

Exploring the Use of ICT for Driving Creativity and Innovation in Private Hospitals in Bangkok: COO Views

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Abstract

The purpose of this paper is to understand the perspectives of the use of strategic ICT developments at private hospitals in Bangkok in a qualitatively oriented research inquiry engaged in assessing innovation practices. The paper examines how strategic ICT developments contribute to the establishment and strengthening of creative outcomes for the benefit of a wide-variety of stakeholders, utilising the views of eleven (11) hospital chief operating officers/managers (COOs) from a range of Private Hospitals in Bangkok. The paper develops a model that attempts to conceptualise the findings from a diverse range of top opinion-makers into an engaged pragmatic framework.

Outcomes from this inquiry suggests that creativity using strategic ICT is a valuable outcome and explores the derived main themes of namely, ICT Developments, Strategy Engagement and Creativity/Innovation Drivers. The paper highlights the increasing importance of an employed, focused and informed client relationship in Thailand's private hospitals.

This study also provides insights into understanding more effectively technical service environments, subsequent service provision and the reactions of established personnel in contributing useful approaches to managing creativity through ICT in the Thai private hospital workplace environment.

INTRODUCTION

Predominantly, service organisations such as private hospitals, now crucially use knowledge management (KM) (Duhon, 1998) as an important strategic component (Bukowitz and Williams, 1999) for the purpose of achieving common goals (Mancilla-Amaya, Sanín and Szczerbicki, 2010) and increasing their overall business and operational performance (Nevis, DiBella and Gould, 1995). However, not all strategic change creates sustained operational performance (Erwin, 2009). In many respects KM is particularly helpful to encourage business notions of how organisational knowledge can be retained within the company as a source (Nonaka, 1994), leading to the application of the concept of competitive advantage (Berry and Oakley, 1993). KM also appears to exhibit a variety of diverse and competing perspectives (Fong and Chu, 2006; Wiig, 1994). These are deemed to be of "high value" (Davenport, DeLong and Beers, 1998), captured in the knowledge and skills (James, 2014), which is promoted in KM through the transfer of explicit and tacit knowledge (Russell, et. al, 2004). Underpinning knowledge

management appears to be aspects focused on information and knowledge through the application of ICT developments. Managers in the successful organisation appear to be able to acquire appropriate knowledge and then are challenged to understand, evaluate, manage, venture and successfully transfer it (Pantano, 2005) at optimum times and to distribute this knowledge to places throughout the organisation where the it can be utilised.

The development and implementation of KM changes strategies for top management as a strategic organisational learning asset (Bollinger and Smith, 2010), by leading them through the KM change process using many of the available tools in KM practices such as the use of people KM café's (Young, 2010); tacit knowledge development as a major key to strategic alignment through harnessing and leveraging intellectual capital (Sullivan, 1999); the conduct of an organisational-wide knowledge audit (Drew, 1999; and ADB, 2007); the creation of a knowledge management platform (Information and Communication Technology (ICT) - driven) and promoting innovation (Nonaka, 1994);

infrastructure evaluation (Nardi and O'Day, 1999); and often the alignment of KM strategy with the business strategy (Zack, 1999). In this way, the target of the overall strategic sense of a KM programme is to consider a hospital as a knowledge-intensive firm but not conforming to Lowendahl's (2000) typology as a strict service company, as the scope of work arrangements mirrored an adhocracy (Mintzberg, 1979) or a soft-bureaucracy (Robertson and Swan, 2004) - depending on a person's location in the hospital. This is further supported by Lowendahl (1997), who suggested that the crucial strategic difference between knowledge-intensive firms is the role and position of the professionals employed. Hospital management thus focuses on organizational performance (Seng, 1990) by motivating the intellectual capital to move towards the results desired through managing service knowledge-professionals.

Knowledge Management therefore appears to emphasise the application of organisational improvement in terms of performance outcomes (Mueller, 2012). Knowledge in hospitals has to be systematically managed in order to be available for building, search, coding, retrieval and its consistent application (Garett and Caldwell, 2002).

Underpinning knowledge management advances in hospitals, are Information and Communication Technology (ICT) improvements (Dwivedi et al., 2002) leading to greater realisation and benefits of KM creativity and innovation practices. Gupta (2008) suggests that Asia is moving to more involved ICT development in hospitals and for private hospitals - with both a local segment of financially comfortable individuals and Westerners (not necessarily medical tourists - James, 2012) it means more socially involved ICT, as well as technical/operational ICT, which stimulates innovation in the service sector (Miles, 2007). In order to enhance the functions of KM within the health arena, strategic ICT designs and developments provide operational rigour underpinning knowledge management often through its application as a tool, concept, framework, process and conduit resulting in improvements to pertinent knowledge retention, use and its serviceability (Janz and Prasarnphanich, 2003). Many hospital managers see ICT as a contemporary strategic hospital development (Ramakrishnan, 2005), whilst influencing the operationalising of technological innovations to gain focused and more effective hospital performance (Li and Collier, 2000). These changes promote the more important learner-centred pedagogy that appear to dominate many researchers

today (Harvey and Knight, 1996), indicate that web-based platforms operate more effectively (Lockyer, Patterson and Harper, 2001) and move towards helping associate innovation and sharing knowledge. However, organisational culture appears to have considerable influence (DeTiene and Jackson, 2001) on the degree to which innovations are stimulated (Martins and Terblanche, 2003) and attract organisational engagement (Swan et al., 1999). Therefore strategic ICT developments represents technology designed to underpin the creation of innovation (Sarvary, 1999) in organisations whilst providing tools and conduits for knowledge sharing (James and Zamotaeva, 2012).

Hospital managers wanting to gain a competitive advantage (Fong and Chu, 2006), should manage and develop a collaborative climate of creativity and innovation to enhance knowledge processing (Firestone and McElroy, 2003) through using intellectual capital (Nightingale, 1998), building organizational creativity (Borghini, 2005) to make knowledge packages easier to spread by sharing across boundaries used selectively (von Krogh, Nonaka and Aben, 2001). Innovation responses to this are also a necessary development in hospitals (Herzlinger, 2002) and can be described as posited benefits surrounding the applications of ideas, and processes designed to introduce or establish more effective operational change measures (West, 1990).

This raises the first research question - How does ICT underpin developments in creativity and innovation in private hospitals?

Knowledge traditionally underpins the strategic role of technology usage and development in service improvement (Badaracco, 1991). However, Ganz (2007) indicted that there is little research published on creativity and innovation in services - and this applies even more so to health services. However, creativity and innovation are related, as without creativity there is no innovation. In the health service - hospitals - innovation is considered a key driver to enhancing performance outcomes (Labitzke, Svoboda and Schultz, 2014) and raising profit levels for service innovations (Jusko, 2008). Other related drivers however, are regulated by imposition through regulations in health service environments such as quality and service delivery (Faulkner and Kent, 2001). Read (1996) suggested that organisational success depends on the appropriate application of creativity and innovation and this notion is accepted widely (Lansialmi, et al., 2006). Additionally, Lanisalmi (ibid) also indicates that this means new services,

new ways of working and/or new technologies in health services. Whilst this may be occurring in the West, in Asia, creativity and innovation is taken beyond these facets - those that have less direct financial impacts. Further, these are seen to include internal characteristics. Whereas, Varkey, et al., (2008) suggests that innovation creates convincing value in the form of financial givens and is therefore seen as an output issue corresponding with impacts on numerous stakeholders - internal as well as external. However, Varkey, et al., (ibid) further suggests that innovations only apply to products, processes and structure - furthering these raised notions as specified by Christenson, Anthony and Roth (2004). This is contrasted with innovation being applied to patients, staff, management, processes, technologies, products, services, structures, and operational systems – a much wider scope.

Unfortunately, innovation in health services remains underdeveloped and constrained (EC, 2009) probably due to policy developer's misunderstanding of health services. Subsequently, further explanations could include service complexity – multi-dimensional (Sundbo, 2010); ill-defined innovation process (Ostrom et al., 2010); lack of constructive management of possible innovations (Miles, 2008); lack of client involvement (Alam, 2002); leading to incongruous service outcomes through ill-defined innovations (Dolfsma, 2004) when they are applied. This raises the second research question - What are the strategic influences on building creativity and innovation in private hospitals?

Linkages connecting creativity and innovation in healthcare are a major issue in itself. However, research has tended to focus on the obvious role of innovation (Fairclough, 2002) where it is recognised that the need for improvements are being emphasised in its sustainable significance through encouragement (Martins and Terblanche, 2003). This raises the issue of what drives innovation in healthcare? Innovation drivers are seen as consistent internal/external influences (Lawson and Samson, 2001) applied to a hospital environment with the purpose of improving overall performance (Hindle, 2009) and incidentally applied to meet client requirements. Thus, in one circumstance a hospital would be faced with one set of drivers, and in another case, face a completely different set of drivers or shaping characters (Baier and Krullth, 2012). In essence, the internal/external circumstances prevailing and the managerial strategies adopted will determine which drivers

are considered of “material influence” and worthy of managerial intent and focus. Thus, creativity and innovation is often seen as a response to being knowledge-driven or vision-driven (Sefertzi, 2000) and directed towards more valuable innovations (Lehoux, 2006). Thus, linking design processes, and viable health-care needs with managerial priorities (Reiss, Hinze, and Lacasa, 2003) creating more benefits to the organisation (Liebowitz, 2001).

A fairly important element in driving innovation is organisational culture (Judge, Fryxell and Dooley, 1997). However, this is somewhat contradicted by other researchers who are persuaded otherwise and depicts organisational culture as an obstacle (Glor, 1997). Mohr, Burgess and Young (2008) further suggest that a teamwork culture in a hospital can help provide more efficient health provision and higher quality service to stakeholders through the application of professional knowledge (Miles, 2005). Often the quality of strategic improvement through knowledge management appears to be haphazard (Griffin, et al., 2006), indiscriminate (Balas, Boren and Boren, 2000) and inadequately tackled in current practice (Christodoulou, Babbalis and Gymnopoulos, 2008).

It is evident from the literature that there is little research on drivers of innovation in health services that has been conducted and this suggests that this paper has taken on greater importance as a consequence of this. This raises the third research question - What are the drivers for creativity and innovation in Private Hospitals?

METHODOLOGY

To consider more implicitly the issues and questions raised, this empirical groundwork utilised an interpretive approach (Walsh, White and Young, 2008). This was an attempt to understand the perceptions of top management regarding their opinions about hospital innovation and creativity practices. Chief operating officers (COO) were considered specialist knowledge agents and actors (Benn et al., 2008) as their opinions and experiences influenced the effectiveness of the strategic outcomes, and the development and application of ICT within the hospital. The research used a semi-structured interview conducted with hospital management staff, which provided an appropriate element of context and flexibility (Cassell and Symon, 2004) and this was further aided by applying an inductive/theory building approach (Glaser and Strauss, 1967). Given the lack of appropriately focused research in this area, this methodology is seen as suitable for creating contextual data for the

purpose of forming richer theory development (Cayla and Eckhardt, 2007). The population for this study was made up of fourteen (14) top managers - COO's, located at independent private hospitals in Bangkok – chosen through applying the approach of a targeted population of interest (Carman, 1990) and this reflected the criteria of theoretical purpose, relevance and appropriateness (Glaser and Strauss, 1967). Further, using Glaser's (2004) sampling processes, a total of 11 top managers were thus determined as the resultant sample frame, which could also be considered convenience sampling according to Harrel and Fors (1992). Each interview was audio recorded for future analysis. Interviews were conducted in English and took approximately one hour. All interviews were recorded digitally after gaining explicit permission, and were later transcribed verbatim using NVivo 11 software. The conduct of the interviews follows a similar process used by Gray and Wilcox (1995), with each individual group being asked the same set of questions – modified through ancillary questioning (probes and follow-ups) in the same way as Balshem (1991). Each interview was initially manually interrogated and coded initially using the Acrobat software according to sub-themes that 'surfaced' from the interview dialogue – using a form of open-coding derived from Glaser (1992a); and Straus and Corbin (1990). Each interview was treated and coded independently. Various themes were sensed from the use of the software packages, as well as from the initial manual-coding attempts. This dual form of interrogation was an attempt to increase the validity of the choice of both key themes and sub-themes through a triangulation process. In this way, it was possible to capture each respondent's comments across transcripts (Riessman, 1993) on each supported sub-theme and place them together for further consideration and analysis. The research framework is illustrated below in Table 1, and consists of three (3) Main Themes.

The outcomes are stated below where the discussion focuses on the sub-theme elements within each key theme. The discussion format used in this paper reflects the respondent's voice through a streamlined and articulated approach for reporting. Consequently, the style adopted for reporting and illustrating the data is greatly influenced by Gonzalez, (2008) and also Daniels et al. (2007) and is discussed below, focusing on the raised research questions and the resultant main themes. Table 1 below, also indicates the number of respondents per Theme and Question.

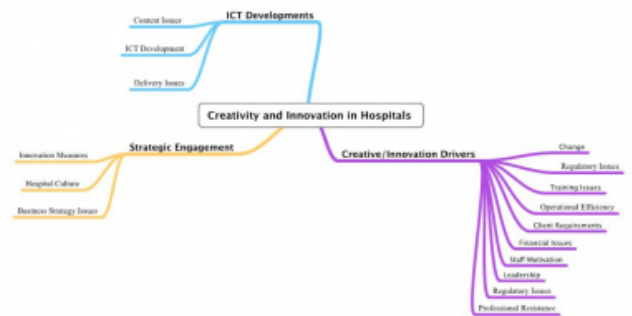
Table 1
Responses/Theme and Question

Research Question	Major Themes	No. Respondent
1	ICT Developments	1, 2, 3, 4, 5, 6, 9, 11
2	Strategy Engagement	2, 3, 4, 5, 7, 8, 10, 11
3	Creative/Innovation Drivers	1, 2, 3, 5, 6, 7, 9, 10

RESULTS

The results are presented below using the research questions as pointers and supportive evidence through the indicated factors. The outcomes are modelled in Figure 1, below:

Figure 1
Creativity and Innovation in Hospitals



The first research question - How does ICT underpin developments in creativity and innovation in private hospitals?

Responses:

Main Theme - ICT Developments

In terms of ICT Developments, some managers indicated that ICT was essential and this is typified by one respondent (R5) who intimated that, ...Firstly, ICT - it has the ability to be flexible, doesn't it? That is, it is kind of helping to create avenues for gathering data and analysing this data. This supports the notion that ICT could be central to a hospitals connection with patients and staff. However, another respondent (R3) stated that, ...The technology is so expensive and difficult to master. It would surprise me if the [hospital] council gave any indication that innovation was needed here right now. This indicates that the hospital management don't have unlimited resources to develop in this area, but as another respondent (R6) intimated, ...We have to improve. Technology is expensive, but it does help. This suggests that the hospital has to careful and intelligent about managing ICT developments. Another respondent (R1) suggested that, ...Most of our technology has been

tested in other environments overseas. We are simply following good practices. It can get very confusing with all these different ways to connect to the client. It's not easy to manage. This supports the notion that the hospital management is accepting pretested ideas, processes, and technology from elsewhere, which may be useful and leads potentially to more effective and efficient use of technology.

However, one respondent (R4) indicated that, ... We need imagination. That is key. It also requires tenacity, because innovation doesn't always work first time. Thus, underpinning technology use and implementation requires more than just using technology as used elsewhere, but to create new ways to engage that technology in the hospital arena. Another respondent (R9) suggested that, ... We can't innovate all the time. It costs too much in time and human effort. We have to give all our staff and other stakeholders time to adjust to new developments. A little at a time. Always a little at a time. This is also supported by another respondent (R11) who indicated that, ... We have on-going training for all staff in ICT. They are trained in social media requirements and can access and participate in all expected channels - including our Doctor's and other crucial staff - whether on or off-site.

In terms of Delivery Issues, this is typified by one respondent (R3) who suggested that, ... We don't have an area where they can't use all sorts of media - our free Wi-Fi goes everywhere - except in the areas where we determine that it would be dangerous. This indicates that hospital management understand the delivery requirements and the need to connect to staff and clients (other stakeholders) through appropriate technology. Another respondent (R5) indicated that, ... We use the technology to provide on-line live seminar's and off-line video copies of all creativity and innovation seminar's. We also have each live monthly creativity programme - which is seen by staff and patients to show we are serious about improving quality, communication, training and safety in the hospital. Supporting this developed notion is the management determination of sharing creativity and innovation ideas beyond just those who directly experience it. It is also used to provide a means to build shared knowledge within the hospital. Another respondent (R11) stated, ... We have invested a lot of money in ensuring our emergency teams are connected to our system - wherever they are, and that now we can also locate where everyone is when on duty. We also have the ability to locate all our staff members within the

hospital grounds and can communicate or update them directly through our media services. It is conceivable that some hospital management do not know when they have created a new innovation - at least in Bangkok. This aspect certainly shows the strategic intent of some managers and clear technological vision of the hospital management support through the provision of knowledge development in an area that is very difficult, but important to the client requiring the hospital support.

Another respondent (R2) who suggested that, ... ICT has helped us cover all physical aspects of the hospital - including the outside green areas. It is here where we have seen a substantial change in our innovation by providing a garden for patients and staff during the day and the evening. This indicates that ICT coverage is something that is perceived by management as necessary for many patients. Another respondent (R4) advised that, ... We are constrained here with what we can do with technology - as it costs so much. How are we supposed to know what technology changes are around the corner - it's not our job is it? In essence, it would appear that some managers recognise that technology is useful but not which one. It therefore suggests a lack of research capability in determining what technologies are available and the impact of such technologies on the hospital working environment. Further, another respondent (R1) indicated that, ... We are already developing methods that we intend to adopt to monitor closely how we could keep in touch with each patient. It's not easy because we don't know what technology they will use in the future.

In terms of Content Issues, this is typified by one respondent (R6) who suggested that, ... Most patients and staff use social media. So, we also use to inform, update, organise patients needs. It therefore makes sense for us to use the same platforms for introducing and testing innovations. But it is very hard. This indicates that the hospital management are aware of client needs and how to connect to them effectively. This is further supported by another respondent (R3) who stated that, ... We control the social media aspects. It is one area we can offer to our staff and clients. This indicates that management have some understanding of social media and ICT developments, are able to connect with clients and staff. How effective it is, is commented on by another respondent (R2) who stated that, ... It is difficult to know what platform works for each client or even for our own staff. We must continuously connect to the client, no

matter where they are. Provide information the patient needs, and to ensure they are informed about their condition or issue. Another respondent (R9) suggested that, ...In order for us to do our job, the patient must make appropriate decisions - consequently our doctors need to help them make health related decisions properly through media – if that is what they want to use to connect with us. This issue of matching client/staff needs of media connection and use is a difficult issue and compromises may result. Not all clients/staff use social media and therefore it would seem that management are aware of this issue, but had not commented on how they could bridge the gap.

The second research question - What are the strategic ICT influences on building creativity and innovation in private hospitals?

Responses:

Main Theme – Strategic Engagement

In terms of Innovation Measures, this is typified by one respondent (R3) who suggested that, ...Finance is a big influencer. Without money we can't test whether a particular innovation is useful or how effective or efficient it may be. It is advised here that monetary issues underpin innovation measures in private hospitals. It is likely that efficiency and technological innovation is a symbiotic outcome of this notion. Another respondent (R5) suggested that, ...The system does not help develop more creativity because we don't have an innovative leader. But we do our best. This offers the view that a major driver of innovation is a leader that supports innovation. Management necessarily has a place to help motivate innovation, but it appears the managerial view is that it has to be visibly led by someone. However, another respondent (R8) indicated that, ...The future of creativity and innovation means putting pressure on all staff to accept the need for both and to engage in each. This suggests that all staff have a responsibility to undertake and be responsible for innovation in the hospital. It gives credence to managerial motives to ensure that anyone could initiate innovation and that management are open to this. It also suggests that management encourage risk-taking as long as it is directed towards innovation that leads to more effective hospital outcomes.

In terms of Hospital Culture, this is typified by one respondent (R7) who suggested that, ...I know it's important. But we don't have a culture for change. This indicates that management may not be in a position as yet to

assess the need or impact of technological change or innovation. It is likely that this also reflects managerial attitudes of risk aversion. Another respondent (R10) suggested that, ...Everything we do here is solely to ensure that it is efficient in terms of resource usage. Nothing affects the climate here more than over-budgets. This denotes that management's focus is on efficiency issues, and not on creativity or innovation. However, small changes to the efficiency orientation could provide the impetus for the introduction of creativity. This aspect is reinforced by another respondent (R2) who suggested that, ...We don't like initiating creativity. It gives a sense of helplessness to our staff as it is difficult to control and manage. This notion suggests that passive management do not assist in the introduction of creativity practices and this has a negative effect on staff engagement of creativity practices. This is also indicated by another respondent (R8) who stated that, ...We don't really problem solve, we just follow the prescribed protocols. This denotes that management have determined how staff are to behave in general and determined beforehand what behaviours are expected. However, this view further suggests that there is a control culture that does little to provide effective use of human knowledge capital. One respondent (R11) clearly had thought about the strategic context of ICT provision and stated that, ...Our future digital strategy is to engage clients and help them stay healthy. It will ensure that we can reach them, they can pay easily and that they get the best treatment. In essence, the whole development and use of ICT was about connecting to clients/staff in order to enhance the clients health.

In terms of Business Strategy Issues, this is typified by one respondent (R4) who suggested that, ...The hospital has a duty to its stakeholders. Consequently, its policy developments that affect what our business strategy is. In this, we are always trying to improve, to make things more efficient and less cost in the long run. The notion of business is clearly in the minds of management and that the currency of private hospital management – no matter the intent – is to make money (efficiency) and therefore this may be seen as taking strategic precedence. This is supported by another respondent (R10) who stated that, ... A major outcome of all this is to make money for our financiers and to make sure our clients live a long, healthy life - under our care. However, over time strategy changes and this is discussed by one respondent (R2) who states that, ...Our management team invests a lot of time trying to get the strategy right. It's

always difficult to know when to change things and utilise innovations. What if it didn't work? Management appear to recognise that change offers the opportunity to precisely manage strategic intent, and also that the outcomes are not always what they expected. Consequently, management seems to suggest that they would need to develop alternatives to be used as appropriate in order to continue the development of ICT and client relationships. On this point, one respondent (R4) indicated that, ...We need to get everyone involved. Inclusion, through technology is what we need. We will do this by ensuring that all registered staff, and clients provide us with appropriate data so that we can include them. Yes, technology is the key. To offset short-termism, one respondent (R7) stated that, ...One of our strategies in the short to longer term is to provide all our clients with technology when they are with us. This means developing a data watch that connects to their iPad or other device and links their requirements to our database. This indicates that management are able to foresee the implications of their strategic implementations and to develop broader strategies for technological involvement and inclusion.

The third research question - What are the ICT drivers for creativity and innovation in Private Hospitals?

Responses:

Main Theme - Creativity/Innovation Drivers

In terms of Change Issues, this is typified by one respondent (R2) who suggested that, ...Most people here don't like change, and neither do our patients. This suggests that staff have not engaged in organisational learning patterns and are considered partners in change. However, this view is contradicted by another respondent (R7) who stated that, ...Change is something we do everyday. Our patients change all the time, so we must follow them. Management appear to recognise that change is necessary, but that some management have no idea how to respond to the myriad requirements – both internal and external. On this point another respondent (R1) suggested that, ...The government pushes change on us. It's something we live with all the time. We cannot ignore it. This illustrates that managerial responses to external change agents (in this case government) has been taken seriously. However, little was discussed about how managers responded to such change stimuli, and also how prevalent such change was.

In terms of Training Issues, this is typified by one

respondent (R9) who suggested that, ...For staff we have a whole range of on-line training programmes. There is also a complete set of appropriate operational documents - secured to be accessed only by appropriate personnel. But the material is there and freely available. This statement indicates that management have prepared material for use by staff where the duality of the technology system is utilised – both for clients as well as for staff. It also further suggests that management are serious about the provision of training that helps bridge the gap between the knowledge and skills they have and what management want them to achieve, and demonstrate. Consequently, this aspect is supported further as one respondent (R5) stated that, ...We have to teach senior managers what to look for in their staff in terms of their creativity and innovation behaviour. We do need though to spend more on innovation training. An on-going development is raised here also, that of the effective utilisation of human capital. This is initiated by one respondent (R7) who stated that, ...Our talented managerial staff are needed to ensure that creativity is managed - otherwise it is disruptive. We can't have everyone creating and inputting everything and anything they want. So it has to be managed. On a more interesting training note, one respondent (R10) indicated that, ...We don't have enough trained or motivated staff to drive through innovation here. That's the problem. This would seem to reflect a managerial issue of lack of training, and also the tendency to ignore that on-going may also be a barrier to creativity. However, it would appear to management that training is not only necessary but beneficial to the hospital, and as one respondent (R6) indicated, ...We intend building a long-term process with our staff. Significantly, that means ensuring we provide adequate training, that is useful to everyone. However, one respondent stated categorically that, ...It's just not possible to train everyone to use every platform or channel. We have to focus our energies and our impetus. This possibly reflects the management view of time and financial resources are finite and that training must be concentrated in the best possible way.

In terms of Client Requirements, this is typified by one respondent (R3) who suggested that, ...It's hard to connect consistently with our patients. They always want to speak to their doctor, but he isn't always available. This indicates that management view administrative attempts to connect and broaden the role of staff when interfacing with clients as difficult. As another respondent (R7) indicated, ...Client's don't always want contact with us. It is difficult to know

when we can call them or send e-mails or use any other mode. We don't want to upset them. Further, this may also reflect management's notion of efficiency requirements - especially when planning staff resource availability. Of further concern were the issues raised regarding client contact. As one respondent (R1) indicated, ...The hospital has a duty to send appropriate messages that we think are in the interests of the client. But the client may not understand this. Knowing the client is therefore necessary and posits an extra duty on hospital staff to ensure that the client is informed appropriately. As suggested by another respondent (R4) who stated that, ...We are very patient oriented. Everything we do is for their benefits. Our strategy is to offer what they need, and inform them so that they make appropriate decisions about their health. Client contact is part of the culture and a strategic operation of management, as reflected by one respondent (R2) who further stated that, ...It is important for us to retain our client, patients as they are important. I can help develop and apply strategies that make them see that innovation is making their health matters easier to handle through technology.

In terms of Staff Motivation, this is typified by one respondent (R6) who suggested that, ...Our staff are highly motivated. We like to keep them informed of new things. It helps to create an atmosphere of encouragement. Managers view staff as motivated and they also appear to encourage this. But not all staff are so encouraged, as one respondent (R9) affirmed, ...We have to keep our personnel in check. Too motivated and they are likely to go somewhere else. We can't really compete with some of the bigger hospitals. However, management appear to attempt to constrain some staff, as another respondent (R3) denoted that, ...I expect my own department to have staff that are motivated to do what we tell them.

In terms of Leadership, this is typified by one respondent (R10) who suggested that, ...Some of our managers are leaders, but the system does not require it. This raises the notion that only some staff should be considered leaders. However, this is not universal, as one respondent (R7) stated, ...Everyone [except doctors] is a leader here. We give each the authority to lead on problem solving. This raised the notion that leadership was expected from doctors, but not other staff; and that management had to encourage leadership to be shown by other staff. This is supported by one respondent (R4) who stated that, ...Doctors lead this place. There are no other defining leader. They determine

what we can do.

In terms of Financial Issues, this is typified by one respondent (R2) who suggested that, ...It is very true that where finance goes, resources follow. Management thus perceived finances as the means to help develop every other resource. However, underpinning the financial issue appears to be the patient. As one respondent (R6) stated, ...We have to focus on the patient. They have the money or the insurance to cover their health costs. We help our patients and at minimum cost. Consequently, when managing financial resources management saw the need to focus their efforts on engaging the client. As another respondent (R9) indicated, ...It's all about money and finances. We do what we can for everyone, but ultimately getting the best out of our people requires a focus on the financials and helping departments spend accurately on what strategies we utilise.

In terms of Operational Efficiency, this is typified by one respondent (R1) who suggested that, ...It's all about efficiency in what we do. It's the only way to conserve money. This illustrates management financial intentions - to manage finance as a resources requires an efficiency imperative. This is what appears to underpin developments in innovation, as one respondent (R5) stated, ...We have to be seen doing things as efficiently as possible. Sometimes that means changing and being innovative. But we have to assess the bottom-line effects. This appears to be in unison with what one respondent (R10) suggests as, ...It is something immediate. Innovation costs and therefore it has a negative effect on our financials until it is proven to work.

No one wants to spend money knowing that it may be a useless waste of time and money and effort.

In terms of Regulatory Issues, this is typified by one respondent (R3) who suggested that, ...Government controls everything we do. There's no getting away from it - even though we are private. Management appears to recognise that government controls have an impact in private hospitals. As one respondent (R1) indicated, ...We have to follow the instruction from the health department. Otherwise we will lose our operating licence. There is also the recognition that one stakeholders holds an enormous amount of power and that management of hospitals is about imaginatively balancing the requirements of various stakeholders. However, another respondent (R6) suggests that, ...Innovations and regulation don't always go hand-in-hand. It is difficult to make changes because of this. Innovation

sometimes cannot be done. This suggests the view that management have competing requirements on their time and focus, and this must be managed to ensure the strategic intent of the organisation is met consistently.

In terms of Professional Resistance, this is typified by one respondent (R5) who suggested that, ...Doctor's are the biggest resisters here. There's no question about that. This raises the notion that doctor's are the heaviest stakeholder – both internal and external – and is seen by management as a particularly difficult challenge. This is supported by one respondent (R2) who stated that, ...No matter what we do, the Doctor's follow their protocols. Sometimes, that means we cannot impose a change or an innovation in the process. There is great resistance to change – especially among the Doctor's who often work's in the government hospitals. In essence, doctors appear to be seen as challenges in developing operational excellence and also meeting client needs, as reflected on by one respondent (R10) who stated, ...When an innovation is seen overseas, it may not get here. It's that difficult – especially if it is a front-line client issue.

DISCUSSION

The outcome illustrates the conceptual development and relationships perceived to correspond to the features informing hospital creativity and innovation which allows hospital management to focus on how these influence their possible strategic perceptions and future intentions. This discussion will focus on the main themes ICT Developments, Strategy Engagement and Creativity/Innovation Drivers:

ICT Developments

ICT developments - and applications appear to be central (van der Aa, and Elfring, 2002) to the strategic intent of creativity in private hospitals. This focus corresponds with a genuine need to enhance workforce operations and connect to a variety of stakeholders through appropriate technology use. In order to account for this development, staff have had to engage in creativity and innovation to help the organisation build strong developments that help shape relationships and enhance the effectiveness of the operating capability.

It would appear that ICT is central to the operationalising of KM practices throughout private hospitals in Bangkok, managing clinical data effectively and appropriately targeting this data through the use of ICT (Pavia, 2001) and

in many ways substantially utilise wider coverage of the various technological pathways. However, this has come as a charge on hospital technology development. These developments have led to the need for increased bandwidth; increased hospital coverage for Wi-Fi technologies; the determination of platform configurations for clients and hospital staff; and demonstrating the need to work with knowledge partners (O'Mahoney, 2011). Additionally, in terms of information, hospitals appear to be building more streamlined approaches to client relationships (James, 2005) underpinned by an investment framework for creative responses (Gallouj, 2002).

Content Issues – Regarding new content, this is available across each hospital although couched in different ways for each (although giving the same verbal/visible message across social media irrespective of location; derives increased training of personnel; whilst building new social media marketing programmes formulating content that is rational, persuasive and purposeful (James, 2012b).

Delivery Issues – These are designed to reach every patient and staff member for pertinent media both on and off-site; whilst utilising CRM practices focused on learning from clients (Matthing, Sanden and Edvardsson, 2004) that requires a sustainable engagement through ICT in order to match their expectations and continuously meet their needs.

Consequently, ICT developments appear to be used in the forefront of practices designed to support, underpin and engage creativity and innovation in private hospitals. Without ICT strategies, little creativity could be imagined, and even less innovation generated.

Strategic Engagement

Strategic development is couched in business expressions and is accordingly the basis for issues that are operationalized for present actions and directions.

Innovation Measures – this appears to be focused on issues connecting the client (patient) to the hospital and building longer-term commitment to enhancing client relationships (James, 2011). In this sense ICT is well placed to help deliver and manage that relationship through appropriate organisational policy analysis and engagement (Howells, 2004). Further, it would appear that ICT technology is used to help build creativity and to further enhance innovation (Winter and Szulanski, 2001). However, innovation is less well developed (Boden and Miles, 2000) and reflects

adaptation, rather than disruption, following Ganz (2007). In essence, innovation is seen as incremental (de Brentani, 2001) which may reflect the risk-averse nature of top management in managing creativity in hospital operations.

Business Strategy - Work on building innovation in social media constructs has certain benefits which include, the renewal of a strategic client orientation (Swee, 2002); demonstrated engagement in crucial technology; exhibiting wide-hospital coverage; whilst building appropriate training programmes; initiating new systems to promote and sustain engagement in social media and integrated system that respects the client and manages to inform and help the client make health related decisions (Pavia, 2001). However, measures that assess the effectiveness of strategies employed are not clearly seen or utilised (Djellal and Gallouj, 2008a).

Hospital Culture – the data appears to show how hospitals engage and support creativity, but some management show they are not ready to engage with ICT development through a focused strategic positioning and leave private hospitals unclear about their bearing and commitment to creativity and innovation practices (Lyons, Chatman and Joyce, 2007). This calls for a more involved culture change through management practices as strategic emphasis creates pressures for change patterns in the hospital systems and workforce (Egan, 2002).

Creativity/Innovation Drivers

Hospital managers show conclusively that most of the pragmatic creativity and innovation measures are being directed specifically to the client (Stefl, 2002). Consequently research on the drivers of creativity and innovation in hospitals is considered paramount to the delivery and development of more effective medical provision. In light of this, the issues that are seen as useful for further consideration are discussed below:

Training Issues – staff training appeared to be a difficult issue to manage and therefore reflects one of the barriers to the implementation of creativity and innovation (Oke, 2004). Building innovation through harmonising client requirements (Sundbo, 2008) - online research, two-way communications between doctor, hospital, nurse and client; providing training and support on-line 24/7 for all staff, irrespective of their position in the hospital; and provide training for clients to use the media system effectively. These all provide innovative avenues for the development and implementation of innovative solutions. However, none

of these can be applied in the short-term and therefore on-going, focused and consistent training will be required.

Client Issues - Clients have regained the strategic innovation initiative (Alam, 2002) and appear to be foremost in the minds of management in private hospitals. Obvious use has been made of direct connections to clients (Alam and Perry, 2002), but more importantly, focused communication practices (Huston and Sakkab, 2006) has resulted in clients being given specific and focused information to help them make appropriate health related decisions on different platforms (Meyer and DeTore, 2001). However, there is little attention as to how to assess the effectiveness of such developments (Howells, 2010). This has led to changing processes leading to more refined timing and organisation of hospital responses to client needs - doctor availability, response to appointment creation, changes and management, providing doctor support directly at home-based client needs; providing new support to insurance and service payment changes; and ensuring that client requirements are met more consistently (Pavia, 2001).

Financial issues – these include the ability and willingness of management to utilise financial resources for the increased benefit of clients and staff through technology and training. Many managers appeared to favour a system that integrates these not in a systematic way, but as a means to an end - connect to clients more efficiently, provides less wastage, and ensures staff are focused on where the revenue is coming from and enhancing the efficiency and effectiveness of their labour and productivity (Alavi and Leidner, 1999).

Regulatory Issues – this represented a substantial stakeholder, but was necessarily considered by management as a significant stakeholder in terms of meeting client needs and represented an identified barrier that impeded the integration of clinical evidence and hospital practice (Browman, Snider and Ellis, 2003). Management were perceived as wanting to meet regulatory requirements and to provide an orientation that ensured the client's were met consistently - within the prescribed need for quality and safety.

Further, of raised concern was the method and way of connecting with clients and the security issues associated with managing client and hospital related sensitive data (Martin, 2004). These aspects were not discussed fully and may form a part of future on-going research establishing the need for more innovative solutions (Fairclough, 2002).

LIMITATIONS

Limitations include an assessment of privacy matters that may concern both the hospital and the client in how the data is managed by outside sources, and where this data is stored and managed. In terms of the methodology, limitations may also reflect the focus on COO managers and this could be widened to include discussions of other managers responsible for strategic developments in the private hospitals. This would help to develop further data and relevant opinion regarding creativity and innovation and the effects of such developments on strategic developments and improvements within private hospitals in Bangkok.

CONCLUSION

Private hospitals in Bangkok could be considered to have a knowledge-creating and sharing culture (Skyrme and Amidon, 1997); utilising technology to support KM processes (Alavi and Leider, 2001); linking KM to support the developing business strategy (Maier and Remus, 2002); and tending to exploit good business practices through the application of KM (Goh, 2004) which is central to client-hospital developments. It is clear from the evidence that KM practices have been operationalized to connect more effectively to the client through the focused development and application of ICT technologies.

This study provides insights of COO management in private hospitals in Thailand by helping to understand more effectively how creativity and innovation have been operationalized and are considered by management as having enormous business impact; and that technology is central to the development and implementation of strategic ICT developments supporting creativity and innovation in private hospitals.

References

1. van der Aa, W, Elfring T: Realizing innovation in services. *Scandinavian Journal of Management* 2002, 18(2):155-171.
2. ADB: Auditing the Lessons, Architecture 2007, Manila, Philippines.
3. Alam I: An exploratory investigation of user involvement in new service development. *Journal of the Academy of Marketing Science* 2002, 30(3):250-261.
4. Alam I, Perry C: A customer-oriented new service development process. *Journal of Service Marketing* 2002, 16(6):515-534.
5. Alavi M, Leidner DE: Knowledge management systems: issues, challenges and benefits. *Communication of AIS* 1999, 1(7):1-37.
6. Alavi M, Leidner DE: Review: knowledge management and knowledge management systems: conceptual foundations and research issues. *MIS Quarterly* 2001, 25(1):107-136. <http://dx.doi.org/10.2307/3250961>.
7. Baier E, Krullth K: Regionalised Innovation Policies in Germany and France. In: Heidenreich M, Koschatzky K, Barmeyer C, Mattes J, Baier E, Krullth K: *Multinational Enterprises and Innovation: Regional Learning in Networks*, London: Routledge Publishers, UK; 2012.
8. Balas E, Boren A, Boren S: Managing clinical knowledge for health care improvement. *Yearbook of Medical Informatics*, National Library of Medicine, Bethesda, MD: US; 2000.
9. Balshem M: Cancer, Control and Causality: Talking about Cancer in a Working-Class Community. *American Ethnologist* 1991, 18(1):152-172.
10. <http://dx.doi.org/10.1525/ae.1991.18.1.02a00070>.
11. Badaracco JL: *The Knowledge Link*. Boston, Mass.: Harvard Business School Press, US; 1991.
12. Benn, N, Buckingham S, Domingue J, Mancini C: Ontological Foundations for Scholarly Debate Mapping Technology. In: 2nd International Conference on Computational Models of Argument (COMMA '08) 2008, Toulouse, France.
13. Berwick D.M: Disseminating Innovations in Health Care, *JAMA* 2003, 289:1969-1975. <http://dx.doi.org/10.1001/jama.289.15.1969>.
14. Boden M, Miles I: *Services, Innovation and the Knowledge-Based Economy*. London: Continuum Publishers, UK; 2000.
15. Bollinger S.A, Smith R.D: Managing organizational knowledge as a strategic asset. *Journal of Knowledge Management* 2001, 5(1):8-18.
16. <http://dx.doi.org/10.1108/13673270110384365>.
17. Borghini S: Organizational creativity: breaking equilibrium and order to innovate. *Journal of Knowledge Management* 2005, 9(4):19-33.
18. <http://dx.doi.org/10.1108/13673270510610305>.
19. de Brentani U: Innovative versus incremental new business services: different keys for achieving success. *Journal of Product Innovation Management* 2001, 18(3):169-187.
20. Bukowitz WR, Williams RL: *The Knowledge Management Field-book*. Financial, Prentice Hall, US; 1995.
21. Carman JM: Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions. *Journal of Retailing* 1990, 66(1):33-55.
22. Cassell C, Symon G: *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage Publications, UK; 2004.
23. Cayla J, Eckhardt GM: Asian Brands without Borders: Regional Opportunities and Challenges. *International Marketing Review* 2007, 24(4):444-456.
24. <http://dx.doi.org/10.1108/02651330710761017>.
25. Christenson CM, Anthony SD, Roth, EA: *Seeing What's Next: Using the Theories of Innovation to Predict Industry Change*. Boston: Harvard Business School Press; 2004:293.
26. Christodoulou I, Dimitrios B, Gymnopoulos D: Building Teamwork in Hospitals: Detecting the Situation in an Example from Greece. *International Journal of Health Science* 2008, 1(2):74-77.
27. Daniels et al: The Successful Resolution of Armed Hostage/Barricade Events in Schools: A Qualitative Analysis. *Psychology in the Schools* 2007, 44(6):601-613.
28. DeTiene KB, Jackson LA: Knowledge management: Understanding theory and developing strategy. *Competitiveness Review* 2001, 11(1):1-11.
29. <http://dx.doi.org/10.1108/eb046415>.
30. Djellal F, Gallouj F: Measuring and improving productivity in services: Issues, challenges and strategies.

Cheltenham: Edward Elgar, UK; 2008a.

31. Dolfmsa W.: The process of new service development - Issues of formalization and appropriability. *International Journal of Innovation Management* 2004, 8(3):319-337. <http://dx.doi.org/10.1142/S1363919604001088>.
32. Drew S: Building Knowledge Management into Strategy: Making Sense of a New Perspective. *Long Range Planning* 1999, 32(1):130-136.
33. Duhon B: It's all in our heads. *Inform* 1998, 12(8):8-13, September.
34. Dwivedi A, Bali RK, James AE, Naguib RNG, Johnston D: Merger of Knowledge Management and Information Technology in Healthcare: Opportunities and Challenges. In: *Proceedings of the Canadian Conference on Electrical and Computer Engineering (CCECE): 12-15 May 2002; Winnipeg, Canada IEEE International. Los Alamitos, CA: IEEE International:1194-1199.*
35. Egan J: *Accelerating Change. A Report for the Strategic Forum for Construction.* London: Construction Industry Council, UK; 2002.
36. Erwin D: Changing Organizational Performance: Examining the Change Process. *Hospital Topics* 2009, 87(3):28-40.
37. European Commission: Challenges for EU support to innovation in services - Fostering new markets and jobs through innovation, Commission staff working document SEC(2009)1195 final, Brussels: European Commission, 2009.
38. Fairclough J: *Rethinking Construction Innovation and Research: A review of Government R & D Policies and Practices.* Department for Transport and Local Government Regions (DTLR), London: UK; 2002.
39. Faulkner A, Kent J: Innovation and Regulation in Human Implant Technologies: Developing Comparative Approaches. *Social Science and Medicine* 2001, 53:895-913. PMID: 11522136.
40. Firestone J, McElroy M: *Key Issues in the New Knowledge Management.* MA: KMCI Press/Butterworth Heinemann Burlington, US; 2003.
41. Fong P, Chu L: Exploratory study of knowledge sharing in contracting companies: A
42. sociotechnical perspective. *Journal of Construction Engineering and Management* 2006, 132(9): 928-939.
43. [http://link.aip.org/link/doi/10.1061/\(ASCE\)0733-9364\(2006\)132:9\(928\)](http://link.aip.org/link/doi/10.1061/(ASCE)0733-9364(2006)132:9(928)).
44. Gallouj F: *Innovation in the service economy: the new wealth of nations.* Cheltenham: Edward Elgar, UK; 2002.
45. Ganz W: Strengthening the Services Sector – Needs for Action and Research. In: Späth D, Fähnrich KP, (Eds.): *Advances in Services Innovations, Berlin-Heidelberg, Springer, 2007:224-256.*
46. Garrett S, Caldwell B: Describing functional requirements for knowledge sharing communities. *Behaviour & Information Technology* 2002, 21(5):359-364. PMID:14552357.
47. Glaser BG: *Remodeling Grounded Theory. The Grounded Theory Review: An international Journal* 2004, 4(1):1-24.
48. Glaser BG: *Basics of Grounded Theory Analysis: Emergence vs. Forcing.* Mill Valley: Sociology Press, CA, US; 1992a.
49. Glaser BG, Strauss AL: *The Discovery of Grounded Theory: Strategies for Qualitative Research.* Chicago: Aldine, US; 1967.
50. Glor ED: Encouraging public sector innovation. *Optimum* 1997, 27(2):41-48.
51. Gray J, Wilcox B: *Good Schools, Bad Schools.* Open University Press, UK; 1995.
52. Goh A: Enhancing organisational performance through knowledge innovation: a proposed strategic management framework. *Journal of Knowledge Management Practice* 2004, 5, October.
53. Gonzalez C: Conceptions of, and approaches to, teaching online: a study of lecturers teaching postgraduate distance courses. *Higher Education* 2008.
54. <http://dx.doi.org/10.1007/s10734-008-9145-1>.
55. Gupta A: Prescription for Change. *The Wall Street Journal* 2008, October, 20:R6.
56. Harrel GD, Fors MF: Marketing services to satisfy internal customers. *Logistics Information Management* 1995, 8(4):22-27.
57. <http://dx.doi.org/10.1108/09576059510091887>.
58. Harvey L, Knight PT: *Transforming Higher Education,* Buckingham: Open University Press and the Society for Research into Higher Education, UK; 1996.
59. Herzlinger RE: Let's put consumers in charge of health care. *Harvard Business Review* 2002, 80(7):44-55.
60. Hindle K: *The Relationship Between Innovation and Entrepreneurship: Easy Definition, Hard Policy.* AGSE Swinburne University, Melbourne, Australia; 2009.
61. Howells J: Innovation, consumption and information technology in services, *Canadian Journal of Economics* 2004, 32:364-381.
62. Howells J: Services and innovation and service innovation: new theoretical directions. In: Gallouj F, Djellal F: (Eds.) *The Handbook of Innovation and Services.* Cheltenham, Edward Elgar, UK; 2010:221-249.
63. Huston L, Sakkab N: Connect and Develop: inside Procter & Gamble's new model for innovation. *Harvard Business Review* 2006, 84(3), pp.58-66.
64. James PTJ: *Total Quality Management in Asia: Practices for the 21st Century.* Singapore: Pearson Education; 2005.
65. James PTJ: Hospital Loyalty Program Member Service Experiences and Resultant Hospital Performance Enablers: A Qualitative Study. *Internet Journal of Healthcare Administration* 2011, 7(2):1 January. <http://ispub.com/IJHCA/7/2/7716>.
66. James PTJ: The impact of Medical Tourism on Thai private Hospital Management: Informing Hospital Policy. *Global Journal of Health Science* 2012, 4(1):127-139, January. <http://dx.doi.org/10.5539/gjhs.v4n1p127>.
67. James PTJ: Customer Service Impacts on Bank Policy in Bangkok, Thailand. *Asian Journal of Finance & Accounting* 2012b, 4(1):25-45.
68. James PTJ: (). Issues in the Application of HKM to Thai Private Hospitals: The View from the Top. *The Internet Journal of Healthcare Administration* 2014, 8(2). <http://ispub.com/IJHCA/8/2/17736>.
69. James PTJ, Zamotaeva Y: Barriers and Facilitators to Sharing Knowledge at a Fast-Food Chain at Private Hospitals in Bangkok, Thailand. *The Internet Journal of Healthcare Administration* 2012, 8(1), March. <http://ispub.com/IJHCA/8/1/14181>.
70. Janz BD, Prasarnphanich P: Understanding the antecedents of effective knowledge management: The importance of a knowledge-centered culture. *Decision Sciences* 2003, 34(2):351-384. <http://dx.doi.org/10.1111/1540-5915.02328>.
71. Judge WQ, Fryxell GE, Dooley RS: The new task of R & D management: Creating goal-directed communities for innovation. *California Management Review* 1997, 39(3):72-85.
72. Jusko J: *Kraft Crafts an Open Innovation Strategy.*

- Industry Week 2008, 257(13):60-61
73. von Krogh G, Nonaka I, Aben M: Making the most of your company's knowledge: a strategic framework. *Long Range Planning* 2001, 34(4):421-439.
74. [http://dx.doi.org/10.1016/S0024-6301\(01\)00059-0](http://dx.doi.org/10.1016/S0024-6301(01)00059-0).
75. Labitzke G, Svoboda S, Schultz C: The Role of Dedicated Innovation Functions for Innovation Process Control and Performance - An Empirical Study among Hospitals. *Creativity and Innovation Management* 2014. <http://dx.doi.org/10.1111/caim.12068>.
76. Lansisalmi H, Kivimaki M, Aalto P, Ruoranen R: Innovation in Healthcare: A Systematic Review of Recent Research. *Nursing Science Quarterly* 2006, 19(1):66-72. PMID: 16407603.
77. Lehoux P: *The Problem of Health Technology. Policy Implications for Modern Health Care Systems*. New York, NY: Routledge, US; 2006.
78. Li LX, Collier DA: The role of technology and quality on hospital financial performance an exploratory analysis. *International Journal of Service Industry Management* 2000, 11(3):202. <http://dx.doi.org/10.1108/09564230010340715>.
79. Liebowitz J: Knowledge management and its link to artificial intelligence. *Expert Systems with Applications* 2001, 20:1-6.
80. Lockyer L, Patterson J, Harper B: ICT in higher education: evaluating outcomes for health education. *Journal of Computer Assisted Learning* 2001, 17:275-283.
81. Lowendahl B: *Strategic Management of Professional Service Firms*. Copenhagen: Copenhagen Business School Press, Copenhagen, Denmark; 1997.
82. Lowendahl B: *Strategic Management of Professional Service Firms*, 2nd edn. Copenhagen Business School Press, Copenhagen, Denmark; 2000.
83. Lyons RK, Chatman JA, Joyce CK: Innovation in services: corporate culture and investment banking. *California Management Review* 2007, 50(1):174-191.
84. Maier R, Remus U: Defining process-oriented knowledge management strategies. *Knowledge and Process Management* 2002, 9(2):103-118. <http://dx.doi.org/10.1108/13673270310492958>.
86. Mancilla-Amaya L, Sanín C, Szczerbicki E: Smart knowledge-sharing platform for edecisional community. *Cybernetics & Systems* 2010, 41(1):17-30.
87. <http://dx.doi.org/10.1080/01969720903408730>.
88. Martin LM: E-innovation: Internet impacts on small UK hospitality firms. *International Journal of Contemporary Hospitality Management* 2004, 16(2):82-90. <http://dx.doi.org/10.1108/09596110410519964>.
90. Martins EC, Terblanche F: Building organisational culture that stimulates creativity and innovation. *European Journal of Innovation Management* 2003, 6(1):64-74. <http://dx.doi.org/10.1108/14601060310456337>.
91. Matthing J, Sanden B, Edvardsson B: New service development: learning from and with customers. *International Journal of Service Industry Management* 2004, 15(5):479-498.
92. Meyer MH, DeTore A: Perspective: creating a platform-based approach for developing new services. *Journal of Product Innovation Management* 2001, 18(3):188-204. [http://dx.doi.org/10.1016/S0737-6782\(01\)00070-4](http://dx.doi.org/10.1016/S0737-6782(01)00070-4).
93. Miles I: Knowledge intensive business services: prospects and policies, *Foresight: The Journal of Future Studies, Strategic Thinking and Policy* 2005, 7(6):39-63. <http://dx.doi.org/10.1108/14636680510630939>.
94. Miles I: Research and development (R&D) beyond manufacturing: the strange case of services R&D. *R&D Management* 2007, 37(3):249-268. <http://dx.doi.org/10.1111/j.1467-9310.2007.00473.x>.
96. Miles I: Patterns of innovation in service industries. *IBM Systems Journal* 2008, 47(1):115-128.
97. Mintzberg H: (). *Structures in Fives, Designing Effective Organizations*. Englewood Cliffs, NJ: Prentice-Hall, US; 1979.
98. Mohr DC, Burgess JF, Young GJ: The influence of teamwork culture on physician and nurse resignation rates in hospitals. *Health Services Management Research* 2008, 2(1):23-31. <http://dx.doi.org/10.1258/hsmr.2007.007011>.
99. Mueller J: The interactive relationship of corporate culture and knowledge management: a review. *Review of Managerial Science* 2012, 6:183-201.
100. Nardi BA, O'Day VL: *Information ecologies: Using technology with heart*. Cambridge, MA: MIT Press, US; 1999.
101. Nevis EC, DiBella AJ, Gould JM. Understanding organizations as learning systems. *Sloan Management Review* 1995, 36(2):73-85.
102. Nightingale P: A cognitive model of innovation. *Research Policy* 1998, 27(7):689-709. [http://dx.doi.org/10.1016/S0048-7333\(98\)00078-X](http://dx.doi.org/10.1016/S0048-7333(98)00078-X).
103. Nonaka I: A dynamic theory of organizational knowledge creation. *Organization Science* 1994, 5(1):14-37.
104. Oke A: Barriers to innovation management in service companies, *Journal of Change Management* 2004, 4(1):31-44.
105. O'Mahoney J: *Management Innovation in the UK Consulting Industry*. London: Chartered Management Institute, UK; 2011.
106. Ostrom AL, Bitner MJ, Brown SW, Burkhard KA, Goul M, Smith-Daniëls V, Demirkan H, Rabinovich E: (). *Moving Forward and Making a Difference: Research Priorities for the Science of Service*, *Journal of Services Research* 2010, 13(1):4-36.
107. Pavia L: The era of knowledge in health care. *Health Care Strategic Management* 2001, 19(2):12-13.
108. Ramakrishnan R: Operations assessment of hospitals in the Sultanate of Oman. *International Journal of Operations & Production Management* 2005, 25(1):39-55.
109. Read WH: *Managing the knowledge-based organization: Five principles every manager can use*. *Technology Analysis and Strategic Management* 1996, 8(3):223-232.
110. Reiss S, Hinze I, Lacasa DV: Efficiency of Innovation Policies in High Technology Sectors in Europe (EPOHITE). Contract no. HPVI-CT-2001-00005. Final Report, Brussels: European Commission, EU; 2003.
111. Reisman CK: *Narrative Analysis*. London: Sage Publications, UK; 1993.
112. Sarvary M: Knowledge management and competition in the consulting industry. *California Management Review* 1999, 41(2):95-107.
113. Sefertzi E: *Creativity, Report Produced for the EC Funded Project Creativity, INNOREGIO: Dissemination of Innovation and Knowledge Management Techniques*. January 2000. www.adi.pt/docs/innoregio_creativity-en.pdf (June, 2014).
114. Senge P: *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Currency Double Day, US; 1990.
115. Skyrme D, Amidon D: The knowledge agenda. *Journal of Knowledge Management* 1997, 1(1):27-37. <http://dx.doi.org/10.1108/13673279710800709>.
116. Strauss AL, Corbin J: *Basics of Qualitative Research: Grounded Theory, Procedures and Techniques*. Newbury Park: Sage Publications, US; 1990.

117. Sullivan PH: Profiting from intellectual capital. *Journal of Knowledge Management* 1999, 3(2):132-143. <http://dx.doi.org/10.1108/13673279910275585>.
118. Sundbo J: Customer-based innovation of knowledge e-services: The importance of after innovation. *International Journal of Services Technology and Management* 2008, 9(3-4):218-233.
119. Sundbo J: The toilsome path of service innovation: the effects of the law of low human multi-task capability. In: Gallouj F, Djellal F: *The Handbook of Innovation and Services*. Cheltenham, Edward Elgar, UK; 2010:221-249.
120. Swan J, Newell S, Scarbrough H, Hislop D: Knowledge management and innovation: networks and networking. *Journal of Knowledge Management* 1999, 3(4):262-275.
121. Swee CG: Managing effective knowledge transfer: an integrative framework and some practice implications. *Journal of Knowledge Management* 2002, 6(1):23-30.
122. Walsh SP, White KM, Young RM: Over-Connected? A Qualitative Exploration of the Relationship between Australian Youth and Their Mobile Phones. *Journal of Adolescence* 2008, 31(1):77-92.
123. West MA: The Social Psychology of Innovation in Groups. In: M.A. West and J.L Farr (Eds.), *Innovation and Creativity at Work: Psychological and Organizational Strategies*. Chichester, Wiley UK; 1990:309-334.
124. Winter SG, Szulanski G: Replication as strategy. *Organization Science* 2001, 12(6):730-743.
125. Young R. *Knowledge Management Tools and Techniques Manual*. Asian Productivity Organization, Japan; 2010.
126. Zack M: Managing codified knowledge. *Sloan Management Review* 1999, 40(4):45-58.

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