

Dynamic Knowledge Management Capability (DKMC): From Resources to Capital

5th Workshop on Visualising, Measuring and Managing Intangibles and Intellectual Capital

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* The researcher gratefully acknowledges the support received from the Fáilte Ireland Research Scholarship Scheme.

Abstract

Strategic management theory has largely and traditionally focused on the external environment in which a firm can achieve competitive advantage (Bounfour, 2003). Increasingly literature has redirected their focus towards the more controllable internal resources within the firm (Barney, 1991). An increasing amount of literature has recognised that the potential for competitive advantage arises from Intellectual Capital (IC) in the form of human, relational and structural resources (Teece, 1998). However, transforming these resources into Intellectual Capital has received scant attention within the literature and remains a central dilemma for most firms. Utilising the tourism industry as a context, this paper presents a conceptual model that details how the cultural and heritage organisation can effectively deploy and reconfigure resources to deliver sustained competitive advantage through cognitive and action orientated processes. The model proposes that the transformative process involves the integration of a firm's knowledge and learning capability. The knowledge management capability engages the firm's capital and transforms its inert state through the acquisition, storage, retrieval and distribution of knowledge within the firm (Crossan et al, 1999), while the application of knowledge takes place through learning within the firm (Chatzkel, 2000).

Introduction

Tourism is now the largest indigenous industry within the Irish economy, most recent figures indicate that approximately 9.1 million overseas tourists visited Ireland in 2007 (Tourism Ireland, 2008) and the industry is targeted to reach 10 million overseas tourists and €6 billion in revenue by 2012 (Tourism Policy Review Group, 2003). This research will look in particular at the tourism organisations within the cultural and heritage sector in Ireland. This sector is often referred to as 'Cultural Tourism', which "embraces the full range of experiences visitors can undertake to learn what makes a destination distinctive – its lifestyle, its heritage, its arts, its people – and the business of providing and interpreting that culture to visitors" (Fáilte Ireland, 2009). Accordingly, this area can be categorised into 1) Traditional Culture, 2) Living Culture, and 3) Natural and Built Heritage. According to the World Tourist Organisation growth is at 15% per annum and is "estimated to be worth €5.1 billion annually to the Irish economy" (Fáilte Ireland, 2009). As a result the potential maximisation of this sector has been outlined in national and supranational policies (Department of Arts, Sport and Tourism, 2009; Building Ireland's Smart Economy, 2008).

Notwithstanding these positive features, the industry has seen a "significant loss in competitiveness, which if not redressed, will undermine the capacity of the industry to benefit from the strong economic growth envisaged in international tourism in the years ahead" (Tourism Policy Review Group, 2003: 40). A response that continuously appears in national economic policy (Tourism Product Development Strategy, 2007 – 2013) is that, in order for tourism organisations to surmount the detrimental effects of losing competitiveness, emphasis must be directed at utilising and maximising their internal resource base to create a more innovative tourism organisation. Nevertheless, two central questions explored in the literature on organisations and competitiveness are "Why do some culture and heritage tourism organisations compete more successfully than others?" and "What can these organisations do to enhance and sustain their competitive advantage?"

Within the extant resource based view and dynamic capability literatures (Runyan et al., 2007) explanations of performance difference between organisations have shifted from

industry level external factors to an organisation's internal components (Barney, 1991). Theorists have long argued that internal distinctive capabilities, which are grounded in firm resources and routines, are the source for knowledge creation and continuous innovation (Markides, 1998) and the firm's ability to integrate, build and reconfigure their structural, social and relational resources to match the requirements of a changing environment can be the basis of differentiation (Teece et al., 1997). This implies that if a cultural and heritage organisation can strategically build an organisation-wide innovation capability structure (innovativeness), their limited resources will be utilised to maximum capacity and that competitiveness should increase through the delivery of continuous innovations (Sundbo et al., 2006; Markides, 2004). This is especially true considering that a firm's long-term survival may rely more on internal dynamic capabilities (Trott, 1998).

Indeed, the source of sustained competitive advantage is increasingly being associated with the utilisation of the firm's valuable internal intellectual resource pool such as its human, social and structural capitals (Runyan et al., 2007; Peteraf 1993; Wernerfelt, 1984). The use of terminology such as '*utilisation*' emphasises an important point in that human, relational and structural capitals are static groups of intellectual resources (Tomé, 2008). These resources alone are not sufficient to create a sustained competitive advantage (Grant, 2007). They need to be managed and transformed into intellectual capital. Consequently, intellectual capital (IC) is the product of this transformational process and is the source of a firm's sustained competitive advantage (Daft and Weick, 1984). However, there is an imbalance in the IC literature where there has been an over dominance by most researchers to focus either on explaining the components of IC (Martin-de Castro et al, 2006), or the measurement and reporting of IC (Ordóñez de Pablos, 2005) or on relating competitive advantage to the characteristics of resource components (Barney, 1991) and a failure to capture the process dynamics of transforming intellectual resources into intellectual capital (Gupta and Roos, 2001).

Like Bontis (1996), it is the contention of this paper to demonstrate that transforming intellectual resources into IC for sustained competitive advantage involves the management of the tourism firm's knowledge and learning capability. The knowledge management (KM) capability engages the firm's capital and transforms its inert state through the acquisition, storage, retrieval and distribution of knowledge within the firm (Crossan et al, 1999). In essence, intellectual resources are considered a stock while KM is the flow that develops and increases this stock (Tomé, 2008). As a consequence, the emphasis is on the outcome of the knowledge rather than the quantity of knowledge within the firm (McElroy, 2000) because if "companies fail to apply knowledge, its successful distribution and cultivation will have little impact" (Hauschild et al, 2001:78). The application of knowledge takes place through learning within the firm (Chatzkel, 2000). In the words of Bontis et al: "organisational learning broadens the discussion to incorporate behaviours as well as knowledge and provides a means to understand how the 'stocks' change over time" (2002: 440). Simply stated, working in combination with one another, intellectual resources are the sources of a firm's capabilities and in turn, KM and OL capabilities are the transformational mechanism that confers a firm with sustainable competitive advantage (Grant, 1991). However, it is perceived by the researcher that building and managing firm-level innovativeness remains a central dilemma for most tourism organisations in the cultural and heritage sector because there is a lack of understanding about how resources should be integrated. Indeed, there are few pragmatic descriptions of the '*how to do variety*', as past research has tended to consider dynamic capabilities as a given context rather than a structure that can be deliberately designed (von Stamp, 2003).

From this theoretical grounding, this paper proposes a conceptual model that illustrates the process of transforming intellectual resources through knowledge and learning management into the organisation's potential Intellectual Capital. Further this research identifies and distinguishes between the cognitive based aspects of knowledge management and the action based area of organisational learning that will enhance the firm's competitive advantage (Crossan et al, 1999). These transformational phases culminate to what this research refers to as a 'Dynamic Knowledge Management Capability' (DKMC). Managing these phases in isolation may create a temporary competitive advantage for the firm. However, it is the transformative capacity inherent within each phase that increases the firm's likelihood of achieving a sustained competitive advantage (Freeze and Kulkarni, 2007; Parrup – Nielsen, 2006).

Due to the scarcity of understanding in this area, it is perceived that our ongoing study will contribute substantially to academic knowledge and practice, and should highlight key areas warranting investigation going forward. This research will broaden the scope of innovation theory and tourism practice by incorporating a strategic focus on dynamic capabilities critical for innovativeness and how tourism organisations should integrate, build and reconfigure their resources for its creation. The ultimate aim of this research is to present a pragmatic model on the development and management of an innovation capability structure and, in so doing, will obtain implementable guidelines that can be used by Irish cultural and heritage organisations in the tourism industry to gain sustained competitive advantage through continuous innovation.

Intellectual Resource Management (IRM)

Critical to the creation of the DKMC is the identification, analysis and categorisation of the company's capital, i.e. knowledge assets. Knowledge has become increasingly recognised through national policies and media as an organisation's most valuable asset (Building Ireland's Smart Economy, 2008; Seetharaman et al, 2004). Indeed, these resources have the potential to form the foundation of intellectual capital (herein after referred to as IC) in which a cultural and heritage organisation organisation can leverage, deploy and utilise to create a competitive advantage. Although IC may be a relatively new term, it has a long lineage in various business areas (Stewart, 1997; Edvinsson and Malone, 1997; Bontis, 1996; Penrose, 1959) and has developed a lexicon of its own, incorporating such terms as 'customer capital', 'organisational capital', 'internal resources', 'intangible assets' and various other terms (Boedker et al, 2005; Houltsel and Nelson, 2005). Effectively, the literature is referring to the management of knowledge, whether it is explicit or implicit, tangible or intangible (Ordonez de Pablos, 2004). For the purpose of this research this knowledge asset will be categorised into the following categories: human, relational and structural capital and discussed individually.

Human Capital (HC) is described by Roos et al (2001: 23) as the "competence, skills, and intellectual agility of the individual employees". The tacit nature of human capital is difficult to extract and codify and therefore difficult to capture (Bontis, 1996). Employee turnover is notorious in the depletion of human capital within the tourism and hospitality industry (Fáilte Ireland, 2005); even though human capital is one of the most important and valuable resource a tourism firm could have (Baum, 2006). When these employees leave the firm, they take with them their stock of knowledge (Edvinsson and Malone, 1997). Nevertheless, the collaboration of these views with dynamic capability theory gives HC the potential to be leveraged and deployed to counteract this problem (Eisenhardt and Martin, 2000). Bontis

(1996: 43) recognises that it is a “collective capability” that is required to extrapolate knowledge at an individual level and embed within the firm. Although HC has been linked to increased firm performance (Parrup - Nielson, 2006; Ordonez de Pablos, 2003), it is not sufficient alone to create a sustained competitive advantage (CIPD, 2008; Tansley and Newell, 2007).

Structural Capital (SC) comprises of firm procedures, practices, routines, culture and structures that are not as easily measured as other assets that dominate the firm’s accounts (Roos et al, 2001). It can be conceptualised as the fluid intangible assets such as processes, routines, culture, and the more formally crystallised structural capital is codified in an organisation’s policies, procedure booklets, and intellectual property (Carson et al, 2004).

In the long run, it is the responsibility of management to extract the knowledge from its employees (human capital) and codify it in a formal way so when employees leave the building after a day’s work there is a record of this valuable knowledge and once embedded, it becomes structural capital (Ordonez de Pablos, 2004; Roos et al, 1997a). This is noteworthy due to high employee turnover and the seasonal nature of the Irish tourism sector. Structural capital also provides support mechanisms in the form of organisational routines, capabilities and a motivated attitude within the corporate culture for employees (Bontis, 1996). This supportive culture is necessary to motivate staff and encourage them to try new ideas even if their attempts are unsuccessful (Bontis, 1996). Encouraging an innovative culture within the Irish cultural and heritage sector is fundamental in regaining the tourism industry’s competitiveness. However, similar to human capital, structural capital is unable to create an advantageous situation for an organisation on its own and must be used in juxtaposition with the other capitals (Bates & Flynn, 1995).

“Relational Capital (RC) encompasses the external revenue generating aspects of the firms” including “branding, reputations, strategic alliances, relationships with customers and suppliers” (Seetharaman, 2004: 524). Most authors in IC literature recognise relational capital as consisting of relationships that the organisation has with customers, suppliers and competitors (Bontis, 2002b). Owing to the importance of human interaction in the tourism sector, relational capital is a crucial facet in this competitive triangle (Carson et al, 2004). The establishment of networks in the Irish tourism industry has facilitated in bringing these groups together to work towards a common goal (Fáilte Ireland, 2009; Cooper, 2006).

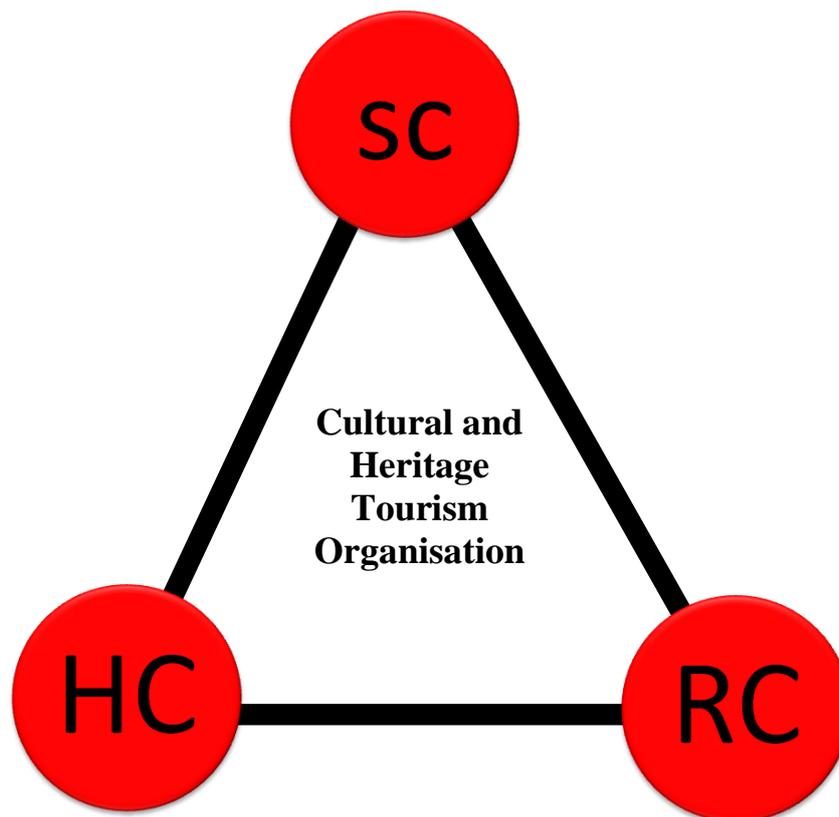
If an organisation is in tune with the demands of its marketplace, then they can become market leaders (Bontis, 1996). According to Bontis (1999), RC is the most difficult of all the IC elements to codify due to its external characteristics. Despite literature representing an advantageous outcome through the pursuance of relational networks, like all capitals, its development comes with a cost; whether it is time, reciprocity or trust (Tansley and Newell, 2007). It is pertinent that a firm weighs up its options and considers whether the benefits gained from relational capital will outweigh these costs (Adner and Kwon, 2002; Leana and Van Buren, 1999). Moreover, relational capital is meaningless in creating a sustained competitive advantage without the assistance of the other IC elements due to its intangible characteristics (Youndt, 1998).

Human, relational and structural capitals are static groups of resources and are unable to survive and develop in isolation without the assistance of the human element and the firm’s configuration and constitution (Daft and Weick, 1984). It is the interaction of the human element within human and relational capital and the support from structural capital that

bestows these stagnant assets the ability to continually interlink with one another, develop and transform into a new resource/capability (Hussi, 2004). Figure 1 represents the identification, analysis and categorisation of a tourism organisation's human, relational and structural capital; the three dominant resource pools in which the foundations of a DKMC lie. The absence of arrows within this diagram represents the knowledge gap in literature which establishes the need for a transformative process that will configure and link the firm's SC, HC and RC into IC. This disparity within the literature has been resolved with the employment of 'knowledge management' and organisational learning theory.

Proposition 1: A tourism organisation's human, relational and structural capital presents management with the internal resource pool that has the potential to be transformed into the organisation's intellectual capital.

Figure 1: Intellectual Resources - Human (HC), Structural (SC) and Relational Capital (RC), the three resource pools that have the potential to create Intellectual Capital (IC).



Managing Intellectual Resources: A Conceptualisation

Despite the many inherent commonalities and overlaps between knowledge management and organisational learning literatures, historically, they have been treated as separate entities (see Crossan et al, 1999; Davenport, 1998). For both Vera & Crossan, (2001) and Ordonez de Pablos, (2002) this had resulted in significant confusion within both literatures has shrouded and has led to disjointed understanding of how knowledge should be captured, assimilated and utilised. Nevertheless, there is an emerging consensus within both literatures (Firestone & McElroy, 2004; Ordonez de Pablos, 2002; Vera & Crossan, 2001; Bontis, 2001) that a “greater understanding of organisational learning would enable us to be more effective at knowledge management, and better knowledge management could facilitate organisational learning” (Argote, 2005).

The knowledge based literature of the firm fosters and develops the resource based theory in that it considers knowledge to be the most complex of an organisation’s resources (Alavi and Leidner, 2001). This complexity arises due to the tacit and explicit nature of knowledge. The former refers to the “individual’s mental models consisting of mental maps, beliefs, paradigms, and viewpoints” while the latter consists of concrete know how, crafts, and skills that apply to a specific context” (Alavi and Leidner, 2001: 110). Explicit knowledge is “articulated, codified, and communicated in symbolic form and/or natural language” (Alavi and Leidner, 2001: 110). For Fahey and Prusak, “tacit knowledge is the means by which explicit knowledge is captured, assimilated, created, and disseminated” (1998: 268). It is this tacitness that allows knowledge to be one of the few resources that can withstand competitor attempts at imitation and substitution (Freeze and Kulkarni, 2007; Roos & Roos, 1997b), thus making it valuable, rare and a source of competitive advantage (Barney, 1991). KM involves mainly four processes 1) Acquisition, 2) Storage, 3) Distribution and 4) Retrieval (Adams and Lamont, 2003; Alavi and Leidner, 2001; Huber, 1991).

Organisational learning (OL) reflects “the process of improving actions through better knowledge and understanding” (Fiol and Lyles, 1985: 803). For Shrivastava, organisational learning is the “convergence of individual knowledge and insights into a systematic organisational knowledge base which informs decision making” (1983: 18). “In contrast to knowledge management and intellectual capital, which focus management and research attention on cognition, this view of organisational learning acknowledges the rich interrelationship between cognition and action” Crossan et al. (1999: 535). Simply stated, knowledge can be transferred to an individual, group and/or the firm internally and externally, however this does not denote that learning has taken place (Newell, 2005). OL processes include 1) Intuition, 2) Interpretation, 3) Integration and 4) Institutionalisation (Crossan et al, 1999).

According to Vera and Crossan (2001), in order for a firm to have a positive outcome from learning, an organisation must include “co-alignment” into the equation. They believe that co-alignment “represents the mutual alignment between a firm’s business strategy and a firm’s learning/knowledge strategy” (2001; 13). They believe “that learning and the accumulation of knowledge and intellectual capital only leads to better performance, when they support and are aligned with the firm’s strategy”. They argue “that researchers interested in studying the impact of OL, KM and IC on performance need to be more specific about the characteristics of the knowledge that enhances performance and the conditions under which learning leads to competitive advantage” (2001; 16). Similarly, Fahey and Prusak (1998: 270) argue that organisations tend to over emphasise the knowledge management process rather than the knowledge that is received and that firms tend to “commit extensive resources and

time to refining and perfecting data and information at the expense of deriving decision and action implications”. Although it is important that knowledge is managed and that it flows to the correct individual, group or structure, (Haas and Hansen, 2005; Dierickx et al, 1989) emphasis should be placed on the outcome of the knowledge rather than the quantity of knowledge within the firm. The transfer and assimilation of knowledge is meaningless without an action orientated outcome (Hauschild et al, 2001). Grant (1996a) also argues that the transfer of knowledge creates inefficiencies in that knowledge should be controlled and organised in a way that allows for the integration of people with the required knowledge rather than wasting resources and time in transferring the knowledge from one person to another.

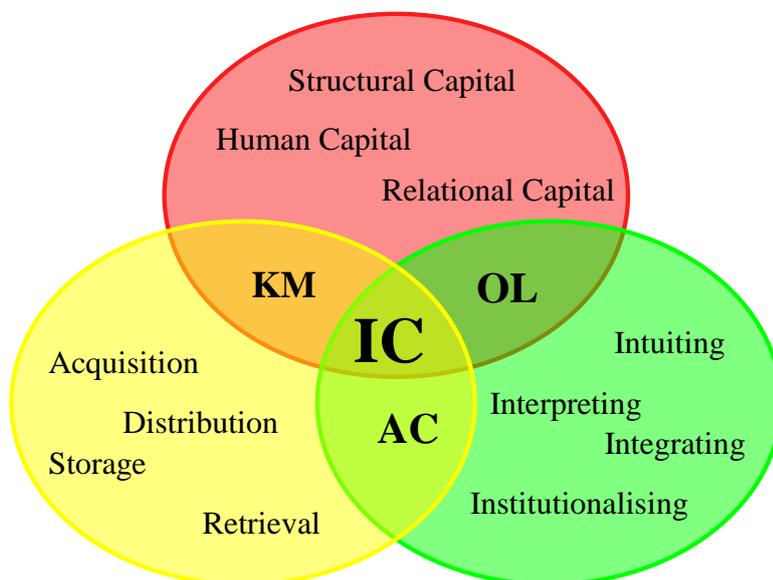
Based on the foregoing, we argue that in order for an organisation to develop an innovative capability structure, the knowledge management and organisational learning concepts need to be fused together. The transfer of knowledge is reliant upon the “transmission and receipt” of knowledge (Nonaka, 2005: 381; Grant, 1996), with the process of receiving this knowledge often coined as ‘absorptive capacity’ (Cohen and Levinthal, 1990). Knowledge management processes deal with the ‘transmission’ aspect of the process while the ‘receipt’ of this knowledge is through organisational learning. Cohen and Levinthal (1990; 128) define absorptive capability as “the ability of a firm to recognise the value of new, external information, assimilate it, and apply it to commercial ends is critical to its innovative capabilities”. Given that “the ability to exploit external knowledge is thus a critical component of innovative capabilities” and that absorptive capacity is “largely a function of the firm’s level of prior related knowledge” (Cohen and Levinthal, 1990; 128), it is logical to categorise the process of absorptive capacity into two categories. Zahra and George (2002) label these two concepts as ‘potential’ and ‘realized’ absorptive capacities. “Potential capacity comprises knowledge acquisition and assimilation capabilities, and realized capacity centres on knowledge transformation and exploitation” (Zahra and George, 2002; 185). This is similar to this paper’s proposed conceptual model in that potential absorptive capacity lies in the form of knowledge management and the realised absorptive capacity is outlined in organisational learning. Zahra and George (2002) acknowledge that operating these subsets of absorptive capacity individually will be insufficient in providing a competitive advantage; “Firms cannot possibly exploit knowledge without first acquiring it. Similarly firms can acquire and assimilate knowledge but might not have the capability to transform and exploit the knowledge for profit generation” (Zahra and George, 2002; 191). Comparisons of KM, OL and Absorptive Capacity (AC) are outlined in figure 2.

The commonalities and overlap between IC, KM and OL theory is illustrated in figure 3. The three circles represent the three main literatures in which our conceptual model is based. The red circle denotes the Resource Based View and Intellectual Capital Theory; Knowledge Based Theory is symbolised by the yellow circle; and the Organisational Learning literature is represented by the green circle. There are many commonalities within these paradigms and this is signified in the overlap of one circle with another circle. When the intellectual resource stock (HC, RC and SC) is managed and utilised through knowledge flow processes such as acquisition, storage, distribution and retrieval, the RBV, IC and KM literature are working in conjunction with one another resulting in Knowledge Management (KM). Using IC and KM theory has become commonplace in the last decade (Housel et al, 2005; Boedker et al, 2005; Stahle & Hong; 2002). However, the static nature of the intellectual resources and the knowledge management processes has redirected strategists towards the action orientated organisational learning processes; authors acknowledge that learning must take place in order for behavioural changes to occur (Ordenez de Pablos, 2005; Bontis et al, 2001; McElroy,

2000). Neither the KM nor OL literature mentioned each other (McElroy, 2000); thus leading to the confusion where different terminologies were being used to describe the same processes (Vera & Crossan, 2001). Nevertheless, authors have acknowledged this overlap and have since begun to dislodge the uncertainty within the two literatures (Ordonez de Pablos, 2005; Vera & Crossan, 2001; Bontis et al, 2001). KM and OL processes now play a significant role in the transformative process of the proposed model, i.e. Absorptive Capacity (AC) (Zahra & George, 2002; Cohen & Levinthal, 1990). When the three paradigms are fused together, they have the potential to create the organisation's Intellectual Capital (IC).

Figure 2: Merging Knowledge Management (KM) and (OL)			
Absorptive Capacity (AC)	Potential Absorptive Capacity (PAC): Acquisition & Assimilation	Knowledge Management (KM)	
		Acquisition	Creation, codification and transfer of knowledge internally within the firm and the assimilation of knowledge in the external environment (Adams and Lamont, 2003; Alavi and Leidner, 2001; Huber, 1991).
		Distribution	The sharing of knowledge internally and externally within the organisation (Adams and Lamont, 2003; Alavi and Leidner, 2001; Huber, 1991).
		Storage	Capturing of knowledge and embedding it within the organisation (Bontis, 1996).
		Retrieval	Members within the organisation can retrieve knowledge from the organisation's knowledge stock (Adams and Lamont, 2003; Alavi and Leidner, 2001; Huber, 1991).
	Realized Absorptive Capacity (RAC): Transformation & Exploitation	Organisational Learning (OL)	
		Intuiting	Development of a new perspective on how one is thinking or acting, (Bontis et al, 2002; Zietsma et al, 2002 Crossan et al, 1999; Nonaka and Takeuchi, 1995).
		Interpreting	The interpreting of one's knowledge into verbal or physical actions to give others an insight into how you are thinking (Crossan et al, 1999).
		Integrating	The shared knowledge is then informally accepted by the individuals and group (Crossan et al, 1999).
		Institutionalising	The acceptance of the knowledge by the entire organisation is acknowledged through the formalisation of that knowledge in the organisation's processes, procedures and structure (Crossan et al, 1999: 525).

Figure 3: Overlap in the IC, KM and OL literature

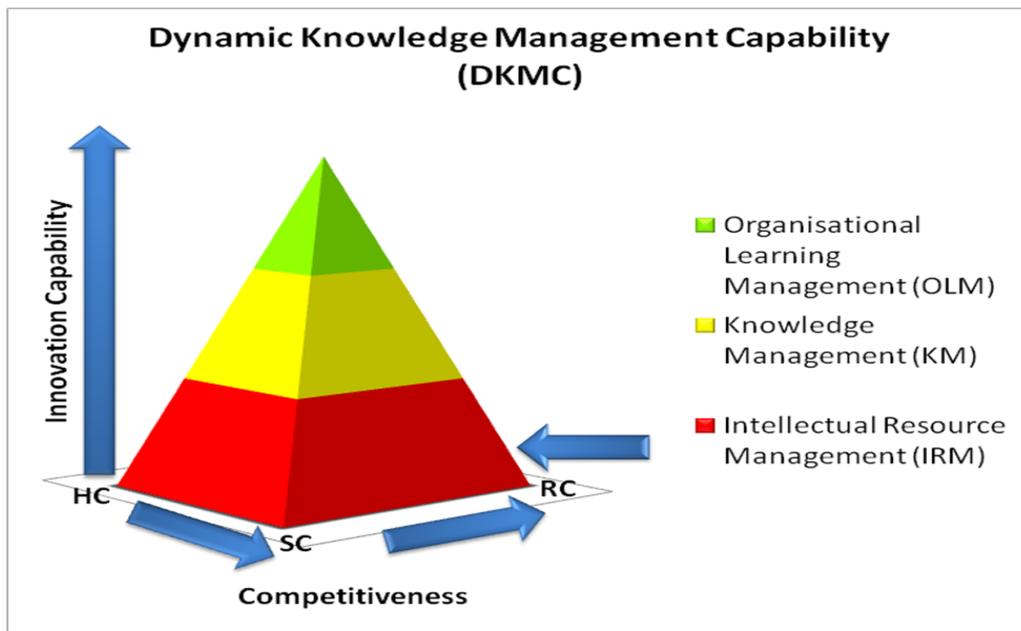


Based on the extant literature, the authors have developed a conceptual model that integrates all theories. This model is deemed a ‘Dynamic Knowledge Management Capability’ which is defined as; the organisation’s ability to acquire, store, utilise and renew its intellectual capital to confer a sustainable competitive advantage through its innovation capability structure. Dynamic Knowledge Management Capability (DKMC) involves a three phase process (see figure 4); Intellectual Resource Management (IRM), Knowledge Management (KM) and Organisational Learning Management (OLM). The three sided pyramid represents the DKMC process with the base of the pyramid’s three points symbolising each of the three capitals within the tourism organisation; human, relational and structural capital. Intellectual Resource Management (IRM) (phase 1) focuses on the identification, organisation and analysis of the firm’s resources that has the potential to amalgamate to a company’s ‘Intellectual Capital’. This phase is represented by the bottom red layer of the three sided pyramid. Phase 2, which is denoted by the yellow layer equates to ‘Knowledge Management’ (KM). This phase engages the firm’s capital through the acquisition, storage, retrieval and distribution of knowledge within the firm. The third stage being ‘Organisational Learning Management’ (OLM) incorporates the ‘action’ orientated aspect of the DKMC process where the knowledge of the firm will be utilised through the learning actions of the organisation and its individuals; this is embodied in the green layer of the model.

Managing these phases in isolation may create a temporary competitive advantage for the tourism organisation. However, it is the transformative capacities of the model, as organisations engage with each phase that increases the cultural and heritage organisation’s innovation capability and the organisations likelihood of achieving a sustained competitive advantage. This conceptual model is a first attempt and is only a starting point on the path to

understanding the complexity of the dynamics that is occurring in managing and utilising intellectual capital and knowledge assets. It is essential that management within the Irish tourism sector not only identify their knowledge stocks and control the knowledge flows but also strategically manage the learning within the firm (Ruhanen & Cooper, 2004).

Figure 4: The Dynamic Knowledge Management Capability (DKMC) Pyramid.



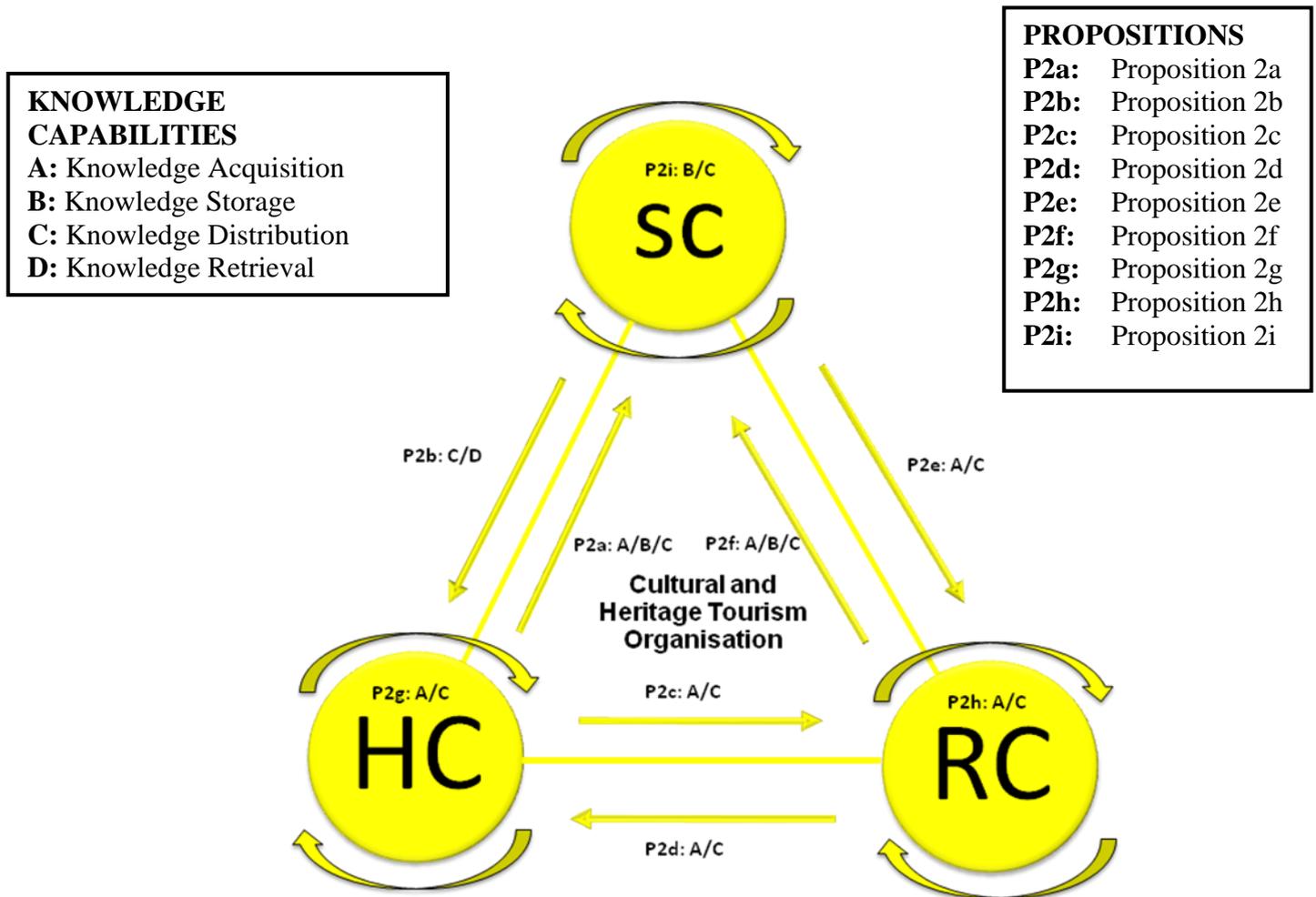
Knowledge Management

As valuable as the knowledge is within the three capital resources of human, social and structural, using them in combination alone will not achieve competitive advantage; rather they must go through a transformative process, which relies on the knowledge management capabilities of the firm to achieve a sustained competitive advantage through IC (Grant, 1996). As illustrated in Table 1, the firm's knowledge management capabilities are critical to a firm's resource deployment and reconfiguration capacities, by acquiring, storing, disseminating and retrieval of intellectual resources throughout the organisation (Bontis, 1996). These processes incorporate the acquisition and assimilation capabilities required to fulfil the potential absorptive capacity requirements. Acquisition involves the "firm's capability to identify and acquire externally generated knowledge that is critical to its operations" (Zahra and George, 2002; 189) while assimilation is where the "knowledge needs to be consistent with the existing knowledge or that new knowledge needs to be converted to a format consistent with previously existing knowledge" (O' Leary, 2003). However, in order to understand how knowledge management processes leverage and deploy intellectual resources, the knowledge flow relationships between these resources must be comprehended in order to apply the appropriate knowledge management tool (Marr et al, 2004). It is important to note that the knowledge management process used is dependent upon who is creating the knowledge flow and for what purpose (Sveiby, 2001; Vera and Crossan, 2001). For example: The storage process occurs when human capital transfers knowledge to the organisation and the firm embeds it within its processes and procedures (i.e. Structural Capital) (Edvinsson, 2000). From an individual's point of view, this can be considered as knowledge distribution. However, from the organisational standpoint this process can be contrived as the acquisition and storage of knowledge; three different processes but with very distinct perspectives.

Figure 4 maps the knowledge flows between the intellectual resources and how they interact to maximise knowledge efficiency and value. Indeed, the diagram demonstrates the knowledge flows of human, relational and structural capital with each other and within themselves as a dynamic capability that enables these knowledge stocks to be incessantly revolutionised. While it is possible that a cultural and heritage organisation in the tourism sector may not have relationships in all these elements, it is nevertheless advantageous to use the framework presented here to understand the interrelationships and the transformative knowledge management processes from one element to another and their value to the organisation (Sveiby, 2001; Edvinsson and Malone, 1997).

Human capital is perhaps one of the most important elements within a tourism organisation (Baum, 2006). The knowledge, skills and experience embedded in employee's brains is a valuable asset that belongs to the individual. The problem in this is that when employees leave the organisation at night, they take with them this capital (Edvinsson & Malone, 1997). An additional problem in the Irish tourism industry is high staff turnover (Fáilte Ireland, 2005). It is vital that the organisation acquires this information which employees 'voluntarily' distribute to the organisation and store within the organisation's policies, procedures, culture, i.e. the organisation's structural capital (Ordonez de Pablos, 2004; Roos et al, 1997a). The word 'voluntarily' is important in that the tourism organisation needs to develop a culture where employees are willing to distribute their knowledge and that this behaviour is positively reinforced by management (du Plessis, 2007; Hauschild et al, 2001; Holtshouse, 1998).

Figure 4: The interrelationships between the IC elements and the corresponding knowledge management processes.



In reversal roles the development of competencies and capabilities of employees will remain stagnant unless there is a knowledge stock and support system in which employees can retrieve knowledge and use for self development, i.e. Knowledge pull approach (Bozbura, 2004). This structural capital can take the form of knowledge repositories, archives, manuals, company policies and procedures (Carson et al, 2004). This bottom up/retrieval approach is what most firms aspire to. Indeed, if the Irish cultural and heritage sector in the tourism industry is to become more innovative and creative, management need to harness this wave of new thinking through a supportive culture where employees can learn through trial and error and not have to be disciplined accordingly (Bontis, 1998). This is not to dismiss the importance of training, policies and procedures; without these there would be no regulation or consistency in an organisation. The role of many human resource departments is twofold in that they provide the foundations for employees to learn and develop but they also have to motivate and encourage individuals to have that desire to learn and develop themselves (Ordonez de Pablos & Lytras, 2008). Structural capital, whether it be tangible (policies, manuals) or intangible (culture, norms) is a necessary asset to develop the human capital in the tourism organisation.

Proposition 2a: Human capital (HC) is a valuable resource in that knowledge can be acquired from employees through their willingness to distribute to the firm. Once extracted this knowledge can be stored in the organisation's structural capital (SC). (P2a: A/B/C – The knowledge flows from HC TO SC)

Proposition 2b: Structural capital (SC) is a necessary resource to support human capital development through the distribution of knowledge and as a support system for employees to retrieve knowledge as required. (P2b:C/D – The knowledge flows from SC TO HC)

The human interaction of the cultural and heritage organisation relies on its frontline capability of creating relationships and building that bond between the customer and the service/product provider (Harmsen and Jensen, 2004). The extent to which the knowledge is tacit (complex) or explicit (readily understood) impacts the flow of the knowledge transfer (Hooley et al, 2001). For Hansen (1999: 88) “when the knowledge being transferred is non-codified and dependent...an established strong inter-unit relationship between the two parties to the transfer is likely to be most beneficial”. Why? Because in a close relationship, actors are more likely to spend time expressing and conveying the non-codifiable knowledge. Inkpen and Tsang (2005) comment succinctly pinpoints the inter-relationship between human capital and relational capital in terms of knowledge distribution “...for effective transfer of tacit knowledge between network members, individual social capital must be developed, because the transfer normally requires intimate personal interactions” (2005; 162). This implies that human capital is essential in the ability to form relationships (i.e. relational capital) (Reed et al, 2009) and also adopts a reversal role where relational capital is therefore necessary for human capital to develop (Carson et al, 2004).

The network literature highlights that relationships with external actors provides the opportunity for employees to distribute and acquire knowledge (Liebowitz, 2005). For instance, opinions and comments from suppliers and customers can provide constructive feedback in which employees can use to enhance their skills and competencies (Sveiby, 2001) and for the organisation to take advantage of business opportunities. This feedback can be gathered through various techniques such as networking, customer feedback cards and surveys. Networks within the Irish tourism industry have proved very successful and endeavor to develop linkages between tourism organisations, SMEs, practitioners, academics, institutions and associations (Fáilte Ireland, 2009). Based on the foregoing, the following propositions are put forward:

Proposition 2c: Human capital (HC) is a necessary resource for the creation and development of relationships and networks within relational capital (RC), for the distribution of employees' knowledge to external partners and to act as an employee knowledge base in which external partners can acquire knowledge from when required. (P2c: A/C – The knowledge flows from HC TO RC)

Proposition 2d: Relational capital (RC) is a necessary resource for the distribution of knowledge from the external environment to employees and the acquirement of this knowledge by employees of the organisation can lead to the enhancement of human capital (HC). (P2d: A/C– The knowledge flows from RC TO HC)

The information distributed to external parties can have a major effect on how the external environment perceives them (Bueno et al, 2004). For this reason most cultural and heritage organisations have included social and ethical statements as part of their corporate responsibility to the community (Spence et al, 2003). To ensure these parties understand and have the ability to acquire this information, organisational policies, procedures and other relevant information must be accessible and user friendly (Bollen et al, 2005). Services that would complement this type of relationship include customer care lines and websites (Sveiby, 2001). Most tourism organisations have proactively embraced this concept in the form of revolutionised operations and websites to take into consideration their effect on the environment and its community (Jenkins, 2006). As a consequence, it is vital that structural capital provides a platform in which relational capital can be supported.

The distribution of feedback from customers, suppliers, trade associations, government polices etc, can enhance the firm's ability to absorb this knowledge through acquisition and consequently utilise this knowledge to enhance the procedures and systems within the firm (Bollen et al, 2005). Acquiring this invaluable external knowledge is critical and can be gathered though various methods such as customer surveys, customer service desks and government reports (Sveiby, 2001). Tourism organisations must continually adapt to the changing environment and meet its customers' needs to remain competitive. The knowledge gathered can then be stored within the organisation through embedding this information into the organisation's processes, procedures and so on (Carson et al, 2004).

Proposition 2e: Structural capital (SC) is a necessary resource to provide a medium in which external parties can acquire knowledge and to give the organisation an opportunity to distribute knowledge when necessary. (P2e: A/C – The knowledge flows from SC TO RC)

Proposition 2f: Relational capital (RC) is a necessary resource for external parties to distribute knowledge to a firm and to give the firm the opportunity to acquire knowledge from external parties and subsequently to store it within their organisation. (P2f: A/B/C – The knowledge flows from RC TO SC)

Just as the relationships support each other and benefit from each other, so too does the individual elements benefit themselves. The transfer of knowledge is dependent upon which direction the knowledge flows (Lin et al, 2008). Human capital can grow through the distribution of knowledge to employees and through the acquirement of knowledge from employees (Lucas, 2005). Examples of this type of exchange can take place through formal training and mentorship (Pike & Roos, 2004) or a more informal approach such as meeting in the corridors or simply a chat at the water cooler (Edvinsson and Malone, 1997).

Through various activities firms can indirectly influence the relationships and networking activities of external parties. This can be achieved when the firm engages in various activities

such as community involvement, strategic partnerships and joint product launches (Sveiby, 2001). These are activities that will encourage communication amongst those in the external environment about the firm (Pike et al, 2005) whether it is knowledge actively acquired by those in the external environment or knowledge that has been distributed to the external actors.

Structural capital can develop in itself through the arrangement and codification of knowledge and intellectual property (IP) (Pike et al, 2005). Firms can continually update its procedures and policies to ensure efficiency throughout its systems. An example of how this can be accomplished is through the collection of data in one organisational database (Sveiby, 2001). The operational efficiency of tourism organisations relies on its organisational characteristics. For example; a cultural and heritage organisation's database of members, customers and suppliers needs to be continually updated to perform effective marketing and awareness campaigns.

Proposition 2g: Human capital (HC) is a necessary resource to reinvest in human capital through the distribution and accumulation of knowledge. (P2g:A/C– The knowledge flows within HC)

Proposition 2h: Relational capital (RC) is a resource that can be indirectly developed through organisational activities. (P2h: A/C – The knowledge flows within RC)

Proposition 2i: Structural capital (SC) is a necessary resource to create further efficiencies within the firm. (P2i: B/C– The knowledge flows within SC)

The tourism organisation must establish an environment that encourages employees to share and eagerly acquire knowledge; this is what is known as a 'knowledge pull approach' (Holtshouse, 1998) or a 'bottom up approach'. This type of activity can be encouraged through incentives such as financial rewards and promotion (du Plessis, 2007; Hauschild et al, 2001; Holtshouse, 1998). Conversely, the 'knowledge push approach', where knowledge is distributed from the top down within an organisation (Edwards et al, 2005; Hauschild et al, 2001), has been known to be unsuccessful (Kluge et al, 2001). Regardless of which approach is taken, it is the comprehension of what resources are needed and accordingly balancing the 'knowledge pull and push approach' (McLaughlin et al, 2008; Holtshouse, 1998). This would overcome such problems as "information overload" (Holtshouse, 1998: 278), rivalry and excessive competitiveness within the firm and operational inefficiency (Hauschild et al, 2001), to name but a few. This point is clearly evident when we look at the knowledge flow from HC to SC. Managers must ensure that they develop a culture that is supportive of knowledge creation (Fiol and Lyles, 1985). The knowledge push approach can be implemented to encourage employees to distribute what knowledge they have. Once distributed the organisation can acquire this information and consequently embed it within its structural capital through the storage process.

Organisational Learning Management (OLM)

Organisations striving towards a sustainable competitive advantage must continuously innovate in all aspects of the organisation (Nonaka et al, 2000; Dimitriafes, 2005). This innovative structure involves not only the management of existing knowledge stocks but the creation of new knowledge (Nonaka, 1994). As outlined previously in the paper, the acquisition and assimilation of knowledge is insufficient without the co-alignment of the transformative and exploitive capabilities inherent within OL. The transformational capability manages and utilises existing knowledge assets and merges those stocks with “newly acquired and assimilated knowledge” (Zahra and George, 2002; 190). In essence, OL is the output from the integration of the IRM and KM phases illustrated in figure 4.

The establishment of a learning organisation begins with the encouragement of individual learning which in turn can lead to organisational learning. The knowledge creation process commences within the individual element of human capital, where the employee expounds their thoughts and develops a clear understanding of what the knowledge means to them (Bontis et al, 2002). This individual process of intuiting is represented by the blue arrow in figure 5. This tacit knowledge that resides within human capital is the most valuable aspect of knowledge as it is intangible. The difficulty in this is that the tacit nature of this knowledge means that the organisation does not know what knowledge stock the individual has and even the employee themselves may not realise what they know (Polanyi, 1967). The value of this knowledge asset resides in the extraction of this tacit knowledge and embedding it within the organisation in a tacit and explicit manner.

To commence this process, the individual must develop a fresh perspective on what they are thinking or doing, i.e. Intuiting (Zietsma et al, 2002; Crossan et al, 1999; Nonaka and Takeuchi, 1995). Once the individual is engaged with their knowledge, they then interpret it into action and words to give another individual or group of individuals an insight into how they are thinking. Individual learning has now transcended into group learning where it is perceived that a better learning outcome will be achieved due to the varying perspectives put forward (Crossan et al, 1999). The interpretation process advances the inherent tacit knowledge of the individual and pushes it further along the tacit – explicit dimension to the group level (Crossan et al, 1999). Interpretation involves interaction among the human elements; therefore this process is effective internally within the organisation’s human capital and also within the external parties of the organisation, i.e. the organisation’s relational capital. In the same way as employees can share their knowledge and thought processes to other employees within the organisation, so too can external parties. The challenge for the organisation is that in order to take advantage of this knowledge pool then this external interpretation process needs to extend to both HC and RC. This can be achieved through the creation and maintenance of social and corporate networks which will embrace the human capital’s networking, relationship building, socialising and team playing skills and experience. Now that the knowledge has been shared, the human and relational capital groups must ‘integrate’ their knowledge to form a common understanding resulting in actions and behaviour that are informally accepted by the group. Although behaviours have been altered and actions are apparent, this learning is still not crystallised within the organisation until the organisation identifies and stipulates formal processes and procedures (SC) in which employees (HC) and external parties (RC) must conform to. This process is labelled as ‘institutionalisation’ (Crossan et al, 1999). The individual and group learning has now been embedded in the organisation’s structural capital. This knowledge will have both tacit and explicit characteristics. The more crystallised learning will be evident in new products,

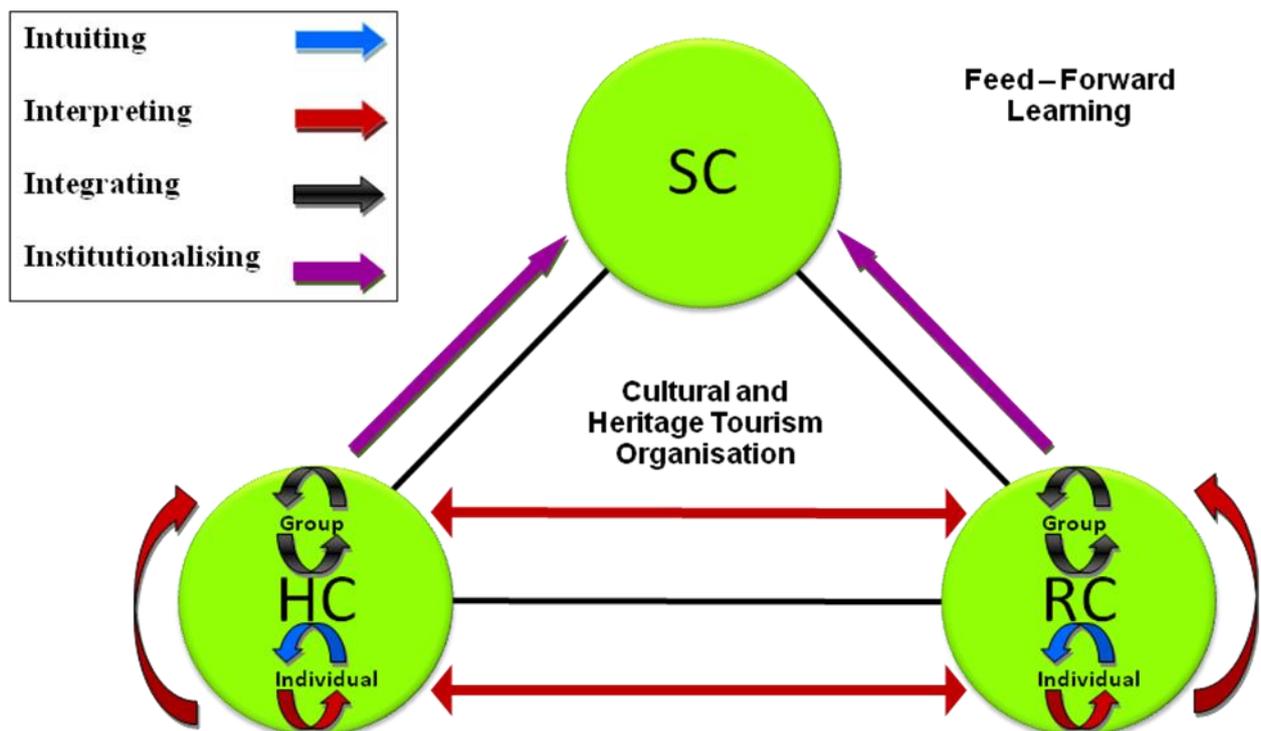
processes, services and the fluid learning will be manifested in other intangible areas such as company culture and norms.

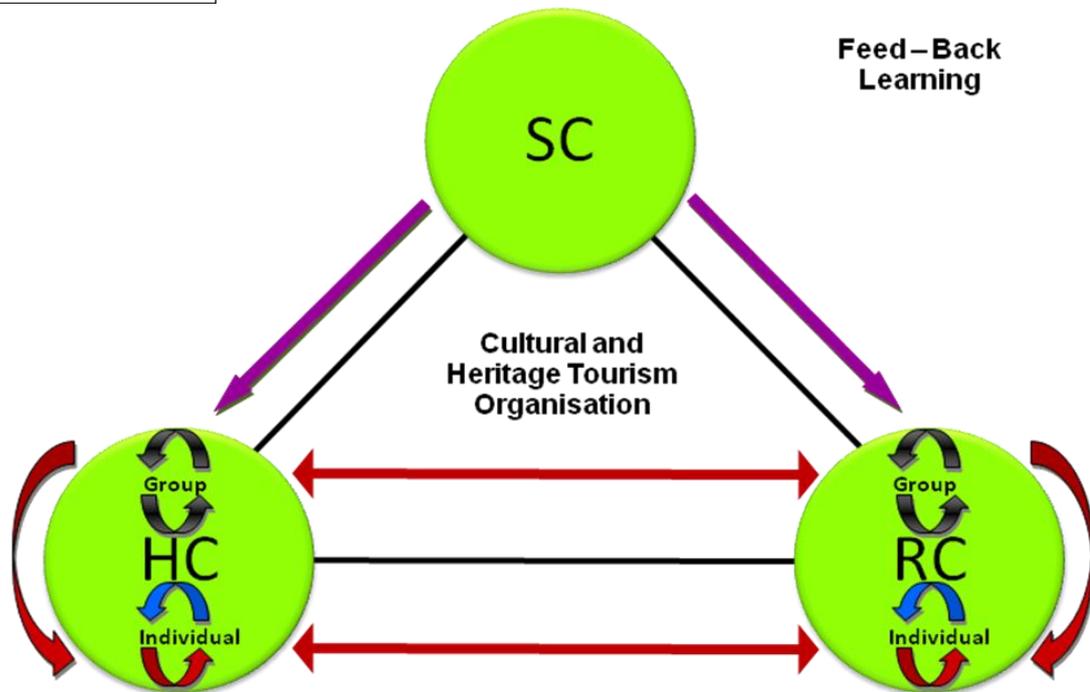
This type of organisational learning is referred to as feed forward learning where the knowledge creation process begins with the individual and the outcome is embedded in the organisation. In contrast feed-back learning involves a top down approach where the organisation instigates the learning process both internally to its human capital and externally to its relational capital. Feed-back learning can be achieved internally through organised training and mentoring programmes with employees, and externally in the form of web based and customer interaction (Bontis et al, 2002a/c; Crossan et al, 1999; March, 1991). Figure 5 demonstrates both the feed-forward and feed-back learning strategies of an organisation. The authors put forward the following proposition in relation to effective organisational learning:

Proposition 3 - Intellectual resources and the relationships between these resources are a necessary requisite to develop, manage, encourage and exploit learning within an organisation.

The organisational learning phase is the concluding phase of the DKMC conceptual model (figure 3). The action orientated output of this OL will be the transformation of the static knowledge resources from the IRM and KM phases into the organisation’s intellectual capital (IC). It is this IC capital that will instil the innovative capability structure that is required within the organisation. The Intellectual Capital (IC) will be utilised, deployed, removed and leveraged as necessary to achieve an organisational level innovativeness in the organisation. As outlined at the beginning of the paper, the DKMC is an iterative process; knowledge stock is required in the creation of new knowledge, this new knowledge is then embedded within the organisation and will act as the knowledge pool in the recreation of new knowledge and so the process continues.

Figure 5: Organisational Learning Processes





Conclusion

This paper recognises the organisation as a knowledge processing entity that utilises its intellectual resources and transforms these resources through knowledge management and organizational learning processes to generate an innovative structure within the organisation. Building upon extant theories, a 'Dynamic Knowledge Management Capability' conceptual model was presented that details how the cultural and heritage organisation can effectively deploy and reconfigure resources to deliver sustained competitive advantage through cognitive and action orientated processes (Bontis, 1996).

Nevertheless, this conceptual model is a first attempt and is only a starting point on the path to understanding the complexity of the dynamics that is occurring in managing and utilising intellectual capital and knowledge assets. It has its shortcomings and raises perhaps many more questions than it answers: How can we empirically investigate the relationships between the intellectual resources through the IRM, KM and OL phases to develop an innovative structure that will lead to a sustained competitive advantage? How can cultural and heritage organisations incorporate these strategies within their organisations? These questions necessitate further exploration, development and clarification and they remain a key part of our future research agenda.

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