Knowledge & Learning At The New Frontier: A Case Study In An Emerging Market

David A Griffiths, University of Edinburgh, UK

ABSTRACT:

This research is designed to assist practitioners and theorists in understanding the learning and knowledge challenges being faced by organisations as they expand their operations into new spaces in an attempt to seek out new or extend existing competitive advantage. To enable this process the paper conducts an exploratory case study in Quintiles (Asia Pacific), a United States pharmaceutical Clinical Research Organisation with a global presence. The narrative explores the drivers for expansion, but also uses the case study organisation to explore some of the issues that emerge when expanding operations into an emerging market. Prominence is given to intellectual capital and the supporting learning and knowledge functions within an organisation. The narrative also focuses on contextualising the environment, in this case the Asia Pacific region, particularly focusing on India and China, a key area of operation for the case study organisation. Using an evidence-based general model for knowledge management analysis, the paper sets out a case study method, which produces rich findings that reflect the issues set out in the literature surrounding the field. Findings are offered with recommendations for further research.

Keywords: *Knowledge management, Case study, Strategic management tools, Asia Pacific, Clinical research organisations*

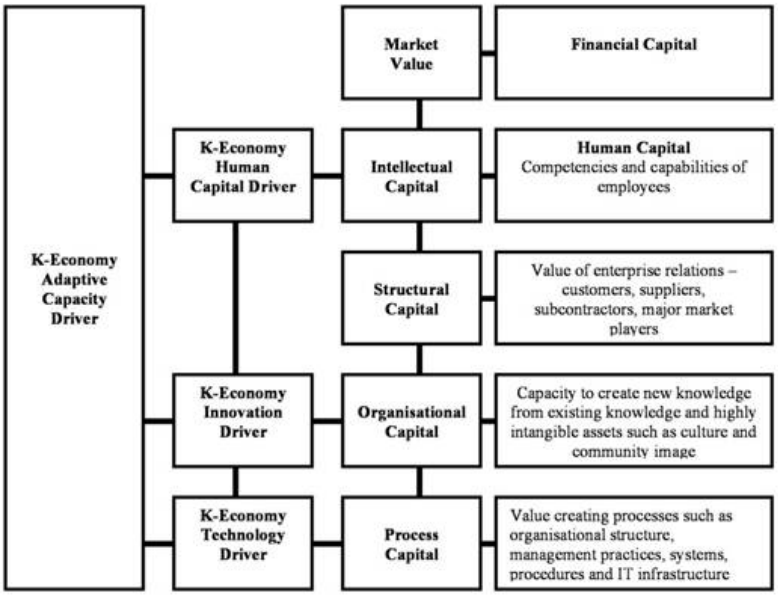
Introduction

As organisations seek to maintain or gain competitive advantage they are drawn towards new fertile markets, such as those in India and China. Seeking new markets brings the burden of duplicating and extending existing core competencies. This can stretch existing knowledge and learning resources within an organisation, to say nothing of the need for knowledge and learning functions to adapt to new cultural and process stimuli emerging from the new market. This paper uses a case study to examine the operations of Quintiles (Asia Pacific), a pharmaceutical Clinical Research Organisation with operations in India, China, Singapore and Japan, as a lens through which to view the challenge of modern organisations as they seek out new spaces. The outcomes provided are intended to assist theorists and practitioners in understanding the learning and knowledge challenges being faced by organisations as they seek out new markets.

This article will use the macro and microenvironment of a Clinical Research Organisation (CRO) to contextualise the narrative. A CRO manages the clinical research, examining benefits, risks and effects, of pharmaceutical products prior to their general release. The CRO is not usually the product developer, they are the organisation tasked with the testing. Broadly speaking, they generally manage five stages of the process: Pre-clinical, *in vitro* and/or *in vivo* testing in animal models; Phase 1, the first human trials, usually incorporating a small patient group of 28-30; Phase 2, expands the trial to between 20 and 300 patients; Phase 3, broad trials, incorporating 300 to 3000 patients; Phase 4, post market release, ongoing development and innovation. The CRO manages this process through the use of a Project Services function that coordinates the logistical and cost aspects of a trial.

Literature Review

Figure 1



Griffiths (2010): An adapted view of the drivers for knowledge and learning in organisations

Organisations are operating in a global economy, characterised by the emergence of intellectual capital, governed by intangible assets, such as knowledge, as a core value driver (Dunning, 2009). The value of intangible resources have dramatically increased over the last 80 years, rising from a 30% representation of company valuation in 1929, to recent times where companies, such as Google and Microsoft, have declared intangible assets to be worth as much as 90% (Ash, 2004). This is confirmed in research, where Intellectual Capital has been found to account for 78% of the value on the S&P [Standard & Poor's] 500 (Call, 2005). This value creation becomes a driver for the expansion strategies of Multi National Enterprises (MNEs) as they seek improved competitive advantage in new spaces (Dunning, 2009). Value is nourished by the drivers of the knowledge economy, which are seen by the OECD (Organisation for Economic Cooperation and Development) as being human capital, technology, innovation and adaptive capacity. To illustrate this, we have taken work by Diakoulakis et al (2004) on a generic intellectual capital model and trasnformed it to include the drivers of the knowledge economy (Fig. 1). It is hoped that this will provide the practitioner with a clear line of sight between organisational activity and the drivers of the external environment.

Significantly, as MNEs expand into new market spaces, there is a need to consider spatial analysis to ascertain the existence of essential support activities, such as human resource development, that compliment core organisational competencies (Dunning, 2009). Reichert (2006) also discussed the need to develop spatial awareness. He stated that tacit knowledge, a significant contributor to organisational intellectual capital, is geographically bound and lacks portability across boundaries. Of course, this could be challenged, through, in the case of MNEs, the movement of tacit knowledge through employee migration from the home location to the new space. This said, a mature organisation will already have developed a unique competitive advantage, the migration or duplication of which could be difficult when it involves tacit knowledge or specialised human resources (Bruton et al, 2007). This is where spatial awareness and analysis needs to be recognised. Mobility of human resources across borders can be used to overcome deficiencies in new operational spaces, while also embedding organisational learning and knowledge processes and motivating staff by meeting the expectations of a younger workforce for a challenging career (The Economist Intelligence Unit, 2008).

"Complimentary foreign assets and capabilities sought by MNEs wishing to add value to their core competitive advantages are increasingly of the *knowledge-facilitating* kind, and that is particularly the case as their affiliates become more firmly rooted in host economies" (Dunning, 2009, p. 10)

Dunning (2009) suggested there to be four key determinants for the spatial expansion of MNEs: Resource seeking, market seeking, efficiency seeking, strategic asset seeking. Resource seeking looks to exploit financial, quality, availability and knowledge exploitation opportunities. Market seeking looks for growth markets, including, "increased need for presence close to users in knowledge-intensive sectors" (p. 11). Efficiency seeking is mainly linked to production cost, but can be linked to the need to close the distance between knowledge sources. Strategic asset seeking attempts to develop competitive advantage through relationships with, for example, new cultures, institutions or systems that can enhance existing competitive advantage. Quintiles appeared to have responded

primarily to the second and third determinants. First, they were following the pharmaceutical sector in exploiting a region experiencing high growth. Second, they were efficiency seeking, as many of the drug manufacturers and developers had expanded into the Asia region, which requires Quintiles to narrow the distance between themselves and their key stakeholders. This is typical of the sector, where organisations, such as Novartis and Roche, have set up operations in the region to close the space between their existing operations and the marketplace (O'Riordan, 2008).

Focusing on China and India based CRO activity, due to the strategy of the case study organisation and the limitations of this paper, it becomes apparent that trained, knowledgeable CRO professionals at one time were in abundance, but the resource is under strain due to the rapid inward migration of international organisations (Bhowmik et al*,* 2010). This is being driven by the reduced costs associated with drug development in the region – "trials for a standard drug in the US can cost up to $150 million. A similar drug could be tested in India for less than half that amount" (p. 30). This is a competitive marketplace; as an illustration, Charles River Laboratories bought out Wuxi Pharmaceuticals (China), for $1.6 billion in 2010 and CRO competition in China is estimated to include over 150 firms (Bhuller & Koul, 2010). The growth of the pharmaceutical sector in the Asia region has been further heated by the large patient pool available to organisations developing clinical trials, with growth expected at 31% for the period 2010-2012. However, there is also a problem within the traditional home markets of pharmaceutical organisations, where they are being faced with a shortage of staff against the number of drugs being trialled (Bhowmik et al*,* 2010). This links to issues of quality, while the low cost of the Asia Pacific region appeals to MNEs, the region also suffers the burden of a reputation for poor quality (Chigullapalli & Zaheer, 2010). The problem facing CROs migrating towards new spaces, such as India, is the strain on human resources, replicating the conditions of the home territory, where demand for over 60,000 staff, across the spectrum of CRO operations, place an emphasis on the ability of organisations to train and retain staff; "by far the biggest problem is staff recruitment and retention, and the situation is only getting worse" (p. 41). This is core to developing growth in the region and is believed to be the one aspect that could stunt organisational expansion (Bhowmik et al*,* 2010).

"The current efforts at training are fragmented. The training focus of sponsors and CROs is on the investigators involved in their trials and their own monitors and other professionals. The enormous challenge of large number of quality professionals in medical and clinical research can only be met by cooperative and collaborative efforts between industry, academia and government' (p. 37)

Further to this, it suggests that the existing learning and development function of the migrating organisation will experience new challenges; knowledge will need to be transferred across boundaries, while also negotiating the cultural interface between Asia and North American operations. This, in turn, would appear to increase the load placed on organisational knowledge and learning processes, in acquiring, storing and facilitating the dissemination and application of knowledge resources. Chigullapalli & Zaheer (2010) argued that while MNEs exploit the cost and resource benefits of the region, there is a need to invest in human resource and talent management, "The region should aim at generating more talent with the right scientific skills in order to meet the ever-increasing demand for professionals" (www.pharmafocusasia.com). Lagace (2010) interviews Tarun Khanna from Harvard Business school, who stated that areas such as India have immature talent management and recruitment agencies, which will be alien to Northern hemisphere organisations. Khanna argued that the challenge for the organisation is to then overcome this deficiency, through the use of mature internal resources, to formulate appropriate internal action. He also posited that the ambition being demonstrated by the indigenous population of emerging markets, such as India, requires an understanding that includes the development of products and services that meet their particular needs. The Economist Intelligence Unit report (2008) found there to be a need for an innovative approach to talent development, where foreign organisations take a stake in the development of the indigenous population.

"In India, where skills shortages are particularly acute, many companies are looking to bring uneducated workers into their organisations….the biggest contributor is to invest in their employability…if we do that we'll really ease some of the pressure…Inclusion will become an important way talent challenges are handled, because there's nowhere else to go to look for talent" (p. 10)

This provides a clear signpost towards organisational investment in learning and knowledge resources, extending beyond the boundaries of the firm, if competitive advantage is to be duplicated or extended in emerging markets. Organisations need to exploit existing market position. As an example, Quintiles, our case study organisation, has a distinct advantage of being a brand leader, which, according to The Economist Intelligence Unit (2008), enables employees to realise international career opportunities. An advantage that, in a region experiencing shrinkage in the pool of quality human resources, allows them to compete through improved salary potential. This is a pivotal competitive advantage, considering that one of the biggest challenges facing organisations based in India is the ability to meet employee salary expectations (The Economist Intelligence Unit, 2008). However, specific skills, key to the development of organisational knowledge resources, such as "The ability to think strategically" (p. 6) are acute, with 52% of 944 global executives in a 2008 survey (The Economist Intelligence Unit) stating that it was an essential skill and 47% stating, "it will be the most difficult skill to source" (p. 6).

Learning And Knowledge

Learning and knowledge was given prominence as a lever for competitive advantage through industry analysis, which identified CRO weaknesses as "increased cost containment efforts by customers", placing higher emphasis on quality of service, which, in turn, places an increased load on human resources; "Standardised procedures with low flexibility", requiring the organisation to provide a high level of direction; "High staff turnover", placing an emphasis on knowledge capture and storage. (p. 23). This last point would seem to be a concern for organisations having to invest in learning and development as they expand, as it is difficult to justify expenditure on staff development in a sector with a high staff turnover. However, the solution could be the parallel development of appropriate capture and dissemination processes, through such concepts as KM and organisational learning. In this way the firm can invest in people and build its own adaptive capacity while safeguarding against the loss of knowledge as people leave the organisation.

Learning is closely identified with the knowledge process (Bhatt, 2000; Kulkarne, et al*,* 2006) and knowledge is observed as being intrinsic to the learning process:

> "The recognition of one's own need to learn, the search for new knowledge, the test of that new knowledge in practical action, and the consolidation of the whole exercise within the memory are all essential to complete learning" (Antonacopoulou, 2006, p. 9)

Bhatt (2000) argued that poor learning could impinge upon the knowledge creation process, which again suggests a link between knowledge and learning. Robbins (cited in Chowdhury, 2006) suggests that learning in an organisational setting lacks an acceptable meaning. However, he puts forward a generally accepted definition: "learning is any relatively permanent change in behaviour that occurs as a result of experience" (Chowdhury, 2006, p. 1), which could be seen as the transition of knowledge to knowing, being knowledge in action (Wenger et al, 2002). Jennex & Olfman (2004) state that for KM to improve business performance it is necessary to influence organisational learning in the pursuit of improved organisational memory, supporting our idea that KM and organisational learning can assist the firm in retaining its investment in the development of human resources. This is supported by (Sanchez & Heene, cited in Sarah & Haslett, 2003) "Learning is a process which changes the state of knowledge of an individual or organisation" (p. 5). Edward & Rees (2006) surmised, "It is clear that managing behaviour, learning and knowledge cannot be separated from one another" (p.167).

However, there is a warning for organisation looking to leverage competitive advantage from knowledge and learning. Chun et al (2008) stated that, "despite the importance of knowledge as an asset, few organisations truly understand what it means to be a knowledge-based firm and how to manage knowledge to achieve its goals" (p. 1). And Chiva & Alegre (2005) suggested that knowledge and its management within organisations is in a state of disorder, with no clearly defined architecture for its application. Bruton *at al.* (2007) stated that a mature KM function is important to an organisation expanding into an emerging economy, "arguably, the key resource…in emergent markets may be knowledge. And aggressive competition can cause missteps to become fatal" (p. 119).

An advantage for organisations migrating towards emerging markets, such as China or India, is that the cultural indicators point towards a collectivist mentality, scoring negatively on individualism (Hofstede, 2007). This suggests a potential for successful knowledge sharing activity, which could expedite the development of competitive advantage. This would also seem to inform HR strategy for the regions, especially in the areas of learning and development. A 2003 study into knowledge workers in the Asia Pacific region found that a critical challenge for organisations to be the development of complementary human resource strategies to support the need to acquire, store and create knowledge (Horwitz et al*,* 2003). The authors also looked at organisational typologies as a catalyst for knowledge resource development. They concluded the best typology involved an "engineering model with a 'skunk works' mentality with high binding energy" (p. 28). The most negative typologies were seen as autocracies or bureaucracies. The authors extended their enquiry into motivation to illustrate that complimentary reward systems need to be integrated within job design to enable key knowledge generation and sharing processes. However, they added a caveat to their findings, in that the reward needs to marry with the expectation of knowledge intensive workers. For example, "cash or spot awards …are not that effective in motivating knowledge workers" (Horwitz, et al*,* 2003, p. 33).

Based on the flavour of the literature presented here, the management of globalised HR processes could be seen as culturally problematic for organisations moving into emerging markets. However, Fang (2010) disputed this, stating that management knowledge is moving away from being geographically or culturally situated. This is due to the amount of information available via the Internet, where managers of diverse cultures can learn, share and transfer practice side by side unhindered by time, context or situation – developing an understanding that transcends traditional borders.

The Problem Statement

The importance of knowledge and learning to an organisation migrating towards an emerging market is clear. However, the question is whether an industry leader, operating in the Asia Pacific region, recognises the learning and knowledge challenges of their environment and, if they are spatially aware, how they are rising to meet those challenges?

The Organisation

Established in 1982, Quintiles, is a pharmaceutical Clinical Research Organisation employing over 23,000 staff throughout 50 countries. At the time of this enquiry Quintiles held a 14% market share of a reported 24 billion dollar industry (Business Insights, 2010). This study focuses on the Project Services Division, situated within Global Central Laboratories, employing almost 400 staff within Project Set-up and Project Management. Operations are headquartered in Atlanta (USA), with European operations based in Livingston (UK) and Asia Pacific operations based out of Singapore. The Asia Pacific region, in which this enquiry is set, is headquartered in Singapore with outlying teams in India, China and Japan. Each Global Central Laboratory (GCL) is managed by a Vice President and has its own Project Services function, managed by a Director; a Global Director based in Livingston oversees the three Project Services regions. Project Management relies on operational 'pairings' of a Project Manager (PM) and usually one project Coordinator (PC). Quintiles operates in the Asia Pacific region as a service based solutions provider, where PMs are required to have a high level of knowledge in order to develop bespoke service solutions for clients. PMs are also recognised as knowledge worker in the eyes of the organisation.

At the time of this enquiry Quintiles was the industry leader in Asia Pacific (Business Insight, 2010), conducting over 90 studies involving 13,000 patients in India alone (Bhowmik et al*,* 2010). However, it was facing increased competition from Covance and PPD, both of whom held a 10% market share. Both competitors were exploring Asia as an emerging market and Business Insight (2010) identified Asia Pacific as being pivotal to maintaining market share. This was demonstrated by Covance's growth strategy, which focused on emerging markets such as Asia.

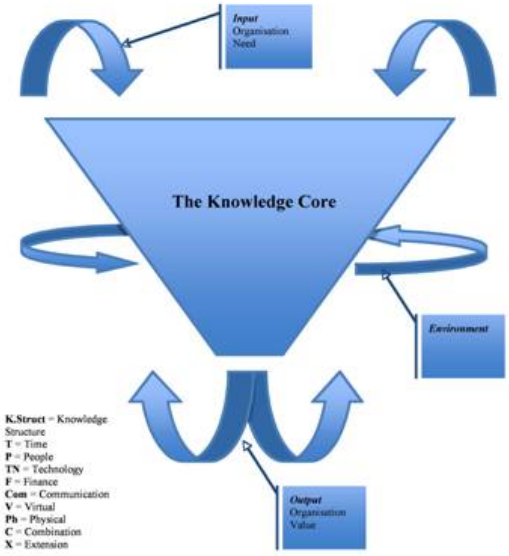
The Knowledge-core

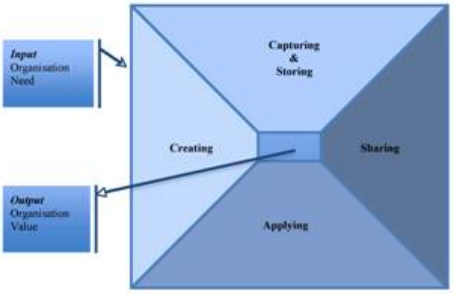
To facilitate the enquiry our research utilises a general KM tool as a lens to for the analysis of practice. Griffiths et al. (2010) initially put forward the K-Core, an evidence-based generic model for KM. The model (Figure 2) emerged out of a value-based meta-analysis of KM literature (Griffiths & Morse, 2009). The model was designed to address organisational KM research and, particularly, the need for a model that could address processes regardless of sector. The modelling process was compared with a global practitioner survey, and fractal analysis was used to demonstrate self-affinity between organisational sectors (Griffiths & Evans, 2010). It would, therefore, seem to be an acceptable lens to utilise in response to the problem statement.

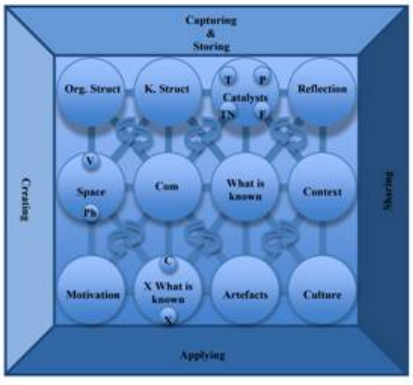
The model (Figs. 1) and supporting PIAT (Participatory Integrated Assessment Tool) has been informed by extensive research (See: Griffiths and Morse, 2009; Griffiths et al*.,* 2010; Griffiths and Evans, 2010). A PIAT centres on delivering knowledge "in such a way that the whole cause-effect chain of a problem can be evaluated from a synoptic perspective" (van der Slujis, 2002, p. 250). Van der Slujis asserts that this approach provides added value to practitioners as it develops evidence from diverse perspectives along with clear information for decision makers.

Figure 2: K-Core Model Of Knowledge Management

(Reproduced by permission from Griffiths et al, 2010)







The PIAT incorporates three parts. The first takes the four functions and twelve enablers described earlier, to develop a three-point maturity model of practice, which separates out strategic (direction) and operational (activity) processes against internal and external parameters, to examine over 500 evidence-based aspects of human and technology KM processes. The maturity model has been designed using Office for Government Commerce (OGC) guidelines, which observes maturity models to be "a systematic framework for carrying out benchmarking and performance improvement". The OGC promote five-step models, but note that there are many variations of this. The K-Core attempts to simplify the analysis of KM processes by using a three step traffic-light model: Green (Performance continuously improving), Amber (Awareness, but inconsistent practice) and Green (Performance continuously improving).

The second aspect is a feedback tool of Key Performance Indicators. This takes the three step maturity model parameters and develops an analysis model, which is informed by the third aspect, a selection of over 500 evidence-based questions and Document Analysis requirements that directly link to the feedback tool and the maturity model.

A semi-structured interview process that requires a quota sample of employees, representing a cross-section of staffing responsibilities, primarily drives the PIAT. The four K-core functions are divided by quota allocation; therefore a pool of 40 interviewees would allocate 10 per function. The twelve enablers are then aligned in a matrix style against the four core functions, with in-tool cross-referencing prompting process coherence between core functions. Document Analysis supports this, as well as in-case cross-referencing. The whole process is contextualised through an organisational typology survey, based on the work of Mintzberg (1980). This helps identify the operational experience across the various levels of employee, which brings a deeper understanding to the K-Core feedback.

Methods

Miles & Huberman (1994) suggest that any case study should define itself by bounding the territory of the enquiry. This is a single exploratory case study designed to answer the following question:

> *How is knowledge and learning being managed in a Clinical Research Organisation situated within emerging Asian markets?*

Case studies are seen as holistic tools for the capture of real-life phenomena. They allow for a detailed understanding through which it is hoped that a broader understanding of the phenomenon gain be gained. They can be developed as either single or multiple studies. In either form the method is observed as utilising a triangulated strategy. In this study methodological triangulation is utilised, where the creator of knowledge examines the phenomenon using tools such as document analysis, observation and interviews (Tellis, 1997).

Single case studies have been criticised for their ability to develop transferable findings across a field (Flyvbjerg, 2006). However, Yin (1984) argued that a single case study could deliver analytical transferability allowing the theory developed to be compared and contrasted with the empirical findings of the case study. Stake (1995) also argued for transferability using a single case study through naturalist transferability. This is founded in the idea that the data generated within the case study allows for resonance across "a broad cross section of readers [by appealing to their own grounded experience] thereby facilitating a greater understanding of the phenomenon" (Tellis, 1997, p. 2).

Research has also been developed in order to provide a well-founded theory for testing, which is seen as essential if a single critical case study is to be utilised. This as a critical case study is deductive in nature, looking at the feasibility or non-feasibility of a theory in an applied setting, being the use of the K-Core in a CRO against our problem statement, and works towards transferable findings (Flyvbjerg, 2006). The business function in Quintiles is generic in nature, which would seem to improve the opportunity for transferable findings from a single case study (Flyvberg, 2006). The limitations of this paper do not allow us to discuss the full methodology. However, the case study frameworks of CRLRA (Centre for Research and Learning in Regional Australia, 2000) and Riege (2003) were synthesised and applied to strengthen the confirmability, credibility, transferability and dependability of the research.

The Enquiry Framework

The K-Core PIAT employs two aspects of enquiry independent of the organisational typology survey: semi-structured interviews and document analysis. Interviews were conducted over a 5-day period and were recorded, with permission, and questions were mapped and time coded live. One interviewee declined to be recorded and hand-written transcripts were used for analysis. This staff member viewed the transcript and was given an opportunity to make corrections; none were offered. In-depth analysis was conducted over a total period of six weeks, including in-case analysis time during the interview process.

The K-Core findings are informed by 26 interviews selected by quota, according to position and roles and responsibilities, with staff being selected by random number generator (www.randomizer.org). Interviews were broken down as follows: 20 were conducted in a closed meeting space at Quintiles (Singapore) and 6 were conducted via video conferencing, due to the travel distances involved (India and China). On average 4 interviews were conducted per day with a 60 minute average interval between interview times to allow for researcher reflection, the collation of live-analysis notes and in-case cross referencing. Interviews lasted between 23 and 65 minutes, with an average of 42 minutes. A minimum of 6 staff were assigned to each of the four KM functions within the K-Core model.

The enquiry utilized the following key informants in developing the findings:

2 Set-up Managers
2 Set-up Specialist
8 Project Managers
12 Project Co-ordinators
2 Executive Manager/Vice President GCL (Asia)

All informants were seen as valid and reliable information gathering instruments, as they were all contracted, trained, fulltime employees of the organisation.

The enquiry utilised the following documents, chosen for their relevance to K-Core questions, to cross-reference feedback from the interviews and strengthen the credibility and confirmability of the findings:

Global Central Laboratories Strategy
Project Services Business Goals
Project Management Training Plan
Project Manager Job Description
Project Coordinator Job Description
Project Set-Up Job Description
Project Set-up Training Plan
Project Services Induction Training Plans
Stored documents on the company intranet
Competitor websites and publicly accessible documentation
Industry SWOT analysis report 2009
Global Power Point strategy presentations delivered by the Global Director for Project Services

The Organisational Typology survey was distributed by email to all staff involved in the interview process, allowing ten business days for completion, and received an 89% response rate.

K-Core questions were tested on a randomly selected Project Manager, chosen using a random number generator. This employee was then excluded from the enquiry process. This staff member was asked a series of six questions to negotiate industry language and cultural language against the Knowledge Management and Business terminology within the question set. No significant issues were recorded and it should be noted that English was the primary business language for Asia Pacific operations

Interviewees were asked questions relating to a single function, being acquisition & storage, sharing, application or creating, from the K-Core Question set and their responses determined the selection of the next question as part of an iterative process. Interviews were structured to allow for interviewee feedback; this includes answers to questions being repeated back to allow for clarification, statements of understanding on the part of the interviewer being conveyed to the interviewee to allow correction, and an opportunity for the interviewee to feedback comments or analysis stimulated by the interview process. Interviewees were also required to clarify through example any assertions made. For example, where an interviewee stated, “Atlanta don’t listen to what we have to say” (Interview DD03) the interviewer would replied, “Give me an example of what you mean by this”. The interviewer would also look to establish links to the core business in order to establish the criticality of the presenting situation. For example, the interviewer in response to a presenting issue might ask, “what impact did this action have upon the client?” or, “There was a series of complaints from one of your clients, what caused that?” (Gillham, 2004).

Interviews were analysed within 14 days of the final interview being conducted. Interviews were hand coded and cross-referenced against the K-Core feedback tool to extrapolate relevant responses. An employee of the organisation was used to clarify issues of local terminology, systems and processes during this phase of the enquiry and their responses informed the data analysis.

Data Analysis

Of the 26 key informants 21 (80%) provided the most confirmable feedback. This was established using within case cross-referencing of interview responses and document analysis. The remaining interviews provided outliers that could not be verified through within case cross-referencing, document analysis or clarification interviews. Whilst outliers could produce valuable findings the time constraints for the enquiry, imposed by the organisation, did not allow for the investigation of unsupported assertions. The outliers were passed onto the organisation for further enquiry, but did not appear to impact the outcomes of the enquiry.

The gathering and analysis of data was conducted as part of a seamless process, where analysis began at the completion of the first interview. An employee, who was not part of the enquiry pool, was utilised to confirm and develop the researcher's interpretation of organisational terminology, systems and processes. This understanding was then utilised to inform subsequent interviews. The Director for Project Services (Asia) was also used as a feedback loop for the researcher. Meetings were held with this Director on seven occasions during the interview process for an average of 38 minutes. These meetings were used to determine the credibility of preliminary findings, and at no time was any feedback provided to suggest that the interview process was being misinformed. Where further understanding could not be provided the interviewee was contacted to enable clarification. This occurred on five occasions and was caused by cultural language differences between the interviewer and interviewee.

A secondary researcher, with an undergraduate Project Management degree and work experience relating to the field, was given a sample of 14 anonymous responses from 10 key informants for comparison against the K-Core feedback tool. The independent researcher had previously received 2 hours of training on the K-Core and had been used in this capacity on one previous K-Core case study. Responses were provided in non-coded transcript format and detailed on average 2.3 minutes of interview time. In all cases the secondary researcher agreed with the relationship between the interview response and the coding against the K-Core feedback tool. At no time was the secondary researcher informed of the findings of the primary researcher.

An informal debriefing was held with the Director for Project services (Asia Pacific) within three hours of the final interview being conducted and offered an opportunity for preliminary feedback. No disagreement with initial findings was offered. The preliminary report was then presented in a meeting with the Global Director for Project services in Livingston, again, there was no disagreement with the findings.

Findings

The organisational typology survey suggested Quintiles Project Services (Asia Pacific) to be operating primarily as a machine bureaucracy, where the organisation performs complex but repetitive work (Mintzberg, 1980). This was not seen as unusual as it reflected the industry analysis conducted by Business Insights (2010).

In this typology systems are used for co-ordination and control. Standardisation is very important, and functional organisation structure is usual. The machine bureaucracy is formal and predictable. Specialists develop systems for breaking down work into routine jobs and there is a high degree of inter-dependence. The top team are usually functional representatives who ensure that standards and controls are being developed and reviewed. Major strategic decisions require much teamwork at the top level, and sophisticated planning techniques are needed. Efficiency is a watchword, but much needs to be done to contain dissatisfaction. Top management ensure that adequate co-ordinating mechanisms exist. Communication is needed to standardise operations and ensure that the top team's strategies are fully understood. Management by exception is the rule, so quick identification of abnormal events is crucial (Mintzberg, 1980).

The line of sight between corporate strategy and the point of application at the various locations within Quintiles Asia was critical issue for the Project Services Director (Asia). There was no identified knowledge leader within the parent organisation and nobody could be identified as having KM within their operational roles and responsibilities. Knowledge was identified as a resource within organisational strategy, but did not appear within the division strategy. The technology framework to support KM processes was poor with much of the embedded knowledge lying dormant in shared drives that lacked an indexing system and search functionality. This was compounded by the organisational structure that stagnated knowledge by relying on personal relationships between a Project Manager and a single Project Coordinator, who acted essentially as administration support.

What was immediately striking about Asia Pacific operations was the lack of understanding at the point of interface by the more mature regions operating out of Atlanta and Livingston. Singapore staff were frequently required to attend conference call meetings that extend well beyond normal office hours, between 7pm and 2am, in order to meet the needs of European and North American colleagues. This inconvenience had residual impact on the culture of the region, in that they perceive themselves to be a junior partner in Project Services and yet they were on the front line of future markets. On a local level staff disengaged with the process, either attending conference call

meetings and “tuning out” or not attending at all. The ramifications from a KM perspective were that disengagement was slowing the flow of frontline business intelligence within the organisation.

The Asia Project Services team had grown exponentially over a two-year period, but there appeared to be a lack of visibility of this growth within the wider Learning and Development function. It was noted that the Learning and Development Director, based in Livingston and responsible for wider employee development beyond the technical aspects of their given roles, had not visited the region in two years and therefore there was a perception that the evolving needs of the region were not being understood or met. This position was supported in the K-Core enquiry through the identification of training gaps. For example, new PMs received training on operational processes when they first came into post. However, unless they opted into future PM induction training, which required them to sit through redundant information, they did not get updated on new processes. This meant that PMs that had been in the role for a period of time were working on “old knowledge”.

In contrast, the Global Project Management Training Manager, responsible for aspects of technical training, also based out of Livingston, was seen as having a high profile within the region – created via email and conference calls and not through a physical presence. This could be attributed to a recent European driven outsourcing strategy that saw the creation of Project Coordinator teams based in India and China, requiring a robust training response both regionally and globally. This challenge was being met locally via training programmes delivered by Project Managers, who had not received any professional development in the area of training and development. This lack of professional development was evident in the lack of training evaluation conducted post induction and the failure to identify the ongoing needs of their trainees. This emerged during the enquiry where staff in China and India felt that training needs, such as English language email etiquette, were not being met. No record of training could be provided and the remote employees in India relied on a single person based in Singapore for all problem resolution issues. At the time of enquiry this staff member was about to take an extended period of leave and there were no contingency plans in place to support the staff in India.

The Director for Project Services (Asia) was a recent appointment, coming from a logistics position within the organisation. He had an interest in KM, but did not have formal experience of the field or its drivers. The enquiry could not find any interventions aimed at addressing the knowledge capability of the region prior to his appointment. His immediate concern was to address Knowledge Management issues that he believed to be vital to operational success in the region. He identified three critical areas: A lack of knowledge visibility throughout project teams, where teams lacked awareness of the micro and macro operational picture; a lack of local technical or client knowledge leaders, known locally as “Super Users”; and the development of technology solutions to improve knowledge sharing.

The Director’s first priority was to restructure his project teams, clustering Project Managers around client portfolios and, in one unique case, by issues of specialist cultural understanding, being Japanese business. The one-to-one Project Manager/project Coordinator relationship was also restructured, a divergence from wider organisation practice, in preference of an architecture where three or four Project Managers shared a single Project Coordinator. This was a direct response to the need to redesign the knowledge flow architecture of the region and in doing so broaden the global knowledge footprint.

The second aspect was the creation of technical or client based “Super Users”, where Project Managers became the knowledge authority on aspects of protocol. This requires the Super User to act as an instrument for knowledge acquisition, storage and sharing for other users within the region. This was to strengthen the knowledge base of the teams and Project Managers expressed a higher level of personal knowledge as a result of the new structure; stating that they now knew who to go to in order to acquire the right knowledge at the right time.

The third area addressed deficiencies within the organisation’s technology framework. Quintiles allowed Project Managers to store information on shared drives, which was open to the global Project Services community. However staff locally found it difficult to know who was working on what project and in which file within the shared drive that information was stored. If this was the case locally then it became clear that globally knowledge was dormant and losing value. The Director for Project Services (Asia) implemented a three-tiered response using Microsoft Excel files clearly labelled and visible within the shared drive. In the first instance a resource management tool was developed to provide visibility on who held responsibilities for individual projects. The second layer detailed the milestones for the individual projects and their current status. The final tier was a knowledge spreadsheet, which attempted to capture individual knowledge from the various projects; staff were encouraged to act as instruments for knowledge acquisition and storage through a weekly competition with a prize for the top up-loader – the prize being a pair of movie tickets.

The K-Core enquiry in Singapore recognised that this was a programme very much in its infancy. However, several issues were identified for further consideration. The restructuring of the teams was well received by the staff, but it did not resolve the blockages in the knowledge flow architecture. Project Managers within the teams were not communicating with each other and therefore the only team member with true visibility of team projects was the

Project Coordinator. Teams also worked in isolation and there was no evidence on inter-team communication, which effectively shrunk the knowledge footprint of the region. The issues were not restricted to intra-region communication. It was noted that in the case of the Japan specialist team that Livingston and Atlanta were not fully aware of the team's specialist function. Therefore where the project was globally managed by these Atlanta or Livingston issues could arise between Quintiles and the client due to a lack of understanding of the part of the Global Project Manager who was unaware of the cultural needs of the Japan region. Also Quintiles did not allocate an Asia based mentor to Global Project Managers based in Livingston or Atlanta, which could have overcome this issue. Further to the issue of knowledge flow architecture, it was noted that teams were dispersed and were not situated in close proximity to each other. Team members did not naturally communicate face-to-face, stating that they naturally interacted with each other once every day or two. Communication has been shown to be critical in the Machine Bureaucracy organisational typology in order to standardise operations, which suggested this to be an issue for immediate attention.

The creation of "Super-Users" was again seen as positive progress by staff. However the K-Core process demonstrated that knowledge was not being stored and many times resided solely in the head of the individual. This was demonstrated to be critical in one particular case where the 'Super-User' was leaving, the knowledge had not been captured and there was no strategy to embed this knowledge in other team members prior to their departure. Succession planning was signposted as an essential dimension if the policy of creating 'Super-Users' was to be pursued further. It was also evident that Super-Users were not known outside of the Asia region and therefore their knowledge was not being utilised globally, which again suggested a limited knowledge footprint within the organisation. The Global Training Manager in Livingston had no visibility of this issue, suggesting a significant gap in knowledge and learning processes resulting in critical knowledge loss whenever an employee left the organisation. Linking back to the Machine Bureaucracy typology it suggests that staff will only be motivated to deliver KM processes if they are directed, using mechanisms such as strategy, job descriptions, appraisal processes or Standard operating Procedures. None of these mechanisms existed in Quintiles Asia.

All staff described the new KM tools and outwardly they acknowledged the drive to engage with the processes. However it was widely acknowledged that uptake was slow. There were also issues of quality control and the tracking of usage. Firstly there were no guidelines for knowledge up-load and therefore those who were engaged were uploading anything and everything. Linked to this was quality control, where the reliability of the submission was not being monitored and therefore opened the process to negative knowledge creation. It was also noted that there was a danger of knowledge loss as artefacts from the old system were not being transferred over to the new template and therefore there was a significant danger that existing knowledge could be lost to the system.

The Director of Project services Asia recognised the issues raised by the enquiry and immediately consulted with the Global IT Director, also located in Singapore. It became clear that technology solutions existed within the organisation, but their use was discrete and mobility across business lines had not been explored. This signposted the need for Project services to become more integrated within the organisation as a whole if operational needs were to be met and the value of the organisation's knowledge footprint was to be actualised.

What was concerning at the time of the enquiry was the lack of resources applied at the frontier of CRO growth. The K-Core enquiry conducted an industry analysis of competitors and clients KM processes and found Quintiles to be underdeveloped in comparison and in need of a robust response to regional and global needs in order to maintain their competitive advantage. Twelve Key Recommendations were delivered, the operational responses to which cannot be discussed in this paper due to a non-disclosure agreement and the competitive nature of the field. However, it can be said that this challenge appears to have been met through the appointment of a new Director for "Business Processes, Training and Change", to be based in Atlanta; disappointingly Quintiles stopped short of implementing the recommendation to include KM in the title and remit.

Discussion

The case study appears to demonstrate the fractious state of knowledge and learning within Quintiles and, while the Director for Project Services (Asia Pacific) was generating traction for change, it appeared to be slowed by process isolation in relation to the other more mature and dominant regions. With this being the case it would not seem enough for the organisation to make regional changes when more holistic change was required for maximum value is to be extracted from organisational knowledge resources. This change needed to explore portability across business lines where processes marry, for example, with those in Clinical Laboratories, a function closely linked with the Project Services. It also appeared as if the Project Services function operated in isolation; demonstrated by the lack of knowledge of internal IT solutions. This too required further enquiry if the organisation was to actualise its need to deliver value added services to clients.

The organisation was identified as operating primarily as a machine bureaucracy, which according to Horwitz et al, (2003) is one of the most ineffective forms for an organisation looking to maximise knowledge workers. This said, it could be an anomaly of the sector and perhaps requires further research before drawing a conclusion.

In analysing the K-Core findings against the weaknesses of the CRO field, as identified by the industry SWOT analysis (Business Insight, 2010), Quintiles appeared to be failing to address industry weaknesses, breeding an internal threat. For example, in the areas identified by Business Insight (2010), "increased cost containment efforts by customers", the organisation did not have effective processes to get the right knowledge to the right people at the right time, shrinking the global knowledge footprint and inhibiting service provision; "Standardised procedures with low flexibility", KM functions and processes were not standardised or strategically driven, which left organisational knowledge needs unmet; "High staff turnover", a lack of succession planning and a technology framework that was not fit for purpose posed a critical threat to organisational knowledge retention, which could only be described as porous. This also reflects the views put forward by Khanna (in Lagace, 2010), in that organisations need to recognise and develop processes that meets the needs of the population occupying the new organisational space. Again, this requires further research to determine the operational circumstances that drive existing practice, but the need for change appears evident.

Spatial awareness appeared to be low, evident in the lack of training and development intervention, but has been recognised by the organisation – resulting in the appointment of the new global director.

Recommendations For Practice And Policy

It is clear from this case study that the expansion of organisational boundaries requires spatial awareness. With knowledge intensive organisations this requires awareness, and analysis, of existing learning and knowledge processes against the organisation's strategy for expansion. Failure in this area could be significant, especially in the heated environment of emerging markets. It therefore seems evident that organisations need to give precedent to learning and development and knowledge management processes if capital gain is to be realised.

Conclusion

This article set out to explore the challenges facing organisations as they seize opportunities afforded by emerging markets. The practitioner and academic literature suggest emerging markets to be a rich vein of opportunity for organisations expanding their operational spaces. However, there are clearly signposted pitfalls in the areas of learning and knowledge, both of which contribute to the market value of the organisation, linked in this article through intellectual capital. The snapshot of practice, afforded by the case study organisation, demonstrated that some of the warnings illuminated in literature are not being heeded and, as such, restrict organisations from maximising their value proposition. This not only increases the challenge for the organisation, but also, potentially, offers the initiative to competitors in a highly heated field.

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Contact the Author:

David A Griffiths, University of Edinburgh, Edinburgh, UK; Email: d.a.griffiths@ed.ac.uk

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