and Behavioural Research*. Chicago: University of Chicago Press.

Dietrich, A.J., Kirn, S. and Sugumaran (2007) 'A service Oriented Architecture for Mass Customisation-A Shoe Industry Case Study', *IEE TRANSACTIONS ON ENGINEERING MANAGEMENT*, 54 (1), pp. 190-204.

Distler, J., Fernandez - Seara, J., Gottstein, H., Haemmerle, V., Rasch, S. and Rohrhofer, S. (2014) '*Apparel at a Crossroads: The End of Low Cost-Country Sourcing*'. The Boston Consulting Group.

Divakaran, A., Mani, M. and Post, L. (2012) 'BEST PRACTICES FOR MEETING MANUFACTURING'S GLOBAL TALENT', *IVEY BUSINESS JOURNAL*, Sept/Oct.

Doorey, D. (2011) 'The transport supply chain: From resistance to implementation at Nike and Levi-Strauss', *Journal of Business Ethics*, 103, pp. 587-603.

Dore, R. (1983) 'Goodwill and the Spirit of Market Capitalism', *British Journal of Sociology*, 34, pp. 459-482.

Dornbusch, R., Golfajn, I., Valdes, R.O., Edwards, S. and Bruno, M. (1995) 'Currency Crises and Collapses', *Brooking Papers on Economic Activity*, Vol. 1995 (2), pp. 219-293.

Dosi, G. and Egidi, M. (2000) 'Substantive and Procedural Uncertainty', *Journal of Evolutionary Economics*, 1 (2), pp. 145-168.

Douetil, G. (2014) 'Repatriation of manufacturing to Europe still the exception for many multi-nationals favouring 'best-shoring' in emergent economies', *Corporate Real Estate Journal*, 3 (3), pp. 199-206.

Downe-Wamboldt, B. (1992) 'Content analysis: methods, applications and issues'. *Health Care Women International*, 13, pp. 313-321.

Doyle, S.A., Moore, C.M. and Morgan, L. (2006) 'Supplier management in fast moving fashion retailing', *Journal of Fashion Marketing and Management: An International Journal*, 10 (3), pp. 272-281.

Driscoll, M. and Weng, P. (2009) *Apparel and Footwear: Retailers and Brands*. New York, NY: Standard and Poor's.

Drury, C.M. (2013) *Management and Cost Accounting*. Springer Science + Media, B.V.

Dulio, S. and Boer, C.R. (2004) 'Integrated Production Plant (IPP): an innovative laboratory for research projects in the footwear field', *International Journal of Computer Integrated Manufacturing*, 17 (7), pp. 601-611.

Dunning, J.H. (1980) 'Towards an eclectic theory of international production: Some empirical tests', *Journal of International Business Studies*, 11 (1), pp. 9-31.

Durlauf, S.N. and Johnson, P.A. (1992) 'Local Versus Global Convergence Across National Economies', *National Bureau of Economic Research Working Paper*, 3996, pp.1-32.

Dwivedi, R. and Chakraborty, S. (2017) 'STRATEGIC DECISION MAKING FOR A FOOTWEAR INDUSTRY USING ACTIVITY BASED COSTING AND VALUE CHAIN MODELS', *Leather and Footwear Journal*, 17 (3), pp. 119-128.

Dwivedi, A., Moktadir, M.A., Jabbour, C.J.C. and Estima de Carvalho, D. (2021) 'Integrating the circular economy and Industry 4.0 for sustainable development: Implications for responsible footwear production in a big data driven world', *Technology Forecasting and Social Change*. (In press).

- Dyer, J.H., Kale, P. and Singh, H. (2001) 'How to make strategic alliances work', *Sloan Management Review*, 42 (4), pp. 37-43.
- Dyllick, T. and Hockerts, K. (2002) 'BEYOND THE BUSINESS CASE FOR 3CORPORATE SUSTAINABILITY', *Business Strategy and the Environment*, 11, pp. 130-141.
- Eberhardt, M., McLaren, J., Millington, A. and Wilkinson, B. (2004) 'Multiple forces in component localisation in China', *European Management Journal*, 22 (3), pp. 290-303.
- Edwards, L and Edwards, L.J. (1995) *Practical Risk Management in the Construction Industry*. London: Thomas Telford.
- Elkington, (1997) *Cannibals with forks. The triple bottom line of 21st century business*. Oxford: Capstone Publishing Ltd.
- Ellegaard, C. (2008) 'Supply risk management in a small company perspective', *Supply Chain Management: An International Journal*, 13 (6), pp.425-434.
- Ellen, P.S., Webb, D.J. and Mohr, L.A. (2006) 'Building Corporate Associations: Consumer Attributions for Corporate Social Responsibility Programs', *Journal of the Academy of Marketing Science*, 34 (2), pp. 147-157.
- Ellet, S. and Girotti, G. (2013) 'Network Design: Embrace the culture of modelling', *Logistics Management*, 52 (11), pp. 28-31.
- Ellram, L.M. (1993) 'Total cost of ownership: elements and implementation', *International Journal of Purchasing and Materials Management*, 29 (2), pp. 3-11.
- Ellram, L. (1996) 'The use of the case study method in logistics research', *Journal of Business Logistics*, 16 (2), pp.238-254.
- Ellram, L.M. and Siferd, S. P. (1998) 'TOTAL COST OF OWNERSHIP: KEY CONCEPTS IN STRATEGIC MANAGEMENT', *Journal of Business Logistics*, 19 (1), pp. 55-84.
- Ellram, L.M., Tate, W.L. and Billington, C. (2008) 'Offshore outsourcing of professional services: a transactional cost economics perspective', *Journal of Operations Management*, 26 (2), pp. 148-163.
- Ellram, L. M., Tate, W. L. and Petersen, K. J. (2013) 'Offshoring and Re-shoring: An Update on the Manufacturing Location Decision', *Journal of Supply Chain Management*, 49 (23), pp. 14-22.
- Elo, S. and Kyngas, H. (2008) 'The qualitative content analysis process', *Journal of Advanced Nursing*, 62, pp.107-115.

- Eltantawy, R., Giunipero, L. and Handfield, R. (2014) 'Strategic sourcing managements' mindset: Strategic sourcing orientation and its implications', *Journal of Physical Distribution and Logistics*, 44 (10), pp. 768-795.
- Enderwick, P. (2011) 'A 'China Plus One' strategy: The best of both worlds?' *Human Systems Management*, 30 (1-2), pp. 85-96.
- Enright, M.J. (1998) Regional Clusters and Firm Strategy. In A.D. Chandler, P. Hagstrom, and O. Solvell (eds.). *The Dynamic Firm: The Role of Technology, Strategy Organization and Regions*. Oxford: Oxford University Press. pp. 315-342.
- Erdam, T and Swait, J.D. (2004) 'Brand credibility, Brand Consideration and Choice', *Journal of Consumer Research*, 31 (1), pp. 191-198.
- Evans, P. (2010) 'Is it Labor's Turn to Globalize'? Twenty –first Century Opportunities and Strategic Responses. Info: *Working Paper Series, Institute for Research on Labor Employment*. CA: UC Berkeley. (p.352).
- Fawcett S.E. and Magnan, G.M. (2002) 'The rhetoric and reality of supply chain integration', *International Journal of Physical Distribution and Logistics Management*, 32 (5), pp. 339-361.
- Fayezi, S., Zutshi, A. and O'Loughlin, A. (2017) 'Understanding the Development of Supply Chain Agility: A Structured Literature Review', *International Journal of Management Reviews*, 19 (4), pp. 379-407.
- Federgruen, A. and Yang, N. (2008) 'Selecting a Portfolio of Suppliers Under Demand and Supply Risks', *Operational Research*, 56 (4), pp. 916-1046.
- Feenstra, R.C. and Hanson, G.H. (1996) 'Globalisation, Outsourcing and Wage Inequality', *American Economic Review, American Economic Association*, 86 (2), pp. 240-245.
- Feil, P., Yook, K.H. and Kim, I.W. (2004) 'Japanese Target Costing: A Historical Perspective', *International Journal of Strategic Cost Management*, 11 (1), pp.10-19.
- Felin, T and Foss, N.J. (2005) 'Strategic organization: A field in search of micro-foundations', *Strategic Organization*, 3 (4), pp. 441-455.
- Ferdows, K. (1997a) 'Making the most of foreign factories', *Harvard Business Review*, (March-April) pp. 73-88.
- Ferdows, K. (1997b) 'Made in the world: the global spread of production', *Production and Operations Management*, 6 (2), pp. 102-109.
- Fernie, J. and Temple, C. (2019) 'The footwear supply chain: The case of Schuh', In J. Fernie, and L. Sparks, (eds.). *Logistics and Retail Management*, pp. 120-146.

- Fill, C. and Visser, E. (2000) 'The outsourcing dilemma: a composite approach to the make or buy decision', *Management Decision*, 38 (1), pp. 43-50.
- Finch, P. (2004) 'Case study: supply chain risk management', *Supply chain Management: An International Journal*, 9 (2), pp. 183-196.
- Fine, C. H. (2013) 'Intelli-Sourcing to Replace Offshoring as Supply Chain Transparency', *Journal of Supply Chain Management*, 49 (2), pp 6-7.
- Fine, C.H., Whitney, D.E., and Daniel, E. (2002) 'Is the make-buy decision process a core competence?' *International Motor Vehicle Program*. Cambridge, MA: MIT.
- Fiol, C.M. (2001) 'Revisiting an identity based view of sustainable competitive advantage', *Journal of Management*, 27 (6), pp. 691-699.
- Fiske, S.T. and Taylor, S.E. (1991) *Social Cognition*. McGraw-Hill Book Company
- Fleischman, R.K. and Tyson, T.N. (1998) 'The Evolution of Standard Costing in the UK and US: From Decision Making to Control', *Abacus*, 34 (1), pp. 92-119.
- Fleisher, B., Hu, D., McGuire, W. and Zhang, X. (2010) 'The evolution of an industrial cluster in China', *China Economic Review*, 21 (3), pp. 456-469.
- Fliedner, G. and Vokurka, R. J. (1997a) 'Agility the next competitive advantage?' *The Performance Advantage Magazine*, 3 (7), pp. 56-59.
- Fliedner, G. and Vokurka, R.J. (1997b) 'Agility: Competitive Weapon of the 1990's and Beyond', *Production and Inventory Management Journal*, 38 (3), pp.19-24.
- Flynn, B.B., Sakakibar. S., Schroeder. R.G., Bates, K. and Flynn, E.J. (1992) 'Empirical research methods in operations management', *Journal of Operations Management*, 2 (9), pp. 250-284.
- Flyvberg, B. (2006) 'Five misunderstandings about case study research', *Qualitative Inquiry*, 12 (2), pp. 219-245.
- Fontana, G.L. and Miranda, J.A. (2017) 'Design and fashion as determinants of competitiveness: a comparative study of the evolution of the footwear industry in Italy and Spain', In G. Motta, A. Bragini, (eds.). *Fashion through history: Costumes, Symbols, Communications*, 2, pp. 49-58.
- Forsberg, J. and Towers. N. (2007) 'Creating agile supply networks in the fashion industry: a pilot study of the European textile and clothing industry', *The Journal of the Textile Institute*, 98 (4), pp. 377-386.
- Foss, N.J. (ed.) (1997) *Resources, firms and strategies: A Reader in the Resource Based Perspective*. Oxford: Oxford University Press on Demand.

- Foss, N.J. (2003) 'Bounded rationality in the economics of organization. 'Much cited and little used', *Journal of Economics Psychology*, 24 (2), pp. 245-264.
- Foss, N.J. (2007) 'Scientific progress in strategic management: the case of the resource based view', *International Journal of Learning and Intellectual Capital*, 4 (1-2), pp. 29-46.
- Foss, N.J. and Knudsen, C. (eds.) (1996) *Towards a Competence Theory of the Firm*. London: Routledge.
- Foss, N.J. and Knudsen, T. (2003) 'The resource based tangle: towards a sustainable application of competitive advantage', *Managerial and Decision Making Economics*, 24 (4), pp. 291-307.
- Fratocchi L., Ancarini, A., Barbieri, P., Di Mauro, C., Nassimbeni, G., Sartor, M., Vignoli, M. and Zanoni, A. (2016) 'Motivations of manufacturing re-shoring: an interpretive framework', *International Journal of Physical Distribution & Logistics Management*, 6 (2), pp. 98-127.
- Fratocchi, L and Costa e Silva, E. (2018) 'Manufacturing back-shoring and direct brand creation in the footwear industry', *Advances in Transdisciplinary Engineering*, 8, pp. 461-466.
- Fratocchi, L., Di Mauro, C., Barbieri, P. and Nassimbeni, G. (2014) 'When manufacturing moves back: Concepts and questions', *Journal of Purchasing and Supply Chain Management*, 20 (1), pp. 54-59.
- Frear, C.R., Metcalf, L.E. and Alguire, M.S. (1992) 'Offshore Sourcing: Its Nature and Scope', *International Journal of Purchasing and Materials Management*, 28 (3), pp. 2-11.
- Frederico, F.F., Kumar, V. and Garza-Reyes, J.A. (2021) 'Impact of the strategic sourcing process on the supply chain response to the COVID-19 effects', *Business Process Management Journal*, 27 (6), pp. 1775-1803.
- Galbraith, J.K.. (1977) *Organization Design*. London: Addison-Wesley.
- Ganesan, S., George, M., Jap, S., Palmateier, R.W. and Weitz, B. (2009) 'Supply Chain Management and Retailer Performance: Emerging Trends, Issues and Implications for Research and Practice', *Journal of Retailing*, 85 (1), pp.84-94.
- Ganzarin, J. and Errasti, N. (2016) 'Three stage maturity model in SMEs towards Industry 4.0', *Journal of Industrial Management and Engineering*, 9 (5), pp. 1119-1128.
- Gbrich, C. (2007) *Qualitative Data Analysis: An Introduction* (1st edn.) London: Sage Publications.

- Gelderman, C.J. and Semeijn, J. (2006) 'Managing the global supply base through purchasing portfolio management', *Journal of Purchasing and Supply Management*, 12 (4), pp. 209-217.
- George, K. and Ramaswamy, S. (2014) 'Next Shoring: A CEO's Guide', *McKinsey Insights and Publications*, January.
- Gereffi, G. and Memedovic, O. (2003) 'The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries?' *UNIDO, Vienna Strategic Research and Economic Branch*. pp. 1-40.
- Geyskens, I., Steenkamp, J. and Kumar, N. (2006), 'Make, Buy, or Ally: A Transaction-Cost Theory Meta-analysis', *Academy of Management Journal*, 49(3), pp. 519-543.
- Ghadge, A., Dani, S. and Kalawsky, R. (2012) 'Supply chain risk management: present and future scope', *The International Journal of Logistics Management*, 23 (3), pp. 313-339.
- Ghemawat, P. (2003) 'Globalization: The Strategy of Difference', *Harvard Business Review*, 81 (11), pp. 76-84.
- Ghoshal, S. (1987) 'Global strategy: an organizing framework', *Strategic Management Journal*, 8 (5), pp. 425-440.
- Ghoshal, S. and Moran, P. (1996) 'BAD FOR PRACTICE: A CRITIQUE OF TRANSACTION COST THEORY', *Academy of Management Review* 21 (1), pp. 13-47.
- Giambona, E., Graham, R. and Harvey, C.R. (2017) 'The management of political risk', *The Journal of International Business Studies*, 48, pp. 523-533.
- Gibbons, R. (2010) 'Transaction-cost economics: past, present and future?' *Scandinavian Journal of Economics*, 112 (2), pp. 263-288.
- Giunipero, L., Handfield, R.B. and Eltantawy, R. (2006) 'Supply management's evolution: key skill sets for the supply manager of the future', *International Journal of Operations and Production Management*, 26 (7), pp.130-141.
- Giunipero, L. C. and Eltantawy, R. (2004) 'Securing the upstream supply chain: a risk management approach', *International Journal of Physical Distribution and Logistics Management*, 34 (9), pp. 698-713.
- Giunipero, L.C. and Monckza, R.M. (1990) 'Organizational approaches to managing international sourcing', *International Journal of Physical Distribution and Logistics Management*, 20 (4), pp. 3-12.
- Gligor, D.M., Esmark, C.L. and Holcomb, M.C. (2014) 'Performance outcomes of supply chain agility: When should you be agile?' *Journal of Operations Management*, 33-34 (1), pp. 71-82.

- Gligor, D.M. and Holcomb, M.C. (2012b) 'Understanding the Role of Logistics Capabilities in Achieving Supply Chain Agility: A Systematic Literature Review', *Supply Chain Management: An International Journal*, 17 (4), pp. 438-453.
- Goh, M. and Ling, C. (2003) 'Logistics development in China', *International Journal of Physical Distribution and Logistics Management*, 33 (10), pp. 886-917.
- Golden, W. and Powell, P. (1999) 'Exploring inter-organisational systems and flexibility in Ireland: a case of two value chains', *International Journal of Agile Management Systems*, 1 (3), pp. 169-176.
- Golden, W. and Powell, P. (2000) 'Towards a definition of flexibility: in search of the Holy Grail?' *Omega*, 28 (4), pp. 373-384.
- Goldman, S.L., Nagel, R.N. and Preiss, K. (1995) *Agile competitors and virtual organisations: Strategies for enriching the customer*. New York: Van Nostrand Reinhold
- Gomes, P.J. and Dahab, S. (2010) 'Bundling resources across supply chain dyads: The role of modularity and co-ordination capabilities', *International Journal of Operations and Production Management*, 30 (1), pp. 57-74.
- Gomulka, S. (1971) *Inventive activity, diffusion and the stages of economic growth*. Institute of Economics, Aarhus University, Denmark.
- Gonzales, R., Gasco, J. and Llopis, J. (2006) 'Information Systems Offshore Outsourcing: A Descriptive Analysis', *Industrial Management and Data Systems*, 106 (9), pp. 1233-1248.
- Gorkhali, A. and Zhu, L. (2016) 'Enterprise application integration in industrial integration: a literature review', *Journal of Industrial Integration Management*, 1 (4), pp. 1-26.
- Gottfredson, M., Puryear, R. and Phillips, S. (2005) 'Strategic sourcing from periphery to the core', *Harvard Business Review*, 83 (2), pp. 132-139.
- Gowerek, H., Fisher, T., Cooper, T., Woodward, S. and Hiller, A. (2012) 'The sustainable clothing market: An evaluation of potential strategies for UK retailers', *International Journal of Retail and Distribution Management*, 40 (12), pp. 935-955.
- Graafland, J.J. (2008) 'Sourcing ethics in the textile sector: the case of C and A', *Business Ethics, the Environment and Responsibility*, 11 (3), pp. 282-294.
- Graf, M. and Mudambi, S.M. (2005) 'The Outsourcing of It: Enabled Business Processes: A Conceptual Model of the Location Decision', *Journal of International Management*, 11 (2), pp. 253-268.

Gragg, C. (1954) 'Because wisdom can't be told', In M. McNair (eds.). *The Case Method at Harvard Business School*. New York: McGraw-Hill Book Publishing Company.

Graneheim, U. and Lundman, B. (2004) 'Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness', *Nurse Education Today*, pp. 105-112.

Granovetter, M. (1985) 'Economic action and social structure: The problem of embeddedness', *American Journal of Sociology*, 91 (3), pp. 481-510.

Grant, R.M. (1996a) 'Prospering in Dynamically Competitive Environments: Organizational Capability as Knowledge Integration', *Organization Science*, 7 (4), pp. 375-387.

Gray, J.V., Esenduran, G., Rungtusanatham, M.J. and Skrowonski, K. (2017) 'Why in the world did they re-shore? Examining small to medium sized manufacturing decisions', *Journal of Operations Management*, 49, pp. 37-51.

Gray, J. V., Skowronski, K., Esenduran, G. and Rungtusanatham, J. M. (2013) 'THE RE-SHORING PHENOMENON: WHAT SUPPLY CHAIN ACADEMICS OUGHT TO KNOW AND SHOULD DO', *Journal of Supply Chain Management*, 49 (2), pp. 27-33.

Graziani, G. (1998) 'Globalisation of production in textile and clothing industries: The case of Italian foreign direct investment and outward processing in eastern Europe', In J. Zysman and A. Schwartz (eds.) *Enlarging Europe: The Industrial Foundations of a New Political Reality*, International and Area Studies, Research Series n. 99 University of California pp. 238-254.

Grossman, S.J. and Hart. O.D. (1996) 'The Costs and Benefits of Vertical Integration and Lateral Integration', *Journal of Political Economy*. 94 (4), pp. 691-719.

Grossman, G.M. and Rossi-Hansberg, E. (2006) 'Trading Tasks: A Simple Theory of Offshoring', *National Bureau of Economic Research*, NBER Working Paper Series, December.

Grover, V. and Malhotra, M.K. (2003) 'Transaction cost framework in operations and supply management research: theory and measurement', *Journal of Operations Management*, 21 (4), pp. 457-473.

GTAI, (2014) *Industry 4.0-Smart Manufacturing for the future*. Germany Trade and Invest, Berlin, Germany.

Gulati, R. and Singh, H. (1998) 'The architecture of cooperation: Managing coordination, costs and appropriation concerns in strategic alliances', *Administrative Science Quarterly*, 43 (4), pp. 781-814.

- Gunasekaran, A.C. (1998) 'Agile manufacturing: enablers and an implementation framework', *International Journal of Production Research*, 36 (5), pp.87-105.
- Gunasekaran, A. C. and Sarhadi, M. (2001) 'Implementation of activity based costing in manufacturing', *International Journal of Production Economics*, 56, pp. 231-242.
- Hakansson, H., Havila, V. and Pedersen, A. (1999) 'Learning in networks', *Industrial Marketing Management*, 28 (5), pp. 443-452.
- Hakansson, H. and Johanson, J. (1992) 'A model of industrial networks', *In Industrial Networks. A New View of Reality*. London: Routledge. pp. 28-34.
- Hale, A. and Shaw, L.M. (2002) 'Women Workers and the Promise of Ethical Trade in the Globalised Garment Industry: A Serious Beginning?' *ANTIPODE: A Radical Journal of Geography*, 33 (3), pp. 510-530.
- Hallikas, J., Karvonen, I. and Pulkkinen, U. (2004) 'Risk management processes in supplier networks', *International Journal of Production Economics*, 90 (1), pp.47-58.
- Hallikas, and Virolainen, V.M. (2004) 'Risk Management in Supply Relationships and Networks', *In Supply Chain Risk*. C. Brindley (eds.). London: Routledge.
- Hamel, J., Dufour, S. and Fortin, D. (1993) *Case study methods*. Newbury Park, CA: Sage Publications.
- Handfield, R.B. and Nicholls, Jr. E.L. (2004) 'Key issues in global supply base management', *Industrial Marketing Management*, 33 (1), pp. 29-35.
- Handfield, R.B., Sroufe, R. and Walton, S. (2005) 'Integrating environmental management and supply chain strategies', *Business Strategy and the Environment*, 14 (1), pp. 1-19.
- Hansen, P. and Serin, G. (1997) 'Will low technology products disappear: the hidden innovation processes in low technology industries', *Technology Forecasting and Social Change*, 55, pp.179-191.
- Harland, C., Brenchley, R. and Walker, H. (2003) 'Risk in supply networks', *Journal of Purchasing in Supply Management*, 8 (5), pp. 425-440.
- Harland, C., Knight, L., Lamming, R. and Walker, H. (2005) 'Outsourcing: assessing the risks and benefits for organisations, sectors and nations', *International Journal of Operations and Production Management*, 25 (9), pp. 831-850.
- Harrington, H.J. (1991) *Business Process Improvement: The Breakthrough Strategy for Total Quality, Productivity and Competitiveness*. Boston, MA: McGraw-Hill Education.

- Harris, M and Raviv, A. (1978) 'Some Results on Incentive Contracts with Applications to Education and Employment, Health Insurance and Law Enforcement', *American Economic Review*, 68 (1), pp.20-30.
- Hart, O. and Moore, J. (1990) 'Property Rights and the Nature of the Firm', *Journal of Political Economy*, 98 (6), pp. 1110-1150.
- Hatonen, J. and Eriksson, T. (2009) '30+ years of research and practice of outsourcing-Exploring the past and anticipating the future', *Journal of International Management*, 15 (2), pp. 142-155.
- Hayek, F.A. (1945) 'The use of knowledge in society', *The American Economic Review*, 35 (4), pp. 519-530.
- Heiner, L., Fettke, P., Kemper, H., Feld, T. and Hoffman M. (2014) 'Industry 4.0', *Business and Information Systems Engineering*, 6, pp. 239-242.
- Hennart, J.F. (1982) *A theory of the multi-national enterprise*. Cambridge, MA: University of Michigan Press.
- Hennart, J.F. (1991) 'The Transaction cost Theory of Joint Ventures: An Empirical study of Japanese Subsidiaries in the United States', *Management Science*, 37 (4), pp. 483-497.
- Hill, C.W.L. (1990) 'Cooperation, Opportunism, and the Invisible Hand: Implications of Transaction Cost Theory', *Academy of Management Review*, 15 (3), pp. 500-513.
- Hilletoft, P. and Sequeira, M. (2019) 'Fuzzy logic in a re-shoring decision making context', *International Conference on Operations and Supply Chain Management*, Vietnam.
- Hines, T. (2002) 'Developing an iceberg theory of cost comparisons in relation to sourcing decisions in the UK fashion industry', *Journal of the Textile Institute*, 95, pp. 3-14.
- Hines, T. (2015) *Fashion Marketing*. New York: Routledge.
- Hines, T. (2016) *Advances in Case Study Research*. MMU Publication.
- Hines, T. and McGowan, P. (2005) 'Supply chain strategies in the UK fashion industry-the rhetoric of partnership and realities of power', *International Entrepreneurship and Management Journal*, 1 (4), pp. 519-537.
- Hitt, M.A., Gimeno, J. and Hoskisson, R.E. (1998) 'Current and Future Research Methods in Strategic Management', *Organizational Research Methods*, 1 (1), pp.6-44.
- Holcomb, T.R. and Hitt, M.A. (2007) 'Toward a model of strategic outsourcing', *Journal of Operations Management*, 25 (2), pp. 464-481.

- Holloway, I. and Todres, L. (2005) 'The status of method: flexibility, consistency and and coherence'. In: I. Holloway (ed.). *Qualitative Research in Health Care* (1st edn.). Berkshire: Open University Press, pp. 90-102.
- Holweg, M., Reichhart, A. and Hong, E. (2011) 'On risk and cost in global sourcing', *International Journal of Production Economics*, 131 (1), pp. 333-341.
- Hopp, W.J. (2008) *Supply Chain Science*. New York, NY: McGraw-Hill/Irwin.
- Horvath, P. and Lamla, J. (1996) 'Kaizen Costing', *KOSTENRECHNUNG PRAXIS*, 40, pp. 335-340.
- Hsiao, T.Y. (2006) 'Establish standard costing with the application of convergent grey test', *European Journal of Operations Research*, 168 (2), pp. 593-611.
- Hsieh, H.F. and Shannon, S.E. (2005) 'Three approaches to qualitative content analysis', *Qualitative Health Research*, 15, pp.1277-1288.
- Huang, Y., Fang, C., Xu, P. and Qin, G. (2013) 'The new normal of Chinese development: *China: A New Model for Growth and Development*, 35.
- Huang, S-M., Ou, C-S., Chen, C.M. and Lin, B. (2006) 'An empirical study of relationship between IT investment and firm performance: A resource based perspective', *European Journal of Operations Research*, 173 (3), pp. 984-999.
- Huang, Y. and Wang, B. (2013) 'Investing overseas without moving factories abroad. The case of Chinese outward direct investment', *Asian Development Review*, 30 (1), pp. 85-107.
- Huang, Z., Zhang, X. and Zhu, Y. (2008) 'The role of clustering in rural industrialisation: A case study of the footwear industry in Wenzhou', *China Economic Review*, 19, pp. 409-420.
- Hughes, A. (2005) 'ABC/ABM-activity based costing and activity based management: A profitability model for SMEs manufacturing clothing and textiles in the UK', *Journal of Fashion Marketing and Management*, 9 (1), pp. 8-19.
- Hummels, D.L., Ishii, J. and Yi, K.M. (2001) 'The Nature and Growth of Vertical Specialisation in World Trade', *Journal of International Economics*, 54 (1), pp. 75-96.
- Humphrey, J. and Schmidt, H. (2002) 'How does insertion in global value chains affect upgrading in industrial clusters?' *Regional Studies: A Journal of the Regional Studies Association*, 36 (9), pp. 1017-1027.
- Hung, H-F. (2009) 'America's head servant: The PRC's dilemma in the global crisis', *New Left Review*, 60, pp. 5-26.

Hussein, M. and Gunasekaran, A. (2001) 'Activity-based cost management in financial services industry', *Journal of Service Theory and Practice*, 11 (3), pp. 213-226.

Hustvedt, G. and Bernard, J.C. (2008) 'Consumer willingness to pay for sustainable apparel: the influence of labelling for fibre origin and production methods', *International Journal of Consumer Studies*, 32 (5), pp. 491-498.

Hustvedt, G. and Kang, J. (2013) 'Consumer Perceptions of Transparency: A Scale Development and Validation', *Journal of Family and Consumer Sciences*, 41 (3), pp. 299-313.

Islam, M.A. and Deegan, C. (2008) 'Motivation for an organisation within a developing country to report social responsibility information: evidence from Bangladesh', *Accounting, Auditing and Accountability Journal*, 26 (6), pp. 850-874.

Jacobides, M.G. and Winter, S.G. (2005) 'The co-evolution of capabilities and transaction costs: explaining institutional structure of production', *Strategic Management Journal*, 26, pp. 395-413.

Jacques, J.J., Agogino, A.M. and Guimaraes, L.B.M. (2010) 'Sustainable Product Development Initiatives in the Footwear Industry Based on the 'Cradle to Cradle' Concept', *International Design Engineering Technical Conference and Computers and Information Conference*, Montreal, pp. 473-481.

Jain, M., Girotra, K. and Nettesine, S. (2011) 'Managing Global Sourcing: Inventory Performance', *INSEAD Working Paper*.

Jang, J. (2014) 'Supply chain agility: Securing performance for Chinese manufacturers', *International Journal of Production Economics*, 150, pp. 104-113.

Jensen, R.J. and Szulanski, G. (2004) 'Stickiness and the Adaption of Organisational Practice in Cross-Border Knowledge Transfers', *Journal of International Business Studies*, 35 (6), pp. 1-35.

Jia, F., Lamming, R., Sartor, G. and Nassimbeni, G. (2013) 'Global purchasing strategy and international purchasing offices: evidence from case studies', *International Journal of Production Economics*, 154 (1), pp. 284-298.

Jia, F. and Rutherford, C. (2010) 'Mitigation of supply chain relational risk caused by cultural differences between China and the West', *International Journal of Logistics Management*, 21 (2), pp. 251-270.

Jiang, B. (2002) 'How international firms are coping with supply chain issues in China', *Supply Chain Management: An International Journal*, 7 (4), pp. 188-198.

Jiang, R., Kleer, R. and Piller, F.T. (2017) 'Predicting the future of additive manufacturing: a Delphi study on economic and social implications of 3D printing for 2030', *Technology Forecasting for Societal Change*, 117, pp. 84-97.

Jiang, B., Yao, T. and Feng, B. (2008) 'Valuate Outsourcing Contracts from Vendor's Perspective: Real Options Approach', *Decision Sciences*, 39 (3), pp. 383-405.

Jimeno-Morenilla, A., Azariadis, P., Molena-Carmona, R., Kyratzi, S. and Moulisanatis, V. (2021) 'Technology enablers for the implementation of Industry 4.0 to traditional manufacturing sectors', *Computers in Industry*, 125, pp.1-13.

Jin, B. (2004) 'Achieving an optimal global versus domestic sourcing balance under demand uncertainty', *International Journal of Operations & Production Management*, 24 (12), pp 1292-1305.

Jin-Hai. L., Anderson, A.R. and Harrison, R.T. (2003) 'The evolution of agile manufacturing', *Business Process Management Journal*, 9 (2), pp. 170-189.

Jin, B. and Cho, H.J. (2018) 'The difference between Internationalization of SMEs with Brand Names and those without Brand Names', *An Abstract in Academy of Marketing Science*, World Marketing Congress, June, pp.665-666, Cham: Springer.

JOC Online (2013) 'China's Loss in US Footwear Trade Leaves Room for Developing Nations' (12/6).

Johanson, J. and Mattsson, L.G. (2015) 'Internationalization in industrial systems-a network approach. In *Knowledge networks and power*. London: Palgrave Macmillan.

John, G. and Weitz, B.A. (1988) 'Forward integration into distribution: An empirical test of transaction cost analysis', *Journal of Law Economics and Organization*, 4 (2), pp. 337-355.

Johnson, M.E. (2001) 'Learning from toys: lessons in managing supply chain risk from the toy industry', *California Management Review*, 43 (3), pp. 106-124.

Johnson, G., Melin, L. and Whittington, R. (2003) 'Micro-strategy and Strategizing: Towards an Activity-Based View', *Journal of Management Studies*, 40 (1), pp. 3-22.

Johnson, G B. and Wasson, J.T. (2010) 'THE POLITICAL ECONOMIES OF ECONOMIC LIBERALISATION: THE ROLE OF DIFFUSION, CRISES, AND PARTIES IN THE SHIFT TO FREE MARKET ECONOMIES', *Management and Financial Markets*, 5 (2), pp. 105-124.

- Jones, R.M. (2003) Hidden costs-only surface deep?' *Journal of Fashion Marketing and Management*, 7 (1).
- Jones, R.W. and Kierzkowski, H. (2001) 'A Framework for Fragmentation'. In S. Arndt, and H. Kierzkowski, (eds.). *Fragmentation: New Production Patterns in the World Economy*. Oxford: Oxford University Press.
- Jones, R. W., Kierzkowski, H. and Lurong, C. (2005) 'What does evidence tell us about fragmentation and outsourcing?' *International Review of Economics and Finance*, 14 (3), pp. 305-316.
- Joubioux, C. and Vanpouke, E. (2016) 'Towards right-shoring: a framework for off and re-shoring decision making', *Operations and Management Research*, 9, pp. 117-132.
- Judson, A. S. (1990) *Making Strategy Happen: Translating Plans Into Reality*. Cambridge: Wiley-Blackwell.
- Kakabadse, A. and Kakabadse, N. (2005) 'Outsourcing: Current and future trends', *Thunderbird International Business Review*, 47 (2), pp. 183-204.
- Kang, J. and Hustvedt, G. (2014) 'The Contribution of Perceived Labor Transparency and Perceived Corporate Giving to Brand Equity in the Footwear Industry', *Clothing and Textiles Research Journal*, 32 (4), pp. 296-311.
- Kaplan, R. S. and Atkinson, A. A. (1989) *Advanced Management Accounting*. New Jersey: Prentiss-Hall.
- Kaur, M. (2014) 'KAIZEN COSTING: A CATALYST FOR CHANGE AND CONTINUOUS COST IMPROVEMENT', *International Journal of Management Research*, 2 (1), pp.1-16.
- Kessler, J.A. (1999) 'The North America Free Trade Agreement, emerging apparel production networks and industrial upgrading: the Southern California/Mexico connection', *Review of International Political Economy*, 6, pp. 565-608.
- Kieserling, C. (1999) 'Mass customisation in the shoe industry'. Survey conducted by Selve AG, Munich.
- Kim, W.C. and Mauborgne, R.A. (1993) Making Global Strategies Work, *MIT Sloan Management Review*, 34 (3), p.11.
- Kimura, F. and Ando, M (2005) 'Two dimensional fragmentation in East Asia: Conceptual frameworks and empirics', *International Review of Economics and Finance*, 14 (3), pp. 317-348.

- Kinder, T. (2003) 'Go with the flow- a conceptual framework for supply relations in the era of the extended enterprise', *Research Policy*, 32 (3), pp. 503-522.
- King, M. (2013) 'Putting a Value on Re-shoring', *Journal of Commerce*, 14 (21), pp. 30-35.
- Kinkel, F. and Maloca, S. (2009) 'Drivers and antecedents of manufacturing offshoring and back-shoring: a German perspective', *Journal of Purchasing Supply Management*, 15 (3), pp. 154-165.
- Kirkwood, J. and Campbell-Hunt, C. (2007) 'USING MULTI PARADIGM RESEARCH METHODOLOGIES TO GAIN NEW INSIGHTS INTO ENTREPRENEURIAL MOTIVATION', *Journal of Enterprising Culture*, 15 (3), pp. 219-241.
- Kisperska-Moron, D. and Sweirczek, D. (2009) 'The agile capabilities of Polish companies in the supply chain: An empirical study', *International Journal of Production Economics*, 18, pp. 217-224.
- Klein, B., Crawford, R.G. and Alchian, A.A. (1978) 'Vertical Integration, Appropriate Rents, and the Competitive Contract Process', *The Journal of Law and Economics*, 21 (2), pp. 297-326.
- Kliueva, I.V. and Bekk, M.V. (2013) 'Domestic Footwear, Yesterday and Today', *Problems of Economic Transition*, 56 (4), pp. 21-24.
- Kocabasoglu, C. and Suresh, N. (2006) 'Strategic Sourcing: An Empirical Investigation of the Concept and It Practices in US Manufacturing Firms', *Journal of Supply Chain Management*, 42 (2), pp. 4-16.
- Kochan, A. (1996) 'Actis and the shoe industry', *Assembly Automation*, 16 (3), pp. 30-31.
- Koelblin, S. (2017) 'Robots Take Over – The Apparel Production' *Apparel & Fashion Big Ideas and Innovation*, Editors Picks, *Technology*, pp. 1-4.
- Koplin, J., Seuring, S. and Mesterharm, M. (2007) Incorporating sustainability into supply management in the automotive industry-The case of Volkswagen AG', *Journal of Clean Production*, 15 (11-12), pp. 1053-1062.
- Kor, Y.Y. and Leblebici, H. (2005) 'How do interdependencies among human capital deployment, development, and diversification strategies affect firms financial performance?' *Strategic Management Journal*, 26 (10), pp. 967-985.
- Kor, Y.Y., Mahoney, J.T. and Michael, S.C. (2007) 'Resources, Capabilities and Entrepreneurial Perceptions', *Journal of Management Studies*, 44 (7), pp. 1187-1212.

- Koste, L.L., Malhotra, L.K. and Sharma, S. (2004) 'Measuring dimensions of manufacturing flexibility', *Journal of Operations Management*, 22 (2), pp. 171-196.
- Kotabe, M., Mol, M. and Murray, J. (2008) 'Outsourcing performance and the role of e-commerce: a dynamic perspective', *Industrial Marketing Management*, 37(1), pp. 7-45.
- Kotabe, M. and Murray, J. (2004) 'Global sourcing strategy and sustainable competitive advantage', *Industrial Marketing Management*, 33 (1), pp. 7-14.
- Kotabe, M. and Omura, G.S. (1989) 'Sourcing strategies of European and Japanese multi-nationals: a comparison', *Journal of International Business Studies*, 20 (1), pp. 113-130.
- Kraaijenbrink, J.S., Spender, J-C and Groen, A.J. (2010) 'THE RESOURCED BASED VIEW: A REVIEW AND ASSESSMENT OF ITS CRITIQUE', *Journal of Management*, 36 (1), pp. 349-372.
- Krippendorff, K. (2004) *Content Analysis: An Introduction to its Methodology* (2nd edn.). London: Sage Publications.
- Kroes, J.R. and Gosh, S. (2010) 'Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance', *Journal of Operations Management*, 28 (2), pp. 124-143.
- Kucera, D. (2020) 'Employment indications for developing countries', In F.B. de 'Mattos, S. Dasgupta, S. Jiang, and D. Kucera, (eds.). *Robotics and re-shoring: employment indications for developing countries*. Geneva: International Labour Office.
- Kumar, S., Himes, K.J. and Kritzer, C.P. (2014) 'Risk assessment and operational approaches to managing risk in global supply chains', *Journal of Manufacturing Technology Management*, 25 (6), pp. 873-890.
- Kumar, S. and Kopitzke, K.K. (2008) 'A PRACTITIONERS DECISION MODEL FOR THE TOTAL COST OF OUTSOURCING AND APPLICATION TO CHINA, MEXICO AND THE UNITED STATES', *Journal of Business Logistics*, 29 (2), pp. 107-139.
- Kumar, A. and Motwani, J. (1995) 'A methodology for assessing time-based competitive advantage of manufacturing firms', *International Journal of Operations and Production Management*, 15 (2), pp. 36-53.
- Lacity, M.C., Willcocks, L.P. and Rottman, J.W. (2008) 'Global outsourcing of back office services: lessons, trends and enduring challenges', *Strategic Outsourcing: An International Journal*, 1 (1), pp. 13-34.

Laforet, S. and Chen, J. (2012) 'Chinese and British consumers evaluation of Chinese and international brands and factors affecting their choice', *Journal of World Business*, 47, pp. 54-63.

Lajili, K., Madumi, M. and Mahoney, J.T. (2007) 'Testing Organizational Economic Theories of Vertical Integration. In D.J. Kitchen and D.D. Bergh (eds.). *Research Methodology in Strategy and Management* Vol. 4 Bingley: Emerald Group Publishing Limited.

Lalonde, B.J. and Pohlen, T.L. (1996) 'ISSUES IN SUPPLY CHAIN COSTING', *International Journal of Logistics Management*, 7 (1), pp. 1-12.

Lambert, D.M. and Cooper, M.C. (2000) 'Issues in supply chain management', *Industrial Marketing Management*, 29 (1), pp. 65-83.

Langlois, R.M. (2002) 'Modularity in technology and organizations', *Journal of Economic Behaviour and Organization*, 49 (1), pp. 19-37.

Larsson, R. (1993) 'Case survey methodology: Quantitative analysis of patterns across case studies', *Academy of Management Journal*, 36 (6), pp. 1515-1546.

Lasi, H. (2012) Industrial intelligence – a BI-based approach to enhance manufacturing engineering in industrial companies. *In Proceedings of the 8th CIRP Conference on Intelligent Computation in Manufacturing Engineering (CIRP ICME)* Gulf of Naples, Italy.

Lasi, H., Fettke, P., Kempner, H-G., Feld, T. and Hoffman, M. (2014) 'Industry 4.0', *Business Information Systems Engineering*, 6 (4), pp. 239-242.

Lauterbach, C.E. (2005) *Regional Value-Creating Systems and Core Competencies: Concepts, Empirical Analysis, Recommendations*. Munich: Rainer, Hamp, Verlag.

Lawrence P.R., and Lorsch, J.W. (1967) *Organisation and Environment*. Boston: Addison Wesley.

Lawrence, R. (1996) *Single World, Divided Nations?* Paris: OECD Development Centre.

Lawson, C. and Lorenz, E. (1999) 'Collective learning, tacit knowledge and regional innovative capacity', *Regional Studies*, 33 (4), pp. 305-317.

Lee, S. (2011) 'LOW LABOUR COSTS OR FULL AUTOMATION: WHAT IS THE FUTURE FOR PU PRODUCTION?' *Urethanes Technology International*, 28 (1), pp. 30-32.

Lee, S. (2015) *UK Footwear Statistics*. Steve Lee Associates.

- Lee, S. and Chen, J.C. (1999) 'Mass customisation methodology for an apparel industry with a future', *Journal of Industrial Technology*, 16 (1), pp. 1-8.
- Leiblein, M. and Miller, D.J. (2003) 'An Empirical Examination of Transaction- and Firm-Level Influences on the Vertical Boundaries of the Firm', *Strategic Management Journal*, 24, pp.839-859. (TCE and RBV review)
- Lewis, H. and Gretskakis, J. (2001) *Design + Environment: A Global Guide to Designing Greener Goods*. Sheffield: Greenleaf Publishing.
- Li, L. (2017) 'China's manufacturing locus in 2025: With a comparison of 'Made in China 2025' and 'Industry 4.0'', *Technological Forecasting and Social Change*, 135, pp. 166-74.
- Li, X and Chandra, C. (2007) 'A knowledge integration framework for complex network management', *Industrial Management and Data Systems*, 107 (8), pp. 1089-1109.
- Liang, C.J., Chen, T.Y. and Lin, Y.L. (2013) 'How do different business models affect intellectual capital?' *Journal of Intellectual Capital*, 14 (2), pp. 176-191.
- Lichtenstein, D.R., Drumright, M.E. and Braig, B.M. (2004) 'The Effect of Social Corporate Responsibility to Corporate-Supported Funds', *Journal of Marketing*, 68 (4), pp.16-32.
- Lin, F., Ansell, J. and Siu, W-S. (2020) 'Chinese SME development and industrial upgrading', *International Journal of Emerging Markets*, 16 (6), pp. 977-997.
- Lincoln, Y.S. and Guba, E.G. (1979) *Naturalistic Inquiry*. Newbury Park, CA: Sage.
- Linden, G. (2004) 'China standard time: A Study in Strategic Industrial Policy', *Business and Policy*, 6 (3), pp. 1-26.
- Lindholm, A. and Suomaia, P. (2004) 'The Possibilities of Life Cycle Costing in Outsourcing Decision Making', *Industrial Management*, 2, pp. 26-29.
- Lipsey, R. E (2002) 'Home and host country effects of FDI', *NBER Working Paper Series, No. 9293*, Cambridge, MA.
- Liu, Y., Luo, Y. and Lin, T. (2009) 'Governing buyer-supplier relationships through transactional and relational mechanisms: evidence from China', *Journal of Operations Management*, 27 (4), pp. 294-309.
- Lo, C. and Leung, S. (2000) 'Environmental Agency and Public Opinion in Guangzhou: The Limits of a Popular Approach to Environmental Governance', *The China Quarterly*, 163, pp. 677-704.
- Locke, R.M. (2002) 'The Promise and Perils of Globalisation: The Case of Nike'. *Industrial Performance Center, Working Paper Series*, MIT.

- Loffe, H. and Yardley, L. (2004) 'Content and thematic analysis'. In: D.F. Marks and L. Yardley (eds.). *Research Methods for Clinical and Health Psychology* (1st edn.). London: Sage Publications, pp. 56-69.
- Lofland, J. (1970) 'Interactionist imagery and analytic interruptus. In T. Shibutani (ed.). *Human Nature and Collective Behaviour*. Papers in honour of Herbert Blumer. New Brunswick, NJ: Transaction Books. pp. 35-45.
- Lowder, S. (1998) 'Globalisation of the Footwear Industry: A Simple Case of Labour?' *Department of Geography and Topographic Science*, University of Glasgow.
- Lowson, R.H. (2001) 'Off-shore sourcing: an optimal operational strategy?' *Business Horizons*, 44 (6), pp. 61-67.
- Lowson, R. (2002), 'Assessing the operational cost of offshore sourcing strategies', *International Journal of Logistics Management*, 13 (2), pp. 79-89.
- Lowson, R. (2002a) 'Apparel sourcing offshore: an optimal operational strategy', *Journal of the Textile Institute*, 93 (3), pp. 15-24.
- Lowson, R. (2003) 'Apparel sourcing: assessing the true operational cost', *International Journal of Clothing, Science and Technology*, 15 (5), pp. 335-345.
- Lu, Y. (2017) 'Industry 4.0 a survey on technologies, applications and open research issues', *Journal of Industrial Information Integration*, 6, pp. 1-10.
- Lu, Y. and Karpova, E. (2011) 'Comparative advantage of the Indian and Chinese apparel industries: an analysis of the global value chain', *International Journal of Fashion Design, Technology and Education*, 4 (3), pp. 197-211.
- Lucke, M. (1997) 'European trade with lower income countries and the relative wages an explanatory analysis for West Germany and the UK', *Working Paper 819*, Kiel Institute of World Economics.
- Luo, Y., Huang, Y. and Wang, S.L. (2011) 'Guanxi and organizational performance: a meta-analysis', *Management and Organization Review*, 8 (1), pp. 13-19.
- Luximon, A., Goonetiller, R. and Tsui, K-L. (2003) 'Footwear fit categorisation'. In M. Tseng, and F. Piller, (eds). *The Customer Centric Enterprise: Advances in Mass Customisation and Personalisation*. New York; Berlin: Springer, pp, 491-500.
- Lynch, R., Zhu, Y. and Jin, Z. (2008) 'Can China Sustain its Strong Global Strategy without Innovation – A Study of some Chinese Consumer Electronics and Domestic Appliance Companies', *AIE Conference*, Tsinghua University, Beijing, March.
- Majeed, A.A. and Rupasinghe, T.D. (2017) Internet of Things (IoT) Embedded Future Supply Chains for Industry 4.0. An Assessment from an ERP-based

Fashion Apparel and Footwear Industry', *International Journal of Supply Chain Management*, 6 (1), pp. 25-40.

Makadok, R. (2001b) 'Towards a synthesis of the resource based and dynamic capability views of rent creation', *Strategic Management Journal*, 22 (5), pp. 387-401.

Maloni, M. and Brown, M.E. (2006) 'Corporate Social Responsibility in the Supply Chain: An Application in the Food Industry', *Journal of Business Ethics*, 68, pp. 35-52. Mantel, S.P., Tatikonda, M.V. and Liao, Y. (2006) 'A behavioural study of supply manager decision making: Factors influencing make versus buy evaluation', *Journal of Operations Management*, 24 (1), pp.822-838.

Manuj, I. and Mentzer, J.T. (2008a) 'Global supply chain risk management strategies', *International Journal of Physical Distribution and Logistics Management*, 38 (3-4), pp. 192-223.

Manuj, I. and Mentzer, J.T. (2008b) 'Global supply chain risk management', *Journal of Business Logistics*, 29 (1), pp. 133-156.

March, J.G. (1994) *A Primer on Decision Making*. New York: Free Press.

Marshall, A. (1920) *Principles of Economics: An Introductory Volume*. London: Macmillan.

Martinez-Mora, C. and Merino, F. (2014) 'Offshoring in the Spanish footwear industry: A return journey', *Journal of Purchasing and Supply Management*, 20, pp. 225-237.

Maskell, B.H. and Baggeley, B.L. (2006) 'Lean Accounting: What's It All About?' *Target Magazine*, 22 (1), pp. 35-43.

Maskell, P., Pedersen, T., Petersen, B. and Dick-Nielsen (2007) 'Learning Paths to Offshore Sourcing: From Cost Reduction to Knowledge Seeking', *Industry and Innovation*, 4 (3), pp. 239-257.

Masson, R., Iosif, L., MacKerron, G. and Fernie, J. (2007) 'Managing complexity in agile global fashion industry supply chains', *International Journal of Logistics Management*, 18 (2), pp. 238-254.

Masten, S.E. (1993) 'Transaction costs, Mistakes and Performance: assessing the Importance of Governance', *Managerial and Decision Economics*, 14, p.119.

Masten, S.E., Meehan Jr. J.W. and Snyder, E.A. (1989) 'Vertical integration in the US auto industry: A note on the influence of transaction specific assets', *Journal of Economic Behaviour and Organization*, 12 (2), pp. 265-272.

- Matthiesen, S. and Bjorn, P. (2015) 'Why replacing legacy systems is so hard in global software development. An information infrastructure perspective'. In *Proceedings of the 18th AGM Conference on Computer Supported Cooperative Work and Social Computing*. February. pp. 876-890.
- Maurtua, I., Ibargruen A. and Tallaeche, A. (2012) 'Robotics solutions for footwear industry', *Proceedings of 2012 IEEE 17th International Conference on Emerging Technology and Factory Automation*, September, pp. 17-21.
- McCann, J. (2011) 'China's Textile and Apparel Industry and the Global Market: Five Competitive Forces'. *Advanced Management Journal*, 76 (1), pp. 33-54.
- McClaren, R., Tyler, D.J. and Jones, R.M. (2002) 'Parade-exploiting the strengths of 'made in Britain' supply chain', *Journal of Fashion Marketing Management: An International Journal*, 6 (1), pp. 35-43.
- McGuinness, T. and Morgan, R.E. (2000) 'Strategy, dynamic capabilities and complex science management rhetoric vs. reality', *Strategic Change*, 9 (4), p.209.
- McGinnis, M.A. and Valopra, R.M. (1999) 'Purchasing and supplier involvement: Issues and insights regarding new product success', *Journal of Supply Chain Management*, 35 (3), pp. 4.
- McHenry, L. (2012) 'LOCALISED PRODUCTION AND MASS CUSTOMISATION IS THE FUTURE OF FOTWEAR INDUSTRY', *Urethanes Technology International*, 29 (5), pp. 30-31.
- Mackey, A., Mackey, T.B. and Barney, J.B. (2007) 'Corporate social responsibility and firm performance: Investor preferences and corporate strategies', *Academy of Management Review* 32 (3), pp. 817-835.
- McIntosh, M. (2007) 'Progressing from CSR to Brand Integrity. In *The Debate Over Corporate Social Responsibility*, S. May, G. Cheney, and J. Roper, (eds.). Oxford: Oxford University Press.
- Mclvor, R. (2000) 'A practical framework for understanding the outsourcing process', *Supply Chain Management: An International Journal*, 5 (1), pp. 22-36.
- Mclvor, R. (2009) 'How the transaction cost and resource based theories of the firm inform outsourcing evaluation', *Journal of Operations Management*, 27, pp. 45-63.
- Mclvor, R. (2013) 'UNDERSTANDING THE MANUFACTURING LOCATION DECISION: THE CASE FOR THE TRANSACTION COST AND CAPABILITY PERSPECTIVES', *Journal of Supply Management*, 49, pp. 23-26.

- Mclvor, R. T., Humphreys, P.K. and McAleer, W.E. (1997) 'A strategic model for the formulation of an effective make or buy decision', *Management Decision*, 35 (2), pp. 169-178.
- McNally, R.C. and Griffin, A. (2004) 'Firm and individual choice drivers in make-or-buy decisions: a diminishing role transaction cost economics?' *The Journal of Supply Chain Management*, 40 (1), pp. 4-17.
- Markin, A. (1992) 'How to Implement Competitive-Cost Benchmarking', *Journal of Business Strategy*, 13 (3), pp.14-20.
- Matthews, H.S. and Lave, L. (2002) 'Life Cycle Impact Assessment: a challenge for risk analysts', *Risk Analysis: An International Journal*, 22 (5), pp. 853-860.
- Mayring, P. (2000) *Qualitative Content Analysis: Theoretical Foundation, Basic Procedures and Software Solution*. Klagenfurt: Monograph.
- Mayring, P. (2000) Qualitative Content Analysis. Forum: Qualitative Social Research: Article 20 (Cited 13 February 2013). Available from URL: <http://www.qualitative-research.net/index.php/fqs/article/view/1089/2385>
- Mayring, P. (2015) 'Qualitative Content Analysis: Theoretical Background and Procedures', In A. Bikner-Ahsbahr, C. Knipping, and N. Presmeg, (eds.). *Approaches to qualitative research in mathematics education*, pp. 365-380. Dordrecht: Springer.
- Mazzawi, E. (2002) 'Transformational Outsourcing', *Business Strategy Review*, 13 (3), pp. 39-43.
- Meehan, K. (2011) 'Technology Makes Re-shoring a Reality', *Manufacturing Engineering*, 147 (4), pp. 112.
- Meixell, M. and Gargeya, V. (2005) Global supply chain design: a literature review and critique', *Transportation Research: Part E*, 41 (1), pp. 531-550.
- Menger, C. (1871) *Principles of Economics*. New York: New York University Press.
- Mentzer, J.T. and Khan, K.B. (1995) 'A framework of logistics research', *Journal of Business Logistics*, 16 (1), pp. 231-250.
- Merino, F., Di Stefano, C. and Fratocchi, L. (2020) 'Back-Shoring vs Re-Shoring: A Comparative Study', *IOS Press*, pp. 622-633.
- Merriam, S.B. (1988) *Case study research in education: A qualitative approach*. San Francisco, CA: Jossey-Bass.
- Meyer, K. E. (2006) 'Global-focusing: from Domestic Conglomerates to Global Specialists', *Journal of Management Studies*, 43 (5), pp. 1109-1144.
- Meyer, M., Milgrom, P. and Roberts, J. (1992) 'Organizational Prospects, Influence Costs and Ownership Changes', *Journal of Economics and Management Strategy*, 1 (1), pp. 9-36.

- Mileham, H.R., Currie, G.C., Miles, A.W. and Bradford, D.T. (1993) 'A Parametric Approach to Cost Estimating at the Conceptual Design Stage', *Journal of Engineering Design*, 4 (2), pp. 117-125.
- Miles, M.B. (1979) 'Qualitative Data as an Attractive Nuisance: The Problem of Analysis', *Administrative Science Quarterly*, 24 (4), pp. 590-601.
- Millington, A., Eberhardt, M. and Wilkinson, B. (2006) 'Guanxi and supplier search mechanisms in China', *Human Relations*, 59 (4), pp. 501-531.
- Mitchell, M. (2009) *Complexity: A Guided Tour*. Oxford: Oxford University Press.
- Molina-Morales, F.X. and Martinez-Fernandez, M.T. (2003) 'The impact of district affiliation on firm value creation', *European Planning Studies*, 11 (2), pp.155-170.
- Monczka, R., Handfield, R.B., Paterson, J.L. and Waters, D. (2011) *Purchasing and supply chain management*. Singapore: Southwestern Cengage Learning.
- Monczka, R.M., Petersen, K.J., Handfield, R.B. and Ragatz, G.I. (1998) 'Success Factors in Strategic Supplier Alliances: The Buying Company Perspective', *Decision Sciences*, 29 (3), pp. 553-577.
- Monteverde, K. and Teece, D.J. (1982) 'Supply switching costs and vertical integration in the automobile industry', *The Bell Journal of Economics*, 13 (1) pp. 206-213.
- Morgan, D.L. (1993) Qualitative content analysis: a guide to paths not taken. *Qualitative Health Research*, 3, pp.112-121.
- Morgan, R.E. (2003) 'Outsourcing: towards the 'shamrock organization'', *Journal of General Management*, 29 (2), pp. 35-52.
- Moser, H. (2010) 'Re-Shore! Help Revitalize US', *Manufacturing Engineering*, 44 (6), pp. 80.
- Moser, K., Muller, M. and Piller, F.T. (2007) 'Transforming mass customisation from a marketing instrument to a sustainable business model at Adidas', *International Journal of Mass Customisation*, 2 (4), pp. 503-514.
- Mumby, D.K. and Putnam, L.L. (1992) 'The politics of emotion: a feminist reading of bounded rationality', *Academy of Management Review*, 17, pp. 465-486.
- Murray, J.Y., Kotabe, M. and Wildt, A.R. (1995) 'Strategic and financial implications of global sourcing strategy: a contingency analysis', *Journal of International Business Studies*, 1st Quarter, pp. 181-202.
- Narasimhan, R. and Das, A. (1999) 'An Empirical Investigation of the Contribution of Strategic Sourcing to Manufacturing Flexibility and Performance', *Decision Science*, 30 (3), pp. 683-718.

- Narisimhan, R., Narayanan, S. and Srinivasan, R. (2010) 'Explicating the mediating role of integrative supply management practices in strategic outsourcing', *International Journal of Production Research*, 48 (2), pp.379-404.
- Narasimhan, R. and Schoenherr, T. (2012) 'The Effects of Integrated Supply Management and Environmental Management Practices on Relative Competitive Quality Advantage', *International Journal of Production Research*, 50 (4), pp. 1185-1201.
- Narwane, V.S., Raut, R.D. and Yadav, V.S. (2021) 'Barriers in sustainable industry 4.0: A case study of the footwear industry', *International Journal of Sustainable Engineering*, 14 (3), pp.175-189.
- Nash- Hoff, M. (2012) 'Re-shoring Initiatives Alone Won't Turn the Tide', *Metal Finishing*, 110 (8), pp. 36-37.
- Nassimbeni, G. and Sartor, M. (2006) 'International purchasing offices in China', *Production Planning and Control*, 17 (5), pp 494-507.
- Nassimbeni, G. and Sartor, M. (2006) *Sourcing in China: Strategies, Methods and Experiences*. Basingstoke: Palgrave Macmillan.
- Naughton, B.J. (2018) *The Chinese Economy: Adaption and Growth*. 2nd ed. Cambridge, MA: MIT Press.
- Navas-Aleman, and L. Bazan, L. (2005) 'Making value chain governance work for the implementation of quality, labor and environmental standards: upgrading challenges in the footwear industry'. In E. Giuliani, R. Rabellotti, and M.P. Van Dijk, (eds.) *Clusters facing competition: The importance of external linkages*. pp. 39-60. Aldershot: Ashgate.
- Nelson, R.R. and Wright, G. (1992) 'The Rise and Fall of American Technological Leadership', *Journal of Economic Literature*, 30, pp. 1931-1964.
- Niccolls AND Dimes (2016) *Adidas Speedfactory: A Big Step Towards Onshoring Work*.
- Nonaka, I. (1994) 'A dynamic theory of organizational knowledge creation' *Organizational Science*, 5 (1), pp. 14-37.
- Nonaka, I. and Takeuchi, H. (1995) *The knowledge creating company: how Japanese companies create the dynamics of innovation*. Oxford: Oxford University Press.
- Normann, A and Jansson, U. (2004) 'Ericsson's pro-active supply chain risk management approach after a serious sub-supplier accident', *International Journal of Physical Distribution & Logistics Management*, 34 (5), pp. 434-456.

- Oberoi, J.S., Khamba, J.S. and Kiran, R. (2007) 'Impact of New Technology and Sourcing Practices in Managing Tactical and Strategic Manufacturing Flexibilities- An Empirical Study', *Global Journal of Flexible Systems Management*, 8 (3), pp. 1-14.
- O'Donnell, G. (1994) 'Delegative Democracy', *Journal of Democracy*, 5, pp. 55-59.
- Ofileanu, D. (2016) 'IMPLEMENTATION OF LEAN ACCOUNTING IN THE FOOTWEAR INDUSTRY', *Ministry of National Education and Scientific Research*, University of Albajulia, PhD Candidate.
- Olsen, R.F. and Ellram, L.M. (1997) 'A portfolio approach to supplier relationships', *Industrial Marketing Management*, 26 (2), pp. 101-113.
- Olson, D.L. and Wu, D. (2010) *Enterprise Risk Management Models*. Berlin, Heidelberg: Springer.
- Onuh, S., Bennett, N. and Hughes, V. 'Reverse engineering and rapid tooling as enablers of agile manufacturing', *International Journal of Agile Systems and Management*, 1 (1), pp.60-72.
- Orberg-Jensen, P.D., Larsen, M.M. and Pedersen, T. (2013) 'The organizational design of Off-shoring: Taking stock and moving forward', *Journal of International Management*, 19 (4), pp. 315-323.
- O'Reilly, C.A. and Chatman, J. (1986) 'Organizational commitment and psychological attachment: The effect of compliance, identification, and internationalisation on prosocial behaviour', *Journal of Applied Psychology*, 71 (3), pp.492-499.
- Oxborrow, L. (2000) 'Changing Practices in the UK Apparel Supply Chain: Results of an Industry', *Survey Centre for Work and Technology*, Nottingham-Trent University, pp. 2-29.
- Oxborrow, L. and Brindley, C. (2012) 'Regional resilience in recessionary times: a case study of the East Midlands', *International Journal of Retail and Distribution*, 40 (11), pp. 882-889.
- Oxley, J.E. (1997) 'Appropriability hazards and governance in strategic alliances: A transaction cost approach', *The Journal of Law, Economics and Organization*, 13 (2), pp. 387-409.
- Palmer, M. (2013) *Clarks: Made To Last: The Story of Britain's Best-Known Shoe Firm*. London: Profile Books Limited.
- Paris, I. and Handley, D. (2004) 'CAD usage and knowledge based technology in shoe design and development', *International Journal of Computer Aided Manufacturing*, 17 (7), pp. 595-600.

Parolini, C. and Visconte, F. (2003) 'FOOTWEAR MANUFACTURING DISTRICTS: THE EFFECTS OF INTERNATIONALIZATION, DELOCATION AND NEW TECHNOLOGIES', *Paper presented at the Conference on Clusters, Industrial Districts and Firms: The Challenge of Globalization*. Moderna, Italy, September 12-13.

Patton, M. Q. (2001) *Qualitative evaluation and research methods*. London: Sage.

Pearce, J.A. and Robinson, R.B. (2000) 'Cultivating guanxi as a foreign investor strategy', *Business Horizons*, 43 (1), pp. 31-38.

Pecht, M. and Zuga, L. (2009) 'China as Hegemon of the Global Electronics Industry: How It Got That Way and Why it Won't Change', *IEEE TRANSACTIONS ON COMPONENT AND PACKAGING TECHNOLOGIES*, 32 (4), pp. 935-939.

Pedersen, E.R. and Andersen, M. (2006) 'Safeguarding corporate social responsibility in global supply chains: How codes of conduct are managed in buyer-supplier relationships', *Public Affairs: Special Issue: Corporate Social Responsibility*, pp. 228-240.

Penrose, E.T. (1986) *The Theory of the Growth of the Firm*. New York: John Wiley.

Perrow, C. (1986) 'Economic theories of organization', *Theory and Society*, 15 (1-2), pp.11-45).

Peteraf, M. A. (1993) 'The cornerstone of competitive advantage: a resource based view', *Strategic Management Journal*, 14 (3), pp. 179-191.

Peteraf, M.A. and Barney, J.B. (2003) 'Unravelling the resource based tangle', *Managerial and Decision Economics*, 24 (4), pp. 309-323.

Peterson, H.C., Wysocki, A. and Harsh, S.B. (2002) 'Strategic choice along the vertical coordination continuum', *International Food and Agribusiness Management Review*, 4 (2), pp. 149-166.

Pettigrew, A. (1985) 'Contextualist research: a natural way to link theory and practice', In E. Lawler, E. (ed.) *Doing Research that is Useful for Theory and Practice*. San Francisco, CA: Jossey-Bass.

Pfeffer, J. and Cohen, Y (1984) 'Determinants of internal labor market in organizations', *Administrative Science Quarterly*, pp. 550-572.

Phillips, W., Lamming, R., Bessant, J. and Noke, H. (2006) 'Discontinuous innovation and supply relationships: strategic dalliances', *R&D Management*, 36 (4), pp. 246-279.

Picket, C. (2006) 'Prepare for supply chain disruptions before the hit', *Logistics Today*, 47 (6), pp. 22-25.

Piller, F. (2007) 'The Consumer Decides: Nike Focuses Competitive Strategy on Customisation and Creating Personal Consumer Experiences', (February 26) MC&OI News (Online Blog).

Piller, F., Lindgens, E. and Steiner, F. (2012) 'Mass Customisation at Adidas: Three Strategic Capabilities to Implement Mass Customisation', RWTH Aachen University.

Piller, F. and Muller, M. (2007) 'A new marketing approach to mass customisation', *International Journal of Computer Integrated Manufacturing*, 17 (7), pp. 583-593.

Piperi, E., Galantucci, L.M., Kacani, J., Shehi, E. and Spahiu, T. (2014) 'From 3D footscans to footwear design and production', *6th International Conference of Textile* November, Tirana, Albania pp. 1-9.

Pisano, G.P. (1990) 'The R&D boundaries of the firm: an empirical analysis', *Academic Science Quarterly*, 35 (1), pp.153-176.

Pisano, G and Shih, W. (2012) 'Does America really need manufacturing?' *Harvard Business Review*, March, pp. 94-102.

Platts, K.W. and Song, N. (2010) 'Overseas sourcing decisions – the total cost of sourcing from China', *Supply Chain Management: An International Journal*, 15 (4), pp. 320-331.

Ponomorov, S.Y. and Holcomb, M.C. (2009) 'Understanding the concept of supply chain resilience', *The International Journal of Logistics Management*, 20 (1), pp. 124-43.

Pope, C., Ziebland, S. and Mays, N. (2006) 'Analysing qualitative data'. In: C. Pope, N. Mays (eds.). *Qualitative Research in Health Care* (3rd edn.). Oxford: Blackwell Publishing. pp. 63-81.

Porter, M.E. (1985) *Competitive advantage: creating and sustaining superior performance*. New York: Free Press.

Porter, M.E. (1998) 'Clusters and the new economics of competition', *Harvard Business Review*, 76 (6), pp. 77-90.

Porter, M.E. and Kramer, M.R. (2011) 'CREATING SHARED VALUE', *Harvard Business Review*, 89 (1-2), pp. 62-77.

Powers, B. and Knapp, T. (2006) *Dictionary of Nursing Theory and Research* (3rd edn.). New York: Springer Publishing Company.

Prater, E., Biehl, M. and Smith, M. (2001) 'International supply chain agility: trade-offs between flexibility and uncertainty', *International Journal of Operations and Production Management*, 21 (5-6), pp. 823-839.

Preuss, L. (2005) 'Rhetoric and reality of corporate greening: a view from the supply chain managerial function', *Business Strategy and the Environment*, 14 (2), pp. 123-139.

Priem, R.L. and Butler, J.E. (2003) 'Is the Resource-Based 'View' a Useful Perspective for Strategic Management Research?' *Academy of Management Review*, 26, pp. 43-55.

Priem, R.L. and Swink, M. (2012) 'A Demand-side Perspective on Supply Chain Management', *Journal of Supply Chain Management*, 48 (2), pp.7-13.

Puffer, S.M., McCarthy, D.J. and Boisot, M. (2010) 'Enterprise in Russia and China: The Impact of Formal Institutional Voids', *Entrepreneurship Theory and Practice*, 34 (3), pp. 441-467.

Pun, N. (2005) *Made in China: Women Factory Workers in a Global Workplace*. Durham, NC: Duke University Press.

Pun N. and Lu, H. (2010) 'Unfinished Proletarianization: Self, Anger and Class Action Among the Second Generation of Peasant-Workers in Present Day China', *Modern China*, 36 (5), pp. 493-519.

Puranam, S., Raveendran, M. and Knudsen, T. (2012) 'Organizational design: the epistemic interdependency perspective', *Academy of Management Review*, 37 (3), pp. 419-440.

Purvis, L., Naim, M.M. and Towill, D. (2013) 'Intermediation in global fashion supply chains', *International Journal of Science and Technology*, 5 (2), pp. 38-48.

PwC (2013) *Going beyond re-shoring to right shoring*, London: PwC.

Quinn, J.B. and Hilmer, F.C. (1994) 'Strategic Outsourcing', *MIT Sloan Management Review*, 35 (4), pp. 43-55.

Rabellotti, R. (1995) 'Is there an Industrial District Model? Footwear Districts in Italy and Mexico Compared', *World Development*, 23 (1), pp. 29-41.

Rabelloti, R. and Schmitz, H. (1999) 'The Internal Heterogeneity of Industrial Districts in Italy, Brazil and Mexico', *Regional Studies*, 33 (2), pp. 97-108.

Rabinovich, E., Knemeyer, A. and Mayer, C.M (2007) 'Why do Internet commerce firms incorporate logistics services providers in their distribution channels? The role of transaction costs and network strength', *Journal of Operations Management*, 25 (3), pp. 661-681.

Ragatz, G.L., Handfield, R.B. and Scannell, T.V. (1997) 'Success Factors for Integrating Suppliers Into New Product Development', *The Journal of Production Innovation Management*, 14 (3), pp. 190-203.

Ramaswamy, B., Goh, K. and Yeung, M.C.H. (2006) 'Is guanxi (relationship) a bridge to knowledge transfer?' *Journal of Business Research*, 59 (2), pp. 130-139.

Rashid, A. and Barnes, L. (2017) 'Country of Origin: Reshoring Implications in the Context of the UK Fashion Industry'. In A.Vecchi, (eds.). *Reshoring of Manufacturing. Measuring Operations Performance*. Switzerland: Springer Nature pp. 183-201.

Reich, B.H. and Benbasat, I. (2000) Factors that influence the social dimension of alignment between business and information technology objectives', *MIS Quarterly*, 24 (1), pp. 81-113.

Reichart, A. and Holweg, M. (2006) 'Research Methods in Supply Chain Management: A Critical Review'. In *Euroma Conference*. Glasgow.

Reve, T. and Sasson, A. (2015) 'Theoretical and methodological advances in cluster research', *Competitiveness Review*, 25 (5), pp. 524-539.

Rice, J.B. and Caniato, F. (2003) 'BUILDING A SECURE AND RESILIENT SUPPLY NETWORK', *Supply Chain Management Review*, 7 (5), pp. 22-30.

Richter, A., Sadek, T. and Steven, M. (2010) 'Flexibility in product-service systems and use orientated business models', *CIRP Journal of Manufacturing Science and Technology*. 3 (2), pp. 128-134.

Ricks, J.M. Jr. (2005) 'An assessment of strategic corporate philanthropy on perceptions of brand equity variables', *Journal of Consumer Marketing*, 22 (3), pp. 121-134.

Ritchie, B and Brindley, C. (2000) 'Disintermediation, disintegration and risk in the SME global supply chain', *Management Decision*, 38 (8), pp. 575-585.

Rof, L. M. (2012) 'Kaizen costing method and its role in the management of an entity', *The Young Economist Journal*, 16, pp. 104-109.

Rogers, D.S. and Tibben-Lemke, R. (2001) 'AN EXAMINATION OF REVERSE LOGISTICS PRACTICES', *JOURNAL OF BUSINESS LOGISTICS*, 2 (2), pp. 129-148.

Roman-Ibanez, V., Jimeno-Morinella, A., and Pujol-Lopez F.A. (2018) 'Distributed monitoring of heterogeneous robotic cells. A proposal for the footwear industry 4.0', *International Journal of Computer Integrated Manufacturing*, 31 (12), pp.1205-1219.

Rooks, B.W. (1996) 'Robots bring automation to shoe production', *Assembly Automation*, 16 (3), pp. 22-25.

- Rosenberg, J.P. and Yates, P.M. (2007) 'Schematic representation of case study research designs', *Journal of Advanced Nursing*, 60 (4), pp. 447-452.
- Ruggie, J.C. (2012) 'Global Governance and New Governance Theory: Lessons from Business and Human Rights', *Global Governance*, 20 (5), pp. 5-27.
- Rugman, A.M. (1981) 'Research and Development by Multinational and Domestic firms in Canada', *Canadian Public Policy*, 7 (4), pp. 604-616.
- Ryals, L.J. and Rogers, B. (2006) 'Holding up the mirror: The impact of strategic procurement practices on account management', *Business Horizons* 49 (1), pp. 41-50.
- Salmones, M.G., Rodriguez-del- Bosque, I. and Herrero-Crespo, A. (2005) 'Influence of Corporate Social Responsibility on Loyalty and Valuation of Services', *Journal of Business Ethics*, 61 (4), pp. 369-385.
- Sanchez, R. and Mahoney, J.T. (1996) 'Modularity, flexibility, knowledge management and organization design'. *Strategic Management Journal*, 17 (S2), Special Issue: Knowledge and the Firm, pp. 63-76.
- Sanchez, R. and Mahoney, J.T. (2001) Modularity and dynamic capabilities. In *Rethinking Strategy*. London: Sage Publications. pp. 158-171,
- Sanchez, L.M. and Nagi, R. (2001) 'A Review of Agile Manufacturing Systems', *International Journal of Production Research*, 39 (16), pp. 3561-3600.
- Sanchez, L.M. and Nagi, R. (2003) 'Capacity Planning with Fixed and Mobile Manufacturing Facilities', *IIEE Annual Conference Proceedings*.
- Sandelowski, M. (2010) 'What's in a name? Qualitative description revisited', *Research Nursing Health*, 33, pp. 77-84.
- Sandelowski, M. and Barroso, J. (2003b) 'Classifying the findings in qualitative studies', *Qualitative Health Research*, 13, pp. 781-820.
- Sandelowski, M. and Leeman, J. (2012) Writing usable qualitative health research findings', *Qualitative Health Research*, 22, pp. 1404-1413.
- Sarasvathy, S. (2001) 'Causation and Effectuation: Towards Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency', *Academy of Management Review*, 26 (2), pp. 243-263.
- Sarasvathy, S.D. and Dew, N. (2005) 'New market creation through transformation', *Journal of Evolutionary Economics*, 15 (5), pp. 533-565.
- Sarkis, J. (2003) 'A strategic decision framework for green supply chain management', *Journal of Cleaner Production*, 11, pp. 397-409.
- Schilling, M.A. and Steensma, H.K. (2001) 'THE USE OF MODULAR ORGANISATIONAL FORMS: AN INDUSTRY LEVEL ANALYSIS', *Academy of Management Journal*, 44 (6), pp.1149-1168.

- Scott, J. (1990) *A Matter of Record: Documentary Sources in Social Research*. Cambridge, UK: Polity Press.
- Scott, A.J. (2006) 'The Changing Global Geography of Low Technology, Labor-Intensive Industry: Clothing, Footwear and Furniture', *World Development*, 34 (9), pp. 1517-1536.
- Scott, J. ed. (2006) *Documentary Research*. SAGE Benchmarks in Social Science Research Methods.
- Scott, C. and Westerbrook, R. (1991) 'New Strategic Tools for Supply Chain Management', *International Journal of Physical Distribution and Logistics Management*, 21 (1), pp. 23-33.
- Shaik, A.M., Kesava-Rao, V.V.S and Srinivasa- Rao, C. H. (2015) 'Development of modular manufacturing systems-a review', *The International Journal of Advanced Manufacturing Technology*, 76 (5-8), pp. 789-802.
- Senanayake, M.M. and Little, T.J. (2010) 'Mass customization: points and extent of apparel customization', *Journal of Fashion Marketing and Management: An International Journal*, 4 (2), pp. 282-299.
- Sengupta, J. and Johar, G.V. (2002) 'Effects of inconsistent attributes information on the predictive value of product attitudes: Toward a resolution of opposing perspectives', *Journal of Consumer Research*, 29 (1), pp. 39-56.
- Sharifi, H and Zhang, Z. (1999) 'A methodology for achieving agility in manufacturing organizations: An introduction', *International Journal of Production Economics*, 62 (1-2), pp. 7-22.
- Sharma, M.J. and Yu, S.J. (2010) 'Capturing the Process Efficiency and Congestion of Supply Chains', *Proceedings of the World Congress on Engineering*, Vol. 3. London, UK.
- Sherehiy, B., Karwowski, W. and Layer, J.K. (2007) 'Review of enterprise agility: Concepts, frameworks and attributes', *Journal of Industrial Ergonomics*, 37 (5), pp. 445-460.
- Shelton, R.K. and Wachter, K. (2005) 'Effect of global sourcing on textiles and apparel', *Journal of Fashion and Marketing Management*, 9 (3), pp. 318-329.
- Shimizu, T., de Carvallo, M.M. and Laurindo, (eds.). (2005) *Strategic Alignment Process and Decision Support Systems. Theory and Case Studies*. London: Hershey.
- Sievevanen, M. and Peltonen L. (2006b) 'Mass customising footwear: the left foot company case', *International Journal of Mass Customisation*, 1 (4), pp. 480-491.

- Simchi-Levi, D. and Zhao, Y. (2005) 'Safety stock positioning in supply chains with stochastic lead times', *Manufacturing and Service Operations Management*, 7 (4), pp. 273-380.
- Simmons, A. (2010) 'Competition Tougher for China's Footwear Sector – SATRA Boss', *Urethane Technology International*, 27 (4), pp. 1-5.
- Simon, H.A. (1962) 'The Architecture of Complexity', *Proceedings of the American Philosophical Society*, (6), pp. 467-482.
- Simon, H.A. (1991) 'Bounded rationality and organizational learning', *Organizational Science*, 21 (1), pp.125-134.
- Sinha, P., Akoorie, M.E.M., Ding, Q. and Wu, Q. (2011) 'What motivates manufacturing SMEs to outsource offshore in China? Comparing the perspectives of SME manufacturers and their suppliers', *An International Journal*, 4 (1), pp. 67-88.
- Skipper, J. and Hanna, J. (2004) 'Minimising supply chain risk through enhanced flexibility', *International Journal of Physical Distribution and Logistics Management*, 39 (5), pp. 404-427.
- Slack, N. (1983) 'Flexibility as a manufacturing objective', *International Journal of Operations and Production Management*, 3, (3), pp. 4-13.
- Slack, N. (1987) 'The flexibility of manufacturing systems', *International Journal of Operations and Production Management*, 7 (4), pp. 35-45.
- Slaughter, M.J. (1998) 'International trade and labour market outcomes: results, questions, and policy options', *Economic Journal*, 108, pp. 1452-1462.
- Smart, A. (2008) 'e-Business and supply chain integration', *Journal of Enterprise Integration Management*, 21(3), pp. 227-246.
- Smith, A. (2003) 'Power Relations, Industrial Clusters and Regional Transformations: Pan European Integration and Outward Processing in the Slovak Clothing Industry', *Economic Geography*, 79 (1), pp. 17-40.
- Smytka, D.L. and Clemens, M.W. (1993) 'Total Cost Supplier Selection Model: A Case Study', *International Journal of Purchasing and Materials Management*, 29 (1), pp. 42-49.
- Soares, A. F., Passos, C. and Torkkeli, M. (2014) 'Innovation in footwear companies- does it pay off?' *Journal of Engineering Design and Technology*, 12 (1), pp. 128-154.
- Sollars, M. (2017) 'Beware the risks of robots in the factory', *Works Management*.

- Sparker, A. (2005) 'Narrative analysis: exploring the 'what's' and 'how's' of personal stories'. In: Holloway (ed.). *Qualitative Research in Health Care* (1st edn.). Berkshire: Open University Press. pp. 191-208.
- Spencer, L., Ritchie, J. and O' Connor, W. (2003) 'Analysis: Practices, Principles and Processes Qualitative Research Practice'. In J. Ritchie, and J. Lewis, (eds.). *A Guide for Social Science Students and Researchers*. pp. 199-218.
- Spencer, J. E. Jr. (1996) 'Robotics technology and the advent of agile manufacturing systems in the footwear industry', *Assembly Automation*, 16 (3), pp. 10-15.
- Stake, R.E. (1978) 'The Case Study Method in Social Enquiry'; *Educational Researcher*, 7 (2), pp. 5-9.
- Stake, R. (1994) 'Case study', In N. Denzin, and Y. Lincoln (eds.) *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage, pp. 236-247.
- Stake, R.E. (1995) *The Art of Case Study Research*. New York: Sage Publications Inc.
- Stake, R. (2005) 'Qualitative Case Studies', In N. Denzin and Y. Lincoln, *The Sage Handbook of Qualitative Research* 3rd edn. Thousand Oaks, CA: Sage, pp. 443-466.
- Stake, R. (2008) 'Qualitative Case Studies', In N. Denzin and Y. Lincoln, (eds.) *Strategies of Qualitative Enquiry*. Los Angeles, CA: Sage, pp. 119-149.
- Starosta, G. (2010) 'The outsourcing of Manufacturing and the Rise of Giant Global Contractors: A Marxian Approach to Some Recent Transformations of Global Value Chains', *New Political Economy*, 15 (4), pp. 543-563.
- Steinle, C. and Schiele, H. (2002) 'When do industries cluster? A proposal on how to assess an industry's propensity to concentrate at a single region or nation', *Research Policy*, 31 (6), pp. 849-858.
- Steinle, C. and Schiele, H. (2008) 'Limits to global sourcing? Strategic consequences of a dependency on international suppliers: cluster theory, resource based view and case studies', *Journal of Supply Chain Management*, 14, pp. 3-14.
- Sternquist, B., Chen, Z. and Huang, Y. (2003) 'Buyer-Supplier Relationships in China. A study suggests that state owned retailers behave much like their privately owned counterparts', *China Business Review*, 30 (5), pp. 34-37.
- Stock, J.R. and Lambert, D.M. (2001) *Strategic logistics management: International edition*. 4th edn. Singapore: McGraw-Hill Higher Education.

- Strauss, A. and Corbin, J.M. (1990) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks: CA: Sage.
- Streubert-Speziale, H and Carpenter, D. (2007), *Qualitative Research in Nursing: Advancing the Humanistic Imperative*, (4th edn). Philadelphia: Lippincott, Williams and Wilkins.
- Subic, A., Shabani, B., Hedayati, M and Crossin, E. (2012) 'Capability framework for sustainable manufacturing of sports apparel and footwear', *Sustainability*, 4(9), pp. 2127-2145.
- Svensson, G. (2001) 'A conceptual framework for the analysis of vulnerability in supply chains', *International Journal of Physical Distribution and Logistics Management*, 32 (2), pp. 110-134.
- Svensson, G. (2005) 'The multiple facets of the bullwhip: refined and re-defined', *International Journal of Physical Distribution and Logistics Management*, 35 (10), pp. 762-777.
- Swafford, P.M. (2003) '*Theoretical Development and Empirical Investigation of Supply Chain Agility*', PhD Thesis, Georgia Institute of Technology, Atlanta, Georgia.
- Swafford, P.M., Ghosh, S. and Murthy, N. (2008) 'Achieving supply chain agility through IT integration and flexibility', *International Journal of Production Economics*, 116 (2), pp. 288-297.
- Swanborn, P. (2010) *Case study research: what, why and how?* London: Sage.
- Swinder, J. and Seshadri, S. (2001) 'The influence of purchasing strategies on performance', *The Journal of Business and Industrial Marketing*, 16 (4), pp. 294-306.
- Szakonyi, M. (2013) 'Coming (Back) To America?' *Journal of Commerce*, 14 (13), pp. 10-14.
- Szulanski, G. (1996) 'Exploring internal stickiness: impediments to the transfer of best practice within the firm', *Strategic Management Journal*, 17 (S2), pp. 27-43.
- Szulanski, G. (2000) 'The process of knowledge transfer: a diachronic analysis of stickiness', *Organizational Behaviour and Human Decision Processes*, 82 (1), pp. 9-27.
- Taboulic, A. and Walker, H. (2015) 'Love me, love me not: A nuanced view on collaboration in sustainable supply chains', *Journal of Purchasing and Supply Chain Management*, 21 (3), pp. 178-191.

Leiblein, M. and Miller, D.J. (2003) 'An Empirical Examination of Transaction- and Firm-Level Influences on the Vertical Boundaries of the Firm', *Strategic Management Journal*, 24, pp.839-859.

Tadelis, S. and Williamson, O.E. (2012) 'Transaction Cost Economics', In R.Gibbons and N. Roberts (eds.) *Handbook of Organizational Economics*. Princeton and Oxford: Princeton University Press.

Talluri, K.T. and van Ryzia, G.J. (2004) *The Theory and Practice of Revenue Management*. Berlin: Springer Science + Business Media.

Tan, K.C., Kannan, V.R. and Handfield, R.B. (1998) 'Supply chain management: supplier performance and firm performance', *International Journal of Purchasing and Materials Management*, 34 (3), pp. 2-9.

Tang, C. S. (2006) 'Robust strategies for mitigating supply chain risk disruption', *International Journal of Logistics Research and Applications*, 9 (1), pp. 33-45.

Tantawi, K.H., Sokolov, A. and Tantawi, O. (2019) 'Advances in Industrial Robotics: From Industry 3.0 Automation to Industry 4.0 Collaboration', *Paper presented at the 4th Technology Innovation Management and Engineering Science International Conference, IEEE*, pp. 1-4.

Tate, W. L. (2014) 'Offshoring and re-shoring: U.S. insights and research challenges', *Journal of Supply Chain Management*, 20 (1), pp. 66-68.

Tate, W. L., Ellram, L. M., Schoenherr, T. and Petersen, K. J. (2014) 'Global competitive conditions driving the manufacturing location decision', *Business Horizons*, 57 (3), pp. 381-390.

Tayles, M. and Drury, C. (2001) 'Moving from Make/Buy to Strategic Sourcing: The Outsource Decision Process', *Long Range Planning*, 34 (5), pp. 605-622.

Taylor, F.W. (1911) *The Principles of Scientific Management*. New York: Harper.

Teece, D.J. (1983) 'Technological and Organizational Factors in the Theory of the Multinational Enterprise. In: M. Casson, (ed.) *The Growth of International Business*. London: George Allen and Unwin.

Teece, D.J. (2007) 'Explaining dynamic capabilities: the nature and micro-foundations of (sustainable) enterprise performance', *Strategic Management Journal*, 28 (13), pp. 1319-1350.

Teece, D.J., Pisano, G. and Shuen, A. (1997) 'DYNAMIC CAPABILITIES AND STRATEGIC MANAGEMENT', *Strategic Management Journal*, 18 (7), pp. 509-533

- Ten Have, P. (2004) *Understanding Qualitative Research and Ethnomethodology*. (1st edn.) London: Sage Publications.
- Thatcher, H. (2017) Morelight Manufacture: New job opportunities as Clarks bring manufacturing back to Street. Bristol Live 19th October, 2017.
- The Economist, (2019) 'Loving China, leaving China: Three industries', 13th July 2019 p.7 (US) *Gale One File: News*;
<https://link.gale.com/apps/doc/A592936305/STND>
- Thomas, A.J., Byard, P. and Evans, R. (2012) 'Identifying the UK's manufacturing challenges as a benchmark for future growth', *Journal of Manufacturing Technology Management*, 23 (2), pp.142-156.
- Thompson, J. (1967) *Organisations in Action. Social science bases of administrative theory*. New York: Routledge.
- Thompson, J.D., Zaid, M.N. and Scott, R. (2017) *Organisations in Action: Social Science Bases of Administrative Theory*. New York: Routledge.
- Tomlin, K.S.M. (2006) 'On the value of mitigation and contingency strategies for managing supply chain disruption risks', *Management Science*, 52, pp. 639-657.
- Totev, S. and Sariiski, G. (2010) 'Industrial De-localisation in an Integrating Europe: A Survey of Enterprises in the Footwear Industry', *Eastern European Economics*, 48 (1), pp. 43-63.
- Tran, Y. (2010) 'Generating stylistic innovation: a process perspective', *Industry and Innovation*, 17 (2), pp. 131-161.
- Trent, R.J. and Monczka, R.M. (2002) 'Pursuing competitive advantage through integrated global outsourcing', *The Academy of Management Executive*, 16 (2), pp. 66-80.
- Tristao, H.M., Oprime, P.D. and Jugend, de Silva, S.L. (2013) 'Innovation in Industrial Clusters: A Survey of Footwear Clusters in Brazil', *Journal of Technology and Innovation Management*, 8 (3), pp. 45-56.
- Trkman, P., and McCormack, K., Valadares de Oliveira, M. and Ladeira, M. (2010) 'The impact of business analytics on supply chain performance', *Decision Support Systems*, 49 (1), pp. 318-327.
- Tucker, R. (2009) 'Not Only the Recession: Industry Hit by Resizing, Trade Issues and More', *Women's Wear Daily*, 197, pp. 89.
- Tversky, A. and Kahneman, D. (1974) 'Judgement under Uncertainty: Heuristics and Biases: Biases in judgement reveal some heuristics of thinking under uncertainty', *Science*, 185 (4157), pp. 1124-1131.
- Upton, D.M. (1994) 'The Management of Manufacturing Flexibility', *California Management Review*, 36 (2), pp. 72-89.

Vachon, S. and Klassen, R.D. (2006) 'Extending green practices across the supply chain-The impact of upstream and downstream integration', *International Journal of Operations and Production Management*, 26 (7), pp. 795-821.

Vaismoradi, M., Turunen, H. and Bondas, T. (2013) 'Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study', *Nursing and Health Sciences*, 15 (3), pp. 398-415.

Valero, T. and Dickson, M.A. (2013) 'Motivations and concerns for public reporting about corporate social responsibility and compliance with labor standards: A case study of the apparel industry'. In J. Bair, D. Miller, and M.A. Dickson, (eds.) *Worker's rights and labor compliance in global supply chains: Is a social label the answer?* (pp. 183-203). New York, NY: Routledge.

Van den Bossche, P. (2013) 'Re-shoring: Is it fab or fad?' *Logistics Management*, 52 (11), pp. 24-25.

Van den Bossche, P.V., Gupta, P., Gutierrez, H. and Gupta, A. (2014) 'Solving the *Reshoring* Dilemma', *Supply Chain Management Review*, January/February pp. 26-33.

van Hoek, R.I. (2001) 'The rediscovery of postponement, a literature review and directions for research', *Journal of Operations Management*, 19 (2), pp. 161-184.

van Hoek, R.I. (2020) 'Responding to COVID-19 Supply Chain Risks – Insights from Supply Chain Management, Total Cost of Ownership and Supplier Segmentation Theory', *Logistics*, 4 (4), pp. 1-18.

van Hoek, R.I. and Dobrzykowski, D. (2021) 'Towards more balanced sourcing strategies-are supply chain risks caused by the COVID-19 pandemic driving reshoring considerations?' *Supply Chain Management: An International Journal*, 2 (26), pp. 689-701.

van Hoek, R.I., Harrison, A. and Christopher, M. (2001) 'Measuring Agile Capabilities in the Supply Chain', *International Journal of Operations and Production Management*, 21 (1-2), pp. 126-147.

Vandermerve, S. and Rada, J. (1988) 'Servitization of Business: Adding Value by Adding Services', *European Management Journal*, 6 (4), pp. 314-324.

Vazquez-Bustelo, D., Avella, L. and Fernandez, E. (2007) 'Agility, drivers, enablers and outcomes: empirical test of an integrated agile manufacturing model', *International Journal of Operations and Production Management*, 27 (12), pp. 1303-1332.

Vecchi, A. (2017) *Reshoring of Manufacturing*. Switzerland: Springer Nature.

- Vedel, M. and Ellegaard, C. (2013) 'Supply risk management functions of sourcing intermediaries: an investigation of the clothing industry', *Supply Chain Management: An International Journal*, 18 (3), pp. 509-522.
- Verdu, A.J., Gomez-Gras, J.M. and Martinez-Mateo, J. (2012) 'Value creation through production offshore-inshore strategies in a footwear industry cluster: A co-evolutionary perspective', *International Business Review*, 21, pp. 342-356.
- Verhoef, P.C., Kannan, P.K. and Inman, J.J. (2015) 'From Multi-Channel Retailing to Omni-Channel Retailing: Introduction to the Special Issue on Multi-Channel Retailing', *Journal of Retailing*, 91 (2), pp 174-181.
- Vernadat, F.B. (1999) 'Research Agenda for Agile Manufacturing', *International Journal of Agile Manufacturing Systems*, 1, pp. 37-40.
- Vickery, S., Calantone, R. and Droge, C. (1999) 'Supply Chain Flexibility: An Empirical Study', *Journal of Supply Chain Management*, 35 (2), pp. 16-24.
- Vilko, J., Ritala, P. and Edelman, J. (2014) 'On uncertainty in supply chain risk management', *The International Journal of Logistics Management*, 25 (1), pp. 3-19.
- Vissak, T. (2010) 'Non-linear internationalization: A neglected topic in international business research. In D. Timothy, P. Torben, and T. Laszlo, (eds.). *The Past, Present and Future of International Business and Management, Advances in International Management*, 23, Bingley: Emerald Group Publishing Limited, pp. 559-580.
- Visser, E.J. (1999) 'A comparison of clustered and dispersed firms in the small scale clothing industry of Lima', *World Development*, 27, pp.1553-1570.
- Vitasek, K. and Manrodt, K. (2012) 'Vested outsourcing: a flexible framework for collaborative outsourcing', *Strategic Outsourcing: An International Journal*, 5, (1), pp. 4-14.
- Vivek, S., Banwet, D. and Shankar, R. (2008) 'Analysis of interactions among, core, transaction and relationship-specific investments', *Journal of Operations Management*, 26 (2), pp. 124-143.
- Vlachos, P.A. (2012) 'Corporate social performance and consumer-retailer emotional attachment: the moderating role of individual traits', *European Journal of Marketing*, 46 (11-12), pp. 1559-1580.
- Vokurka, R.J. and Fliedner, G. (1998) 'The journey towards agility', *Industrial Management and Data Systems*, 98 (4), pp. 165-171.

- Voordijk, H., Meijboom, B. and De Haan, J.A.C. (2006) 'Modularity in supply chains: A multiple case study in the construction industry', *International Journal of Operations and Production Management*, 26, (6), pp. 600-618.
- Waddock, S. (2004) 'Creating corporate accountability: Foundational principles to make corporate citizenship real', *Journal of Business Ethics*, 50 (4), pp. 313-327.
- Waddock, S. and Bodwell, C. (2002) 'From TQM to TRM: Emerging total responsibility management approaches', *Journal of Corporate Citizenship*, 2, pp. 113-126.
- Wadhawa, S. and Rao, K. (2003) 'Flexibility and agility for enterprise synchronisation: knowledge and information management', *Studies in Informatics and Control*, 12, pp. 111-128.
- Wagner, S.M. and Bode, C. (2006) 'An Empirical Investigation into Supply Chain Vulnerability', *Journal of Purchasing and Supply Chain Management*, 12 (6), pp. 301-312.
- Wahlster, W. (2014) 'Semantic technologies for mass customisation' In: W. Whalster, H-J. Grallert, S. Weiss, H. Friedrich, and T. Widenke (eds.) *Towards the Internet of Services*. Heidelberg: Springer pp 3-13.
- Walker, G. (1988) Strategic Sourcing, Vertical Integration and Transaction Costs', *Interfaces*, 18 (3), pp. 62-73.
- Walker, G. and Poppa, L. 1991 'Profit Centers, Single –Source Suppliers and Transaction Costs', *Administrative Science Quarterly*, 36, pp. 66-87.
- Waller, R.L. and Conaway, R.N. (2011) 'Framing and Counter-framing the Issue of Corporate Social Responsibility: The Communication Strategies of Nikebiz.com', *International Journal of Business Communication*, 48 (1), pp. 83-106.
- Wang, J. (2006) 'China's consumer-goods manufacturing clusters, with reference to Wenzhou footwear cluster Innovation', *Management Policy & Practice*, 8 (1-2), pp. 1-12.
- Wang, P. and Hill, J.A. (2006) 'Recursive Behaviour of Safety Stock Reduction: The Effect of Lead-Time Uncertainty', *Decision Sciences*, 37, (2), pp. 285-290.
- Wee, H-M., Peng, S-Y. and Wee, P.K.P. (2010) 'Modelling of outsourcing decisions in global supply chains. An empirical study on supplier management performance with different outsourcing strategies', *International Journal of Production Research*, 48 (7), pp. 2081-2094.
- Wei, Y.D (2009) 'China's Shoe Manufacturing and the Wenzhou model: Perspectives on the World's Leading Producer and Exporter of Footwear', *Eurasian Geography and Economics*, 50 (6), pp. 720-739.

- Wei, Y.D., Li, W.M. and Wang, C.B. (2007) 'Restructuring Industrial Districts, Scaling Up Regional Development: A Study of the Wenzhou Model', *Economic Geography*, 83 (4), pp. 421-444.
- Wernerfelt, B. (1984) 'A resource based view of the firm', *Strategic Management Journal*, 5 (2), pp. 171-180.
- Wernerfelt, B. (2020) 'A possible micro-foundation for the RBV and its implications', *MIT Open Access Articles*, pp. 1-22.
- Wheatley, M. (2013) 'Bringing it all back home', *Automotive Logistics*, 16 (4), pp. 54-57.
- Whitford, J. (2001) 'The Decline of a Model?' *Economy and Society*, 30 (1), pp. 38-65.
- Whittington, R. (2003) 'The Work of Strategising and Organizing: From a Practice Perspective', *Strategic Organisation*, 1 (1), pp. 117-125.
- Wieland, A. and Handfield, R.B. (2010) 'The Socially Responsible Supply Chain: An Imperative for Global Organisations', *Supply Chain Management Review*, 17 (5), pp. 22-29.
- Wiesmann, B., Snoei, J.R., Hilletoft, P. and Eriksson, D. (2017) 'Drivers and barriers to reshoring: A literature review on off-shoring in reverse', *European Business Review*, 29 (1), pp. 15-42.
- Wilkinson, K. A. (2017) *Risk management in China Supply*. PhD Thesis. Manchester Metropolitan University.
- Williams, P. (2010) 'Special agents: the nature and role of boundary spanners', *Paper to the ESRC Research Seminar Series- Collaborative Futures: New Insights from Intra and Inter-Sectoral Collaborations*, University of Birmingham.
- Williamson, O.E. (1979) 'Transaction cost economics: the governance of purchasing organisations contractual relations', *The Journal of Law and Economics*, 22 (1), pp. 233-261.
- Williamson, O.E. (1985) *The Economic Institutions of Capitalism*. New York: Free Press.
- Williamson, O.E. (1986) 'Vertically Integrated and Related Variations on a Transaction Cost economics theme. In: *New Developments in the Analysis of Market Structure*. pp. 149-176 London: Palgrave Macmillan.
- Williamson O.E. (1988) 'Technology and transaction cost economics: A reply', *Journal of Economic Behaviour*, 10 (3), pp. 355-363.
- Williamson (1991d) 'Strategizing, economizing and economic organization', *Journal of Law and Economics*, 36, 453-484.

- Williamson, O.E. (1993) 'Calculativeness, Trust and Economic Organization', *The Journal of Law and Economics*, 36 (1), pp. 453-486.
- Williamson, O.E. (2008) 'Outsourcing, transaction cost economics and supply chain management', *Journal of Supply Chain Management*, 44 (2), pp. 5-16.
- Willmott, M. (2003) 'Citizen brands: Corporate citizenship, trust and branding', *Journal of Brand Management*, 10 (4), pp. 362-369.
- Womack, J.P. and Jones, D.T. (1996) *Lean Thinking*. New York: Free Press.
- Womack, J.P. and Jones, D.T. (2003) *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*. New York: Free Press.
- Wong, E. and Taylor, G. (2000) 'An investigation of ethical sourcing practices: Levi Strauss and Co.', *Journal of Fashion Marketing and Management*, 4 (1), pp. 71-79.
- Wood, A. (1995) 'How Trade Hunts Unskilled Workers', *Journal of Economic Perspectives*, 9 (3), pp. 57-80.
- Wu, T., Blackhurst, J. and Chidambaran, V. (2006) 'A model for inbound supply risk analysis', *Computers in Industry*, 57 (4), pp. 350-385.
- Wu, L., Yue, X. and Sim, T. (2006) 'Supply clusters: A key to China's cost advantage', *Supply Chain Management Review*, 10 (2), pp. 46-51.
- Xu, L. D., Xu, E.L. and Li, L. (2018) 'Industry 4.0: state of the art and future trends', *International Journal of Production Research*, 56 (8), pp. 2941-2962.
- Yang, C, and Feng, Y (2006) 'Integrated Multi-agent Based Systems for Agile Supply Chain Management', *International Conference on Machine Learning and Cybernetics*, IEEE, 13, pp. 23-27.
- Yang, C. and Wacker, G. J. (2012) 'What makes outsourcing effective? A transaction-cost economics analysis', *International Journal of Production Research*, 50 (16), pp. 462-476.
- Yao, T., Jiang, B., Young, S.T. and Talluri, S. (2010) 'Outsourcing timing, contract selection and negotiation', *International Journal of Production Research*, 48 (2), pp. 305-326.
- Yin, R. (1981) 'The case study crisis': some answers', *Administrative Science Quarterly*, 1 (1), pp. 58-65.
- Yin, R. K. (1984) 'Case study research: design and methods. Vol. 5 *Applied Social Research Methods*. Newbury Park, CA: Sage.

Yin, R.K. (1994) *Case study research – design and methods. (Applied Social Research Methods)*. California: Sage Publications Inc.

Yin, R. (1999) 'Enhancing the quality of case studies in health services research', *Health Services Research*, 34 (5), pp. 1209-1254.

Yin, R. (2003a) *Applications of case study research. 2nd edn.* Thousand Oaks, CA: Sage.

Yin, R. (2005) 'Introduction', In R. Yin (ed,) *Introducing the world of education: a case study reader*. Thousand Oaks, CA: Sage.

Yin R.K. (2011) *Applications of Case Study Research*. Los Angeles; London; New Delhi; Singapore; Washington, DC: Sage Publications.

Yin, R.K. (2015) *Qualitative Research from Start to Finish. (2nd edn.)* New York; London: The Guildford Press.

Yin, R.K. (2018) *Case Study research and Applications: Design and Methods (6th edn.)* Thousand Oaks, CA: Sage Publications.

Yoo, B., Donthu, N. and Lee, S. (2000) 'An examination of selected marketing mix elements and brand equity', *Journal of the Academy of Marketing Science*, 28 (2), pp. 195-211.

Youngdahl, W. and Ramaswamy, K. (2008) 'Offshore knowledge and service work: a conceptual model and research agenda', *Journal of Operations Management*, 26, pp. 212-223.

Yusuf, Y.Y., Gunasekaran, A., Adeleye, E.O. and Sivayoganathan, K. (2004) 'Agile supply chain capabilities: Determinants of competitive objectives', *European Journal of Operational Research*, 159 (2), pp. 379-392.

Yusuf, Y. Y., Sarhadi, M. and Gunasekaran, A. (1999) 'Agile Manufacturing: The Drivers, Concepts and Attributes', *International Journal of Production Economics*, 62 (1-2), pp. 33-43.

Zeng, A.Z. and Rossetti, C. (2003) 'Developing a framework for evaluating the logistical costs in global sourcing processes: An implementation and insights', *International Journal of Physical Distribution and Logistics Management*, 33 (9), pp. 785-803.

Zhang, A. and Huang, G.Q. (2012) 'Impact of business environment changes on global manufacturing outsourcing in China', *Supply Chain Management*, 17 (2), pp.138-151.

Zhang, D.Z. (2011) 'Towards theory building in agile manufacturing strategies-Case studies of an agility taxonomy', *International Journal of Production Economics*, 131 (1), pp. 303-312.

- Zhang, Z. and Sharifi, H. (2000) 'A methodology for achieving agility in manufacturing organizations', *International Journal of Operations and Production Management*, 20 (4), pp. 496-513.
- Zhang, Q., Vonderembse, M.A. and Lim, J.S. (2002) 'Value chain flexibility: a dichotomy of competence and capability', *International Journal of Production Research*, 40, pp. 561-583.
- Zhang, Q., Vonderembse, M.A. and Lim, J.S. (2003) 'Manufacturing flexibility: defining and analysing relationship among competence, capability and customer satisfaction', *Journal of Operations Management*, 21 (2), pp. 173-191.
- Zhao, B. and Steier, F. (1993) 'Effective Computer Integrated Manufacturing (CIM) Implementation using Socio-Technical Principles', *Industrial Management*, 35 (3), pp. 27-30.
- Zeng, A.Z. and Rossetti, C. (2003) 'Developing a framework for evaluating the logistics costs in global sourcing processes', *International Journal of Physical Distribution and Logistics Management*, 33 (9), pp. 803-75.
- Zhelyazkov, G. (2011) 'Agile Supply Chain: Zara's case study analysis. Design, manufacture and engineering, Strathclyde University, Glasgow. Velika Britanija, pp. 2-11.
- Zhu, Q. and Geng, Y. (2001) 'Integrating Environmental Issues into Supplier Selection and Management', *Greener Management International*, 35, pp. 27-40.
- Zhu, Q., Sarkis, J. and Yong, G. (2005) 'Green supply chain management in China: pressures, practices and performance', *International Journal of Operations and Production Management*, 25 (5), pp. 449-468.
- Zhu, H., Xu, F. and He, Q. (2018) 'Moving from OEM to OBM? Development with Global Value Chains', *Upgrading and Innovation in China*, 30, pp. 247.
- Zinn, W. and Bowersox, D.J. (1998) 'Planning Physical Distribution with the Principle of Postponement', *Journal of Business Logistics* 9 (2), pp. 117-136.
- Zsidisin, G. A. (2003) 'Managerial perceptions of supply risk', *Journal of Supply Chain Management*, 39 (1), pp. 14-25.
- Zsidisin, G. A. and Ellram, L.M. (2006) 'An agency theory investigation of supply risk management', *Journal of Supply Chain Management: A Global Review of Purchasing & Supply*, 39 (2), pp. 15-27.
- Zsidisin, G.A., Ellram, L. M., Carter, R. and Cavinato, J. (2004) 'An analysis of supply risk assessment techniques International', *Journal of Physical Distribution and Logistics Management*, 34, pp. 397-413.

Zsidizin, G. A. and Smith, M.E. (2005) 'Supplier Involvement: A Case Study and Research Proposition', *Journal of Supply Chain Management*, 4 (5), pp. 44-57.

APPENDICES

Appendix 1 Transcription of Interview with C5

Shown below is a verbatim transcription of the interview with a primary case study respondent. Apart from its value in presenting the views of a major player in the UK footwear industry it also illustrates the nature of the research questions asked. These questions were put to all the interviewees in as consistent a way as possible but occasionally varied depending upon the interviewee's responses.

Anonymised Transcription of Interview with Senior Manager: Case Study 5

Date of Interview: June 2017

Q I'd be interested to know where you think the UK and global footwear market is going to go through the next five years? What are the challenges and issues for the UK industry your firm?

A OK so for me the market is changing quickly. I think speed is becoming an incredibly important dimension in the market. So, you know, if you go back twenty years ago we all talked about quick response and all that sort of stuff and then what happened, then all the shoes went off-shore and all talk of quick response died. The cost of mark downs now for brands is massive, massive.

Unless you're a very, very cheap provider of shoes and seller of shoes and your selling exclusively on low cost, low price, if you're a brand at the other end of the spectrum, then the big problem is how do you operate in a

branded environment without loss of markdown which is both expensive and very damaging to your brand proposition, and long lead times out of China, out of Vietnam and the others make it inevitable because the market's moving very quick.

The cat walk years ago for the clothes shows used to showcase things that were going to be available in six or nine months' time. Now, the catwalks, if you look at what Burberry and the likes are all doing, they're showing on the cat walk, what's available today is the thing they're showing today, so the market has changed massively and I think the websites and online and all those things mean there's very high levels of transparency - nothing can be kept a secret!

Trends move very quickly, but also when we were young there was a trend, platforms or stilettos or flared trousers. Now it's very difficult to predict what that trends going to be because people can do different things, so it's very diffused. It's quite difficult to guess what's going to work, what's not going to work.

If you 'stock back it' too heavily you take enormous mark down risks and if you don't stock it heavily and it works, you run out of stock in no time at all because the lead times are so long.

So **** has ended up in this place where through automation and investment, the factory survived when no other factory did really of any consequence, so the factory is making fifty two thousand pairs a week, the 'neck end' of forty per cent of the UK output in total.

A big percentage of the others are making very premium shoes, ***** and ***** , these shoes are £350 - £500 a pair. We're making shoes that sell for £70 a pair, so were making volume shoes for volume people, and the reason the factory survived is because of innovation and automation and the fact we are in a low cost manufacturing area as well.

Q *What implications might this have on product sourcing strategy?*

A So, for me, the circles turning, there's been a long period now where low cost out of the Far East was a big advantage. Costs in the Far East have moved up significantly and that trend's being going on for quite a long time. Inflation's been moving up and suddenly of course Brexit comes along, and Brexit took an already dramatic set of dynamics and accelerated it. Suddenly the value of the pound went down and it meant that the cost of imported shoes from abroad went up, creating a lot of consumer confidence issues, and it's meant that businesses have got to be very careful once again about working capital and risk.

So you've got this tremendous set of forces coming at us, where costs are going up, confidence is going down, at both the consumer level and the business level, and out of all of that comes well actually, shorter lead times are now more important. Flexibility and agility have become much more important and that will play to the whole problem around how do you predict fashion in a world where there is no one fashion? There's loads of fashion, loads of colours, there's isn't one colour story anymore, so to some extent we all want to be individuals, we don't want to be seen to be wearing exactly the same colours and exactly the same products.

We want to show ourselves to be relevant, so we don't want to be outside of the fashion cycle but we don't want to be wearing the same things, so there's now a big opportunity for fast response, agility.

Q *How is agility achieved in a global footwear SC dominated by labour cost arbitrage?*

It's still got to be value for money, it can't be expensive, so the cost pressures on individuals, the fact that wages are going up less than prices. How often has that happened really for any period of time? These are amazing trading environments to be in. It's an amazing environment, so when we do our budgets, every year in the old days it used to be what did you spend last year and what's the cost of inflation adjustment you're going make to all the costs?

We don't start that way at all now, it's all about - we need to assume the shoes are going to have to cost the same and if there's inflation or a currency (issue) we've got to find that money from elsewhere.

So I think the environment's tough, I think it's very dynamic, it's very agile. I think **** and UK manufacturing generally are in a good place to exploit that, but guess what, the number of people who actually know how to run a factory or worse set one up, because when you set one up from scratch you haven't got a core to build on, it's incredibly difficult.

Guess what, Brexit has meant, is that people who do know how to run factories, you know Taiwanese, Vietnamese, all those people who might have been persuaded to come to the UK and work, actually they've heard all this stuff about Brexit. They think the UK is very unwelcoming, so suddenly

not only is it really odd to be importing those skills from far distant places, but those people don't want to come to the UK anymore because they don't feel they would be welcome.

So, interesting times ****

Q *Industry observers and the reshoring lobby argue that market behaviour is changing thinking with regard to product sourcing. What do you think?*

A Yes! I think the markets polarising. So there's a whole group of customers who want very, very cheap products and I guess that will always continue to come out from low cost manufacturing countries, like China, Pakistan, wherever, but there's also the other extreme, where people are buying really specialist niched bespoke products so the market's polarising. There is a good opportunity in the middle, but you've got to decide what your offering, so it can't just be average cost, average fashion, average comfort, you've got to stand for something, so **** stands for comfort with a bit of style but whatever it is you stand for, you've got to really, really shout that loud.

Q *What impact is that having on your sourcing strategy?*

A I mean massive cost pressure I would say. This is a business that is doing well. We're probably the most profitable shoe company in the UK without a doubt, but even we, in that position, can't afford to be in any way complacent because I think the business environment is fragile.

Currency is difficult to predict, terrorism makes it doubly difficult to predict, Brexit adds onto it again. I mean I could layer on the layers of pressure and uncertainty.

This is a really tough environment and we as a management, what can we do? What we can do is play the cards that are in front of us, we're not politicians, we're not economists. All we can do is use the cards in front of us and that means making great quality, making things faster than we've ever been able to before, be much more agile and that, to take that as an example, that has splinters in every direction. So if you want to be agile you have to think really carefully about the supply chain, you know, where the materials come from? How close are they to the proximity of where you're trying to make the shoes? How much banding together of different materials are you using? How much commonality of those materials are you using across different styles and product ranges?

A massive change in **** has been the way we specify the shoes. We've rationalised the number of suppliers we use. we've rationalised the number of materials we use, all to try and give us maximum buying leverage and maximum agility.

So to get the speed of response we can't afford to have shoes in the warehouse, but we can afford to have leather and raw materials in the warehouse because they're not style specific, we've been clever in how we sample.

They're not size specific, they're not fitting specific, so if that blue particular leather is going to be featured in ten or twelve styles suddenly you've got a way of servicing the market in a very agile way without massive risk, but that requires a big change to the whole company, not just a guy sat in a sourcing office. This is the designers thinking about the materials they use, the

suppliers we work with, how they work with the product engineers, how we use common materials to achieve looks, different looks and different performances from product.

Q *How have you achieved greater agility within your business?*

A I think we've got a different culture but I'll tell you what, conflict underlying was here until recently and what we had to do with it was to change the organisation structure to facilitate some of this rationalisation. We had pillars and silos, where one group of people were pursuing a very narrow agenda, another group of people would be pursuing another agenda, but those agendas weren't meshing together well, and they certainly weren't giving us the agility we needed and the common purpose we need.

So this market is really hard, really challenging and I don't think you can afford to waste one ounce of energy and resource by fighting each other. The internal debate has got to die because you've got to direct all your resources on fighting the competition and the pressures you face.

Internally we've stripped out layers, we've delayered the company, we've made responsibilities wider, so that people get a broader view of both the opportunities and the threats and I think there is a greater sense of teamwork because a lot of these goals can't be achieved without people working pretty harmoniously together.

Q *So as ** ** what do you actually have responsibility for within the firm?***

A So I don't run the stores, we have a retail director who runs the stores. I don't run the marketing, but pretty much everything else. So all the

way from product creation and design, product engineering, inventory planning, the factory, the sourcing, product specification, the warehouse, logistics, all the wholesale division, IT.

Q *How do you see retail distribution channels developing through the next five years and what this means for your firm?*

A Well again, we are in for a massive roller coaster ride I think. First thing to say is I think there is a centralisation going on, so regional centres in the UK, London, Manchester, Bristol, Leeds, Edinburgh, big regional centres where people will be drawn because of great facilities, nice facilities, you know it's a pleasure, it's not just a transaction. You go in there to enjoy yourselves as well as buy stuff. I think regional centres are growing and there is a lot of investment, that's basically becoming very expensive, and then you've got small towns, even smaller cities, where there isn't the same draw, there isn't the same catchment area, there's not the same population and because of those things not the same investment and they're falling behind massively. There's a big gap opening up between premier league locations and the bottom division, a big gap and that I think is going to result in some town centres looking very empty.

The line between going shopping and social time, in the olden days you went food shopping once a week and that was a transactional thing and then, if you did have some spare time you probably did some social things which might have included shopping but might have included the restaurant or the cinema. I think all that's blurring, the only thing to say is entertainment. You know people spend money on entertainment in stores, online and all sorts,

so the world is really 'fuzzying' up in terms of how we spend our money and how we spend our time.

So not only have you got this dichotomy going on in terms of primary and tertiary space, you've also got a big blurring of what's transactional shopping and what's social pastimes and pleasure and leisure, and I think all that is driving in some places, massive investment into retail that's experiential.

Its showing you things that you can't get anywhere else, its giving you entertainment that's very broad and interesting and intriguing, inspiring and it's a mile away from the old 'I'm going to go and buy a pair of shoes or a pair of jeans', it's a mile away from that. There's a big pressure around individualisation, so I talked earlier about agility one of the things which we haven't yet achieved but I'm pretty certain that we will is that we need to be able to offer customers the opportunity to tailor the product and design the product towards themselves. For all I know they may have a particular colour that they love. We need to be able to cater for that and I think experiential retailing plays to that card, that ability to go in store, get ideas, get inspiration but then perhaps design it yourself or at least partially design it.

Q Are you thinking about responding to *the mass customisation concept*?

A Yes! And of course all of that means you've got to have a fantastically agile supply chains. You've got to have raw materials in the warehouse but you can't have finished product because you don't know what people are going to buy.

Q *What are your thoughts on the impact of social media regarding market responsiveness?*

So, social media which is the other big driver of speed. We live in a country where lots of different people have lots of different idols, you know you might be taking your inspiration from Coronation Street, you might be taking it from the catwalk of very high end brands, you might be taking it from a pop singer, you might be taking it from all sorts of different directions and again that means there are lots of different trends going on at the same time. Knowing your customer groups is incredibly important, but if one of these people goes online, goes on Facebook or goes on Twitter and talks about your product, our your colour or your brand suddenly it can take off in a very extreme way, in a way you're never going to be able to predict. If you can respond to that, there are fantastic opportunities, but if you can't you're wasted. So it's no good having brilliant PR, brilliant brand recognition, but if a particular product that's being featured on social media your sold out of, it drives nothing.

Q *In terms of strategy with regard to distribution channel strategy, how would you describe ****?*

A So **** is very rare these days. **** used to be a fully vertical business. **** is as close to that as you'll get, so you know we design, we engineer, we manufacture, we buy all the materials, we plan the thing, warehouse ourselves, we've got our own call centre, our own stores, it's a completely integrated business. Very rare, very, very, rare, another reason why I think in the 80s and 90s having your own call centre, it was ridiculous. Why would you waste your money having your own factory- crazy? **** has

gone against a number of big trends in business - outsourcing, probably because the founder felt very strongly that having built the capability he didn't want to let it go, but of course now, in this new uncertain agile environment, having all of these things is incredibly powerful.

Q *In terms of pursuing that strategy, where do you see the big risks are?*

A Well, I think the thing you have to guard against is not being great at any of these things, so the danger of having a fully integrated business is you don't have specialist management for any one of the functions. So you don't have a specialist factory manager, you don't have a specialist call centre manager, you don't have a specialist warehouse manager, because you've got all this activity on a diverse base. I think it is important that we don't get complacent about the strengths of that and forget the fact that it's all got each individual piece of the pie, so it's got to be run really, really well by people who really know what they're doing and yet we will operate in a big team. Yet we want functional excellence but we want organisational agility in teamwork. Now to some extent in the old days functional excellence came at the expense of agility because of the silos. What we are trying to achieve is both.

Now I do think it's interesting because you don't have any layers in a business like this. It's a flat organisational structure. It does mean that the people in command, if I can put it like that, do have to have quite broad experience I would say, and they are capable of harnessing lots of different

inputs and coordinating things. There's a risk that if you've got the wrong people doing that you might perform very badly!

Q *How would you describe your role in this flatter organization structure?*

A I'm the conductor of quite a big orchestra! So the guy who runs the stores, he's got a big job of making sure that we front into the outside world, touch points around the product and how we present the brand and the consistency of that's important, and motivating staff and all the rest of it, fitting shoes, things like that are really important but, he's completely reliant on my area if you like for us to create the right product, so we've got to create the right product. You can have the best supply chain in the world, you can have lots of other good things, but a brand these days is only as good as its great products. BMW needs the 3 series and the 5 series to be great cars. People aren't going to buy BMW cars if the cars themselves are not good. **** is the same, people are not going to buy our brand unless the products themselves are great. The first thing is we've got to design great products, great shoes.

Q *How would you describe your customer?*

A Fifty plus, people who have got to the point in their life where they are not trying to follow any particular fashion. They know what they like, they want comfort, they also want to look good too. They're not prepared to pay ridiculous amounts of money, but they're prepared to pay for quality, so I think it's a big market.

It's probably a growth market both in age and wealth at that end. People have broadly left their mortgages behind, broadly left their kids behind and they've got a little bit more disposable income and they're quite discerning. They expect a lot from us, service wise, and they get very disappointed if we let them down, so it's a big opportunity, but we've got to get it right as well.

So beyond the product, we've then got to take those concepts as well as ideas and engineer things really well, spec. the materials. We need great leathers, but at great prices, we need the right quality but we need it quick. There's lots of things in the old days people would have considered to be at opposites end of the spectrum, can't have quality and price, we need both so we've got to find our way through that maze.

We've got to cut patterns, so lots of businesses have long lost the art of cutting patterns. We've got our own pattern cutters here, they are incredibly important to us because cutting a pattern doesn't just affect the fit of a shoe, but it determines the cost of the shoe.

Leather's the most important cost by a mile. If we cut patterns badly, we drive inefficiencies in leather and we will waste a lot of money, so all of that's important and how we supply the product itself, ease of manufacture, speed of manufacture, the factories work 24 hours a day. The factory works 51 weeks a year, the warehouse is seven days a week twenty four hours a day.

The truth is we have all got used to wanting it when we want it and we're pretty impatient, all of us. Yes we might wait a day, we might wait a couple of days, but the days when we'll wait ten days have gone! So we have to be incredibly quick and agile and then of course people expect a brand to offer

service, so if it's not right, we put it right whether its product, service, it doesn't matter.

Q *On your supply side strategy given that agility is clearly important to you how do you source raw materials and components?*

A I mean we have to..... where you cut the leather and where you source the leather they need to be is as close as you can sensibly get them.

I mean when I joined **** three years ago it was not unusual for us to get furs from country A and ship them to country B. I think all of that's gone. I think a bit like the car industry tries to do. Having local supply chains is incredibly important, difficult to do and it takes time to build up, we're not there where we want to be by an absolute mile, but the direction of travel's clear.

Q *Apart from upstream then what else do you source in?*

A We make 90% of the shoes we sell, but we buy in 10% and these are shoes where in the main, these are heeled shoes where our construction is direct moulded, it doesn't allows us to make heeled shoes so we buy those, from one part of the factory. We've got our own dedicated production space and we've got our own member of staff in the factory managing it on a day to day basis because we need that agility, we need that quality and we need all the other things compliance, social care and environmental.

Q *So the sourcing decision is based around what?*

A That's construction.

Q *It's primarily construction?*

A No, we used to and maybe up to a year ago we would have bought in some shoes that we could make here but were cheaper to buy in from abroad. We are now at a point we're we've already moved all of those shoes back to UK manufacturing.

Q So why have *** actually re-shored some pairage?**

A So, we would in the past have bought some shoes from China and some shoes from Vietnam that were similar to the products we make in our own factory but it is now, I'm very clear, it's cheaper for us to make those shoes here. If you view it in the round, and by viewing it in the round, I don't mean just taking the first cost, although that in itself is quite compelling now, but if you take into account the fact that you are dealing with lead times which are so much longer and therefore the stock obsolescence risk is much greater, then the first cost, the benefit of sourcing from overseas, which when you add in the obsolescence cost is for me, it's a no brainer.

Q Just thinking about labour cost, you said earlier you've kind of scrapped all incentivisation or just piecework?

A There' no piecework, no piecework. The advent of the minimum wage interestingly, really meant that piecework kind of didn't mean anything anymore really, certainly at the lower end, but I've always had a philosophical problem with piecework anyway, which as you know, manufacturing businesses need to be efficient, but most importantly they need to be efficient in the round, and efficiency is a funny thing. We used to be able to measure the slightest fragment of a percentage of our direct labour variance, but then the fact that we've wasted 20% of the seasons

'buy' in mark downs because we bought too many, nobody really measured that. I think efficiency should be measured quite broadly and that means the factory has got to make what's in demand. And that philosophy requires a team based approach, which means that piecework, which is very much about the individual optimising their earnings is at odds with the agility goal of the business.

So I'm very clear we need efficiency. Yes we do, that efficiency needs to come from people working together, striving to do a great job, but the biggest efficiency we can almost make is that we make what we need to make as we need to make it and that means in a business like this we've got four or five weeks warehouse stock. I'll bet you **** has got sixteen or twenty weeks warehouse stock. Now the difference between having sixteen and twenty weeks warehouse stock and five is fantastic in terms of mark down. Now if you also factor in the damage done to brands by heavy discounting of surplus products then suddenly this is a big, big gap that's opening up.

Q *How do you then monitor your actual costs against your costed?*

A We still do all of that! Still do all of that, so every product is costed. Every products got a standard cost. We manage the variances every week or every day against those standards, so you know if it's a moulding machine which is on a nine second index time, we measure how much downtime against that there is. If it's a team in the factory processing shoes and they've got a hundred per hour to produce, then they have to record and manage the variances there. None of that's gone, we have to maintain productivity and efficiency.

I guess what I'm saying is we're doing it through a combination of salary, people feeling that they've got to do what's in the company's best interest, not what's in their interest. So we motivate people to think more widely about the goals. We've got to be transparent about those goals so people can feel a sense of ownership of them and we've got to give recognition for high performing teams and we've got to give coaching and investigation in to the teams that are less productive.

Q As you know there's a big discussion raging about the real cost of outsourcing especially out of the Far East or wherever. This concept of the Total Cost of Ownership where firms have made decisions to outsource but it has been suggested that they never really understood both the nature and the structure and total magnitude of those costs, so the decisions were poor decisions because outsourcing has never been accurately costed. What is your view?

A I could replay the conversation I had with *** ***** all those years ago. That's exactly my point. My point back then was, *****, *****, *****, those three factories without a doubt were world class factories capable of making products that were in demand internationally and the cost of making those products in an agile way was not being compared adequately or properly with the cost of making them at much longer lead times where the opportunity cost of grabbing today's sale is not recognised, nor is the obsolescence cost of having too much stock that you can't then easily clear. I think that problem is not a new problem, that's been here a long, long time and a lot of people have been very, very, very slow to recognise that issue.

Q *How do you currently doing your product costings?*

A We cost things in a way you would recognise. The way that **** do it, the way that * did it, slightly different, but very similar in principle to how **** do it today, so you know we start with leather and we measure the amount of leather, we take the base price, we apply a coefficient and we then cost the labour and all the other materials, so all of that you would completely recognise.

Obviously, we've got moulds so we apply an amortisation rate for moulds and then there is a factory overhead. In taking the factory up from sixteen hour working to twenty four hour working, the overheads increased but so did the volume. We produce fifty two thousand pairs per week and we're budgeted to produce forty eight so there's an over-recovery of the overheads going on, so you would recognise all of that.

I think in the warehouse we do cost differently the costs for retail versus home shopping. When we send a pair of shoes out to a home shopping customer they're picked as an individual pair of shoes normally or possibly two pairs. When we pick for a retail store order, we're normally shipping fifty pairs, so the cost of those two extremes are different, we recognise that.

At freight level their different too, so the costs of delivering a pair of shoes to retail stores is under thirty pence a pair. Shipping it out to a home shopping company it's about one pound twenty a pair so we do cost as best we can without going completely crazy. We differentiate the costs, we apply at slightly different overhead rate for men's as women's because the men's business doesn't have the volume benefit of our women's business, so we do try to recognise differential costs.

Q *Just talking about outsourcing and your current sourcing strategy, can you see a situation where that situation might change, where you might say start to reduce the level of manufacturing here in the UK and look at outsourcing offshore but maybe not Far East, but maybe near-shoring maybe looking at Eastern Europe? Can you see a situation like that developing? How might that happen?*

A Not at the moment, I think what I've learned over a long lifetime, you too, is that it's very difficult to predict a long time into the future so perhaps when I was seeing factories moving off these shores in the Eighties and Nineties I didn't perhaps think then that we would see on-shoring happen, certainly the phrase had never been heard, nobody had ever heard of on-shoring so I'm reluctant to say never but I've got to say I think the next big thing that's going to happen to our factory is automation.

We already use lots of robots in the factory to automate, and the fact is the Desma moulding machines are pretty automated as well. We've got automated lines, robots, injection moulding machines and in the future I'm sure we going to have more of those things.

Q *I read an article about what's happening with Adidas – Speedfactory. I don't know whether you've seen it, but do you see that fully automated plant becoming a reality with the kind of materials you're using and maybe the kind of operations you've got in the factory? Can you see a situation where **** at some stage in the future could be fully automated? How might that be realised?*

A Probably not in my lifetime but maybe beyond that yes! I mean robots have become pretty clever. I mean if I go back to the early robots, they were fairly crude affairs and the tolerances were very difficult to work with. You know, we've now got robots that are very, very accurate and you know they roughen the leathers, for instance.

In the old days you routinely roughened leather that you shouldn't have roughened and then you repair it, well we're not doing any of that anymore. So I think robots have become more accurate, incredibly reliable, I mean incredibly reliable, but I also think software is becoming more instinctive, so instead of us having to programme every last thing, there is intuition in some of these things now.

I think the advent of that and its development... we haven't seen the full scope of it yet. We're going to see some very clever robots in the future and they'll be able to do things that currently can't be done. So yes, we're going to see more robots. I'm sure we're going to see increases in the minimum wage.

Politically it seems to me that were going to have to try and get the earnings spread closer together in this country to avoid some of the social issues and if the minimum wage today was ten pounds instead of seven pounds and I'm sure that's going to happen, then that will further make the case for more robots.

The fact we works shifts means that the payback from robots is already pretty attractive, so it's now at the moment... the only issue is whether the robots can do the job, not whether they payback, because as soon as the

robot can do the job, frankly a robot replaces three people because of the three shift nature of the work. So you're not replacing one person on one wage your replacing three wages. I mean it's incredible the payback!

Q *How are you cutting now?*

A So we cut conventionally, but **** ***** in *****, the old * factory, **** in London, they use computer controlled cutting machines and they scan the leather, find the defects and they then optimise the cutting using computers, so there's no need to cut manually as we do at the moment but there isn't any need to do that. Increasingly automated computer controlled stitching has been around a long time.

Q *Topstitching - is that still problematic in terms of computerised stitching?*

A Yes! The simple answer to that is yes. If you want refinement then that's the trick, it's how you get refined edges, but I've got no doubt all that will change. That's coming soon. It's just a case of when.

Q *Who makes these automatic cutting machines?*

A Comelz, which is probably a brand you recognise as skiving machines, so they are probably one of the big players.

Q *What's your view on globalisation within the footwear sector?*

A So again, I think we've got different things going on. So I don't think there's going to be any one trend. I think low cost manufacturing based products, big volume products are just going to keep hunting the next lowest

cost place, wherever that might be the Philippines , Cambodia. You've heard all the places.

I mean I'm involved in Africa with the World Bank on a project. So you get some shoe factories running there. I've got to say it was very difficult, there wasn't a lot of dexterity amongst the people and the heat had encouraged them to be pretty laid back, so I'm not sure about whether Africa is going to be a great production centre, personally. I think not, but we'll see.

I think the truth is that the Chinese were very good initially at low cost. Their costs have moved up and I think they're going to find it more challenging in terms of getting numbers of people to work in industrial environments, but that's a pressure, but I think automation and robots will apply throughout this industry. We are going to see robots in certain places simply because we can't easily get the people to do it.

Not just skills but wage levels, social acceptability. There are going to be some jobs done by robots because robots are available, people aren't.

Q *So, are there global issues that you feel might impact on the UK sector? If so what are they?*

A Long distant freight, things like that. My view on that is, freight has been cheap recently. Oil prices have been low. Fracking has played a big part in depressing global oil prices. I think that could change at any minute. We' have no idea how that really pans out so there is still a lot of concern about whether fracking's safe? Certainly in a society that's more built up than large parts of rural America, so whether fracking can truly be applied globally on a scale it's been done in the US, because I've been through that area,

there are massive areas which have been fracked where there's no people living at all. Now it's quite different where you've got lots of people living in houses and livelihoods, so I've got my doubts as to whether it's scalable globally on that particular issue.

We've had a period of relative stability in the Middle East. I'm not sure that's necessarily going to carry on so I don't know. I think freight costs may go up yet. Certainly the freight companies have been through massive consolidation. The big groups, I think there's only four big groups now of global shipping companies, none of them are making any money, so you can only believe that something's got to happen there somewhere. Costs are almost certainly going to have to go up at some point to sustain investment and profitability, and I think that in combination with the earlier pressures we talked about such as agility, proximity to markets.

I mean I think one of the things we will need to look carefully at and we haven't done a proper job of this yet, is whether we make 'in market'. I mean we sell a lot of shoes in the States, we make the shoes here and we send them to the States. I personally think it's more likely going forward, that we'll make the shoes for the UK market in the UK and well make the shoes for the US market in the US.

That's what I personally think. I think we'll control those automated plants centrally. We'll programme them, we'll optimise and balance them efficiently and we'll have similar systems. We'll use the same leathers and all the rest of it, but I think having a plant 'in market' pretty much like the car people have done.

You know that a BMW sold in America is often made in America and the same for Toyota. I think it's much more likely that that's going to happen (*in footwear*) and I think that particularly is true when you've seen what Trump has done,

And there's a kick back against globalisation where, rightly or wrongly, people at the top end of society, people like your good self with lots of degrees and qualifications, people like that have got choices, they've got skills, they've got niche professions and they can charge a premium. People at the lower end of society are doing commodity work and they're competing against other commodity workers in other parts of the world, and the truth is their wage rate is being dragged down by the fact that somebody else has got a lower wage rate in a low cost country.

And companies are increasingly global and you know that's where call centres have ended up in India and the like, because companies have been able to pick an activity up and move it to the people. I think that going forward, my instinct is, there is going to be a kick back against some of those things. Governments will find it difficult to defend that approach. I think society will find it difficult to cope with the gaps in earnings without some kind of social pressure.

I think companies will want to be closer to market for agility reasons. All of that is going to play towards manufacturing moving back closer to markets. That doesn't necessarily mean 'in market', but it does mean closer to the market.

Q *How might the Chinese respond to the threat from the consequences of labour cost inflation and the potential for automation to near-shore if not to re-shore?*

A I think the numbers are something like there's twenty one billion pairs of shoes a year being made in the world, fourteen billion of which are made in China. Now you know, when you understand those numbers you begin to get a picture around well, there isn't much option is there, the truth is Viet Nam makes one billion, I think India makes five billion and the others make just over a billion each, Indonesia and the like, so there's no prospect of this volume of shoes moving to India or Indonesia, no prospect it seems to me, none! So China will continue to be a major player, but they will have to automate, they will have to improve productivity and the pressures on them to do that will be two fold.

One, costs will go up and there will be under some commercial pressures to keep costs down and the other thing is, as we know, in our own developed economies, there is a large percentage of the work force who don't want to work in factories as other options become available. Factories are regimented, they're structured, they've got start and stop times, there's all sorts of rigidity about working practices in factories that go on in modern day society and life.

So you know if I'd to triple the size of the work force here I'd struggle, because working in a shop with flexi hours is just socially more acceptable and easier to accommodate and I think China is going to find those pressures too, so as the Chinese economy continues to develop, and it is

developing quickly, society will find that you know, working in a hot dusty factory compared to working in an air conditioned shop, learning to speak English and dealing with fashion products, people are drawn away from manufacturing and you've got little choice but to automate if you're going to carry on producing.

Q *How do you work with your current suppliers with regard to supply chain risks in the UK?*

A So we have, I would say, very good relationships with our suppliers, some of those relationships are very long standing indeed, twenty plus years. I think we have robust commercial discussions, so there is no place for inefficiency or premium pricing beyond what we can afford but, we've developed a partnership approach where we have narrowed our supplier base down, so that has given us significant volumes which means our suppliers benefit from big volumes and regular orders. So we buy every week, we're not a business that buys seasonally.

We're not a business that has interruptions, so our factory has to produce shoes fifty one weeks a year. The whole supply chain works on that basis, so in Europe we've found it very difficult to work with Italy, for instance, because Summer holidays seem to go on forever and so we can't cope with that, so we've tended to move away from suppliers that have got very traditional working practices and we've moved to concentrate our purchasing and our partnerships with people that are good at what they do but are very agile and their prepared to be flexible, they're prepared to be responsive and they're prepared to work pretty much all year round. We cost and we cost compare

and I wouldn't say we chase every cent but we aint far off chasing every cent because we can't afford to do anything else.

Q *How do you manage other risks in the business?*

A I chair the risk and business continuity panel and these things are often complementary, people always imagine they are not but I think they are, so I think we need to think of disasters.

Fire is the biggest one we've got here, as a business fire is a big risk at ****.

Why? Because the whole business is based on one site, apart from the eighty stores, the whole factory, the whole warehouse, the whole call centre, the whole stores, all the offices, product development, everything is here and therefore if this site was to be damaged in any significant way, you know that is a major threat to the business.

I think these things are not abstract, they are perfectly easy to understand.

This site has got benefits from being on one site, being integrated, but it has its disadvantages, fire being one of the most obvious ones, but it just means you've got to be very thoughtful about what you do. What working practices, what heat sources you have and what precautions you take, and I'm not saying we're perfect because we're not, but I do think we understand. So for instance, when we moved to twenty four hour working, one of the benefits is you've got management presence twenty four hours a day and that means the likelihood of a fire starting and it being undetected is reasonably remote.

Q *On the sourcing side do you do anything specific there in terms of mitigating risk?*

A On our biggest leathers we dual source them. And we routinely do trials to make sure we could do things elsewhere if we had to, but we don't often carry those through to bulk. But we do do trials, so yes we do contingency planning, it's a critically important thing because if it goes badly wrong when you're All the things I've spoken about the fact that we're integrated that could be a problem, the fact that we've rationalised our supply chain that could be a problem but on the flip side of those things we've rationalised our supply chain to really good suppliers.

So we've left behind the ones that were less able in terms of management, less well funded in terms of resources, less disciplined in their working practices and we've moved to people that are high quality management, well resourced, good management practice. And therefore although you could argue that the concentration of buying power has increased the risk, I think I would argue the opposite is true, because we've now got products being made with suppliers who are inherently better and more able, higher calibre.

Q *What would you describe ***** core competence as being with regard to creating some sort of competitive advantage in the market?*

A I've worked like you have, I've worked at several businesses, one of the repeating things I find is young people always want to "youthen" a brand. ***** forever wanted to have not fifty year old customers, it wanted forty year old customers and then it wanted thirty year old customers and now I think

they're trying to get twenty five year old customers. * **** was exactly the same.

I think one of the great things about **** is, it's got a fifty year old customer base and it isn't trying to get forty year old customers. It's proud of its fifty year old customer base. It understands its fifty year old customer base. It celebrates its fifty year old customer. That is a fantastic strength for me. It's not trying to be somebody else's brand! I've got to say, it's the first time I've ever worked for a business where we don't spend half our time trying to be somebody else.

If you go to **** now, you'll find ***** shoes and all sorts of shoes in the corridors, they're desperately trying to become ****! Crazy, they should celebrate being ****! We celebrate being **** so I think that's a great strength. It means there's a great knowledge about that customer because we don't spend our time worrying about anything else, we just concentrate on that. It means we understand them, they understand us, we build things around them, so I think there's fantastic strength in that.

The other thing I'm bound to say is the integrated nature of the business and the factory in particular, although I think the call centre is also important in that this means we're just so much more agile than our competitors.

Q *How do you respond to the market more quickly than competitors?*

A I mean we've got a particular shoe that at the moment is selling particularly well and none of us believed it would. The factory is making them now, they are going into the warehouse every hour, twenty four hours a day,

and if we were buying those out of the Far East, they'd be on sixteen week lead times and arriving once a month or once a week.

Q *What's your take on environmental issues?*

A Really important! Big pressure but I think not pressure which in any way we should resist, we should embrace it. So I think any brand that doesn't embrace its environmental policy and responsibilities in the same way as they need to embrace other areas of compliance, be it environment, be it labour laws, modern slavery, chemicals, you know all these things, people (?) expect that of brands and rightly so.

We have done lot of work to reduce power consumption. We have spent quite lot of money in the last twelve months changing most of the light fittings in the building to LED. We haven't put solar panels on the roof but we are discussing that at the moment, so I think it's that sort of thing. But landfill, the factory here and the site here generally used to put a lot of material into landfill but all the materials that now come out of this site are going to recycling, nothing goes into landfill at all.

Within the context of being the UKs biggest domestic manufacturing brand it is highly pro - active from an environmental perspective.

Transport will still be a major issue when it comes to the environment, so when you're making shoes within the UK, you're selling them in America, there's a lot of transport environmental cost and again that's another reason why I think in the longer term making things close to the market is probably just inevitable, inevitable. You wouldn't do it in small markets but in the big markets of Europe and the USA definitely.

Q *What should the government be doing for the sector?*

A I'm probably at odds with many a people's view and certainly the BFA's policy is to lobby the government for support and in that sense what I'm just about to say is at odds with that. But my own view is that government's role in these kind of things should be negligible. I do not believe in subsidies. I do not believe that there should be whole gangs of civil servants waiting in the wings to help us with our businesses, so I don't believe in any of that. I think all of that distorts markets.

I think it costs an enormous amount of money indirectly and very often adds very little benefit. I do think there should be sensible tax breaks and if I've got concern about the industry I would say that owners of shoe companies today are probably not minded to invest for the longer term, because they either perceive the risk to be too great or the returns to be too little.

Certainly, if you were to embark on a sizeable growth of the **** and the UK manufacturing infrastructure, I think we would be nervous about the scale of that investment against the risk it would bring as well. So I think there will need to be greater rewards to offset the risks and investment to get manufacturing on a big scale back in the UK. I don't think that's about subsidies, I don't think it's about civil servants, I think it's probably about tax breaks around training and capital investment.

Q *What signs are there of that actually happening to any significant extent?*

A None. All these guys who sit around at the ***, they're all running their businesses and trying to get five per cent growth or whatever there in.

None of them, none of them, to my knowledge are doing what their predecessors used to do. You know the guy who set up ****, the guy who set up ****, the guy who set up ****, the guy who set up ****, the guys who set up in the Valley. Two hundred years ago, a hundred and fifty years ago, a hundred years ago, they were being entrepreneurial in a way that I don't think currently exists in the industry.

My greatest passion sitting on the *** board is - nobody is being entrepreneurial enough on any scale and the very small start-ups are probably not going to get the financial backing they need to scale them up easily because they won't make so much money themselves to be able to recycle it and grow and I don't think they'll attract the investment they need either, so I think that is the big challenge.

If you go to Northampton, a very traditional part of the shoe industry, most people there, they would think it unthinkable to set up another welted line because they would think too much cost for equipment and too much training costs. It's just not happening. They're incrementally building their business, nobody is doing it in an ambitious way. We've probably been more ambitious than anyone else. We're growing faster than anyone else, but if we're being honest, even we are utilising existing equipment much more intensively. We've gone from day shifts to double shifts to night shifts and in a minute we'll do weekends, but we aren't really buying, we've still got the same four moulding machines. Now I think when we need a fifth moulding machine, I think its operation will be sufficiently cash generating and sufficiently efficient to be able to fund it easily actually but I think that is the reality of the environment we're in.

There is no ***** or ***** , there is nobody out there doing – ‘I want to be a shoemaker and build a big shoe business’, nobody’s doing that.

Q *Actually a different kind of question. Is there anything you would like to see us doing in terms of research in the sector where you think we could make a contribution for the UK footwear sector?*

A I think the trouble is, I think the UK footwear sector is a very diverse thing indeed, so my observation from sitting on the board of the *** is that, you’ve got ***** running *** ***** in ***** , the business here, bits and bobs around here and in the Valley, the bigger guys in Northampton doing very, very premium shoes. It is a very, very diverse sector so universities, I mean, would struggle to support the sector, because the sector itself is so diverse. Geographically the sector is also very diverse so no one university is in the right place to support the whole sector, so I think that’s a challenge.

And I think we’ve recently been deeply engaged in trying to kick start apprenticeship schemes. We’ve had some success, but one of the challenges is the geography of this is enormous. I mean ***** in London through to ***** in ***** and everywhere in between. And very small number of apprentices in each location, so the economics are really challenging, so I think it’s difficult for the university sector to do that.

When I go back to ^ ***** in the early days when Lancaster University were helping us, what they helped us with was automation and I do think that automation is probably the one thing that would transform the cost competitiveness and that’s the sort of thing the universities are well equipped to research.

Q *What have we missed?*

A Big data is the other big thing and because we sell most of the shoes through our own channels, be it direct to customers through the web site, catalogues or through stores or through the call centre, we do a lot of data on our customer base, that is another big competitive advantage the business has. If you know who your customers are. Where they are. What age they are. What income bracket they are. What interests they've got. What hobbies they've got. How often they buy shoes. What price bracket they're interested in. There's a lot you can do with clever software these days. Where, frankly, we can predict those customers, what they're likely to be interested in before they'll even think of it themselves, because seasonality and weather still triggers a great deal of footwear purchasing. So if we know what the weathers going to be like next week and we ought to be able to know that, and we know that the last three times they bought this particular product, it's not very hard to work out they want another pair of them in a different colour and they say what colour it is.

But you know we're putting a new ERP system in here. A four million pound investment, biggest single investment the company's ever made. That is designed to take all the other benefit you and I have been talking about for the last hour and a half and bolt them all together, because we've got five hundred computers on this site probably. We've certainly got ten or fifteen big different systems, they do talk to each other to some extent but they don't talk to each other fully and one integrated ERP system has the opportunity of bolting together all the data and when you're an integrated business like this that is incredibly powerful.

So, if we've got some raw materials in stock and somebody rings up the call centre today and says I want a pair of these, in the new world it's possible to say yes, we'll take the order and manufacture them today, whereas we can't do that now.

Q *Is your warehouse automated by the way? Have you seen the ***** warehouse?*

A No I haven't but you know, I do know what the costs of that place are and they're b***** higher than ours! I think it will change, but automated warehouses are a big investment and ***** mismanaged its warehouse labour for many, many a decade. Earnings got completely out of hand, completely out of hand, and even today all the guys that have been there a long time are all on ring fenced deals and it's meant that they've incurred huge costs, huge and we don't have anything like that.

Interview length 81 mins. Concluded 3: 05 pm

Appendix 2: Interview Questions Base Template

The questions set out below were used on the first interview: C5. All the interviews with C2, C3 and C4 were derived from this template but modified to firms fully outsourcing offshore. The responses in all cases were free flowing given the seniority, experience and knowledge of the case study respondents and their willingness to 'open up' on their firms concerns, challenges and future business and sourcing strategies.

Primary Questions

- *I'd be interested to know where you think the UK and global footwear market is going to go through the next five years? What are the challenges and issues for the UK industry and your firm?*
- *What implications might this have on product sourcing strategy?*
- *How is agility achieved in a global footwear SC dominated by labour cost arbitrage?*
- *Industry observers and the reshoring lobby argue that market behaviour is changing thinking with regard to product sourcing. What do you think?*
- *What impact is that having on your sourcing strategy?*
- *How have you achieved greater agility within your business?*
- *How do you see retail distribution channels developing through the next five years and what this means for your firm?*
- *What are your thoughts on the impact of social media regarding market responsiveness?*

- *In terms of strategy with regard to distribution channel strategy, how would you describe *****?*
- *In terms of pursuing that strategy, where do you see the big risks are?*
- *On your supply side strategy given that agility is clearly important to you how do you source raw materials and components?*
- *Apart from upstream then what else do you source in?*
- *So why have ***** actually re-shored some pairage?*
- *Just thinking about labour cost, you said earlier you've kind of scrapped all incentivisation or just piecework?*
- *As you know there's a big discussion raging about the real cost of outsourcing especially out of the Far East or wherever. This concept of the Total Cost of Ownership where firms have made decisions to outsource but it has been suggested that they never really understood both the nature and the structure and total magnitude of those costs, so the decisions were poor decisions because outsourcing has never been accurately costed. What is your view?*
- *How do you currently doing your product costings?*
- *Just talking about outsourcing and your current sourcing strategy, can you see a situation where that situation might change, where you might say start to reduce the level of manufacturing here in the UK and look at outsourcing offshore but maybe not Far East, but maybe near-shoring maybe looking at Eastern Europe? Can you see a situation like that developing? How might that happen?*
- *I read an article about what's happening with Adidas – Speedfactory. I don't know whether you've seen it, but do you see that fully automated*

*plant becoming a reality with the kind of materials you're using and maybe the kind of operations you've got in the factory? Can you see a situation where **** at some stage in the future could be fully automated? How might that be realised?*

- *So, are there global issues that you feel might impact on the UK sector? If so what are they?*
- *How might the Chinese respond to the threat from the consequences of labour cost inflation and the potential for automation to near-shore if not to re-shore?*
- *How do you work with your current suppliers with regard to supply chain risks in the UK?*
- *On the sourcing side do you do anything specific there in terms of mitigating risk?*
- *What would you describe ***** core competence as being with regard to creating some sort of competitive advantage in the market?*
- *How do you respond to the market more quickly than competitors?*
- *What's your take on environmental issues?*
- *What should the government be doing for the sector?*
- *Actually a different kind of question. Is there anything you would like to see us doing in terms of research in the sector where you think we could make a contribution for the UK footwear sector?*
- *What have we missed?*

