Response to reviewer: "Responding to the voice of the markets: An analysis of TripAdvisor reviews of UK retail markets"

We thank the reviewer whose comments have been valuable for improving this revised version of the manuscript, which we believe is stronger as a result.

Thank you,

Reviewer 2's comments	Author's response
01 This is an interesting paper focused on a very relevant topic. It is particularly timely given the increasing evidence that points to the market experience becoming even more important in town centres post COVID-19. Although the study reinforces findings in previous work in terms of the experience dimensions, the analysis offers more detail which I think could be useful in guiding policy and practice. As such I think it would be relevant for publication in IJPMD with revisions as indicated below. The major changes are outlined above but in summary I would like more consideration of the experience marketing literature and a much clearer explanation of key stages in the process of data analysis	Thank you very much for the positive comments and valuable inputs. We believe we have incorporated additional material (highlighted in yellow in the revised submission) that have strengthened the arguments and improved the overall quality of the paper.
02 Relationship to Literature: In setting the context there is a very limited discussion of the nature and importance of experiential elements of service delivery. There is some detail provided in the discussion but it is limited in context setting. More detail is required for example about the studies by 'Edensor, 2018; Sumartojo, Mihelcic, Walton-Healey, Vallentine, & Pink, 2017' ? Similarly studies that highlight that customer experience is a 'multi dimensional construct'. What are the various dimensions that have been highlighted to date?	We agree that the theoretical development is lacking. Therefore, we summarised the existing literature on market experience into the five major themes in the 'Research Context' section (pp. 2-3**),** indicating what we regard as the research gaps in the extant literature on markets. "*Recent research has explicitly highlighted such issues, especially in terms of identifying consumers' motivations for visitation and the types of products sought (Carey, Bell, Duff, Sheridan, & Shields, 2011; Feagan & Morris, 2009; Pascucci et al., 2011). Across various types of markets, existing literature has identified prominent experiential themes: produce and food, atmosphere, socialisation, merchandise, and convenience (Table 1). Visitors to markets – especially farmers' markets – often look for fresh, local, and high quality produce and food (Carey et al., 2011; Feagan & Morris, 2009; Pascucci et al., 2011). They enjoy the atmosphere at Christmas (Brida, Meleddu, & Tokarchuk, 2017) and farmers' (Colasanti, Conner, & Smalley, 2010) markets. Customers value social interactions during their visit to such markets (Alonso & O'Neill, 2011; Carson, Hamel, Giarrocco, Baylor, & Mathews, 2016; Gao, Swisher, & Zhao, 2012). Studies of customers at some markets found that*

| Without this detail in the context it is hard for the reader to fully assess the contribution of this work, other than the methodological contribution, using online reviews to explore experience | *they particularly seek certain merchandise, such as arts and crafts (Gumirakiza, Curtis, & Bosworth, 2014) and creative and stylish products (Kuo, Chung, & Kuo, 2012). Convenience – encompassing opening hours (Pokorná, Pilař, Balcarová, & Sergeeva, 2015), location and parking (Ruelas, Iverson, Kiekel, & Peters, 2012), and facilities (Silkes, 2012) – is another experiential dimension that is sought after."* |

Table 1 Experiential dimensions of market experience and their characteristics

Experiential dimensions	Characteristics
Produce and food	Fresh and local (Feagan & Morris, 2009; Gao et al., 2012; Hall, 2013; Pokorná et al., 2015), affordable (McGuirt et al., 2014; Onianwa, Mojica, & Wheelock, 2006), naturally grown (Colasanti et al., 2010), healthy (Murphy, 2011), nutritional (Carey et al., 2011), delicious (Kuo et al., 2012), high-quality (Pascucci et al., 2011), attractive (Schipmann & Qaim, 2011), available, safe and various (Alonso & O'Neill, 2011)
Atmosphere	Authentic (Brida et al., 2017), welcoming (Colasanti et al., 2010), and social (Ruelas et al., 2012)
Socialisation	Socialisation motives (Alonso & O'Neill, 2011), enjoyment, friendly vendors, information exchange (Carson et al., 2016), interaction, knowledgeable vendors (Feagan & Morris, 2009),
Merchandise	Arts and crafts (Gumirakiza et al., 2014), creative merchandise and stylish products (Kuo et al., 2012)
Convenience	Opening hours (Pokorná et al., 2015), location and parking (Ruelas et al., 2012), facilities (Silkes, 2012)

"There are three main limitations in these existing studies on markets. Many are limited in the scope, to a few, or individual, markets of a similar type. Moreover, many studies are small in scale; most surveying relatively small numbers of visitors (ranging from 124 to 1,789), which limits potential generalisability of findings. Finally, most studies only examined preferences, motivations, and characteristics of the market visitors without exploring visitor experience in detail, relating to visitors' knowledge, observations, or perceptions during the course of their interactions with the market, which, in turn, create cognitive, emotional and behavioural responses based on prior experience or acquired expectations (Jeong & Jang, 2011; Walter, Edvardsson, & Öström, 2010)."

After we set up the theoretical background using the five themes, in the research context, we discussed the findings of this research in the 'Discussion and Conclusion' section (p.13-14), indicating

how our results are similar to or different from those existing themes.

"Scholars have described atmosphere and merchandise dimensions in previous studies. Brida et al. (2017) and Colasanti et al. (2010) posited that visitors look for authentic and welcoming atmosphere. Sumartojo, Mihelcic, Walton-Healey, Vallentine, and Pink (2017) identified the importance of market atmosphere (produced by sensory configurations). Edensor (2018) description of an Indian bazaar as a gregarious environment and Rhys-Taylor (2013) identification of convivial metropolitan cultures at an inner-street market in London also characterise the atmosphere dimension. *The merchandise dimension was also mentioned in several studies (e.g. De Bruin & Dupuis, 2000; Gumirakiza et al., 2014; Kuo et al., 2012). Nevertheless, some of the dimensions identified here differ from the existing literature. A good example is the role of food (and produce). In this study, the word 'food' is a part of four dimensions (Table 2) depending on the emphasis of the experience. The local variety dimension emphasises that food, produce and other items (such as flowers and crafts) are locally sourced. In the atmosphere dimension, food is one of the components of the market that stimulates such atmospheric experience. Food assumes a role as one of the product mix elements in the merchandise dimension. The food dimension, by contrast, focuses on the taste of food in the markets. Also, it plays a central role in defining the prime characteristic of this dimension; most of the words in the dimension describe, exemplify, or support the presence of food.* Although a 'food' experience may be a recent trend in the UK, various studies have investigated the importance of food provision as an attractor for markets across the world (Kuo et al., 2012; Walsh, 2014). *Another example is socialisation, which was identified as an important factor contributing to the positive experience of visitors. However, this study did not identify socialisation as a distinct dimension. Instead, socialisation, or the interactions with other people in the markets, is part of every dimension, as shown in words such as 'busy' (atmosphere), 'tourists' and 'crowd' (merchandise and disappointment), 'friendly' (local variety), and 'vendors' (food). Last, the disappointment dimension is an experience of visitors who are not satisfied with the market offering, such as poor-quality produce and over-priced items. In addition, this dimension is also characterised by the lack of convenience (parking and facilities) which is regarded as an important factor of markets (Ruelas et al., 2012; Silkes, 2012)."*

| 03 Methodology: Overall, I do not think that the detailed process of data analysis has been presented in a very user friendly language. This needs to be reworked with a clearer explanation of the process associated within each of the relevant steps in figure 1.

There also needs to be a clearer justification for the focus on the | Although the reviewer suggested that we revise the methodology, we believe that it was more appropriate to present the characteristics and importance of online reviews in the research context in order to strengthen the rationale for the paper. We hope that it sufficiently addresses the reviewer's comment. We started by briefly explaining what online reviews are in the 'Research context' section (p.3).

"This study seeks to investigate visitor experience across multiple markets, facilitated by the proliferation of digital data via online reviews. Online reviews are content which is posted by users on online review |

analysis of online reviews as the best method.	*platforms such as TripAdvisor, Yelp, and Google Maps to share experience during and after visitation (Kladou & Mavragani, 2015)."*
I suggest that authors use a subheading to highlight the 'characteristics of online reviews' to justify the focus here.	Then, we summarised why online reviews are important and are suitable to answer the research questions on page 4.
	"Online reviews have become important sources of research data because they are perceived as authentic, helpful, unbiased, credible, and trustworthy arising from their independence from organisations (Barreda & Bilgihan, 2013; Gavilan, Avello, & Martinez-Navarro, 2018; Ludwig et al., 2013; Mellinas, Nicolau, & Park, 2019; Nieto, Hernández-Maestro, & Muñoz-Gallego, 2014; Park & Nicolau, 2015; Schuckert, Liu, & Law, 2015). As such, a plethora of research on customer and visitor experience has analysed online reviews in various retail and place-based contexts such as restaurants (Mehraliyev, Kirilenko, & Choi, 2020; Vu, Li, Law, & Zhang, 2019), hotels (Bi, Liu, Fan, & Zhang, 2019; Xiang, Du, Ma, & Fan, 2017), tourist attractions (Taecharungroj & Mathayomchan, 2019), and museums (Su & Teng, 2018). These studies demonstrate that online reviews can been widely used to help practitioners and researchers understand the experience of visitors and customers on a large scale that could not be achieved by traditional methods. However, there is no research using online reviews to comprehensively study retail markets, so in this study the first research question was articulated as:* *RQ1: What are the dimensions of market experience in the UK?"*
04 Under this to discuss valence and salience in a user friendly way with examples.	Thank you very much for pointing it out. We further explain valence with examples that should make it much easier to understand our calculations in the 'Methodology' section (p.6).
	"Based on this formula, the valence of the term in the current study refers to the difference between the average number of times the term is present in five-star and non-five-star reviews divided by the sum of the average number of times the term is present in five-star and non-five-star reviews. Highly positive valence means that the word is much more frequently found in five-star reviews than in others and vice versa. *For example, the word 'cheese' has positive valence of 0.27. The word appears 4,310 times in all reviews. It appears 2,983 times in 23,113 five-star reviews ($\bar{x}$5Star = 0.129, or 2,983 divided by 23,113); meaning that the word appears, on average, 0.129 times per a five-star review or once every 7.75 five-star reviews. The word cheese appears 1,327 times in 17,958 non-five-star reviews ($\bar{x}$Others = 0.074) or, on average, once every 13.53 non-five-star reviews. Another example is the word 'tat' which is highly negative (-0.70). It appears 133 times in five-star reviews ($\bar{x}$5Star = 0.0058) or once every 173.78 five-star reviews; the word appears 580 times in non-five-star reviews ($\bar{x}$Others = 0.0323) or once every 30.96 non-five-star reviews."*
05 In the first stage of data analysis: latent Dirichlet allocation, the authors state ' naming dimensions was done by	The criteria we used to name the experiential dimensions were included in the 'Methodology' section (p.5).

the lead researcher and confirmed by the research team (see Guo et al., 2017). Please elaborate here.	*"Each extracted dimension contained the 40 most frequently found words. Finally, naming dimensions was done by the lead researcher and confirmed by the research team (see Guo, Barnes, & Jia, 2017), based on: (1) unique words (some words only appear in one dimension such as atmosphere, item, local, delicious, and disappoint); (2) the weight of words or how much the word is related to the dimension; (3) the relationships of words within a dimension; and (4) examples of the reviews that strongly represent each dimension."*
06 Given that the aim is to get an understanding of how to create the best experience what would have happened if you had focused simply on the best reviews i.e. 3 + rating?	If we only use 3+ reviews, the will results may not be drastically different because 1- and 2-star reviews are, in total, only 5% of all reviews. However, without 1- and 2-star reviews, it is possible that the disappointment dimension may disappear because they are highly represented in such reviews. The figure below is not included in the manuscript, but it could help address your point. Although other dimensions are present in 1- and 2-star reviews, they are dominated by the disappointment dimension which is 80% and 60% of 1- and 2-star reviews respectively. However, we believe that acknowledging and analysing this highly negative dimension is also crucial in improving the experience of the visitors.
06 Results: The tables and charts are useful When relating the findings back to prior studies it appears that your dimensions are not new? Apart from the disappointment dimension? This seems to very different from the others? can you elaborate/explain?	We agreed with the reviewers and further expanded the analysis of the disappointment dimension in 'The disappointment dimension' sub-section (p.13). *"The LSVA of the disappointment dimension analyses words that articulate such dissatisfaction (Figure 6). Three main themes emerged: (1) the low quality of products (e.g. the market is "full of cheap Chinese tat and second-hand rubbish. Can't see us going again" – Ingoldmells Market); (2) price (i.e. "Disappointing and expensive… Nothing worth buying, shoddy merchandise at high prices and an overall waste of time" – Barras Weekend Market); and (3) facilities (especially parking – e.g. "they let you search for a parking space and then divert you to a very muddy Park & Ride miles from the City Centre. Then charge you £15 for the privilege" – Lincoln Market)."*

	Also, we discussed the findings with the newly included theme (convenience) in the research context in the 'Discussion and conclusion' section (p.14).
	"Last, the disappointment dimension is an experience of visitors who are not satisfied with the market offering, such as poor-quality produce and over-priced items. In addition, this dimension is also characterised by the lack of convenience (parking and facilities) which is regarded as an important factor of markets (Ruelas et al., 2012; Silkes, 2012)."
05 Quality of Communication: The introduction justifies the focus on markets but lacks reference to the importance of perceived 'experiential' dimensions, which is a key frame for the analysis. I also think this should appear as a keyword.	Before the aim of the paper in the 'Introduction' section (p.2), we explained the importance of customer experience.
	"However, performing such a role arguably requires a greater understanding of how retail markets are perceived – and experienced – by those using them. One way to accomplish this is to use emergent technologies (in particular, online review websites such as TripAdvisor), which is arguably part of the move towards using big data for analysing customer experience.
	Customer experience within markets has been seen as dependent on a web of relationships and connections of people and places across time (Sumartojo et al., 2017). Customer experience is important because it positively affects sales, satisfaction, shopping frequency, loyalty, profitability, and image formation of retailers (Bagdare & Jain, 2013), and the performance of the town centres in which those retailers are located (Parker, Ntounis, Millington, Quin, & Castillo-Villar, 2017). The aim of this paper is to investigate the experience of visitors to markets in the UK by analysing their online reviews on TripAdvisor to identify perceived experiential dimensions, with a view to informing actions by those responsible for market management in order to provide a more effective customer experience."

Responding to the voice of the markets: An analysis of TripAdvisor reviews of UK retail markets

ABSTRACT

Purpose: The aim of this paper is to investigate the experience of visitors to UK markets by analysing their TripAdvisor reviews to identify perceived experiential dimensions with a view to informing actions by those responsible for market management in order to provide a better consumer experience.

Design/methodology/approach: This research analysed 41,071 TripAdvisor reviews of 61 UK markets. A latent Dirichlet allocation (LDA) machine learning algorithm was conducted to identify the experience dimensions of visitors. A text analysis was performed to indicate salience and valence of commonly used words.

Findings: Five dimensions of experience were identified: *atmosphere*, *merchandise*, *local variety*, *food*, and *disappointment*, together with the underlying factors that drive positive experience.

Practical implications: Place and market managers should assess and position their market informed by diverse experiential dimensions. They should also improve and enhance the experience of visitors according to the underlying factors of each dimension.

Originality/value: Retail markets have historically played an important role in the development of urban places. However, the ability to continue performing this role requires a greater understanding of how markets are perceived by those who use them. One way to achieve this is to use emergent technologies to inform decision-making by those responsible for their management. The paper demonstrates the potential of a new analytical technique using digital technologies to improve one of the oldest forms of retailing.

Keywords: markets; retail markets; TripAdvisor; online reviews; UK; latent Dirichlet allocation

1. Introduction

Throughout history, retail markets have been regarded as a central aspect of urban life (Francis & Griffith, 2011), identified as meeting places and sites of exchange and communication (Shields, 2003; Stobart & Van Damme, 2016). Markets can have a significant impact on the places in which they are located, through 'spill-over effects' (Alexander, Teller, & Wood, 2019), which can be positive, in terms, for example, of generating additional footfall (see Hallsworth, Ntounis, Parker, & Quin, 2015). However, Alexander et al. (2019) also acknowledge their potential negative impact (e.g. strain on urban infrastructure, additional competition for fixed-format retail provision in the locale). Also, the role of markets in promoting urban sociality (Dobson, 2015) has been regarded as being of equal importance to their economic role (Mumford, 1961). Markets can attract businesses, bring life to – and re-energise – urban public space, thereby contributing to the vitality and viability of town and city centres (Alexander et al., 2019; Morales, 2011; Spilková & Perlín, 2013).

However, as a retail form, the physical urban retail market is regarded as in decline or under threat (Stobart & Van Damme, 2016), a trend particularly evident in the UK (Bua, Taylor, & González, 2018). Morales (2011) does, however, note that in some cases, contrary evidence is emerging, leading to a more nuanced dual narrative of market decline and revival/renaissance (see also González & Waley, 2013; Rivlin & González, 2017). Indeed, from a policy perspective, recent years have seen various reviews of the state of the UK high street that have

articulated a potential role for retail markets in regenerating traditional urban shopping suggest destinations. However, performing such a role arguably requires a greater understanding of how retail markets are perceived – and experienced – by those using them. One way to accomplish this is to use emergent technologies (in particular, online review websites such as TripAdvisor), which is arguably part of the move towards using big data for analysing customer experience.

Customer experience within markets has been seen as dependent on a web of relationships and connections of people and places across time (Sumartojo, Mihelcic, Walton-Healey, Vallentine, & Pink, 2017). Customer experience is important because it positively affects sales, satisfaction, shopping frequency, loyalty, profitability, and image formation of retailers (Bagdare & Jain, 2013), and the performance of the town centres in which those retailers are located (Parker, Ntounis, Millington, Quin, & Castillo-Villar, 2017). The aim of this paper is to investigate the experience of visitors to markets in the UK by analysing their online reviews on TripAdvisor to identify perceived experiential dimensions, with a view to informing actions by those responsible for market management in order to provide a more effective customer experience.

2. Research context

Notwithstanding a narrative of perceived decline mentioned above, markets remain an important element of UK retailing. The National Market Traders Federation (NMTF) & National Association of British Market Authorities (NABMA) estimate that, for the financial year 2017/18, there were 1,173 'traditional' markets, employing an estimated 57,000 people with a combined annual turnover of over £3.1 billion (NABMA/NMTF, 2015). Smith, Maye, and Ilbery (2014) suggested in the UK there were 2,105 food markets (including specialist and farmers' markets).

However, markets are at a critical juncture (González & Waley, 2013). Overall, there has been a steady fall in the number of traders operating from traditional retail markets (Department for Business, 2011). Almost one third of indoor markets reported a decrease in performance (González & Waley, 2013; NABMA/NMTF, 2015), suggesting that the market format still suffers from structural weaknesses. Indeed, challenges to markets in the UK are many and varied, including competition from supermarkets and discounters, higher customer expectations, misguided town planning decisions, neglect by local authorities, lack of investment and poor state of market buildings and structures, technology changes, and slowness to respond and the lack of new traders (González & Waley, 2013; NABMA/NMTF, 2015; Zasada, 2009). Thus, in order for markets to survive and thrive, they must be adaptive and responsive (Francis & Griffith, 2011); and increase frequency of visitation (McEachern, Warnaby, Carrigan, & Szmigin, 2010). They must also be cognisant of the changing retail environment and make people feel welcomed and valued (NABMA/NMTF, 2015), while maintaining their authenticity without falling prey to disruptive gentrifying processes (González & Waley, 2013).

Here, markets are no different to other retail forms, especially regarding the need to emphasise customer *experience*, defined in terms of the customer's cognitive, affective, emotional, social, and physical responses to the retailer (Verhoef et al., 2009). Although experience is holistic, it can be conceptualised and characterised using multiple dimensions such as joy, mood, leisure, and distinctiveness (Bagdare & Jain, 2013). Additionally, customer experience encompasses various phases of the customer 'journey', including search, purchase, consumption, and after-sales (Verhoef et al., 2009). Recent research has explicitly highlighted such issues, especially in terms of identifying consumers' motivations for visitation and the

types of products sought (Carey, Bell, Duff, Sheridan, & Shields, 2011; Feagan & Morris, 2009; Pascucci et al., 2011). Across various types of markets, existing literature has identified prominent experiential themes: produce and food, atmosphere, socialisation, merchandise, and convenience (Table 1). Visitors to markets – especially farmers' markets – often look for fresh, local, and high quality *produce and food* (Carey et al., 2011; Feagan & Morris, 2009; Pascucci et al., 2011). They enjoy the *atmosphere* at Christmas (Brida, Meleddu, & Tokarchuk, 2017) and farmers' (Colasanti, Conner, & Smalley, 2010) markets. Customers value *social* interactions during their visit to such markets (Alonso & O'Neill, 2011; Carson, Hamel, Giarrocco, Baylor, & Mathews, 2016; Gao, Swisher, & Zhao, 2012). Studies of customers at some markets found that they particularly seek certain *merchandise*, such as arts and crafts (Gumirakiza, Curtis, & Bosworth, 2014) and creative and stylish products (Kuo, Chung, & Kuo, 2012). *Convenience* – encompassing opening hours (Pokorná, Pilař, Balcarová, & Sergeeva, 2015), location and parking (Ruelas, Iverson, Kiekel, & Peters, 2012), and facilities (Silkes, 2012) – is another experiential dimension that is sought after.

Table 1 Experiential dimensions of market experience and their characteristics

[INSERT TABLE 1 HERE]

There are three main limitations in these existing studies on markets. Many are limited in scope, to a few, or individual, markets of a similar type. Moreover, many studies are small in scale; most surveying relatively small numbers of visitors (ranging from 124 to 1,789), which limits potential generalisability of findings. Finally, most studies only examined preferences, motivations, and characteristics of the market visitors without exploring visitor experience in detail, relating to visitors' knowledge, observations, or perceptions during the course of their interactions with the market, which, in turn, create cognitive, emotional and behavioural responses based on prior experience or acquired expectations (Jeong & Jang, 2011; Walter, Edvardsson, & Öström, 2010). Although some existing qualitative studies explore in-depth experiences of market visitors, their scope is typically limited to single sites (see for example Edensor, 2018; Sumartojo et al., 2017).

This study seeks to investigate visitor experience across multiple markets, facilitated by the proliferation of digital data via online reviews. Online reviews are content which is posted by users on platforms such as TripAdvisor, Yelp, and Google Maps to share experience during and after visitation (Kladou & Mavragani, 2015). Online reviews are an authentic mixture of facts, opinions, impressions, and sentiments of visitors (Wilson, Murphy, & Fierro, 2012; Ye, Li, Wang, & Law, 2014), and constitute descriptions of real behaviours and experiences (Ruiz-Mafe, Chatzipanagiotou, & Curras-Perez, 2018; Ye et al., 2014), allowing researchers to understand the user experience without intruding on human subjects. Other important advantages are data availability and the speed and simplicity of data collection (Lu & Stepchenkova, 2015).

Online reviews have become important sources of research data because they are perceived as authentic, helpful, unbiased, credible, and trustworthy arising from their independence from organisations (Barreda & Bilgihan, 2013; Gavilan, Avello, & Martinez-Navarro, 2018; Ludwig et al., 2013; Mellinas, Nicolau, & Park, 2019; Nieto, Hernández-Maestro, & Muñoz-Gallego, 2014; Park & Nicolau, 2015; Schuckert, Liu, & Law, 2015). As such, a plethora of research on customer and visitor experience has analysed online reviews in various retail and place-based contexts such as restaurants (Mehraliyev, Kirilenko, & Choi, 2020; Vu, Li, Law, & Zhang, 2019), hotels (Bi, Liu, Fan, & Zhang, 2019; Xiang, Du, Ma, &

However, there is no research using online reviews to comprehensively study retail markets, so in this study the first research question was articulated as:

RQ1: What are the dimensions of market experience in the UK?

An important characteristic of online reviews is that users can assign the valence of their experience, typically from one to five stars; and positive reviews are a powerful promotional tool (Barreda & Bilgihan, 2013; Hwang, Park, & Woo, 2018). By contrast, negative reviews, despite their usefulness to other users, could harm the business (Kusumasondjaja, Shanka, & Marchegiani, 2012; Tsaur, Huang, & Luoh, 2014). By analysing the presence of particular words in positive and negative reviews, Taecharungroj and Mathayomchan (2019) introduced a lexical salience-valence analysis (LSVA) whereby words in online reviews were presented according to how likely they were to be present in a positive review (valence) and how commonly found they were (salience). This text analysis technique is used to answer the second research question:

RQ2: What are the factors that drive positive experiences in the markets in the UK?

3. Methodology
Figure 1 outlines the stages of the research design, and details of each step are explained below.

[INSERT FIGURE 1 HERE]

Figure 1 Research methodology

3.1 Data collection
To ensure sufficient representation of the visitor experience, this research collected over 80% of TripAdvisor reviews on UK markets. Therefore, all retail markets in the UK with over 100 online reviews (in the English language) – 61 in total (see Table A1, appendix) were included in our analysis. These reviews – 41,071 in total – were collected in June 2019 using a python script.

3.2 Data pre-processing
Reviews were pre-processed and analysed using KNIME Analytics Platform 3.7.1. Data pre-processing steps include a punctuation eraser, a case converter, a number filter, an N chars filter (i.e. removing reviews with fewer than a specific number of characters), and a stop word filter (i.e. removing insignificant words). This study used the initial list of common English stop words by XPO6 and removed other insignificant words as well as proper nouns such as "Camden", "London", and "Portobello". Further, all words were stemmed (e.g. "buys" and "buying" were converted to "bui") using an algorithm (see Porter, 1980).

3.3 Data analysis: latent Dirichlet allocation

To identify the experience dimensions of visitors, a latent Dirichlet allocation (LDA) machine learning algorithm was conducted. LDA is a topic modelling algorithm that is efficient in managing big data (Blei, Ng, & Jordan, 2003; Tirunillai & Tellis, 2014), assuming the existence of a hidden structure consisting of a set of dimensions in the whole corpus of reviews, using the co-occurrence of words in reviews to infer these dimensions (Guo, Barnes, & Jia, 2017; Xiang et al., 2017). A dimension is defined as a latent construct distributed over a vocabulary of words that visitors used to describe those markets (Tirunillai and Tellis (2014).

To answer RQ1, the optimum number of dimensions was initially determined using the elbow method (see Syed & Spruit, 2018; Xiang et al., 2017). Subsequently, the dimensions were extracted using LDA modelling on KNIME Analytics Platform. This study adopted the simple distributed LDA algorithm with Alpha (α) and Beta (β) set at 0.1 and 0.01 respectively (Newman, Asuncion, Smyth, & Welling, 2009); with SparseLDA sampling scheme and data structure (Yao, Mimno, & McCallum, 2009). Each extracted dimension contained the 40 most frequently found words. Finally, naming dimensions was done by the lead researcher and confirmed by the research team (see Guo et al., 2017), based on: (1) unique words (some words only appear in one dimension such as 'atmosphere', 'item', 'local', 'delicious', and 'disappoint'); (2) the weight of words or how much the word is related to the dimension; (3) the relationships of words within a dimension; and (4) examples of the reviews that strongly represent each dimension.

3.4 Data analysis: lexical salience-valence analysis

The reviews were then analysed using lexical salience-valence analysis. The analysis displays the *valence*, which denotes how positive the word is, and *salience*, referring to how common the word is. Salience is computed by the logarithm to base 10 function of the frequency of each word to reduce outliers. Valence is calculated using the formula:

$$Word\ Valence = \frac{\bar{x}5Star - \bar{x}Others}{\bar{x}5Star + \bar{x}Others}$$

where $\bar{x}5Star$ is the average number of times the word is present in a five-star review, and $\bar{x}Others$ is the average number of times present in a one- to four-star review. Based on this formula, the valence of the term in the current study refers to the difference between the average number of times the term is present in five-star and non-five-star reviews divided by the sum of the average number of times the term is present in five-star and non-five-star reviews. Highly positive valence means that the word is much more frequently found in five-star reviews than in others and vice versa. For example, the word 'cheese' has positive valence of 0.27. The word appears 4,310 times in all reviews. It appears 2,983 times in 23,113 five-star reviews ($\bar{x}5Star$ = 0.129, or 2,983 divided by 23,113); meaning that the word appears, on average, 0.129 times per a five-star review or once every 7.75 five-star reviews. The word cheese appears 1,327 times in 17,958 non-five-star reviews ($\bar{x}Others$ = 0.074) or, on average, once every 13.53 non-five-star reviews. Another example is the word 'tat' which is highly negative (-0.70). It appears 133 times in five-star reviews ($\bar{x}5Star$ = 0.0058) or once every 173.78 five-star reviews; the word appears 580 times in non-five-star reviews ($\bar{x}Others$ = 0.0323) or once every 30.96 non-five-star reviews.

This study contrasts the words present in five-star reviews with others; the reason being that the average overall rating of all of the markets in the study is 4.16, which means that one-

to four-star reviews are 'below average'. Furthermore, five-star reviews indicate the best customer experience – or indeed, customer 'delight'. Bowden-Everson, Dagger, and Elliott (2013) found that delight, which is a profoundly positive emotional state from an unexpected experience, significantly affects loyalty. Therefore, this analysis helps elucidate the effects of commonly used words on the odds of getting a five-star review.

4. Results

4.1 Experiential dimensions

The elbow method was used to determine the number of dimensions (Xiang et al., 2017), and LDA modelling was then used to generate five experience dimensions. LDA modelling was run ten times using different randomisation seeds to detect possible abnormal dimension generation. The model with the most consistent dimensions and words was selected, ordering the top 40 words within each dimension by weight, or prevalence to that particular dimension (Table 2). Each word is shaded based on its presence across different dimensions; the black cells refer to the words that are present in all five dimensions, followed by dark grey (4), grey (3), light grey (2), and no shading (1). Cells with bold text are the words uniquely found in one dimension. The five experience dimensions identified were *atmosphere*, *merchandise*, *local variety*, *food*, and *disappointment*.

Table 2 The five experience dimensions of markets in the UK

[INSERT TABLE 2 HERE]

Atmosphere is the dimension whereby visitors describe the multi-sensory experiences perceived within a market, with 'atmosphere', 'enjoy', 'drink', and 'recommend' examples of unique words present in this dimension. *Merchandise* is the experiential dimension incorporating the products/services offered, especially in terms of perceived uniqueness, presence of artisan producers, and product range breadth. Words uniquely found in this dimension are 'antique', 'lock', ''vintage', 'souvenir', 'stuff', and 'item'. *Local variety* refers to the range of local products (often craft items and produce) on offer. Distinct from 'atmosphere', the *food* dimension exclusively depicts the gustatory experience of visitors, often describing a memorable eating experience in the market. *Disappointment* is where visitors generally express their dissatisfaction (linked to pre-visit expectations), encompassing words such as 'disappoint', 'park', 'better', and 'expect'.

The majority of reviews (23,113 - 56%), received five-star ratings, followed by 12,407 (30%) four-star, 3,629 (9%) three-star, 1,065 (3%) two-star, and 857 (2%) one-star reviews (Table 3). LDA also categorised each review in one of the five dimensions based on the weight of each dimension in a review. For example, a review that has 71% weight of atmosphere, 19% of disappointment, 0% of merchandise, 5% of local variety, and 5% of food dimension was categorised as "atmosphere". As a result, reviews in the atmosphere dimension is the most common with 36%, followed by merchandise (19%), local variety (18%), food (16%), and disappointment (11%).

Table 3 Cross tabulation between dimensions and stars

[INSERT TABLE 3 HERE]

The LSVA analysing words in each dimension is represented in Figures 2-6. Here, the vertical axis is *salience* (i.e. how frequently the word appears in reviews), and the horizontal axis refers to the word's *valence*. Towards the right connotes positive valence, where the word is more commonly found in five-star reviews, and towards the left implies that the word is commonly found in one- to four-star reviews. The size of the bubble refers to the importance of that word to the dimension. Finally, the bubbles in grey indicate those words present in three or more dimensions. The labelled words are those unique to that dimension (regular text) or present in only two dimensions (italicised text). The analysis focuses only on words that are present in one or two dimensions because of their higher relevancy. Examples of reviews that have a high weight on each dimension were used to explain the characteristics of each dimension.

4.3 The atmosphere dimension

The majority of words in this dimension have a positive valence (Figure 2), with 'amazing' and 'fantastic' having highest valence: a visitor described Camden Market as "A *fantastic* place to soak up some fabulous *atmosphere*… A must for all visitors just to get a real feel of real people at their best. *Enjoy*" [emphasis added].

[INSERT FIGURE 2 HERE]

Figure 2 LSVA of the atmosphere dimension

The word 'world' also has highly positive valence. Visitors often describe food and drink from all over the 'world':

> "I've been here plenty of times and really enjoy the *atmosphere* and the *different*
> types of stalls! Plenty of food stalls with food from *different* parts of the *world*
> - you won't go hungry here!!" (St George's Market, Belfast)

'World' refers to the multicultural atmosphere that visitors experience: "Love the vibe and *atmosphere*… A true multicultural market where you can buy and taste anything from any corner of the *world*" (Portobello Road Market). Visitors also frequently include suggestion cues for others, labelling the market "a great way to *spend* a couple of *hours*".

A prominent word with a negative valence is 'busy', where visitors may find the intense atmosphere too overwhelming: "although there was a buzz about this place. It was way too *busy* for me - the amount of people there meant you could not have a good look. Had to leave after short time. If we visit again it will be on a weekday" (Camden Market). By contrast, some visitors also used the word 'busy' to describe a highly positive experience: "super *busy*. It was pretty and it smelled great. I had fun but, wow, the crowds. The shops around looked *amazing*!" (Columbia Road Flower Market)

4.4 The merchandise dimension

Here, visitors often mentioned how they could find interesting things to buy in the market:

> "It's my favorite market in the world... There is everything you can imagine,
> *antiques*, lots of silver, *clothing*, jewellery, artwork and photography, books and

just about anything else you can imagine. If you're looking for something *unique*, different, or *vintage*, visit the market". (Portobello Road Market)

[INSERT FIGURE 3 HERE]

Figure 3 LSVA of the merchandise dimension

Regarding this dimension (Figure 3), from a negative perspective, visitors often complain about the crowding and tourists: "It was definitely cool to walk through, but the dense *crowd* was a little much at times. It is worth a visit to see the very cool neighborhood, but it is definitely slammed with *tourists*" (Portobello Road Market)

Reviews also mention negatively the 'stuff', 'item', and 'souvenirs' that do not match their expectations:

"We expected an eclectic collection of shops, mixed in with the usual tourist fair (sic), coffee shops & a market atmosphere. What we got was a dim, basement like mall with junky shops of which the most interesting was a pawn shop, and a couple of tacky made in China *souvenir* shops". (Victorian Market)

Additionally, when the market looks and feels old, it may also have the negative effect on the experience. In contrast, words with positive valence in this dimension include 'vintage', 'unique', and 'different'. Another interesting word that has a positive valence is 'stable', referring to the old stables in Camden Market, as visitors talked about how the old stables were converted into the market.

4.5 The local variety dimension

Here, visitors often described the wide range of craft and local products sold, for example: "Very traditional market… There were the usual tat stalls, but these were far outnumbered by the *local* food and *produce* stalls, *craft* stalls and sweet stalls" (Skipton Market).

[INSERT FIGURE 4 HERE]

Figure 4 LSVA of the local variety dimension

The two clear positive qualities of the local variety dimension are 'fresh' and 'friendly' (Figure 4), referring to produce and traders respectively. Another positive quality is the range of products offered: "My family and I visit the market every Saturday to buy our *meat*, *fish* and *veg*. The selection of *meat* and *fish* is much better than at the supermarket and is really *fresh"* (Bury Market)

However, some words have negative valence for example relating to the 'price' of products sold. Visitors sometimes complained about "how *overpriced* the produce were", and "was disappointed by quality and *price* of products there".

4.6 The food dimension

Visitors often describe a satisfactory eating experience they had at the market:

"Come hungry! "I am so glad that I missed out on *lunch* right before I came here! My girlfriend and I were able to *sample* so many *delicious* things, candies, fruits, *cheeses*, sausages and ending with Salt Beef *Sandwiches*" (Borough Market);

"A little pricey, but the food was excellent. The pizza in particular was very *tasty*, and the selection of beers pretty good too. I'll be going back if I get a chance. Tea, *coffee*, *cake*, ice cream, flatbreads, *burgers* - there was a wide selection of food and drink available" (Altrincham Market).

[INSERT FIGURE 5 HERE]

Figure 5 LSVA of the food dimension

Words in this dimension mostly have positive valence (Figure 5); visitors enjoy a variety of tasty food at markets. The review is more likely to be positive when a visitor recalled and wrote about several types of food they found and tasted: "A huge variety of food – Italian, French (*cheese*, *bread*), Vietnamese (*delicious sandwiches*), Indian, nice *cakes* and tarts" (Broadway Market). Visitors also enjoy the experiential aspects of food *preparation*.

In addition, another very common positive word in experiential terms is 'sample', with many examples of positive reviews: "So, so good. I would definitely return there, well worth a visit if in Edinburgh to *sample* local treats. I wish I could have tried more things!" (Edinburgh Farmers' Market)

4.7 The disappointment dimension

Sometimes, visitors mentioned that their experience did not match expectations: "Extremely *Disappointing*. I was astonished at how very tacky this market was. I had been *expecting* to buy lots of things but there was absolutely nothing but *cheap* rubbish" (Lincoln Market). Similarly, visitors reminisced and complained how a market seemed to have declined over the years: "I visited this market over 20 *years ago*, and it *used* to be really good, but I was a bit *disappointed* really it didn't seem to be as big as I remembered it…" (Ingoldmells Market).

[INSERT FIGURE 6 HERE]

Figure 6 LSVA of the disappointment dimension

The LSVA of the disappointment dimension analyses words that articulate such dissatisfaction (Figure 6). Three main themes emerged: (1) the low quality of products (e.g. the market is "full of *cheap* Chinese *tat* and second-hand rubbish. Can't see us going again" – Ingoldmells Market); (2) price (i.e. *"Disappointing* and *expensive*… Nothing worth buying, shoddy merchandise at high *prices* and an overall waste of time" – Barras Weekend Market); and (3) facilities (especially parking – e.g. "they let you search for a *parking* space and then divert you to a very muddy Park & Ride miles from the City Centre. Then charge you £15 for the privilege" – Lincoln Market).

5. Discussion and conclusion

This study adds to the existing body of knowledge on market experience and perceptions. The machine learning technique produced five dimensions of experience articulated in TripAdvisor

reviews about visits to UK retail markets. Scholars have described *atmosphere* and *merchandise* dimensions in previous studies. Brida et al. (2017) and Colasanti et al. (2010) posited that visitors look for authentic and welcoming atmosphere. Sumartojo et al. (2017) identified the importance of market atmosphere (produced by sensory configurations). Edensor (2018) description of an Indian bazaar as a gregarious environment and Rhys-Taylor (2013) identification of convivial metropolitan cultures at an inner-street market in London also characterise the atmosphere dimension. The merchandise dimension was also mentioned in several studies (e.g. De Bruin & Dupuis, 2000; Gumirakiza et al., 2014; Kuo et al., 2012). Nevertheless, some of the dimensions identified here differ from the existing literature. A good example is the role of food (and produce). In this study, the word 'food' is a part of four dimensions (Table 2) depending on the emphasis of the experience. The *local variety* dimension emphasises that food, produce and other items (such as flowers and crafts) are locally sourced. In the *atmosphere* dimension, food is one of the components of the market that stimulates such atmospheric experience. Food assumes a role as one of the product mix elements in the *merchandise* dimension. The *food* dimension, by contrast, focuses on the taste of food in the markets. Also, it plays a central role in defining the prime characteristic of this dimension; most of the words in the dimension describe, exemplify, or support the presence of food. Although a 'food' experience may be a recent trend in the UK, various studies have investigated the importance of food provision as an attractor for markets across the world (Kuo et al., 2012; Walsh, 2014). Another example is *socialisation*, which was identified as an important factor contributing to the positive experience of visitors. However, this study did not identify *socialisation* as a distinct dimension. Instead, socialisation, or the interactions with other people in the markets, is part of every dimension, as shown in words such as 'busy' (*atmosphere*), 'tourists' and 'crowd' (*merchandise* and *disappointment*), 'friendly' (*local variety*), and 'vendors' (*food*). Last, the *disappointment* dimension is an experience of visitors who are not satisfied with the market offering, such as poor-quality produce and over-priced items. In addition, this dimension is also characterised by the lack of convenience (parking and facilities) which is regarded as an important factor of markets (Ruelas et al., 2012; Silkes, 2012). In using this new analytical technology, this study has identified and systematically assembled these dimensions and specified the driving factors of positive and negative experience of each dimension. There are numerous implications arising for those responsible for their management, which are discussed below.

5.2 Managerial implications

Assess and position the market from diverse experiential dimensions: For towns and cities, markets have several positive social, financial, macro-spatial, environmental impacts, which make places more habitable and competitive (Balsas, 2019), and are regarded as one of the influential and controllable factors that foster town centre vitality and viability (IPM, 2019). However, many markets in the UK have suffered from decreasing footfall and the rising costs of floor space (Airey, 2017), and consequently may need to 're-invent' themselves to survive. One possible manifestation of such re-invention is the emergence of "food markets" or "food halls" (Sherwood, 2019), which have brought street-food indoors and generated much financial success because of their value, service, variety, entertainment, convenience, informality, and communality that customers find attractive (Morrissy-Swan, 2019a, 2019b). Other similar opportunities, relating to other experiential dimensions identified above, may arise. Kalandides, Millington, Parker, and Quin (2016) posited that place managers should anticipate changes and respond to them effectively rather than doing what they have always done or copying what

other people do. This research found that although food experience can have positive impressions on market visitors, it is not the only viable and positive option. Atmosphere, local variety, and merchandise dimensions could also bring about highly positive experiences, which could serve to differentiate a market. Therefore, place and market managers should assess the identity and characteristics of their markets and position themselves appropriately. Furthermore, markets could employ more than one dimensions to position themselves, which could allow them to leverage their strengths while serving the needs of existing and potential visitors.

Improve and enhance the experience of visitors: After identifying a suitable position, market managers should initiate and promote reinforcing and beneficial activities. This research used text analysis to identify factors that could drive positive experience of each dimension. This section summarises the main issues and presents actual examples.

Atmosphere: To improve the atmosphere dimension, there are several initiatives that markets can implement, such as the monthly Colourwalk at the Old Spitalfields Market, London, where some people ('colourwalkers') get dressed up in colourful attire and meet up at the market (Begum-Hossain, 2019). To counter a long decline, St. George's Market in Belfast implemented several initiatives, including a re-launch of the Saturday market, attracting independent local bakers, butchers, and craftsmen, introducing live music by local bands, regular cookery demonstrations, and regular themed events (Zasada, 2009). To boost multiculturalism, markets should explore the opportunity to bring different types of trader into the market.

Merchandise: To enhance the merchandise dimension, markets should avoid being perceived as too touristy or outdated. Items sold in the market should be seen as unique, different, and vintage. Furthermore, the use of heritage (e.g. a stable in Camden Market) could make the experience of the visitors more memorable. Markets should also offer an opportunity for potential craftsmen and traders, including young artisan entrepreneurs (NMTF, 2019). Attracting this type of trader could help deliver continued uniqueness and renewal to the market.

Local variety: here, it is important to promote the variety of fresh produces and the friendliness of the traders, while curbing unfairly priced products as much as possible. There are some initiatives that markets can implement to improve the local variety experiential dimension: to promote an awareness of local produce, New Covent Garden Wholesale Market launched a project that, in two years, brought almost 500 school children to visit a farm where food was grown and to learn sustainable gardening (Zasada, 2009). The promotion of traders who embrace such positive characteristics is also important.

Food: To further improve the food dimension, markets should build upon the quality and variety of cooked food and produce offered. For example, the reputation of Borough Market as a premier 'foodie' destination in London is created by an enduring ability to bring in and promote high-profile restaurants and food stalls (Hansen, 2019; Quinn, 2019). Another example to enhance the food experience is the network formed in Maltby Street Market, with a high degree of ingredients and ideas sharing between the traders, leading a number of new product innovations, such as the cross-promotion between the African sauce trader and the burger stall. (Froy & Davis, 2017). Also, it is worthwhile to consider experiential marketing practices such as distributing samples, and cooking food to order for visitors.

Disappointment: Although it is not an easy task to dramatically turn around the negative experience of a market, this analysis shows that markets should focus on three main factors that drive the negative experience: low quality products, unfair pricing, and insufficient

facilities. In some extreme situations, complete transformation may be required. Altrincham Market is an example of a successful public-private partnership which renovated the market and built a new food hall: "the drab and dated building, constructed in 1870, has been transformed into a warm and inviting open space" (NABMA/NMTF, 2015). This example demonstrates that a market can be transformed with vision and good management.

5.3 Limitations and future research

The first limitation is that this study only collected online TripAdvisor reviews, which might cause platform bias. Experiences of many locals - and visitors who do not use TripAdvisor - were, thus, not present and consequently were not included. Nevertheless, this platform bias problem has arguably been reduced in recent years due to the proliferation of online reviews more generally. A second limitation is the sample, namely, 61 markets in the UK. Although this study represents a majority of online reviews of UK markets, it is biased towards larger, more formal markets and does not include many small markets, which either have very few reviews or are not present in TripAdvisor.

Future research can use this framework to investigate other small markets in the UK. Furthermore, comparative research between UK markets and those in other countries is another possibility for future research. This research is data-driven; with results analysed directly from a large dataset. The incremental increase of online reviews could, going forward, alter the formation of the dimensions of experience, and how they are articulated as consumer behaviour evolves. Future research can periodically collect and analyse the data to detect possible changes and implications.

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Appendix

Table A1 Markets in the study

[INSERT TABLE A1 HERE]

Data Collection

Market reviews from TripAdvisor

Data Pre-processing

- Punctuation eraser
- Case converter
- Number, N Chars, and stop word filters
- Porter stemmer

- Bag of words creator
- Frequency count
- Word filter

Data Analysis

Latent Dirichlet allocation (LDA)

Experience dimensions

① ② ③ ④ ⑤

RQ1

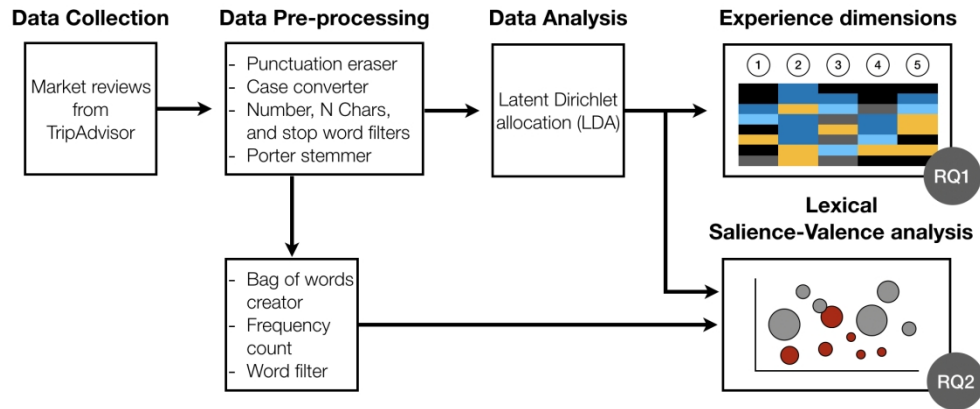**Lexical Salience-Valence analysis**
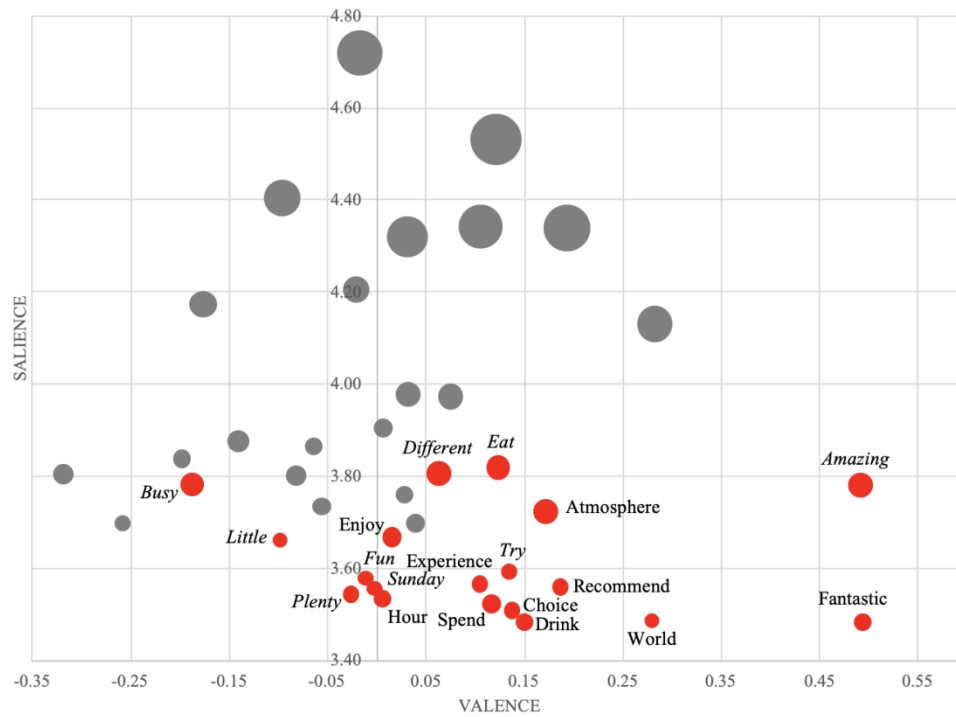
RQ2

Figure 1 Research methodology

Figure 2 LSVA of the atmosphere dimension
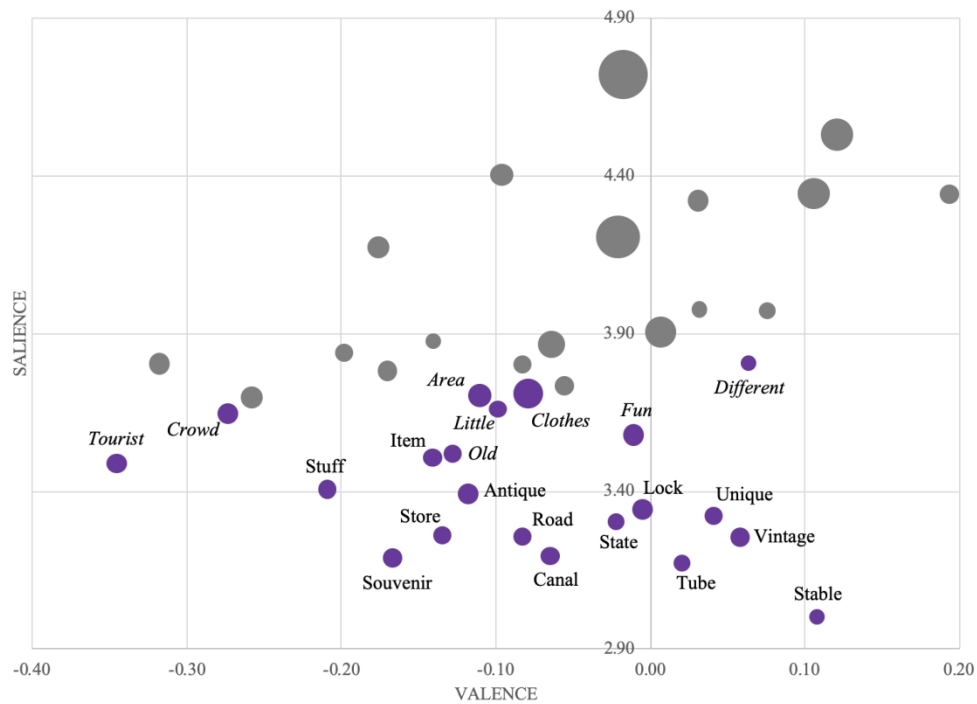
Figure 3 LSVA of the merchandise dimension
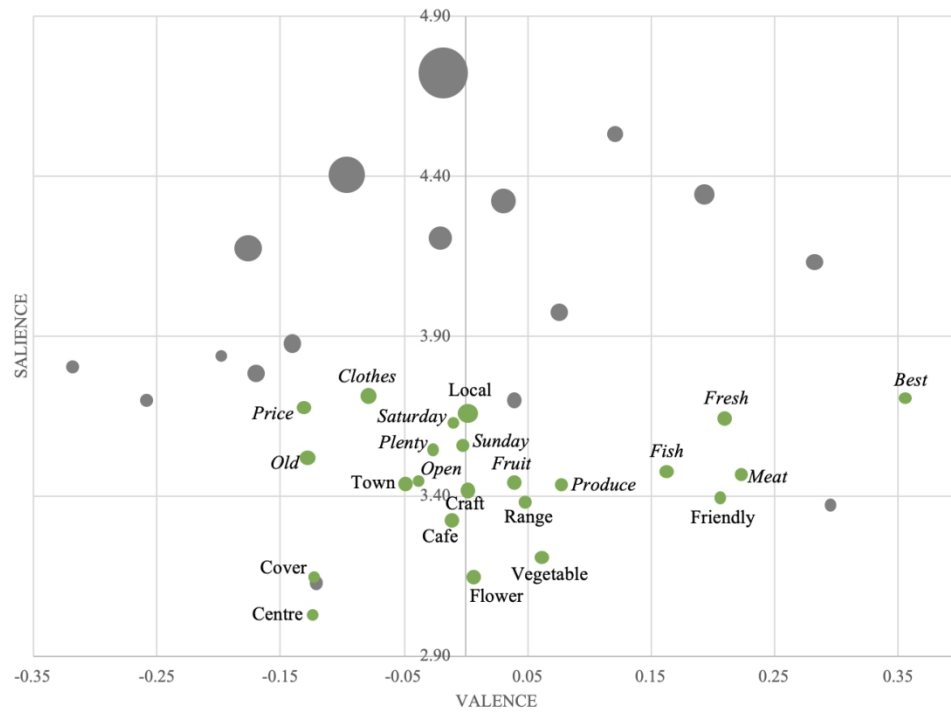
Figure 4 LSVA of the local variety dimension
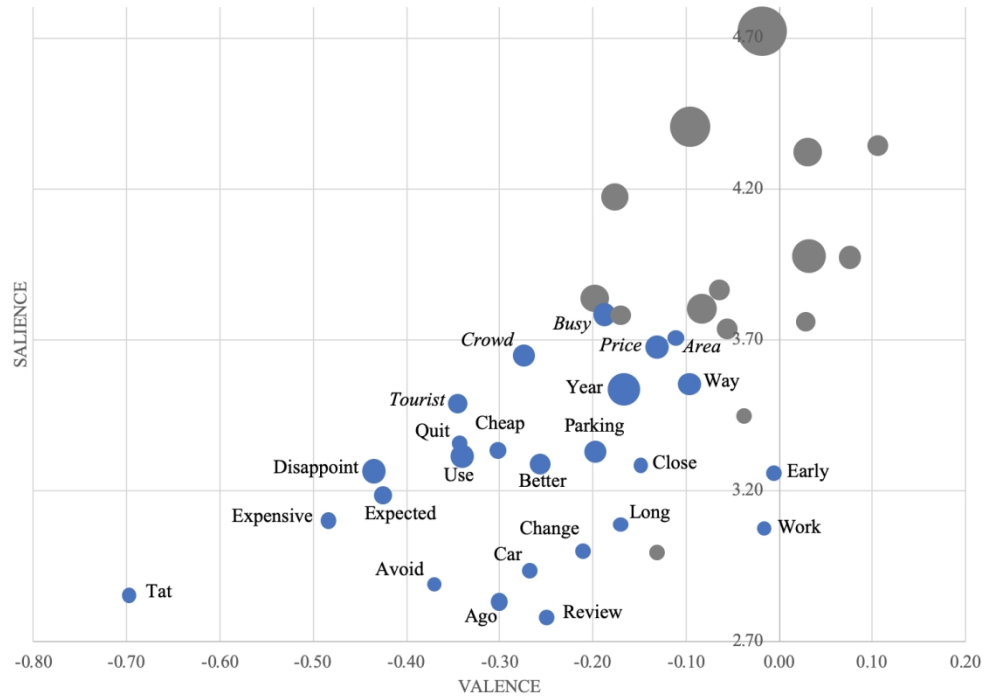
Figure 6 LSVA of the disappointment dimension

Table 1 Experiential dimensions of market experience and their characteristics

Experiential dimensions	Characteristics
Produce and food	Fresh and local (Feagan & Morris, 2009; Gao et al., 2012; Hall, 2013; Pokorná et al., 2015), affordable (McGuirt et al., 2014; Onianwa, Mojica, & Wheelock, 2006), naturally grown (Colasanti et al., 2010), healthy (Murphy, 2011), nutritional (Carey et al., 2011), delicious (Kuo et al., 2012), high-quality (Pascucci et al., 2011), attractive (Schipmann & Qaim, 2011), available, safe and various (Alonso & O'Neill, 2011)
Atmosphere	Authentic (Brida et al., 2017), welcoming (Colasanti et al., 2010), and social (Ruelas et al., 2012)
Socialisation	Socialisation motives (Alonso & O'Neill, 2011), enjoyment, friendly vendors, information exchange (Carson et al., 2016), interaction, knowledgeable vendors (Feagan & Morris, 2009),
Merchandise	Arts and crafts (Gumirakiza et al., 2014), creative merchandise and stylish products (Kuo et al., 2012)
Convenience	Opening hours (Pokorná et al., 2015), location and parking (Ruelas et al., 2012), facilities (Silkes, 2012)

Table 2 The five experience dimensions of markets in the UK

Atmosphere		Merchandise		Local variety		Food		Disappointment	
Word	Weight	Word	Weight	Word	Weight	Word	Weight	Word	Weight
food	36011	market	19565	market	32380	food	20572	market	11011
great	31300	shop	14824	stall	16939	market	12760	stall	7219
market	29404	food	8231	good	9619	cheese	7941	time	4895
place	28372	place	8145	visit	8075	fresh	5990	year	4817
visit	23490	street	7733	shop	6919	stall	4480	people	3944
love	18139	clothes	7041	great	5492	place	4050	visit	3668
stall	18071	walk	6100	local	5244	great	3994	good	3441
good	10367	area	4273	worth	4414	lunch	3851	look	3420
shop	9632	stall	4029	day	4063	delicious	3801	price	2555
time	9293	interesting	3972	sell	4053	eat	3784	disappoint	2548
atmosphere	9199	fun	3684	love	3652	meat	3680	used	2465
day	9101	good	3648	clothes	3219	bread	3519	day	2266
different	8767	antique	3587	food	3149	best	3351	busy	2248
eat	8566	lock	3521	craft	3003	fish	3344	way	2237
amazing	8206	nice	3503	old	2927	try	3241	park	2218
busy	8036	visit	3458	fruit	2885	visit	3185	crowd	2123
worth	6836	crowd	3424	variety	2805	foodie	3147	place	2012
people	6016	sell	3217	town	2793	amazing	2912	better	1876
nice	5744	vintage	3159	fresh	2776	tasty	2882	walk	1860
enjoy	5308	tourist	3113	cafe	2714	love	2806	thing	1853
look	4964	souvenir	3100	flower	2695	good	2771	sell	1760
street	4909	great	2989	indoor	2672	produce	2673	buy	1730
spend	4828	stuff	2836	fish	2630	bridge	2670	tourist	1719
variety	4796	thing	2836	price	2512	fruit	2627	expect	1389
drink	4573	item	2834	produce	2492	cook	2220	ago	1348
buy	4546	canal	2816	Sunday	2343	coffee	2181	open	1187
thing	4538	road	2775	range	2302	sample	2153	quit	1185
choice	4160	store	2771	veggies	2301	sandwich	2134	cheap	1174
walk	4104	look	2740	nice	2261	wine	2133	expensive	1168
hour	4095	people	2734	best	2159	walk	2107	area	1164
recommend	4074	old	2711	meat	2152	burger	2063	early	1151
experience	4071	little	2542	interesting	2097	street	1926	money	1144
fantastic	4052	unique	2499	excellent	2034	time	1822	car	1107
plenty	3957	day	2455	plenty	2004	Saturday	1818	change	1070
interesting	3806	tube	2413	friendly	1948	stand	1785	review	1053
fun	3618	state	2265	cover	1947	offer	1723	tat	1028
try	3529	time	2119	open	1918	variety	1699	close	1023
Sunday	3402	worth	2055	centre	1888	cake	1692	avoid	982
little	3275	stable	2016	look	1836	buy	1686	work	979
world	3238	different	2013	Saturday	1830	vendor	1664	long	972
Number of dimensions in which a word is present:						5	4	3	2	1

Table 3 Cross tabulation between dimensions and stars

	1-star	2-star	3-star	4-star	5-star	Dimension total
Atmosphere	22	58	609	4,385	9,603	14,677 (36%)
Merchandise	77	212	1,014	2,749	3,828	7,880 (19%)
Local variety	52	117	689	2,648	3,800	7,306 (18%)
Food	20	32	186	1,672	4,723	6,633 (16%)
Disappointment	686	646	1,131	953	1,159	4,575 (11%)
Star total	857 (2%)	1,065 (3%)	3,629 (9%)	12,407 (30%)	23,113 (56%)	41,071 (100%)

Table A1 Markets in the study

Market	City/Town	Reviews	Market	City/Town	Reviews
Abergavenny Market	Abergavenny	207	Maltby Street Market	London	429
Altrincham Market	Altrincham	862	Market Square	Cambridge	553
Arndale Market	Manchester	138	Melton Mowbray Market	Melton Mowbray	115
Bakewell Monday Market	Bakewell	133	Norwich Market	Norwich	254
Barras Weekend Market	Glasgow	130	Old Spitalfields Market	London	1,341
Beverley Market	Beverley	139	Oxford Covered Market	Oxford	615
Billingsgate Market	London	107	Petticoat Lane Market	London	227
Bilston Market	Bilston	100	Portobello Road Market	London	2,053
Birmingham Rag Market	Birmingham	158	Royal Mile Market	Edinburgh	105
Bolton Market	Bolton	104	Saint Nicholas Market	Bristol	308
Borough Market	London	8,463	Shambles Market	York	197
Brick Lane Market	London	168	Skipton Market	Skipton	186
Bridport Market	Bridport	116	Skirlington Sunday Market	Skipsea	121
Broadway Market	London	209	St. George's Market	Belfast	1,291
Bury Market	Bury	1,068	St. Osyth Beach Sunday Market	Clacton-on-sea	102
Bury St. Edmunds Market	Suffolk	166	Stockbridge Market	Edinburgh	175
Camden Market	London	12,984	Stroud Farmers' Market	Stroud	199
Cardigan Guildhall Market	Cardigan	120	Swansea Market	Swansea	221
Columbia Road Flower Market	London	482	Tansley Sunday Market	Matlock	100
Durham Market Hall	Durham	226	Tavistock Pannier Market	Tavistock	503
Edinburgh Farmers' Market	Edinburgh	102	The Frome Independent	Frome	100
Fleetwood Market	Fleetwood	410	The Old Kent Market	Margate	127
Grainger Market	Newcastle	305	The Open Market	Brighton	126
Greenwich Market	London	1,219	The Pannier Market	Barnstaple	167
Indoor Market	Cardiff	189	The Quayside Sunday Market	Newcastle	149
Ingoldmells Market	Skegness	391	Totnes Market	Totnes	112
Leadenhall Market	London	364	Treacle Market	Macclesfield	186
Leeds Kirkgate Market	Leeds	384	Tynemouth Markets	Tynemouth	440
Leicester City Market	Leicester	103	Victorian Market	Iverness	111
Lincoln Christmas Market	Lincoln	584	Walthamstow Market	Walthamstow	154
Ludlow Market	Ludlow	173			