

Knowledge Management and Higher Education: A UK Case Study

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Abstract: This paper presents the initial findings of a case study conducted at seven Higher Education Institutions within the United Kingdom. The Case Study utilizes Stankosky's Knowledge Management (KM) pillars to enterprise learning – leadership, organization, technology and learning – as a lens to investigate and understand Knowledge Management practices and perceptions within Higher Education Institutions, looking at challenges of implementation within this sector. Higher Education Institutions within the United Kingdom are very complex institutions, with diverse backgrounds, history, culture, resources and missions. The University presents itself in today's knowledge economy with a dichotomy of priorities, one which aims to provide quality teaching and research activity, and the other, to ensure effective and efficient management and administration within an increasingly competitive market. Being a service, non-profit organization ensures that the values of scholarship remain a very important aspect of its mission; yet, the external environment within which HEIs conduct their business today is rapidly changing, forcing HEIs to reflect on how they do 'business' given the external pressures they face. This case study uses the Grounded Theory methodology to begin to unpack the issues related to the implementation of Knowledge Management within this context. It focuses on two aspects of the case study – the characteristics of universities and academics that hinder or promote the implementation of KM, and the perceptions of Knowledge Management and its challenges for implementation within the HEI sector. Initial findings are presented.

Keywords: knowledge management, UK case study, grounded theory, higher education

1. Introduction

Knowledge Management (KM) has increased in popularity and credibility as a management tool, as well as a research discipline, over the past decade. There have been concerns about whether KM is simply a fad, and researchers and academics have debated its faddish like characteristics. The researchers, and this paper adopts the view that KM certainly is not a fad for different reasons, and agree with Stankosky's view that one of these reasons is that the knowledge-economy is here to stay (Stankosky, 2005). This paper does not present this debate however does present the view that the researchers have taken.

Pontzi et al (2002), supports this view in their article "Knowledge management: Another management fad?", and used the article-counting technique and applied it to the concept of Knowledge Management in order to illuminate its current state of development. They also contend that KM has faddish characteristics; however, introduces empirical evidence that proposes that a typical management movement generally reveals itself as a fad in approximately five years, and that KM has survived the 5-year period. His findings suggest that KM is in the process of establishing itself as a new aspect of management (Ponzi, 2002). Knowledge Management is therefore said to be slowly but surely capturing the attention of many organisations in a quest for competitive advantage (Boahene, 2003).

KM is a term that has not only gained credibility over the years by virtue of the increased research projects on the subject but also through the increased application of it as a management tool within business organisations. In 2000, Rowley (2000) asked the question, "Is Higher Education ready for Knowledge Management?". This paper investigates the perceptions of Knowledge Management within Higher Education in 2008 as a management tool, and presents the nature of academics and universities, and the related challenges for KM implementation within this context. The research uses the Grounded Theory methodological approach combined with a case study of 7 Higher Education Institutions. The paper begins with a brief introduction to the UK Higher Education context given in relation to its history and the Knowledge Economy, then presents the research framework and some of the initial findings that emerged from the analysis, finally, the paper ends with some concluding remarks.

2. UK higher education context

Universities in the United Kingdom vary in size, shape, mission, ethos, history, values and location. UK HEIs have, over the last 30 years, undergone major change, especially in the period following the election of the new Conservative Government in 1979. These changes influenced the quantity and method of public funding of the system; emphasised research selectivity; introduced market elements into the funding and management of the system; and brought about an end to the binary system of higher education which had existed since 1965 (Thillaisundaram, 1998). In 1980, full cost fees for overseas students were introduced,

forcing students to pay the full economic cost of their education. This was followed, in the year 1981, by major cuts in the public funding of the university system, and universities across the UK each were affected differently by these cuts, some quite substantially. Increased focus on efficiencies within universities, both economic and administrative, followed. Significant changes took place in institutional management, recognising Vice-Chancellors as “Chief-Executive”, encouraging more devolved management and the use of targets and performance indicators. For this to succeed, effective information management and KM began to emerge as a priority. During the years 1980 – 1995, a policy of massification of higher education was endorsed by government and student numbers increased drastically. Another significant change took place in 1986 when “...the Universities Grant Committee (UGC) decided, under pressure from the Treasury, to review research quality across the university system and to allocate recurrent grants for research differentially, and separately, from the recurrent grant for teaching” (Shattock, 2003:2). The Further and Higher Education Act of 1992 formally ended the divide between polytechnics, universities and colleges. It allowed all polytechnics and some higher education colleges, which met certain criteria, to claim the title of university, thereby placing a different kind of pressure on these institutions to be successful. Within this new environment, with an emphasis on competition, marketisation, quality and operational efficiency, institutions began to recognise the importance of information management and significant progress was made within this area; however, the importance of KM was slow to emerge (Cranfield and Taylor, 2007).

In May 1996, the National Committee of Inquiry into Higher Education was appointed to make recommendations on how the purposes, shape, structure, size and funding of higher education, should develop to meet the needs of the UK in the future. This Committee produced the Dearing Report which made recommendations on a wide range of issues affecting most issues of higher education. The Dearing report highlighted the need for the UK to compete in increasingly competitive international markets where the proliferation of knowledge, technological advances and the information revolution would place demands on it (National Committee of Inquiry, 1997). It is interesting, therefore, that the Dearing Report, with its far reaching proposals, remains noticeably silent on the importance of effective KM. Since the Dearing report, global competition has intensified and high-level skills and knowledge have become ever more central to the UK's economic success (Higher Education Funding Council for England, 2006).

Shattock (2003) contends that one of the most significant changes in the way we think about universities today is how we identify its success. Given all of these changes to the Higher Education system in the UK, he further contends that universities do not all start from the same position and that historically, locationally, and financially, their positions could be very different (Cranfield and Taylor, 2007). But how do these factors affect an institutions' ability to respond to change effectively to ensure competitive advantage? In this context, how do institutions perceive the importance of KM?

3. Higher Education and the knowledge economy

Higher Education institutions face many challenges in a rapidly changing global economy (Birgeneau, 2005). As we enter the 21st century, Birgeneau (2005) contends that Higher Education institutions face a world that is more interconnected, one in which knowledge, creativity, and innovation are the essential elements of thriving societies. Bloch (in Duderstadt, 2005:81) supports this by stating that “we are entering a new age, an age of knowledge in which the key strategic resource necessary for prosperity has become knowledge itself – educated people and their ideas”. Higher Education institutions today and in the near future, will experience different and intensified external pressure influenced by globalisation, and the past few decades have witnessed the pressure on HEIs to respond to this global integration (Bloom, 2005). Globalisation refers to the process whereby countries become more and more integrated, mainly via movements of goods, capital, labour and ideas (Scott, 2005:22). Scott (2005) highlights two main attributes of what he terms the 21st century globalisation: 1) Acceleration of trends associated with a ‘knowledge society’. Some of these trends include the rise of information and communication technologies, which has been accompanied by a cultural revolution. 2) The process of acceleration and innovation has brought about ‘uncertainty’ about individual identity, about social affinities, about gender roles and about jobs and careers.

If it is easy for goods, capital, labour and ideas to move around, what do HEIs need to do to stay competitive to ensure the quality of their products and to ensure that a good academic experience is achieved by their students? Globalisation and marketization have therefore forced Higher Education Institutions to think about the way in which they teach, conduct research and manage the institution and its various stakeholders. This paper looks at whether HEIs within the UK are able to respond to these changes in a timely manner, or whether they are going about their business in 2008 as they have done before. Are they beginning to appreciate the need to embrace the philosophy of efficiency and effectiveness, and ways in which to

incorporate management methods and models from the business world to ensure an ability to respond to change effectively and efficiently? When the adoption of business management models is discussed in relation to HEIs, it is inevitable that the mission and purpose of Higher Education Institutions are raised and the distinction made between non-profit and for-profit missions to discourage its use. This paper looks at one business management tool – knowledge management, and how it is perceived and implemented within seven HEIs within the UK.

4. Knowledge management

Knowledge Management has sparked a plethora of definitions, and a variety of explanations, and encompasses diverse disciplines, which hence gives rise to the different perspectives. An extensive literature review yielded many different models, thoughts, perspectives, frameworks and definitions for KM. This particular research aimed to investigate the application of KM within the HEI context; however this is an under-researched area and a relatively new area for this context. For the purposes of this research, a particular view of KM was taken as a lens through which to view KM in HEIs. Stankosky's Knowledge Management pillars to enterprise learning – leadership, organization, technology and learning, were used as a systemic and holistic framework to investigate the perceptions and practices of KM within seven HEIs. Universities already engage in Davenport and Prusak's (2000) view on knowledge, and KM, who presents knowledge as deriving from information as information derives from data. Davenport further contends that for information to be transformed into Knowledge it requires human intervention hence humans apply their skills, ability, experience, know-how, values and culture via some transformation (comparison, communication, connections, and consequences) to change the information into knowledge. The case study will primarily look at organisational knowledge but acknowledges the psychological debates around what knowledge is. However, for the purposes of this study, it recognises that each individual has abilities, skills, experience, values and a particular work ethos and culture which each uses to transform information into knowledge which can be acted upon and which can become part of the broader organisational knowledge. "Knowledge Management therefore draws from existing resources that an organisation may already have in place - good information systems management, organisational change management, and human resources management practices" (Davenport and Prusak, 2000:163).

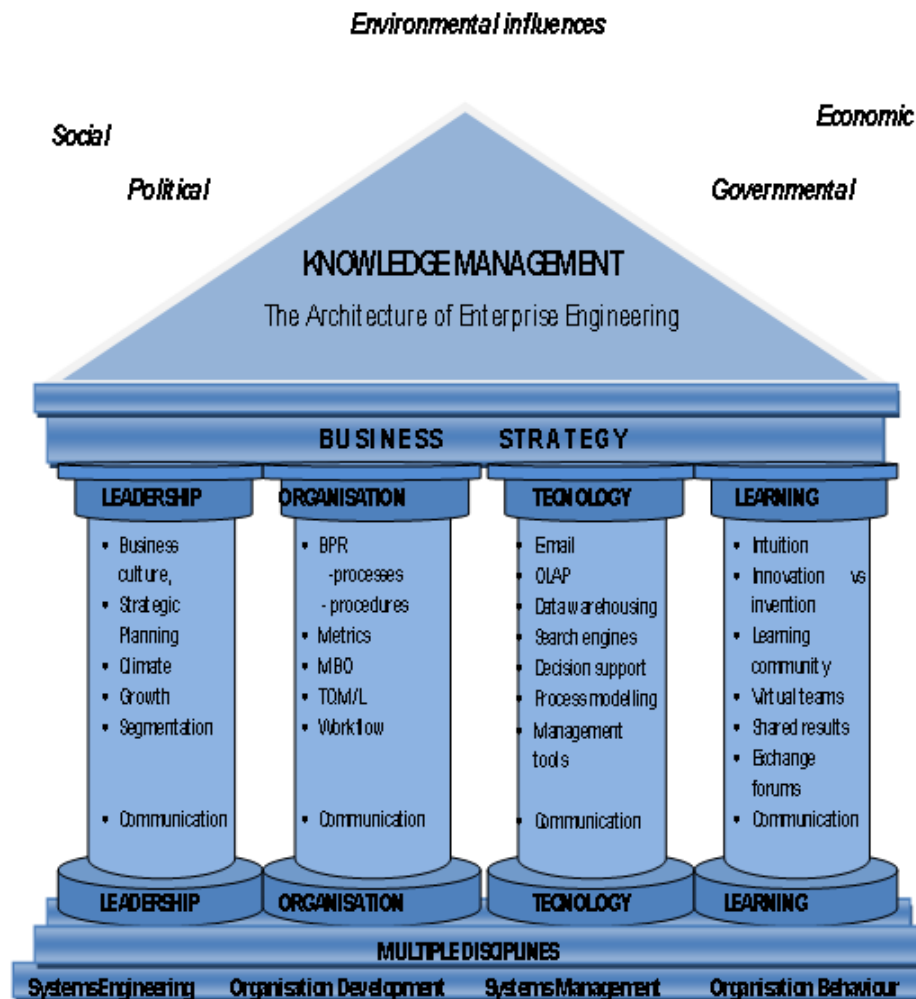


Figure 1: Pillars of enterprise learning, adapted from Stankosky (2005)

Birgeneau (2005) contends that universities have, and always will be, keepers and creators of knowledge. HEIs aim to “prepare new generations with the skills, cultural and scientific literacy, flexibility, and capacity for critical inquiry and moral choice necessary to make their own contribution to society” (Birgeneau, 2005:ix). Higher Education institutions are said to be in the “knowledge business” since they are involved in knowledge creation, dissemination and learning (Rowley, 2000:332). Given the mission and purpose of HEIs, is knowledge overtly managed in a way to enhance its competitive advantage? Do HEIs effectively manage what they know about their organisation in a systemic and institutional way?

5. The case

5.1 The research framework

Epistemology is defined as the study or a theory of the nature and grounds of knowledge especially with reference to its limits and validity (Webster, 2007). It provides a philosophical grounding for ascertaining the kinds of knowledge possible and how to ensure that it is adequate and justifiable (Crotty, 1998).

This research was influenced by the *constructionism* epistemology. *Constructionism* permits the researcher to explore the views of the different participants within the subject context recognizing that each might have a different view or understanding of the same situation, and that truth or reality exists only through interaction with the realities of the world (Levy, 2003). The nature of this research requires a conceptual and contextual understanding of the current state of KM practices within HEIs, as well as perceptions of KM practices and their use or non-use within this context. The culture and environment of HEIs encourage individual thought and opinion; each is therefore able to construct meaning and each possibly perceive world phenomena at times very differently from one another.

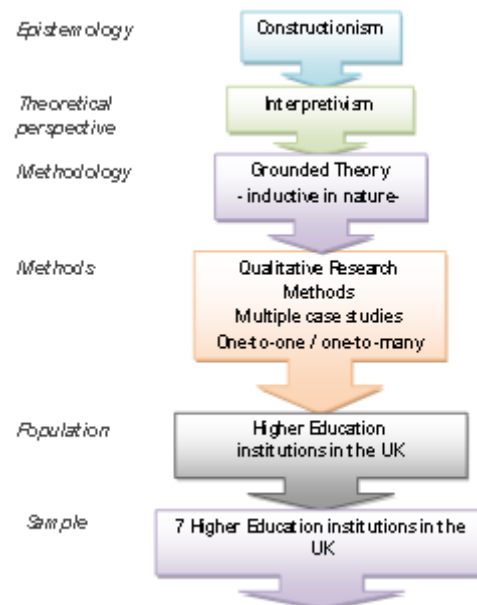


Figure 2: Research Framework adapted from Crotty's (1998) model.

The *theoretical perspective* used for the research was that of interpretivism. Interpretive research assumes that people create and associate their own subjective and inter-subjective meanings as they interact with the world around them and interpretive researchers thus attempt to understand phenomena through accessing the meanings participants assign to them (Myers, 1997).

Methodology is defined as “the strategy, plan of action, process or design lying behind the choice of particular methods and linking the choice and use of methods to the desired outcomes” (Crotty, 1998). This research attempts to allow the theory to be built up from the data and hence Grounded Theory (GT) was used for this purpose.

5.2 Methodology: Grounded theory

GT research methods can be traced back to Glaser & Strauss (1967) in the book ‘*The Discovery of Grounded Theory: Strategies for Qualitative Research*’. It is described by Glaser and Strauss as the discovery of theory from data which is systematically obtained and analysed (Glaser and Strauss, 1967).

The GT data analysis approach involves searching for concepts by looking for the codes (Allan, 2003). Codes, concepts and categories are generated by analysis of the data, and a process of constant comparative analysis is used, which compares these codes, categories and concepts iteratively and constantly to each other until a core category is discovered and theoretical saturation is reached, leading to theory generation. By linking the categories and investigating the connections between concepts, the theory emerges.

Glaser and Strauss (Glaser and Strauss, 1967) believed that there was more to research than testing previously brilliant theories and that theory could still be developed, refuting the fact that only the intelligent theorists of the past could develop theory. They also assumed the emergence of theory to be the underpinning of the GT approach. Despite working together on the discovery of GT, Strauss and Glaser developed different views on what GT was and how it should be implemented. This paper does not provide an in-depth analysis and discourse of the different perspectives and approaches to GT, but presents the approach used for the purposes of this research. The research has combined the techniques of both Glaser and Strauss, combining some of Strauss's structure and techniques of micro-analysis (word-by-word analysis of the text and subsequent code generation for it) at the beginning to allow the researcher to gain confidence in the method. Initially, the researchers favored a more structured approach to concept generation; however, having become more confident with the technique, it became possible to concentrate on generating general concepts and ideas, using the constant comparative method rather than coding word for word. The process depicted in Fig 3 is a framework used for the theory generation.

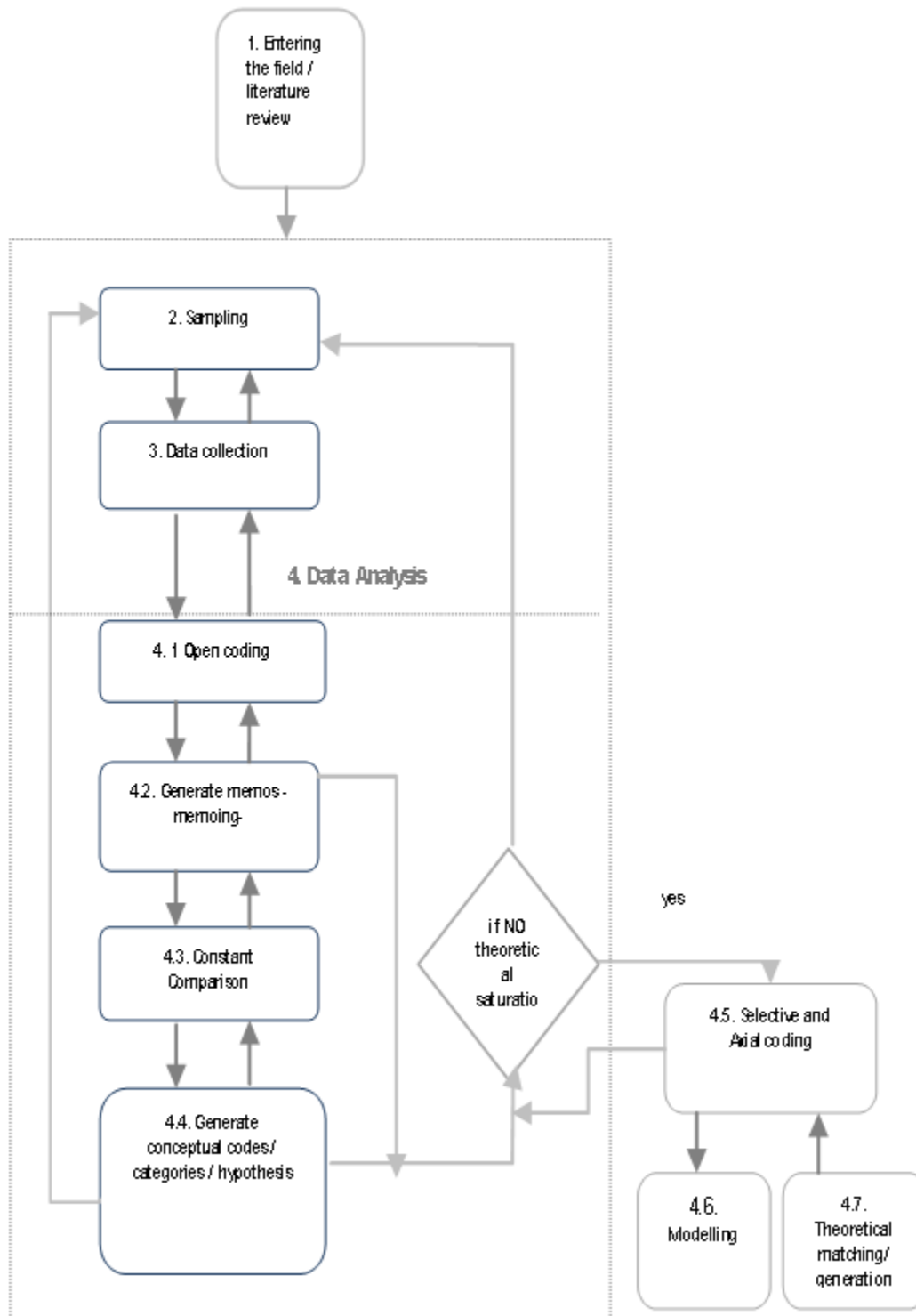


Figure 3: Grounded Theory building process adapted and expanded from (Rodon and Pastor, 2007)

The combination of case study research with GT is supported by Eisenhardt (Eisenhardt, 1989) who suggests three strengths for theory building from cases:

- "One strength of theory building from cases is its likelihood of generating novel theory" (Eisenhardt, 1989:546);
- "A second strength is that the emergent theory is likely to be testable with constructs that can be readily measured and hypotheses tested" (Eisenhardt, 1989:547);
- "A third strength is that the resultant theory is likely to be empirically valid" (Eisenhardt, 1989:547).

Eisenhardt (1989) further contends that building theory from cases is particularly well suited to new research areas or research areas for which existing theory seems inadequate, given its strengths as listed above. KM

as a research area is certainly not a new one; however, divergent theory exists and its application, particularly within the Higher Education (HE) sector, is relatively new, which makes KM and this research well suited to this combination of research methods: case study and GT.

5.3 Qualitative research methods used

A case study is an empirical inquiry that “Investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 1994:3).

Case study research should be considered as a research strategy which includes specific approaches to data collection and data analysis, which Yin (1994) continues to add can be based on single- or multiple-case studies, and by nature it can be explanatory, exploratory, or descriptive. This research used a multi-case and it is presented in an explanatory nature. Semi-structured, one-to-one, and one-to-two interviews were conducted at the case locations.

The qualitative analysis tool, NVIVO 7 was used to analyse the data. The interviews were transcribed from digital audio recordings and the process of open coding ensued. Further data collection and coding and then selective coding took place as coding saturation became apparent.

5.4 Population and sample

Given that universities can be historically, locationally and financially very different, the sample was carefully selected to be representative of the different types of HEIs within the UK. A representative sample of 7 Higher Education Institutions was carefully selected in terms of type and size of institution, as can be seen in Table 1 and Table 2 respectively.

Unfortunately, we were unable to include the only Private Higher Education institution in the UK within the case study; however the sample is very representative of the HEIs within the UK.

Two of these institutions could be classified as primarily teaching universities, while the other 5 are research intensive universities.

Table 1: Type of institution participating within the case study (2008).

Type of Institution	Number
Post -1992 Former polytechnics ¹	2
Post-1992 : other ²	1
Pre-1992: Russell group ³	3
Pre 1992: other ⁴	1
Total	7

Table 2: Size of institution participating within the case study (2008)

Size of Institution	Number
Less than 10,000 students	1
10,000> and <15,000 students	3
>15,000 and < 20,000 students	2
>20,000 and < 30,000 students	1
Total	7

Initial participants were selected by the Vice-Chancellor (or Principal as used within some institutions) as a first point of contact, and were considered to be the most knowledgeable and/or involved with KM-type

¹ In 1992 Higher Education in the UK underwent major change, abolishing the Polytechnic institutions as a type of Higher Education institution and condoning University status to some. Institutions within the UK having the polytechnic status pre-1992 and received university status in 1992

² Post-1992: other – Higher Education institutions with university status after 1992 but not classified as polytechnics before 1992.

³ Russell Group – A group of HEIs within the UK that enjoy an excellent reputation internationally and that receives two-thirds of universities' research grant and contract funding in the United Kingdom.

⁴ Pre 1992: other – Institutions with the university status before 1992 not in the Russell Group.

activities at the institution. These initial participants were very senior members of staff, who then selected additional members of staff to take part in the case study. The participant roles are reflected in Table 3.

Table 3: Participant roles

Role	Number
Academic Dean	3
Director/ Manager of IT / Information	3
VP / Executive Director : Knowledge Management	2
Registrar	2
VP / senior officer: Knowledge Transfer Partnership	2
VP	1
Assistant to principal	1
Pro Vice-Chancellor	1
Librarian	1
Knowledge Manager	1
Project staff	1
Total	18

5.5 Structure of Interviews

The interviews were conducted in a semi-structured way. A select number of participants requested to be part of a two-person interview rather than being interviewed one-on-one. Although the researchers found the one-on-one interviews to be more constructive as it allowed individuals to provide their own perspectives without having a colleague influence it, the one-to-two interviews provided very valuable perspectives as well which were used in the case study.

Having scanned the literature for KM models, perspectives and frameworks, the researchers came across two sets of models and perspectives on KM which provided the lens through which to investigate KM at HEIs in the UK; 1) Stankovsky's (2005) model on Enterprise learning depicted in Fig.1, was used to frame the interview questions to better understand perceptions and practices within the four pillars in HEIs i.e. Technology, Learning, the Organisation, and Leadership. 2) Davenport and Prusak (2000) have a very pragmatic approach to Knowledge Management and hence their perspective on what KM is was used.

As KM has such a diverse range of definitions, and can be very differently understood depending on the discipline it is being viewed from, it was necessary to have a frame to structure the interview in some way so as to optimise its value. It was decided to do this even though there is contradictory advice given in the GT literature about entering the field with a clear mind and not allowing the literature to influence the emergent themes. This approach is consistent with researchers who have studied and used GT and have found that entering the research field without any preconceived ideas or frameworks or an understanding of the area is very difficult to do and there is debate about the aimlessness that could happen if there is no idea of the theory of the field of research.

6. Initial findings

This case study has yielded a rich set of data that has provided valuable insights into the perceptions and practices of KM within seven HEIs within the UK. For the purposes of this paper, two aspects from the interviews will be discussed:

1. Characteristics of academic staff
2. The context and characteristics of universities, focusing on
3. Culture
4. Difficulties experienced and
5. Management structure and style.

These aspects will be considered in relation to the implications for KM implementation.

6.1 Characteristics of Academics

One of the questions asked within the “Perceptions of KM” theme was, “*Why was KM not accepted more broadly in Higher Education*”. This question sparked a vigorous discussion about what the nature of “an academic” was perceived to be, and what the characteristics and culture of Higher Education were, and the associated difficulties in relation to implementing change within this context. Addressing the first point, the nature of academics, the ideas emanating from the interviews was that academics are, by nature of their jobs, experts in their field and the view was that academics viewed their role as that of expert and hence should be the most qualified to judge the methods and pedagogy implemented in relation to their perception of quality. The issue of academic arrogance was raised against this issue of academic freedom. Another theme emerging from the data was that academic staff do not want to be managed in the hard-core business sense. Their natural unit of working is one – themselves, and in the main they are self-sufficient units. A very senior academic and administrator had this to say

“We need to develop more of a team concept within the staff. They do naturally tend to be a unit of one. But if they have the chance to talk, if they have time to deal with their peer group and they make good use of it, you know, even the most stubborn will see over time that there are real merits and benefits in the sharing processes.”

Although it was thought that academics are quite open to the idea of sharing, there is the further issue of creating opportunities for such interaction, as well as a real issue of innovation and publishing whose goals go against the idea of sharing at the beginning stages; hence, timing is an issue for sharing research innovation.

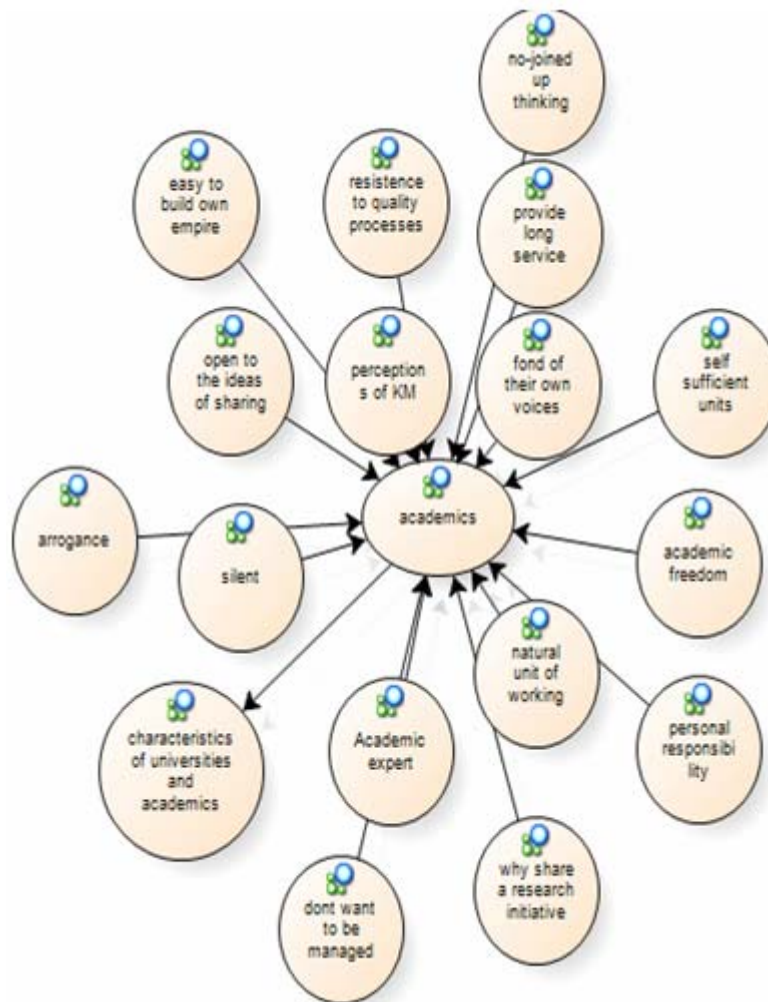


Figure 4: Characteristics of academics

The perception of Knowledge Management among academic staff is that their work involves managing knowledge; they are the managers of their own knowledge, and hence are already involved at some level in KM. Academics also generally tend to provide very long service to a university and hence, once they decide to leave, this could have a detrimental impact on the School, Faculty and ultimately the institution, especially

if the academic is a renowned expert within a particular field attracting students and funding for the School, Faculty and the institution as a whole. This raises major issues of the importance of intellectual capital, especially for this context and the application of effective knowledge management principles to address this challenge.

Another concept that emerged was that academics generally affiliate themselves with their research unit or discipline as a first, and then with their School, and that this is where their allegiance and priority is concentrated. This finding is in line with the research of Becher (2001), first published in 1989. The university as a whole is impacted in various ways by this, and institutions ability to encourage support for institutional-wide initiatives and change, for example KM, is difficult unless there are perceived and demonstrable benefits at the academic and individual level.

6.2 Characteristics of Universities and implications for KM implementation

With regards to the characteristics of universities, interesting themes and concepts emerged as well, as can be seen in Fig 5. For the purposes of this paper, the issues of culture, difficulties experienced, management style and structure, in relation to the implications for the implementation of KM, will be considered.

6.2.1 Culture

Morgan (1986), defines *culture* as the shared meaning, shared understanding, and shared sense making that contributes to the personality of an individual or an organisation. It also has to be understood that, within any organisation or culture, there will be subcultures operating at lower levels of influence (Cole, 2004). With regards to the case study, very senior members of staff were interviewed, as well as some middle managers who would be at the cold front of operation and less influential and privy to the 'more influential inner circle' and possibly the heightened awareness that goes with being in it. It was interesting to note the difference and sometimes contradictory views and perceptions from these different groups which is a significant find yet goes beyond the scope of this paper.

Within HEIs there is the perception of an academic and administrative divide. A perception from an administrator suggests:

"..the academic community have a much more sharing culture. On the administrative side it is a case of getting the information only that you ask for, and if you do not ask the correct questions you possibly will not get the information you looking for".

This was felt to be the case with certain units, although practice within other units explicitly embrace and incorporate the sharing of knowledge and best practices to a degree. The universities within the cases were found to be traditionally collegiate, consensus type organisations, and two cases in particular highlighted this as a very strong culture within their university, considered to be very different from other universities with highly politicised environments.

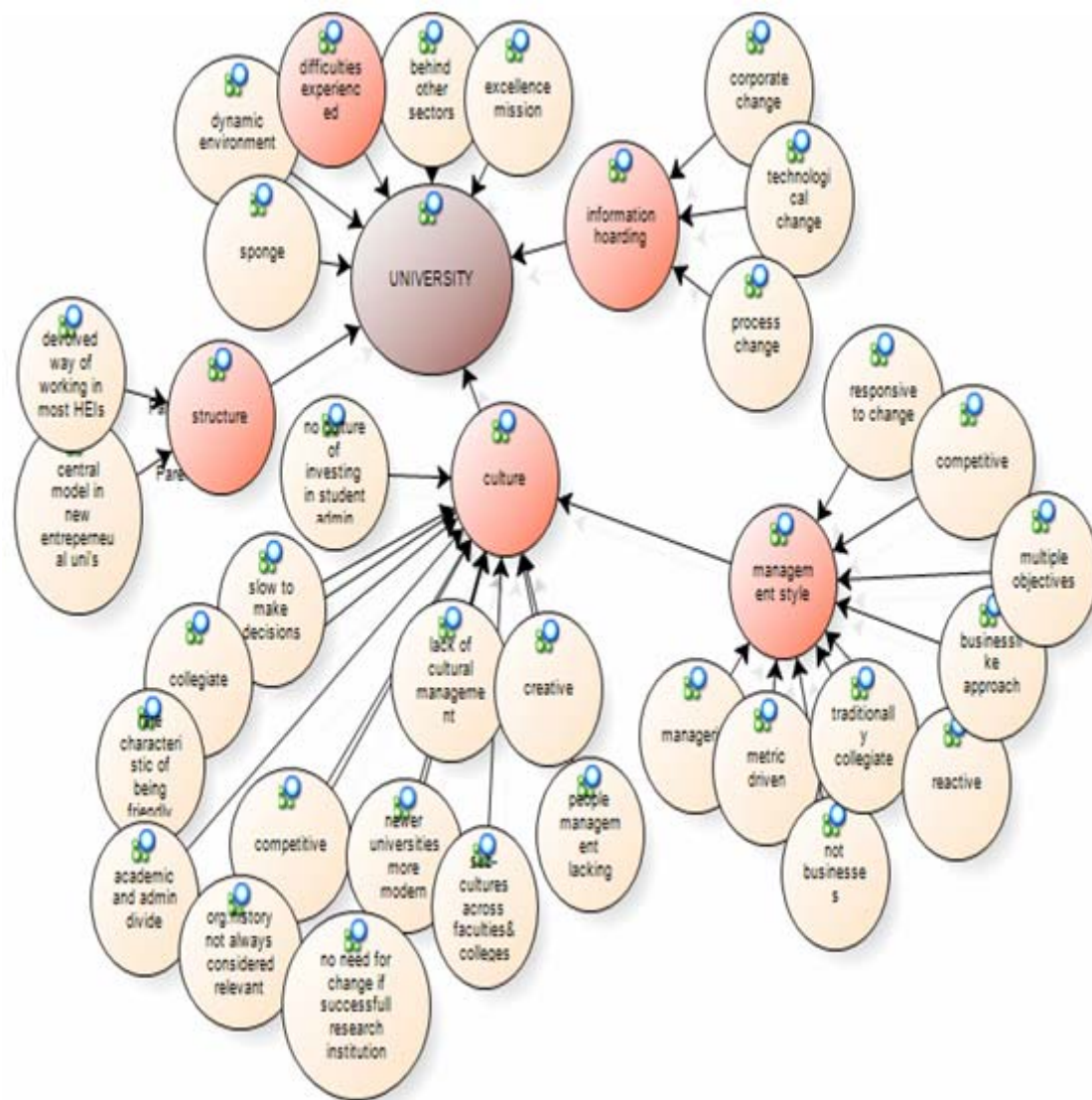


Figure 5: Characteristics of Universities

It was noted that sub-cultures existed within the universities, and posing these questions to a different person might yield slightly different answers (if from a different discipline for example); however, it was mentioned that all the senior staff would be very aware of the culture created by the Vice-Chancellor and their ultimate objectives and direction for the institution.

Universities are complex organisations and hence organisational change and the decision making process is a very long one; hence the rate of change within this context is slow.

6.2.2 Management structure and style

The management structure and style of the case universities, varied. One of the Russell group universities within the research has a very clear, explicit mission of excellence, and although it is a traditional, well-established, 'old', UK university, it embraces the 21st century management practices of KM evident in the redefining of an executive position with a clear mandate and responsibility for KM, both in the job title and duties. This position has been in place for a few years; however, a new appointment had recently been made, and some redefining of the position has occurred. At the time of the case study, a second university had, two months prior to the case study, redefined the position of Director to that of senior executive, also with a very clear mandate and responsibility for KM in the job title as well as in the job description. Both of these universities mentioned have a devolved structure, empowering Heads (Deans) of Faculties or Colleges with devolved budgets and power, and one indicated that the structure potentially weakens the 'centre' or the senior executive's position and ability to drive change across the institution, armed with the financial resources required for it. This has a direct impact on the way in which systemic implementation of KM and

institutional change is brought about. Although the leadership of the university values KM, and is one of the leading institutions within this case to embrace KM, it does have to deal with implementation difficulties imposed by the structure of the institution. The university has also embarked on an institutional wide project to begin to improve student processes in a significant way.

A third university, considered as a newer, pre-1992 university, also known for its national and international excellence in research and teaching, has marked its strategy with a wish to be enterprising and outward-looking and seeks to covertly match academic excellence with relevance, a policy which was not always popular in the late 1960s and early 1970s. Although, entrepreneurial in style and mission, it does not covertly practice KM, but considers KM-like activity to be part of what senior individuals within the institution already do. Its structure, however favours a more central model and hence the senior members of staff do not have the same difficulties as the decentralised universities do, that of decentralised budgets which in effect weakens the centre's ability to introduce systemic, institutional-wide change.

6.2.3 Difficulties experienced

The HEIs within the sample are very representative of the different types of universities in the UK, and certainly, as Shattock (2003) contends, they all may be universities but historically, locationally, and financially, their positions are very different. They certainly did not all start from the same position. Given the differences in history, culture and mission, the interviews identified that commonalities in the difficulties experienced over the years existed; however there were major differences as well. One of the commonalities is change; however the difference presents in the extent of that change. UK Universities in general underwent change over the past decade, however this change was considered to be especially strong in the universities classified as pre-1992: Former Polytechnics compared to the other well established, traditional universities who enjoyed research prestige, and were not pressured to change their processes and systems at the time. However, these well established universities, having missed the extreme pressure of change in 1992 and beyond, have now begun to rethink the way they do 'business', given the impact of globalisation and marketisation and their ambition to continue to maintain their prestige. These Universities within the case, have now recognised the importance of changing the way in which they do 'business', and are undergoing substantial change in terms of either their structure, processes or management tools adopted. One in particular has recently undergone a major restructuring exercise and at the senior level has embraced very modern 21st century management tools, for example ensuring very senior representivity and responsibility for KM, and utilising the Balance Score Card, and process improvement. The second Russell Group University has not overtly prioritised KM, but recognises what it does on a daily basis to achieve some of the KM objectives, and, in terms of the organisation and its processes, it has embarked on a 21st century management tool which will identify and eliminate waste to deliver improved value and service based on what their stakeholder requirements are, hence improving existing processes and creating new ones where required. This university is a much smaller university, and hence raises the question of size and geographical location of the university – whether spread across a wide area or localised in one area - would necessitate the implementation of KM or not, and how the process would work in practice. This institution, therefore, is actively and aggressively, seeking to ensure that they continue not only to deliver quality research, but also ensure quality of management, processes and services through prioritising 21st century management tools to maintain rank and prestige.

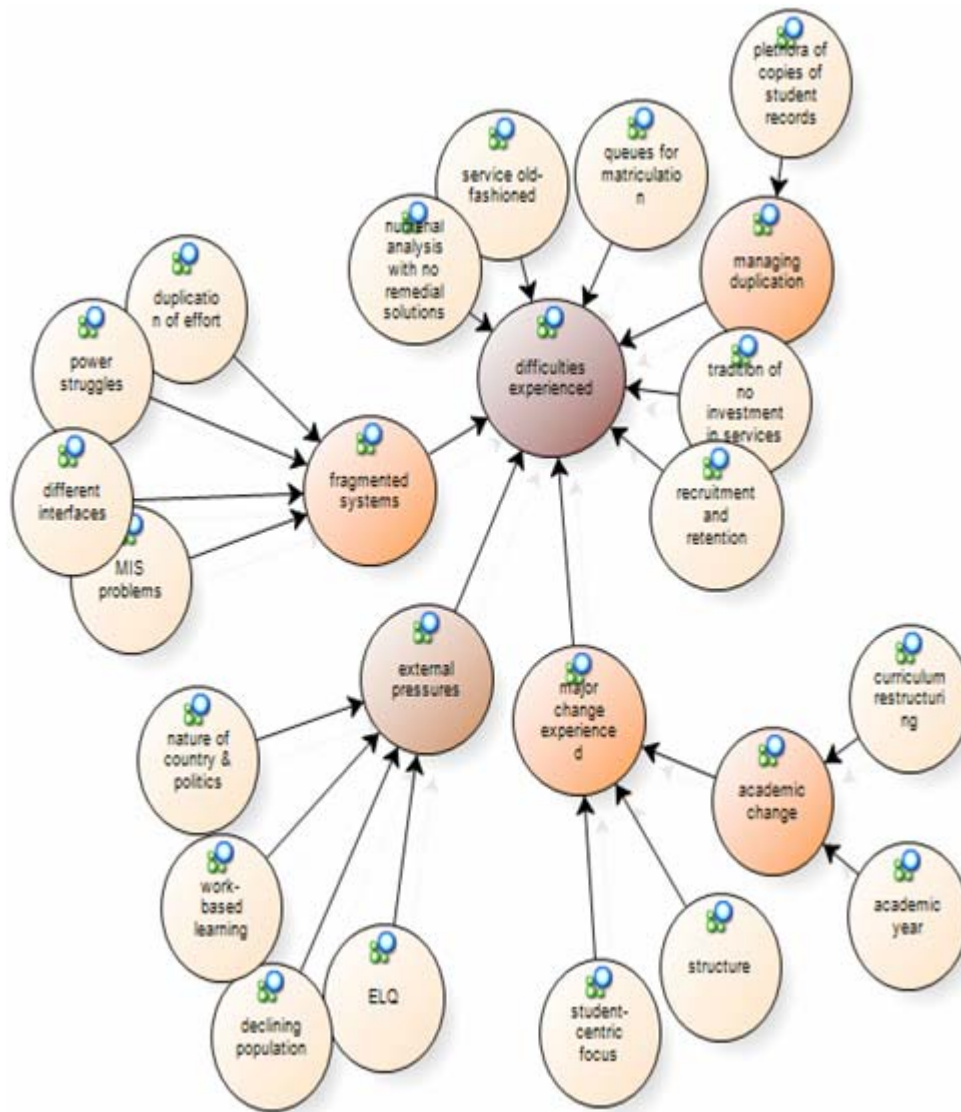


Figure 6: Difficulties experienced by universities

It was noted that the difficulties experienced by major change in the universities classified in the paper as “Post-1992: Former Polytechnics”, have impacted on their ability to embrace additional major change not imposed by government or the funding councils. These institutions contended that a period of stability was required, where change and improvement was minimal. Their stance was one that 21st century management tools either need to be imposed by Government or the funding councils or have to be tested and tried by the elite well-established research intensive universities within the UK. The perception was that they do not have the luxury of resources to invest in any activities not considered core or critical to the university’s mission.

7. Conclusion

Universities in general, and UK HEIs in particular, do have a significant level of KM activities, which Rowley(2000) contends is important to recognize and use as foundations for further development. It is evident from the cases that two out of the seven HEIs were engaging in KM in a systemic and institutional-wide way, and a further two had champions engaging in KM overtly within their faculty. These four institutions were therefore actively engaged in prioritizing 21st century management tools.

Higher Education Institutions within the United Kingdom have undergone major change over the past decade which has impacted on their ability to respond to external forces not imposed by the government or funding councils. Some of these are linked to the influences of globalization and market forces and impact directly on institutions’ ability to maintain their prestige and rank. Well-established, prestigious universities within the UK appear to be more capable of responding to these forces and have recently begun to prioritize 21st century management tools like Knowledge Management, Lean Management, Balance Score Card, and Process

Improvement, to name a few. The case study has enabled research to be conducted on a spread of universities within the UK, and has presented very interesting and current findings as to the context of HEI's and its position on KM as a management tool. Some of the initial themes emanating from the cases are highlighted below:

1. **HEI leadership slowly prioritizing KM and 21st century management tools:** Two of the seven case studies have senior executives with titles Vice Principal Knowledge Management, and 1 has a very senior member of the executive board championing KM activity within the university. Another has been charged to investigate the possibility and potential for KM activity at the university. Hence 4 of the 7 case institutions have varying degrees of KM consideration.
2. The nature of academic staff and perceptions of the academic job have a direct impact on the culture of the institution and impose their own factors that contribute to the ability to adopt KM as a management tool: To implement KM within any organization, the correct culture needs to be cultivated. HEI's have two distinct cultures, an academic culture and an administrative culture, and even within these there would be sub-cultures for example per discipline or function. A theme that came out of the research was that not enough cultural management is exercised within this context. Academics are considered experts in their field and hence do not take too easily to being managed or having "what they know" managed. They are not averse to the idea of sharing of best practice, but, rightfully so, want to exercise their academic freedom so as to cultivate innovation and creativity.
3. Evidence of the benefits of explicitly adopting KM principles within this context needs to be clearly understood by individual researchers and academics, as well as the administrators: Universities by virtue of their missions, share knowledge with their students, and use committees to make decisions and share information and knowledge. The additional benefits of adopting KM within this context needs to be understood, as universities consider themselves to already be sharing, creating and disseminating knowledge. What are the areas that can explicitly improve with KM, what are the gaps in application, and how best can the explicit adoption of KM harness competitive advantage?
4. **The taxonomy for the application of KM within the HEI context should be considered:** The word "manage" immediately receives a negative response as it reflects a business-like attitude which does not sit well with a few more traditional academics, except with a few Business Academics. Even within the universities that have embraced KM, there have been lengthy debates to not use the word "manage" in the terminology. In some, there has also not been a clear definition for KM specified and hence the role of Vice Principal: Knowledge Manager is that of facilitator and enabler of various activities that would be considered KM. The HEI context would benefit greatly by a taxonomy that specifically accommodates its context.
5. **The management structure of a university affects its ability to respond quickly to external influences and pressures:** Universities have become more and more decentralized, shifting budgets and hence power down to the Heads of schools or colleges. The impact of this is that colleges/faculties, and hence the Heads or Deans, become all-powerful which tends to weaken the 'centre' from implementing systemic or institutional-wide change without the express approval and supporting finances from the Deans/Heads. The positive side to this structure is that if there is an environment and culture of collaboration and trust, then the centre has to receive the buy-in of all the Heads of Deans before it can engage in any systemic changes, which will improve the success of the initiative. Centralized models do not have this problem, and it was found that the newer, modern universities tend to be more entrepreneurial in nature and adopt the more central model.
6. There is a correlation between the history of the institution and its ability to respond to the challenges of the 21st century Knowledge Economy: The universities who underwent major change, those who changed their status from Polytechnics to University in 1992, expressed the need for evidence based benefits of KM or for a clear instruction from government or the funding councils to adopt KM. In their opinion, this would tip the scales in favor of KM as the major change that they needed to undergo over the past few years necessitates a period of stability before any further substantial change would be implemented. By contrast, pre-1992 universities, are now beginning to make substantial changes to their structure, processes, systems and able to adopt 21st management tools to ensure that they maintain their cutting edge.

In conclusion, this research has enabled some rich themes and findings to emerge with regards to the current perceptions of KM within the HEI context and the factors that hinder or promote its implementation. Two of the areas from the research were considered in this paper namely, the characteristics of academics and universities and the impact on the implementation of KM within this context. This research is fascinating in that academic research in the area of KM is increasing in popularity and institutions offer it as an academic programme or course, yet few, have embarked on research of the application or implementation of KM within

this context. Further research is required to provide an evidence base of the benefits of KM as a management tool to enhance the competitive advantage of universities within the UK; however, this case study research has shown that, as Ponzi (2002) postulates, KM is in the process of establishing itself as a new aspect of management and slowly but surely it is capturing the attention of the HEIs.

Acknowledgment

The authors wish to thank the School of Management at the University Of Southampton, and the National Research Foundation, South Africa, for its financial support of this research.

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