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Abstract

Purpose - This study contributes to research on knowledge management in higher education institutions (HEIs), by studying the enablers and barriers to knowledge management in a country with a developing higher education sector, Mauritius.

Design/methodology/approach - Semi-structured interviews were conducted with senior staff in the main public and private higher education institutions in Mauritius. Questions focused on knowledge management, including relevant barriers and enabling factors to knowledge creation, knowledge sharing and knowledge transfer.

Findings - Although participants were able to discuss knowledge management, none of the universities had a knowledge management strategy. Moreover, more barriers than enablers to knowledge management were identified. Barriers included: a lack of policies and reward mechanisms, resources, data, funding and time for research, coupled with frequent leadership changes, a lack of a knowledge-sharing culture and research repositories and weak industry-academia linkages. Enablers were perceived to be: qualified and experienced academic staff in public HEIs, IT infrastructure and library/ digital library and some incentives for knowledge creation and transfer.

Originality/value - Previous research on knowledge management in universities has focused on countries with a relatively well-developed higher education sector. This research contributes by focusing on the perceived barriers and enablers to knowledge management in a country with a small and developing higher education sector.

Keywords: *Knowledge management, Barriers and enablers, Knowledge creation, Knowledge sharing, Knowledge transfer, Higher education, Universities*

Paper type: *Research Paper*

1. Introduction

Higher Education Institutions (HEIs) are considered to be knowledge intensive organisations (Howell and Annansingh, 2013; Ramachandran *et al*., 2013), knowledge creating institutions and in the knowledge business (Rowley, 2000). They create new knowledge through research, disseminate knowledge through teaching and learning and transfer knowledge through consultancies, cross pollination between research and business, communication, popularization of science and job creation through spin-offs (Alexandropoulou *et al.,* 2009; Fullwood *et al.,* 2013). In this article, knowledge management (KM) in HEI's is regarded as having three main strands, knowledge creation, knowledge sharing and knowledge transfer.

In a knowledge economy, knowledge management has been recognized as one of the determining factors for innovation and competitive advantage (Darroch, 2005; Dasgupta *et al.,* 2009). There is evidence that knowledge management could be important in supporting universities in their teaching, research and knowledge transfer missions, but also evidence that the approaches adopted by universities are passive and inconsistent (Donate and Canales, 2012). Cranfield and Taylor (2008) suggest that higher education institutions need to develop a common understanding of KM before they can begin to see the benefits on an institutional-wide level. However, research into KM in universities is limited (Alexandropoulou *et al.,* 2009; Fullwood *et al.,* 2013), and such research as has been conducted focusses either on specific aspects of the knowledge process, such as the individualistic nature of research (Tippins, 2003) and loyalty to discipline (Cronin, 2000), or on specific elements of knowledge management, such as knowledge sharing amongst academics (Cheng *et al.,* 2009; Fullwood *et al.,* 2013), and knowledge management in exploitation of commercialization opportunities (Eftekharzade and Mohammadi, 2011). Some studies have examined enablers and barriers to knowledge management in HEI's in one or more areas of knowledge creation, knowledge sharing and knowledge transfer (Gera, 2012; Fullwood *et al.,* 2013; Ramachandran *et al.,* 2013). However, most of this research has been conducted in countries with mature higher education systems (e.g. UK, India, Malaysia) such that there is a knowledge gap in relation to countries with developing and aspirational higher education sectors. Furthermore, in such countries, as is the case with Mauritius, the development of a strong university sector is viewed as pivotal to the economic, social and cultural development of the country.

The purpose of this research is to contribute to knowledge on the enablers and barriers to knowledge management, through a case study based on a country with a developing university sector, Mauritius. More specifically, this article aims to generate insights into the factors that hinder or promote knowledge creation, sharing and transfer in this context.

2. Literature review

2.1 Knowledge management in higher education institutions

Higher Education Institutions (HEIs) have always been involved in knowledge management. The three missions of universities, research, education and service to society, are closely linked with knowledge creation, knowledge dissemination and knowledge transfer, respectively (Rowley,

2000; Alexandropoulou *et al.,* 2009; Fullwood *et al.,* 2013; Ramachandran *et al.,* 2013). However, to remain competitive in the knowledge economy universities need to manage their knowledge processes within the context of a deliberate knowledge management strategy. A key prerequisite to successful knowledge management is an awareness of the factors that promote or hinder knowledge creation, sharing and transfer in HEIs.

2.2 Knowledge management enablers and barriers

Knowledge management enablers are factors or institutional mechanisms that stimulate knowledge creation, facilitate knowledge sharing (Lee and Choi, 2003), and promote knowledge transfer (Gera, 2012). Barriers, on the other hand, are factors that have a negative effect on KM and the likelihood of its being beneficial. The literature on KM in higher education identifies a wide range of enablers and barriers, such as organisational culture and structure, technology, rewards and incentives, leadership, industry-academia linkages, human resources, and research repositories (Table 1).

Table 1: KM enablers and barriers in HEIs

Enablers and Barriers	**Authors**
Organizational Culture	Rowley (2000); Arntzen *et al.,* (2009); Cheng *et al.,* (2009); Gill (2009); Tian *et al.,* (2009); Adhikari (2010); Eftekharzade and Mohammadi (2011)**;** Gera (2012); Siadat *et al.,* (2012); Fullwood *et al.,* (2013); Goh and Sandhu (2013); Howell and Annansingh (2013); Ramachandran *et al.,* (2013)
Technology	Stankosky (2005); Arntzen *et al.,* (2009); Gill (2009); Tian *et al.,* (2009); Adhikari (2010)**;** Eftekharzade and Mohammadi (2011)**;** Fullwood *et al.,* (2013); Ramachandran *et al.,* (2013)
Rewards and incentives	Rowley (2000); Arntzen, *et al.,* (2009); Cheng *et al.,* (2009); Gill (2009); Gera (2012); Fullwood *et al.,* (2013)
Leadership	Martin and Marion (2005); Stankosky (2005); Gill (2009); Fullwood *et al.,* (2013); Ramachandran *et al.,* (2013)
Industry-academia linkages	Gertner *et al.,* (2011); Gera (2012); Guimón (2013); Bano (2014)
Organisational Structure	Rowley (2000); Tippins (2003); Adhikari (2010)**;** Eftekharzade and Mohammadi (2011)**;** Fullwood *et al.,* (2013)
Human Resource Management	Gill (2009)
Knowledge repositories	Arntzen, *et al.,* (2009)

Organisational culture, the set of shared perceptions and beliefs, and a source and reference for the employees' feeling of identity (Siadat *et al.,* 2012; Ramachandran *et al.,* 2013), has been widely investigated as an enabler or barrier for KM (Rowley, 2000; Gill, 2009; Eftekharzade and Mohammadi, 2011; Ramachandran *et al.,* 2013), knowledge creation (Adhikari, 2010; Siadat *et al.,* 2012), knowledge sharing (Arntzen, *et al.,* 2009; Cheng *et al.,* 2009; Tian *et al.,* 2009; Fullwood *et al.*, 2013; Goh and Sandhu, 2013; Howell and Annansingh, 2013) and knowledge transfer (Gera, 2012) in HEIs. However, the role of culture is complex and contested. For example, researchers have suggested that the culture in universities is individualistic, and can be

self-serving and instrumental (Tian *et al.,* 2009; Fullwood *et al.,* 2013) and that academics self-govern and tend to work independently (Goh and Sandhu, 2013). Tian *et al.* (2009) argue that a knowledge-sharing culture needs to be built, but this may require significant change in the culture and values of HE (Rowley, 2000). To add to the complexity, empirical evidence on the impact of organizational culture on KM in HE has been argued to be inconclusive since many HEIs are still unsure of what type of culture is conducive to facilitate KM (Eftekharzade and Mohammadi, 2011; Ramachandran *et al.,* 2013).

Technology, the information technologies that support and/or enable KM strategies and operations (Stankosky, 2005) has been viewed as an enabler for KM (Arntzen *et al.,* 2009; Gill, 2009; Eftekharzade and Mohammadi, 2011; Ramachandran *et al.,* 2013), knowledge creation (Tian *et al.*, 2009) and knowledge sharing (Fullwood *et al.,* 2013) in HE. Further, there is a consensus that whilst the use of appropriate information communication technologies can help universities to move towards a knowledge-based learning organization, a 'good fit' between information technology, socio-organizational factors and a sustainable organizational culture is also required (Arntzen *et al.,* 2009; Gill, 2009; Adhikari, 2010). On the other hand, two recent studies disagree on the importance of IT in knowledge sharing. In the UK, Fullwood *et al.* (2013) found that academics were neutral as regards the importance of technology, possibly due to their high level of autonomy and engagement in disciplinary communities. But, in public universities in Malaysia, Ramachandran *et al.* (2013), identified IT as the most extensively used KM strategic enabler.

Rewards and incentives are seen as key motivators for behaviours. In HE, the embedded and international reward structure places a high value on evidence of individual achievement in research and scholarship as evidenced by publications (Rowley, 2000). This poses a challenge for universities who need to ensure that incentives recognize academics' contributions to any knowledge sharing system (Arntzen *et al.,* 2009, Gill, 2009) and fulfill their expectations of positive outcomes of knowledge sharing, both in terms of extrinsic rewards and in terms of the development of relationships (Fullwood *et al.*, 2013). Academics expect their engagement in knowledge sharing to improve and extend their relationships with colleagues, and to offer opportunities for internal promotion and career development in other universities (Cheng *et al.,* 2009; Fullwood *et al.,* 2013). Similarily, to facilitate KT, HEIs need to introduce reward and recognition systems that incentivize innovative work practices and knowledge sharing with external organizations (Gera, 2012).

Leadership or top management support is considered as one of 'the four pillars of KM', and is concerned with environmental, strategic, and enterprise-level decision-making processes (Stankosky, 2005). Previous studies have concluded that leaders can play an important role in initiating KM (Gill, 2009; Ramachandran *et al.,* 2013), since they control the knowledge-processing environment (Martin and Marion, 2005). However, Fullwood *et. al.* (2013) did not find leadership to be central to knowledge-sharing.

Industry-academia linkage. According to Gertner *et al.* (2011), knowledge transfer from academia to industry requires time and space in which to develop a shared understanding, nurture relationships and identify mutual interests among the partners. Guimón (2013) points to barriers to successful KT, such as the inherent mismatch between the research orientations of

firms and universities, and their focus on different outputs (e.g. new products vs publications). Universities in developing countries generally face greater challenges in such alliances, because they look to the Government to provide the overall framework for developing these linkages, which requires the formulation of policy directions and reward systems (Bano, 2014). Faced with limited budgets, the government, along with industry and the universities, need to choose between collaboration in education or in research, and between university collaboration with established firms or new firms (Guimón, 2013).

Organizational structure has been identified as an enabler or barrier for effective KM (Rowley, 2000; Adhikari, 2010; Eftekharzade and Mohammadi, 2011) and knowledge sharing in HE (Fullwood *et al.*, 2013). Adhikari (2010) suggests that both formal and informal organisational structures can be important, with factors such the physical layout of offices facilitating social interaction and communities of practice. The need for structual change to promote knowledge sharing (Rowley, 2000; Tippins, 2003; Fullwood *et al.,* 2013).

Human resource management has also been shown to promote accumulation and sharing of knowledge and Gill (2009) argues that KM is inherently a human resource development process and that it is necessary to identify core competencies to steer the process of KM. Finally, **Knowledge repositories** of various kinds abound in universities. Arntzen *et al.* (2009) offer an interesting case study based on KM practice at Bangkok University, which developed knowledge repositories, such as online courses, set up collaborative tools, emails-forum-chat-video, knowledge mapping, coaching/mentoring and best practices, with a view to facilitating knowledge sharing. However, not all academics participated due variously to lack of time, incentives and motivation, fear of sharing, and complex ICT tools.

Despite the significant research interest in the enablers and barriers for effective KM and knowledge sharing in universities, no previous research has disaggregated these factors on the basis of their impact on, respectively, knowledge creation, knowledge sharing and knowledge transfer in the HE context.

3. Methodology

3.1 Research Context

The Government of the Republic of Mauritius has a vision for transforming Mauritius into a knowledge hub and a regional centre of excellence for higher education, such that it makes a significant contribution to Mauritius' economic competitiveness. The higher education sector in Mauritius, according to the Tertiary Education Commission (TEC) website (http://tec.intnet.mu/overview), extends to 65 institutions, including ten public HEI's and 55 private HEI's. The public HEIs include four Universities, with the first one established in 1968, the second in 2000 and remaining two, which were formerly the college of air and a poly-technique respectively, in 2012. The private HEI's are mostly local branches of overseas institutions and/or affiliated with overseas institutions from, for example, Australia, India, South Africa, and UK.

3.2. Research approach

This study used interviews with key informants in seven of the HEI's in Mauritius to gather insights into the enablers and barriers to knowledge creation, sharing and transfer. Since knowledge management is a relatively new concept for HEIs in Mauritius, and no HEI has a formal knowledge management strategy, qualitative research using semi-structured interviews that seeks to generate in-depth insights was deemed to be appropriate (Saunders *et al.,* 2016). Furthermore, an interpretivist stance that is inductive in nature was adopted in this study.

An interview schedule was designed and piloted through meetings with three senior academics and researchers. Face-to-face interviews were conducted with eleven senior academics involved in research and/or research management, including heads of institution, heads of faculty, senior academics and researchers (Table 2).

Table 2: Participants

Institution	**Brief description of participants**
Public Universities	
A1	Senior academics and researchers at Associate Professor and Professor level, former Heads of Departments and Heads of Faculties
A2	
A3	
B1	Head of Institution
B2	Head of Faculty
B3	Academic researching in KM
C	Head of Faculty
D	Head of Institution
Private Universities	
E	Head of Academics
F	Head of Institution
G	Head of Academics

Heads of institutions and senior academics were contacted formally in order to obtain approval to interview them or their senior colleague(s). Prior to each interview, the researcher provided each interviewee with information on the study, the interview guide and knowledge management terminology and definitions to facilitate discussion during the interview. Permission to record each interview was obtained through a consent form. Participation in the study was voluntary and interviewees were informed that interviews and any documents provided during and after the interview were confidential; interviewees were free to decline to answer any questions or to withdraw from the interview at any time.

The interviews lasted between 45 minutes to an hour. Each interview was transcribed into Microsoft Word. Interview transcripts were reviewed, summary notes made and thematic analysis was undertaken (Miles and Huberman, 1994). Although, the analysis was guided by the

themes in the interview schedule, it was not restricted to them and an inductive approach was used for thematic analysis.

4. Findings

4.1 Summary

Table 3 summarises the enablers and barriers to knowledge management in HEIs in Mauritius; there are more barriers than enablers. The following sections elaborate on the enablers and barriers.

Table 3: Enablers and Barriers to KM in Mauritian HEIs

KM Processes	Enablers	Barriers
Knowledge Creation	• Qualified and experienced academic staff in *public* HEIs • Library/ Digital Library • Some Incentives: sponsorship for conference attendance, upgrading qualification, purchase of books, access to journals, study leave	• Lack of policies and rewarding mechanisms to encourage and promote research • Lack of vision • Lack of resources and funding for research • Limited access to data and databases • Heavy workload due to teaching and administrative duties • Fewer multi-disciplinary and inter-institutional research projects • Difficulty in obtaining research grants
Knowledge Sharing	• Adequate IT Infrastructure: Connectivity, Intranet, Email	• Lack of a knowledge sharing culture – Promotion Policy leading to individualistic and competitive behavior, mistrust, fear, crab mentality – Lack of incentives to encourage knowledge sharing • Frequent leadership changes
Knowledge Transfer	• Incentives: financial incentives for consultancy	• Weak Industry-academia linkage

	work *and reduced teaching load in a few private HEI's*	• Lack of interactive web portal/ Research repository

4.2 Enablers and barriers to Knowledge Creation

Qualified and experienced staff make an important contribution to knowledge creation. Interviewees were proud of the expertise of the staff base in their universities, but they did acknowledge that capitalizing on this knowledge was not always easy:

> *"Percentage wise we have the highest number of PhDs in any HEI in Mauritius, out of 42 full time staff, I think 21 or 22 have PhDs" (B1).*

> *"We have a lot of expertise, but then the question is that how do you harness that expertise." (A2).*

In most of the institutions, the library is regarded as an important facilitator of knowledge creation, as a repository for knowledge created by students and staff:

> *"The main learning platform for our students is the E-learning platform…..(D)"*

> "*Knowledge created by the students are available in the library in the form of dissertations and thesis. (A1)"*

Other organizational knowledge, such as, procedure manuals, minutes of the committees, guidebooks and handbooks are stored both digitally and in paper files:

> *"Knowledge created is stored in files, books, libraries, journals papers, thesis, minutes of the committees, reports generated in the university. Nowadays, most of it is stored electronically. (A1)"*

Most of the participants from *public* HEIs mentioned **incentives** that encourage knowledge creation, such as, sponsorships to attend conferences, both locally and overseas, and grants to staff to upgrade their qualification. Some HEIs also encouraged their academics to participate in exchange programmes with overseas institutions.

> *"the staff development scheme provides opportunities for academic staff to upgrade their credentials, to go and present their research papers overseas and to go and work with laboratories and share expertise with another colleague." (A2).*

However, interviewees mentioned a significant number of barriers to knowledge creation. Important amongst these was the **lack of policies** and **reward mechanisms** to support knowledge creation through research.

> "*We don't have a clear-cut policy encouraging people to focus on research" (B2).*

> *"There is incompatibility between policies and practices. I believe if you want research and innovation, you need to have a policy framework that rewards research and innovation" (B1).*

This absence of clear policies is likely to be associated with a lack of vision and funding. In terms of **lack of vision,** one participant suggested that:

> *"The model of the university is not clear in people's mind, are we a teaching university, or a teaching/research university or research university."* (A1).

Lack of funding for research was reported as a major challenge by most of the participants, which further results in **lack of resources**, such as well-equipped laboratories for research and development.

> *"Funding is one of the most important challenges" (B3).*

> *"We have budgetary constraints. We have very big visions but we do not have the resources that follow these visions." (C).*

In addition, restrictions on **access to databases,** including those of scientific journals and secondary databases as the result of high license fees was in evidence:

> *"Access to Science Direct is so limited/expensive, you cannot innovate if you don't give access to such types of tools" (D).*

> *"We don't have online databases, so whenever we need data, secondary data, we need to collect it manually." (B2).*

Some participants suggested that **heavy workloads**, including teaching, administrative and supervisory duties, restricted their time for research, and with consequences for its quality:

> *"We are expected to carry a heavy teaching load, heavy admin load, heavy student counselling, and interaction load. We are expected to do service, that is consulting… you're probably holding down a family life. Somewhere all of that does not add up. Unfortunately, it is…probably leading to seeking out publishing opportunities in less than honorable publications, and paying to get published" (A3).*

> "*We have to focus more on responding to the needs of students, and …other work that comes as programme coordinator or as a lecturer. So not much weight is put to research." (B2)*

The workload issue may also impact on involvement in **multi-disciplinary and inter-institutional research projects,** which is at a low ebb:

> *"What is lacking in the university is multi-disciplinary research, we need people in different department and faculties coming together" (A1).*

Even though several public funded research grant schemes are available for academics and researchers, most researchers find it **difficult to obtain research grants**. The perception is that only a few select people end up getting research grants. Some participants were of the view that a capacity building exercise or similar initiative is required to assist young and upcoming researchers in writing research grant applications:

> *"The challenge is to get into research, to get among the big players to bid for project or to get funding." (B2).*

> *"The system of obtaining grants or funding is difficult to understand and access…If you don't have the track record of successful bids… you are unlikely to be successful. That's because people like to put money where they may get good results but it doesn't allow new blood and doesn't allow development and risk averse funding councils" (F).*

4.3 Enablers and barriers to Knowledge Sharing

Participants identified one major enabler to knowledge sharing, the HEI's **IT infrastructure**, connectivity, intranet and technical support for academics and students. Two *public* universities have free Wi-Fi connectivity in their campuses to provide broadband internet access to all students, academics, non-academic staff, researchers and the general public:

> *"… we have a good information technology system at the university…we have just implemented a new database management system…" (A1).*

However, this is counter-balanced by an inherent **lack of a "knowledge sharing culture"** in the *public* universities, which is aggravated by frequent changes in leadership:

> "*Culture wise, there is a problem… people tend to be individualistic, there is reluctance to share knowledge. This culture is not just in the university but in the whole education system, people are very competitive, when we recruit people they tend to bring a culture of not sharing,"* (*A1).*

This lack of knowledge sharing culture is deep rooted in the Mauritian education system, which is highly competitive due to its scholarship scheme, the "Laureateship". The education system does not promote teamwork and collaboration. This culture is carried forward into higher education and other workplaces. In addition, promotion policies and incentive structures work against knowledge sharing. For example, the **promotion policy** of one major *public* university favours individualistic and competitive behavior, mistrust, and fear. This leads to academics working alone, or only with their research students, or with a few other academics:

> *"I started developing a team and we started publishing together but after a couple of years they (management) brought in the point system for promotion as in the other*

University and that destroyed everything. Then people were after gathering more points than their colleagues and they started hiding and became selfish." (G).

"In Public Universities, people might be reluctant to share because they are thinking about promotion. I think that people who don't share, do it out of fear. Fear of not getting promoted, fear of the other one surpassing them" (E).

Finally, there are **no incentives** or encouragements for collaboration and sharing:

"There are no incentives, no encouragement from the system to promote sharing and collaboration" (A1).

Leadership in HEIs is another major barrier. During the past five years, the two main *public* universities have faced **frequent leadership changes** at the top management level:

"*Earlier, under our Head of Institution, every month we were having knowledge sharing sessions, but for the time being it is not continuing as we are in the phase where we don't have any top most management" (C).*

This absence of a dynamic and stable leadership and politicization of higher education in some of the institutions has impacted on the HEI's culture and created some despondency:

"You want to create a high-performance culture in universities, it is possible, it depends on leadership, and it is not only the CEO but the Board as well" (B1).

4.4 Enablers and barriers to Knowledge Transfer

Incentives were more in evidence for knowledge transfer than for knowledge creation or knowledge sharing. There is no uniform policy for the sector, but various incentives exist to promote knowledge transfer. Academics who bring or attract consultancies for the institutions benefit from **financial incentives.** Some institutions share the consultancy fee with the researcher:

"If the staff brings in consultancies, they are paid, even if it is a group work they are paid on whatever funds are brought in." (B1).

"Our board has approved that when you do consultancies under the institution, at least the first five, 80% goes to you and the remaining 20% again goes back to you, (in the form of) funding your participation in conferences" (D).

In contrast, one *private* sector institution used a **reduced teaching load** as an incentive, with the funds generated through consultancy paying someone else to do the teaching:

"If they are bringing in money into the university, we'll have the money to pay to someone else to do the teaching." (F).

Notwithstanding, the general perception is that **industry-academia collaboration is weak** and knowledge transfer relies heavily on individual effort. Some participants suggested that the weak collaboration was due to lack of R&D units in the private sector and a lack of openness towards academics:

> *"Our language and their language is very different. Our language and innovation takes time but in the business world they have to be very quick because of the competition..." (B3).*

> *"We do find difficulties in making firms understand how academics can help…they don't understand that we can bring innovative ideas." (G).*

Whilst all the participating institutions have websites, there are fewer examples of interactive and user-friendly **web-portals** detailing their expertise, competencies and previous research and consultancy.

> *"We have not organized our knowledge at the university so that it can be transferred and people can access it." (A1).*

> *"In overseas universities, the staff have their profiles, their CVs and lists of publications on the website, which helps in building the organisational knowledge." (B1).*

5. Discussion and conclusions

This study contributes to research on knowledge management in higher education institutions (HEIs), by studying its enablers and barriers through a case study based investigation in a country with a developing higher education sector, Mauritius. In particular, the study examined enablers and barriers to all of the knowledge-based processes relevant to universities, *viz*, knowledge creation, sharing and transfer. None of the universities had a knowledge management strategy or policy, but participants were familiar with the concept of knowledge management, and the associated concepts of knowledge creation, sharing and transfer, and were able to discuss enablers and barriers. In general, there was a sense that barriers far outweighed enablers. This situation needs to be addressed to support the universities' contribution to the development of the Mauritian economy.

Enablers were perceived to be: qualified and experienced academic staff in public HEIs, IT infrastructure and library/ digital library and some incentives for knowledge creation and transfer. Barriers identified included: a lack of policies and appropriate reward mechanisms, resources, data, funding and time for research, coupled with frequent leadership changes, a lack of a knowledge-sharing culture and research repositories and weak industry-academia linkages.

The *public* HEIs in Mauritius have many qualified and experienced academics and also provide incentives for staff development, knowledge creation and knowledge transfer through consultancy. Both public and private HEIs have good IT infrastructure, which provides opportunities for communication and networking, and access to library resources. But, there is

scope for further investment in library resources, and for further exploitation of the knowledge sharing potential of the IT infrastructure.

Academics perceive barriers to fully exploiting opportunities and incentives. In terms of research and other development opportunities, barriers include: the absence of clear policy frameworks and reward mechanisms for knowledge creation or research; heavy teaching and administrative workloads; and, the difficulty in obtaining research grants; this is consistent with the findings of previous research (Tippins, 2003; Arntzen *et al.,* 2009; Gill, 2009). In addition, due to weak industry-academia linkages and absence of a dedicated KT office in most HEIs, the opportunities for engagement in KT are limited (Bano and Taylor, 2014). In addition, Mauritian universities, in common with universities in other studies (Gill, 2009; Gera, 2012) do not have interactive web portals or research repositories that showcase their expertise to business organisations.

More generally, there are issues with policy and culture. Other studies have suggested that universities lack a knowledge sharing culture (Arntzen *et al.,* 2009; Fullwood *et al.,* 2013; Goh and Sandhu 2013), suggesting that the culture, is instead individualistic and competitive (Fullwood *et al.,* 2013) and that academics consider knowledge as power and are hence prone to 'knowledge hoarding' (Cheng *et al.* 2009; Goh and Sandhu 2013). In Mauritius, knowledge sharing is hindered by the highly competitive nature of Mauritian higher education, characterized by its promotion system. Strong leadership is considered as one of the major enablers to knowledge management in HE (Stankosky, 2005; Gill, 2009; Ramachandran *et al*., 2013). However, frequent changes in leadership in *public* HEIs in Mauritius have led to a lack of clear and stable policies with regard, for instance, to the relative prioritization of teaching, research and knowledge transfer, and the development of appropriate reward and incentive structures and other initiatives to drive cultural change within the universities.

Mauritian HEIs are on a development journey. A key aspect of the next stage of their development should be the identification of what knowledge management means for them, a review of their knowledge assets, and the design of a strategy that can facilitate the creation, sharing and transfer of knowledge, to their and the country's competitive advantage. Furthermore, the HEIs in Mauritius require visionary leadership, which can introduce these policies and create the right climate for knowledge creation, sharing and transfer as a basis for enhanced research and innovation in the country. As part of this initiative consideration should be given to investment in a dedicated KM office, interactive web portals and knowledge repositories, collaborative and multi-disciplinary and inter-institutional research projects, rewards and incentives, access to data and databases and increased collaboration with private sector.

More widely, this study suggests that universities in developing countries understand the need for implicit or explicit knowledge management processes, but there may be a range of barriers to the successful implementation of appropriate strategies and cultures. Further research on knowledge management processes and policies in universities in both developed and developing countries can contribute to a more robust and insightful knowledge base in this area.

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