

## The impact of distance (external) and organizational factors (internal) on the knowledge chain of multinational corporations: South Africa as a host country

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**THE IMPACT OF DISTANCE (EXTERNAL) AND ORGANIZATIONAL FACTORS  
(INTERNAL) ON THE KNOWLEDGE CHAIN OF MULTINATIONAL  
CORPORATIONS: SOUTH AFRICA AS A HOST COUNTRY**

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## **ABSTRACT**

**Purpose** – The geographic dispersion of MNCs implies that whilst it gives them access to new and different knowledge from diverse localities it also adds to the costs and complexities of managing that knowledge and its effective dispersal across geographies. The purpose of this paper is to examine how knowledge is transferred within MNCs and provide a framework for this process particularly focusing on the role that distance (external) and organizational factors (internal) plays therein.

**Methodology** – A qualitative study is utilized focusing on two technology companies from different cultural home countries and the technology transfer process with their South African subsidiaries.

**Findings** – We find that the standardization of knowledge impacts the creation and diffusion of knowledge, expatriates impact on the creation, diffusion and adoption, and finally relevance and localization impact on the adoption and utilization of knowledge.

**Contribution** – We present a conceptual framework around trust and rationalization as regards transferring knowledge within MNCs and find some evidence of the impact of distance, particularly cultural, on the methods employed in this transfer. The paper illustrates the practical ways in which MNCs organize their internal resources and overcome various dimensions of distance in ensuring knowledge transfers. By choosing companies from such divergent home countries (one industrialized and one newly industrialized, with very different cultural settings) and examining their knowledge transfers with their South African subsidiaries we are able to unpack various dimensions of distance and how organizational mechanisms affect this process.

**KEYWORDS:** knowledge transfers; multinational corporations; South Africa; emerging economies; distance

## **1. Introduction**

A key issue for multinational corporations (MNCs) is how knowledge is generated, exploited and shared within the organization. The generation and dispersion of knowledge is key to innovation and is an important source of competitiveness. However, the challenge lies not only in the production of knowledge but how it is made available and acted upon within organizations and this becomes particularly acute the larger the enterprise and the more geographically dispersed it is. MNCs face specific issues in this respect and distance has a paradoxical dimension to it, in that, it gives MNCs access to new and different knowledge from different locales but at the same time it adds to the costs that the MNC needs to bear (Jiménez-Jiménez, Martínez-Costa, & Sanz-Valle, 2014; Lupton & Beamish, 2014; Zaheer & Hernandez, 2011). These costs are not only directly associated with operations being far-sprung but also relates to indirect costs. Knowledge may be generated at headquarters (HQ) or at the subsidiary level but may find it hard to gain traction and to be put to use within the organization as a whole because of the complexity of being multinational and geographically dispersed. Thus the potential for innovation may not be fully realized and this is something that MNCs need to guard against. Where knowledge does flow within the MNC it often flows uni-directionally, namely from the top down, but there is increasing evidence of the importance of knowledge becoming multi-directional and of the organization being able to learn from the bottom up (Reilly & Scott, 2014). Reverse diffusion of knowledge has become an area of growing importance especially for MNCs operating in multiple locations which requires the ability to extract the benefits of being local and global simultaneously (Bengoa & Kaufmann, 2014; Brem & Wolfram, 2014; Govindarajan & Ramamurti, 2011; Hsu & Iriyama, 2016; Lee & McNamee, 2014; Peng et al, 2016; Prabakar, 2015; Van der Boor, Oliveira, & Veloso, 2014). Distance can be a significant constraint to the full production and exploitation of knowledge within a MNC.

Distance can manifest in many different ways including cultural, administrative, geographic and economic (CAGE) (Ghemawat, 2001). These dimensions can impact how knowledge is produced, disseminated and absorbed.

This leads directly to our research question: How is knowledge transferred within MNCs and what is the role of distance (external) and organizational factors (internal) therein? We explore this through two MNC case studies operating in South Africa, namely Microsoft and Samsung. These two companies have different home countries and thus the issue of distance (in all its dimensions) between the home and host country environment of South Africa manifests differently. We address what strategies these two MNCs employ to further knowledge transfers between the HQ and their subsidiaries and how they account for distance in the development of such strategies? Schlegelmilch and Chini (2003) lament how little research has been done on transferring knowledge effectively across dispersed units of MNCs. Since their paper there has been a fair amount of work in this field (Lotti Oliva; 2014; McGuinness, Demirbag, & Bandara, 2013; Michailova & Mustafa, 2012; Paulin & Suneson, 2015; Reilly & Scott, 2014; Reyes, Worthington, & Collins, 2015; Schleimer & Pedersen, 2013; Villasalero, 2014) but it is still fragmented. Our paper makes several contributions. First, by focusing on two technology MNCs it is able to examine the effectiveness and limitations of the utilization of technology in the knowledge transfer process. Second, by choosing two companies from such divergent home countries (one industrialized and one newly industrialized, with very different cultural settings, namely the USA and South Korea) and examining their knowledge transfers with their South African subsidiaries we are able to unpack various dimensions of distance and how organizational mechanisms affect this process. South Africa is an interesting case not only because it is one of

the most advanced economies within Africa but also a notable emerging market more generally. Third, given our home and host locations it allows us to focus on challenges particular to transfers between developed and emerging market conditions. Fourth, there is very limited research on MNCs (in general) in Africa (George, Corbishley, Khayesi, Haas, & Tihanyi, 2016; Luiz & Charalambous, 2009; Luiz & Ruplal, 2013) and even less so as regards knowledge transfers (Kamoche & Harvey, 2006). Lastly, it provides a conceptual framework for the knowledge transfer process which emerges from the experience of these two MNCs and contributes to our theoretical insights. It emphasizes the role of trust and rationalization in organizational knowledge chains. The latter is captured in the formal processes through which knowledge transfers are codified, and the former relates to mechanisms that facilitate cooperation and interaction.

## **2. Literature review**

### **2.1 The nature of knowledge and knowledge transfers**

Winter (1987) identify four different dimensions of knowledge: tacit/articulate, observable/not observable in use, complex/simple, and dependent/independent of a system. Birkinshaw et al. (2002, p. 276) add that these dimensions 'are directly related to the ease of transfer of the knowledge asset in question. Some types of knowledge are tacit, hard to observe, complex and system dependent, and are thus very hard to transfer; other types are easy to articulate, observable in use, simple and system independent, and are very easy to transfer.' This ambiguity protects knowledge from being imitated by rivals and is also partly responsible for the difficulty in transferring knowledge whether within or between organizations (Wijk, Jansen, & Lyles, 2008).

The distinction between explicit and tacit knowledge is material to the understanding of how knowledge is transferred. The distinction should not be viewed as a dichotomy but rather as a continuum that ranges from explicit knowledge embodied in products and processes to tacit knowledge developed through experience and personified in individual cognition or procedures (Inkpen & Dinur, 1998, p. 456). Whilst mastering explicit knowledge is essential, it is only a limited dimension and therefore it is important to master tacit knowledge, as the former is only ‘the small communicable cap of the iceberg of preconscious collective human knowledge, the vast bulk of which is tacit, unseen, and embedded in our social identity and practice’ (Reber as cited in Spender, 1996, p. 54). Given the vast span of MNCs it is often easier for them to focus on explicit knowledge through more formal and codified structures but neglecting tacit knowledge is a major potential threat and finding ways of transferring this source of knowledge is necessary (Panahi, Watson, & Partridge, 2013).

Knowledge is the currency of the current economy, a vital organizational asset and a key to creating a sustainable competitive advantage (Martelo-Landroguez & Cegarra-Navarro, 2014) and knowledge transfer is considered to offer MNCs a competitive advantage because it is able to access knowledge from multiple locations (Argote & Ingram, 2000; Berry, 2014; Bontis, Dragonetti, Jacobsen, & Roos, 1999; Kang & Yong, 2014; Szulanski, 1996; Zahra & George, 2002). Knowledge flows also have a direct impact on financial results (Crespo, Griffith and Lages, 2014). Creating knowledge is a necessary condition for survival in competitive markets and the speed and efficiency of the knowledge transfer affects the building of this advantage (Cavusgil, Calantone, & Zhao, 2003; Huang, Davy & Shih, 2010; Mciver, Lengnick-Hall, Lengnick-Hall, & Ramachandran, 2013; Regnér & Zander, 2011). MNCs thus must find ways of effectively

transferring knowledge between units so that they can exploit the advantage associated with multiple geographies because this needs to be a fundamental source of their competitive advantage. But it is not an automatic source of advantage and needs to be cultivated. Whilst knowledge may lie in multiple locations it is latent until it is activated through deliberate processes within the MNC.

Knowledge transfers within a MNC involves the moving of created, organized information from one place to another, and more specifically our focus will be on the movement of information from headquarters to subsidiaries and vice versa. This transfer of knowledge is measurable based on utilization by the recipients in terms of their acquisition and use of new knowledge (Minbaeva, Pedersen, Bjorkman, Fey, & Park, 2014, p. 44). The question is how an organization can most effectively enhance this knowledge flow. Gupta and Govindarajan (2000, p. 475) posit that knowledge flows are a function of the following: the value of the source unit's knowledge stock, the motivational disposition of the source unit, the existence and richness of transmission channels, the motivational disposition of the target unit, and the absorptive capacity of the target unit (Jasimuddin, Li, & Perdakis, 2015; Zhang et al., 2015). Similarly, research suggests that the development of subsidiary absorptive capacity is a product of the combined influence of specific MNC organizational mechanisms (integration process communication, knowledge processing system, timing), the subsidiary's environmental market conditions including national cultural differences, and individual antecedents (Junni & Sarala, 2013; Schleimer & Pedersen, 2013; Szulanski, Ringov, & Jensen, 2016; Wang, Gray & Mesiter, 2014; Wang, Noe, & Wang, 2014). We proceed to unpack the process of knowledge transfer models in more detail and how various organizational factors impact on this practice.



## **2.2 The knowledge chain**

Nonaka (1994, p. 18; and later refined in Nonaka, Toyama, & Konno, 2000; Nonaka & Von Krogh, 2009; Nonaka, Von Krogh, & Voelpel, 2006; von Kroch, Nonaka, & Rechsteiner, 2012) sees the knowledge transfer model or chain as encompassing four phases and develops a spiral of knowledge with distinct patterns of interaction between tacit and explicit knowledge. These patterns are described as a way that existing knowledge can be converted into new knowledge. In so doing he asserts that existing knowledge can be converted by moving from tacit to explicit knowledge or vice versa – see Table 1. Each of these nodes can interdependently generate new knowledge, however, the central idea is the dynamic interaction between these nodes of knowledge conversion to create knowledge through internalization and externalization. Significantly he notes that there will be certain triggers that induce shifts between the nodes, ideally, to create a continual organization of knowledge creation that is distinctly different from individual knowledge creation. This organizational knowledge creation will only take place when all four of these nodes are engaged and create the spiral of knowledge.

### **INSERT TABLE 1**

The process is described by Nonaka (1994, p. 20) as the following. Firstly, *socialization* begins with the building of a team or field of interaction with the MNC, facilitating the ability to share experiences and perspectives. The rounds of dialogue trigger a *combination* mode which is an iterative, cyclical process including trial and error. These concepts are then combined with external knowledge in search of ‘concrete and shareable specifications.’ During this process ‘metaphors’ are used to relay perspectives, through imagination and intuitive learning, which contain tacit

knowledge and this results in *externalization*. Experimentation can trigger the development that leads to *internalization* through learning-by-doing. Nonaka (1994, p. 20) concludes that: ‘The interactions between tacit knowledge and explicit knowledge will tend to become larger in scale and faster in speed as more actors in and around the organization become involved. Thus, organizational knowledge creation can be viewed as an upward spiral process, starting at the individual level moving up to the collective (group) level, and then to the organizational level, sometimes reaching out to the inter-organizational level.’ Thus as the knowledge spirals upward in the organization, it is amplified as individuals interact with each other and increasing returns set in for the organization (Inkpen & Dinur, 1998).

The conversion of tacit to explicit knowledge is particularly complex because as knowledge becomes more tacit it is less teachable, less codifiable and therefore less transferable (Inkpen, 2008, Zander & Kogut, 1995). Any organization has a range of different types of knowledge and various carriers carry this knowledge. Furthermore these organizations then place different values on the various types of knowledge and their ability to transform and move this knowledge across organizational levels is key (Inkpen & Dinur, 1998). In this respect, the role of ‘early adopters’ is important as they often lead the process of applying and adapting knowledge and experimenting and making it useable in a specific organizational context (Gera, 2012).

Prahalad and Hamel (1990, p. 84) note that knowledge is unlike physical assets that deteriorate over time, and that knowledge can be enhanced when ‘applied and shared.’ Thus knowledge is subject to increasing not decreasing returns and the positive spillovers which result from this can enhance the further production of knowledge both at an organizational and societal level.

Villasalero (2014, p. 1165) finds that units which occupy knowledge roles that reveal ‘the possession of unique knowledge (knowledge signaling) or guarantee the accumulation of new knowledge (knowledge learning) outperform those divisions that have access to spilled knowledge (knowledge depreciation) or have no access to any kind of knowledge (knowledge insulation).’ Knowledge spillovers also benefit the originating firm in that when knowledge leaves that firm it joins a ‘spillover knowledge pool’ from which it can benefit (Yang *et al.*, 2010, p. 384). The recombination of this knowledge from the pool is potentially easier for the originating firm than for any other and therefore the speeds at which this knowledge can be used by that firm gives them a competitive advantage to others accessing this pool. Phene and Tallman (2014, p. 3) assert that: spillovers act as signals of knowledge and technology openings for both the recipient and the originator. They note that the spillover dyad may find an increase or decrease in their inclination to learn and adopt appropriate information, depending on whether or not an alliance is formed. The inverse is also true that the less a firm engages in the process of the knowledge chain, the less able it is to do so (Martelo-Landroguez & Cegarra-Navarro, 2014, p. 346).

Another perspective on knowledge transfers within MNCs is provided by Schlegelmilch and Chini (2003, p. 227) who present a unifying framework that they argue can form the basis of a future research agenda. Whilst their focus is knowledge transfers between marketing functions within MNCs, it extends to a more generalized framework. Unlike Gupta and Govindarajan (2000) they do not depict a directional communication process and assume most units fulfil a dual role and they assimilate both senders and recipient features into antecedents to the knowledge transfer process. Their model suggests that the development of knowledge transfer capabilities is ‘contingent upon the strategic position of the unit and its ability to transfer knowledge.’ They

examine how the strategic mandate of units and their ability to engage in knowledge transfers affect the development of knowledge transfer capabilities and how the units coordinate to exchange and what channel infrastructure they use. Furthermore, which knowledge transfer processes are applied at the sending and receiving unit? In turn they look at how this, together with organizational and cultural distance impacts the effectiveness of knowledge transfers. They warn that power relations, cultural distance, and organizational structure play an important role (Schlegelmilch & Chini, 2003, p. 228).

A final point worth making is that regarding reverse knowledge innovation as a transfer of knowledge from the host to the home country environment or from subsidiary to HQ. The idea being that knowledge is no longer simply in the purview of the HQ or centralized in some location but rather exists through complex webs and networks. A MNC HQ cannot be the complete producer of all knowledge and needs to be able to learn from its various parts (Luiz & Visser, 2014). Knowledge potentially resides in all its components and a good MNC is able to ensure that there is a free flow of knowledge. Very often subsidiaries can, by adapting knowledge to local circumstances, actually produce real innovations from the bottom up through a process of reverse diffusion (Brem & Wolfram, 2014; Govindarajan & Ramamurti, 2011; Lee & McNamee, 2014; Prabakar, 2015; Van der Boor, Oliveira, & Veloso, 2014). How MNCs are able to structure themselves to become receptive to this reverse innovation is a salient source of competitive advantage (Kumar, 2013). McGuinness, Demirbag, and Bandara (2013, p. 190) argue that increasingly, geographically dispersed subsidiaries need to function as neural networks transferring knowledge to headquarters. Their study explores the attributes that stimulate reverse knowledge transfer within MNCs and their results can be grouped under the four main constructs

of the ‘potential to create knowledge, relevance of the knowledge created, ability to reverse transfer new knowledge and motivation to reverse transfer new knowledge.’ We examine below the extent of this happening within our two MNCs.

### **2.3 Distance and knowledge transfers**

We have previously mentioned the paradox of distance as regards MNCs: ‘On the one hand, distance is valuable because it allows firms to reach out to sources of unique, diverse, and non-redundant knowledge. On the other hand, doing business across distance imposes well-known costs of control, coordination, and travel, as well as being associated with the difficulties of adapting to different cultural and institutional environments’ (Zaheer & Hernandez, 2011, p. 110). Thus distance presents both strengths and weaknesses, opportunities and limitations for MNCs and the strategies they employ and how they organize themselves will affect whether they are able to extract positive elements which exceed the negative.

Ambos and Ambos (2009, p. 12) argue that distance still matters in international business and is particularly relevant when investigating knowledge transfers within MNCs. But it has not been without its critics especially as regards collaborative networks as determinants of knowledge diffusion which can cross geographical boundaries (Almeida & Phene, 2004; Rosenkopf & Almeida, 2003; Singh, 2005; Singh & Marx, 2013). For example, Regnér and Zander (2011) assert that distance should not be seen as a liability but as opportunities for knowledge creation and transformation due to the fact that they are already semi-globalized units that contain different perceptions, norms and values. But in the context of knowledge transfers within MNCs, distance can play a role in many ways. Information and knowledge is subject to interpretation and can be

misunderstood or misinterpreted as it crosses cultural spheres, or it can be dissipated as it crosses geographies and vast distances, or complex organizational structures can prevent its ready flow, or differences in human capital can prevent its assimilation and adoption.

Zeng, Shenkar, Lee, and Song (2013) warn that when expanding into dissimilar cultures, MNCs must establish mechanisms to mitigate incorrect learning and re-examine the correctness of inferences drawn. They show that cultural distance can play a major role in subsidiary mortality rates. As regards knowledge transfers, cultural distance can have a pivotal impact. Qin, Ramburuth, and Wang (2008, p. 260) argue that a major challenge faced by MNCs is how to manage knowledge transfers between HQs and subsidiaries located in dissimilar cultural contexts. They find that knowledge transfer in MNCs is influenced by external context (cultural distance) and internal mechanisms (subsidiary roles). Negative impacts are evident where cultural distance is large, with positive impacts where cultural synergies occur. Their work explains knowledge transfers in MNCs through an environment-strategy-performance model and combines an internal resource perspective and an external environmental perspective (also see Sumelius & Sarala, 2008). We follow this approach by examining the influence of both organizational and distance factors (especially cultural and geographic distance), in the knowledge transfer process.

Having examined the nature of knowledge, the process through which it is produced, and the particularities of this knowledge chain within a MNC, we are able to proceed to examine the impact of these factors on knowledge transfer within two MNCs operating in South Africa, namely Microsoft and Samsung.

### **3. Methodology**

Birkinshaw *et al.* (2011, p. 575) argue that quantitative studies are not ideal for research into knowledge as they have not thus far been able to distinguish between simple (codified, explicit) knowledge and complex (tacit, implicit, context dependent) knowledge. For this reason qualitative methods are ideal as they give an ‘up-close and grounded’ view.

A qualitative approach was thus adopted to conduct this research to examine the effect that distance and organizational factors have on the knowledge chain of MNCs operating in South Africa. The choice of the two companies to conduct this study on were based on their dominance within their sectors and the fact that they have different home country characteristics which allows for an examination of the impact of distance. The two companies are Microsoft, founded in 1975, and Samsung, founded as a trade exporter in 1938. The US company has 128,076 employees spread across their corporate offices and 119 subsidiaries, whilst the Korean one has 286,284 employees operating from 220 locations. Both companies also have a relatively long history of operations in South Africa.

The research was conducted using semi-structured interviews and the interview guide (appendix 1) was developed with a list of open ended questions but the interviews were allowed to flow freely to ensure the research gave sufficient ‘voice’ to the respondents. There was thus no presupposition of the facts and left enough room for the informants to clarify issues such that they make sense to them (Gioia *et al.*, 2012). If a particular theme emerged, the interview process allowed for the free exploration of that without constraint.

Twelve senior managers were interviewed across both organizations. A purposeful or non-probabilistic sampling approach was undertaken so as to talk to those most closely associated with the knowledge transfers within both organizations. The respondents were equally split between the two organizations. At each company four respondents worked at country level and two at the global level. Two respondents (one at each) had previously worked for the other MNC. The added benefit of having employees having worked with both organizations led to interesting perspectives that could not have been gleaned without having had this experience.

These interviews were recorded with the consent of each of the interviewees for later transcription and analysis. To improve the reliability and validity of data the following verification strategy suggested by Morse *et al.* (2002, p. 18) as regards various research activities was followed. We have already discussed why we adopted a qualitative approach to ensure methodological coherence, and the sample appropriateness by ensuring participants have the necessary knowledge to provide the data needed for the research. We followed a process of concurrent collection and analysis of data to form a mutual interaction between what is known and what needs to be known and this method is essential for reliability and validity. Our theoretical thinking emerged from the data and an iterative process was followed that involved constantly checking to build a solid foundation. Lastly, theory development happened through a deliberate move from the micro data to the macro conceptual perspective. This was done so as to meet the necessary standards of rigor and trustworthiness, which encompasses credibility, transferability, dependability, and confirmability in qualitative research (Lincoln & Guba, 1985).



Schreier (2012, p. 6) outlines a process to follow for effective qualitative content analysis which we have followed. We proceeded from the research question to select the relevant material and to build a coding framework. We divided the material into unit of coding and experimented with the coding frame by evaluating and modifying it. We then conducted our main analysis and interpreted our findings which we present here. Each of the interviews was transcribed verbatim. These data were tabulated into Excel spreadsheet tabs one sheet per interviewee. Each paragraph was numbered and these numbers are used when quoting individuals to ensure the traceability of the information. An example reference would be MS3 23 which would denote respondent 3 from Microsoft and the quote could be found in paragraph 23 of the transcript. Time was then spent codifying each transcript. Once this was completed the collation of the information into presentable pieces of data that could be digested in order to respond to the research question was undertaken and the themes which emerged were subject to an iterative process of analysis.

#### **4. Research findings and discussion**

Microsoft and Samsung are both innovators in the technology industry and their different host countries make a study ideal of the strategies each has in place to mitigate distance as regards knowledge transfers within a MNC. The coding of the interviews uncovered a depth of information on the common themes across the two MNCs. Table 2 summarizes the codes which emerged within the knowledge chain. We unpack these in more detail in what follows. At the broadest level, our responses illustrate two themes which we term rationalization and trust. We follow the approach of Fedderke, De Kadt and Luiz (1999, p. 719) that rationalization refers to the ‘formally codified rules, norms, and values.’ The more highly rationalized, the greater the extent to which such rules, norms, or values ‘assume a procedural as distinct from substantive form, and the more they assume

the form of abstract rules with universal scope.’ Thus in our case rationalization represents the formal processes that are utilized for the effective transfer of knowledge within MNCs. These include the standardization of processes and the use of technology to facilitate this. Trust (what they call transparency) refers to the comprehensibility of the rules, norms, and values of an institution to its members such that it improves the information flows and certainty of outcomes for individual agents and the likelihood of cooperation between them and hence increases the scope and range of possible forms of interaction (p. 718). The interaction between these two dimensions forms a useful platform to examine the responses.

## **INSERT TABLE 2**

### **4.1 The impact of distance on the knowledge chain: trust and rationalization**

Respondents were asked about the impact of distance on knowledge transfers and the responses indicated that the effects of distance can generally be managed. They highlighted the role of technology in mitigating these effects and focused on formal processes which would fall under our rationalization category.

For example, in the case of Microsoft, the effects of distance (especially geographic) on the knowledge chain have been mitigated through the deployment of strategies that harness technology. This was even acknowledged by a current Samsung employee that previously worked with Microsoft: *‘Microsoft has got in its portfolio, tools that help assimilate information and which help people collaborate with one another. ... A software company naturally just has an advantage due to the fact that typically information is sent by email, instant messaging and portal or content management systems and Microsoft's got all the above. Samsung's got their instant messaging*

*solution which is consumer focused but we don't have our own content management solution. We don't have our own email solution in place, so the fact that we don't possess those properties to develop, the fact that we don't manufacture or create or develop it ourselves, naturally means that Microsoft or any other software developer who plays on that stage will automatically have an advantage'* (SM2 145). Microsoft has therefore effectively used technology to reduce the impact of geographic distance. The company has developed software that is used by staff and utilizes video to simplify online collaboration. This works as a replacement in some case for travel and has had an impact in reducing travel costs for Microsoft. But respondents made it clear that the technology works best with the transfers of explicit knowledge and although the transfer of tacit knowledge is also aided by these communication technologies (Nonaka, Toyama, & Konno, 2000; Nonaka & Von Krogh, 2009), it is less effective and that individuals in roles requiring the transfer of tacit knowledge are often required to travel more to fulfil their functions. Tacit knowledge therefore relies more on the trust dimension which requires more direct interpersonal contact and a receptiveness to intercultural learning (Bengoa & Kaufmann, 2015).

Samsung places great emphasis on the standardization of knowledge which allows locally created knowledge to be transferred to HQ through standardized reporting. Four of the Samsung respondents stated that whilst this could be frustrating it did have certain advantages. A respondent noted that: *'Initially it was a shock. When you learn to work within the system, it makes it a lot easier. It is actually quite efficient. There's a very specific instruction. What to do and how to do it and you know as South Africans we have a working environment that advocates doing it your own way. Asian culture doesn't do it that way. There's a specific instruction about how it needs to be done and it is done exactly the same way everywhere'* (SM1 126). Standardization is not failsafe

and there was a recognition that it could undermine local realities or it could be error-prone in its execution (Bosua & Venkitachalam, 2013). Furthermore, there was an acknowledgment that not everything lends itself to standardization and that even where it happens there is always going to be an *'an element of localization and things getting lost along the way'* (MS2 156).

Hiring the right people with the right human capital also aids the formal transfer of knowledge. Mowery, Oxley and Silverman (1996, p. 80) state that the capacity of an entity to absorb knowledge *'results from a prolonged process of investment and knowledge accumulation within the firm, and its development is path-dependent; a firm's current absorptive capacity is influenced by its historic participation in specific product markets, lines of R&D, and other technical activities.'* It is a direct result of prior learning (Cohen & Levinthal, 1990; Gupta & Govindarajan, 2000; Kim, 1997; Lane *et al.*, 2001; Minbaeva *et al.*, 2014) and this raises the importance of human capital (Lotti Oliva, 2014). From Microsoft respondents, it was noted that there is no noticeable difference in the education levels between the South African subsidiary, HQ and the Middle East and Africa regional HQ (MEA RHQ). This indicates that the strategies implemented and the hiring policies of Microsoft have mitigated these distances to improve the effective absorption and adoption of knowledge. It was argued by respondents that there is a thirst to learn in South Africa and it was stated that: *'South Africa by nature and it's not only South Africa, I think it's Africa, by nature is very keen, very hungry for content, for learning, for that kind of stuff, by design. Because Africa's a growing continent and they are kind of catching up with the rest of the world very fast and I think that probably also drives their hunger for new stuff, new knowledge and that kind of stuff I think'* (MS4 28). This results in an atmosphere conducive to absorbing technology and for

experimenting with new platforms and systems for knowledge transfers (see Yoo et al., 2012 for a discussion of new platforms for organizing such innovation).

Samsung's strategy to facilitate knowledge transfers is to employ a mirror management structure, utilizing an extensive expatriate deployment (discussed in the next section) that supports knowledge transfers which would otherwise have been difficult due to the stark language and cultural distances between the home HQ and the subsidiary. This management system is not infallible but it does assist the process of more accurately representing the meaning of content and the correct implementation by the local subsidiary as to what is required by HQ (see Vance et al., 2014). Another benefit that the expatriates bring to the local organization is experience from other markets in that they have often been widely deployed and thus have local expertise from a variety of contexts. For example, the current Korean country manager for South Africa spent time in South America, and prior to that in the Middle East, whilst their current president came to South Africa from Turkey. Ultimately they will find their way back to Korea ensuring that the system of deployment results in knowledge moving between the home and host locations. As much as this gives the individual expatriates great insights into the various market, it also gives the local South African entity the experience and view of what is working and what is not in markets that they might not have had any knowledge of. The use of expatriates represents both a form of rationalization and trust and acts as a bridge between the two dimensions. The duplicate management structure through expatriate use is a formal means of ensuring that knowledge is understood and that conditions at both ends are embedded. But it is also a way of maintaining human contact between HQ and subsidiaries and recognizing that technology platforms have some limitations and that the building of trust is facilitated by human contact. It recognizes that

knowledge does not only include explicit knowledge which is more easily codified and transmitted but also tacit knowledge that is often embedded in persons and that this resource is often better transferred through inter-personal contact and trust.

#### **4.2 Cultural distance and knowledge transfers**

South Africa is a country of two worlds. One economy is globally integrated with pockets of high levels of human capital. Those working in this world are closely aligned with the Western way of life and use English as the mode of communication in the workplace – the so called McWorld phenomenon. The other economy is more closely aligned to the developing world and operates on the periphery of economic activity and demonstrates high levels of fractionalization. Our focus on knowledge transfers within these two global entities therefore invariably relates to the former world. Hofstede's cultural dimensions shows a closer alignment between South Africa and the USA than with South Korea (as regards individualism, masculinity, uncertainty avoidance, long term orientation, and indulgence) – see figure 1.

#### **INSERT FIGURE 1**

Microsoft respondents argued that the impact of cultural distance on knowledge transfers was not a major problem due to the fact that South Africa and the USA are similar culturally and share a common language. Distance is further reduced by communication technologies that allow voice and video interactions and collaboration platforms with counterparts both at the USA HQ and MEA RHQ.

The Korean culture is very hierarchical and this is well represented within the Samsung business environment. All the Samsung respondents noted the hierarchical nature of the structures including that knowledge is for the most part pushed down to the subsidiary from HQ in Korea. This is done through the mirror management team in South Africa and then relayed to the rest of the South African business. One respondent noted that: *'Information is shared very specifically. As is general in Asian culture - there's a directive. So there's no un-clarity around what needs to be done and there's no misunderstanding. And exactly the reason for having an expat on your team is to ensure that control in planning and organizing that's effective. So HQ has an idea, they push it down, there's a specific directive, and the partner that's in your team makes sure that that directive is executed'* (SM1 140).

In the case of Samsung, the differences in language and culture between HQ and the local subsidiary in South Africa are large. To assist in the process Samsung have implemented a strategy to overcome these differences and in this case the use of expatriates is front and center of this strategy (see Vance et al., 2014). Respondents stated that the bulk of knowledge is relayed back to HQ using the Korean partner (expatriate) in the South Africa office. The system of expatriate deployment also has the advantage of dealing with communication barriers as a result of language differences. One respondent noted that: *'A lot of what they bring as well is bridging the gap from the communications perspective because one of the challenges for the older generation is that English is still a bit of a barrier for them, and some of the expats obviously can help breach that barrier. But what I'm seeing is the new generation that's coming to the organization is "very westernized" but for all intents and purposes, the expats are still very much alive and this is something that's going to be within the organization for a while'* (SM2 103). The use of this

expatriate mirror management structure assists with negating the potential negative effects of poor knowledge transfers between such vastly different markets from a language and cultural perspective. The one clear down side of this structure is that there is a significant cost that needs to be absorbed for this to be implemented.

At Samsung expatriates are almost exclusively from the Korean HQ and are in place to act as a knowledge and information conduit between HQ and subsidiaries. They overcome language and cultural barriers and local respondents stated that the most important communication with HQ happened via the expatriate structure. The advantage of this structure is that they also communicated with HQ about the need for localization as they could see it for themselves and were informed of the local solutions. At Microsoft the use of expatriates was more fluid and was understood not as a form of control by HQ but rather one of creating opportunities for the global workforce. Expatriates are not exclusively from the USA but rather these deployments are available to Microsoft staff throughout the world and there was often a reference made to the global workforce: *'We do have a very global kind of culture at Microsoft. In previous companies I worked for you felt where the company actually originates from. I haven't seen the kind of global exposure that people get at Microsoft. It seems to be something that stood out for me, and you're very open to applying for a role in whichever country it is that you'd like to work in, so you know that's encouraged and it's supported and I think it's a really good thing'* (MS2 116). Thus at Microsoft the use of expatriates is less about mitigating cultural distance and more about creating a global workforce and mindset, whilst at Samsung it is a direct result of cultural distance.

#### **4.3 Phases of the knowledge transfer process**



In the literature review we discussed the different phases of the knowledge transfer process and below we examine each phase within the context of our two company cases.

*Knowledge Creation:* Ten of the 12 respondents argued that the standardization of reporting and information flows is a key element to the seamless transfer of knowledge between HQ and subsidiary and vice versa. This confirms our rationalization theme. As knowledge is shifted up or down the internal hierarchy members of each organization add their own personal ‘interpretation’ to this knowledge. Within Microsoft this did not appear to affect the efficacy of the knowledge due to the similarities in culture and language. In the Samsung environment the use of expatriates within the mirror management team was a factor in the successful creation and dispersion of knowledge and in ensuring its ‘interpretation’. A Microsoft respondent noted that in addition to regular communication between HQ and subsidiaries there are specific quarterly and yearly meetings with HQ which ‘go deeper’ and move beyond ‘doing numbers’ but focus instead on learning and what has worked and what has not and what needs to be done differently? (MS4 67). These ‘deep dive’ meetings are focused on learning and create the space for it and move beyond the numbers associated with performance indicators.

*Knowledge Diffusion:* Standardization affects the diffusion of knowledge through rationalization within both organizations as the uniform nature of the knowledge transmitted aides in removing cultural and language biases. Furthermore considering both organizations work in the technology sector all respondents noted that the use of technology, such as cloud based storage and transfer products, and the latest communication technologies assisted them in reducing the impact of distance across multiple geographies (see Bosua & Venkitachalam, 2013; and Yoo et al., 2012 for a discussion on the role of technology in organizing for knowledge management processes).

However, it was noted that the more tacit the knowledge that needed to be transferred, the more likely there would be actual travel of the individuals concerned highlighting the importance of inter-personal contact and trust as regards tacit knowledge transfers. Within the Samsung environment, the heavy reliance on the Korean expatriates assisted with this diffusion of knowledge specifically due to the complications of language and cultural differences.

*Knowledge Adoption:* Nine of the 12 respondents noted that for knowledge from HQ to be fully adopted in a local market, it needed to be relevant (Bengoa & Kaufmann, 2014) and thus there was a process of localization to knowledge arriving in South Africa from HQ. Although there was a strong knowledge push from HQ to the local subsidiaries, there was also a large flow of information from the local subsidiaries of both organizations to their HQ teams. This moved beyond the realms of information and real knowledge was being generated with programs and processes that had been adopted and developed in South Africa (on their own cognizance) being further implemented across both MNCs. We discuss this further below.

Both organizations use early adopters to adopt knowledge in South Africa as acknowledged in the literature review (Gera, 2012). These early adopters are usually identified based on a specific skill, function or geography where the new process or knowledge needs to be applied. This can take place in a number of ways. Within Microsoft a respondent noted: *'They will have somebody come down to do the initial briefings and might have a task team that they appoint locally. ... I've (also) seen local teams briefed and appointed to spread the message and to scale out the process or the new initiative'* (MS2 128). On other occasions the early adopters were used purely to localize a specific product offering or new internal process so that it was relevant for the local market. Project

teams often comprised of a combination of local early adopters and then with expertise from HQ to further a more collaborative, learning process. Within the Samsung environment, the mirror management structure of expatriates has an effect on the adoption of knowledge as they facilitate the interpretation and explanation of knowledge from HQ and assure that the final product, process or system is true to the spirit and intention from HQ. Both organizations also mentioned that the entire South African subsidiary was often used as an early adopter of a process or function before it was rolled out to the rest of the group. In this way HQ had the opportunity to test a product in a limited controlled environment and South Africa was ideal for this because of the way it straddled the two worlds of developed and developing countries.

*Knowledge Utilization:* Seven respondents maintained that knowledge will not be utilized unless it is both localized and relevant (Bengoa & Kaufmann, 2014 refer to this as knowledge alienation). HQ was not always au fait with local needs and sometimes tried to push solutions which were not relevant to local circumstances. An example was mentioned where Microsoft's International Strategy team arrived in Beirut pushing their Cloud Strategy into the MEA and deep into the process realized that they came in with the wrong solution: *'we came in there with a lot of information and things to do and play-books and blah, blah, blah, which is also kind of knowledge at first. We came in there and after two hours, we realized that there was no Cloud there, so we came in there with the wrong knowledge'* (MS4 56).

#### **4.4 Reverse diffusion of knowledge**

There was a concern that sometimes staff at HQ dismissed the notion that real knowledge could come from South Africa and this had to be fought against. The idea that meaningful knowledge

could come from an emerging market was not always valued and this confirms warnings by Bengoa and Kaufmann (2014) who question ethnocentric knowledge transfer methodologies. One respondent stated: *'If I'm in North America, chances are that I might just brush through some of the information that's being shared with somebody from South Africa'* (SM2 74). This was argued to be the result of two issues, namely 1) the dominance of HQ and centralization of R&D and knowledge, and 2) the notion of cultural or economic superiority. There was a viewpoint that even though there was real capacity often lying in developing and emerging economies, that this was not fully appreciated by HQ.

On the other hand, there were tangible examples given of reverse innovation and reverse knowledge flows which emanated from the South African subsidiary upwards and outwards within the MNC. For example, within Samsung, the South African unit realized that it was becoming harder to differentiate on the basis of hardware and that they needed to develop a unique value proposition to their consumers. Through market research they discovered that data costs and screen damage repair costs were the biggest issues that consumers wanted help with and they went about negotiating with partners and developed an accidental damage solution and free data package over the contract period: *'These services at the time set Samsung apart from our competitors and created quite a buzz that propelled Samsung to the number one smartphone manufacturer. The reason for the phenomenal success was flagged by Samsung HQ and an investigation as to why South Africa did so well. Inevitably it came out that this was the difference and the way we marketed this differentiation to our consumers. The team were awarded the global award for best practice and HQ instructed each region to take South Africa's lead on creating a localized relevant version of this to market to differentiate Samsung from its competitors. We have even found our*

*competitors looking to replicate this and copy our solutions to market'* (SM4 11). This solution was subsequently rolled out throughout Samsung. Thus knowledge manifests in many different ways and in this case it was a market solution as opposed to a technical one.

In general, the two companies have different approaches to knowledge from below. Microsoft allows for more flexibility and local interpretation whereas Samsung provides a framework that needs to be followed in line with the Korean hierarchical societal norms. Due to the hierarchical nature of the Samsung management structure, knowledge is pushed down and it is expected that staff comply. But that does not mean that HQ is not interested in learning about the local environment. There was a recognition in Samsung that Africa (and thus South Africa) was going to be a growing market and consequently they had an interest in learning about it. They were therefore spending significant resources up-skilling and investing in resources for the business. A central component of the adoption of knowledge was noted by a respondent discussing South Africa: *'What people will look at, is they'll say, okay, but that's a large emerging economy and if I'm sitting in a Turkey or a Venezuela or a Mexico or a Brazil, I might look at South Africa in a similar sort of light. ... I might find it interesting to see what South Africa is doing because there are certain geographic, political, financial indications which are similar to my own geography'* (SM2 72). South Africa was thus of interest as a proxy country for other emerging markets as economic distance was lower between such countries. Seven of the respondents stated that they believed that the smaller the perceived distances between home and host country, the more relevant knowledge would be between the two locales.

## **5. Theoretical insights**

The transfer of knowledge within MNCs is an essential component of the competitive advantage of a MNC, namely that it can exploit knowledge from its multiple geographies. But the size and bureaucracy and the distance between home and host locales means that this transfer is not always effective. Both external factors (such as distance) and internal, organizational factors impact the efficacy of knowledge transfers. In this paper, we examined how different dimensions of distance affect transfers and how internal organizational factors can mitigate the influence of distance. Our results show two broad organizational responses which we term rationalization and trust. The former refers to formally codified rules that utilize structure, standardization and technology, whilst the latter focuses on the ‘softer’, not easily codified aspects of knowledge that are embedded in individuals and require cooperation and interaction. Both companies utilize a combination of these factors to enable knowledge transfers. For example, standardization speeds up the rate of change of adoption and assists in the application of knowledge as it is transmitted in a uniform way. Technology improves knowledge transfers and cloud technologies can be used to provide continuous access to knowledge globally from a single repository that can be accessed anywhere, at any time (see Jiménez-Jiménez et al., 2014; Lupton & Beamish, 2014; Zaheer & Hernandez, 2011). Communication tools implemented successfully can decrease geographic distances such that it is possible to collaborate and work with teams dispersed to all the corners of the globe seamlessly.

Although technology can reduce the need for travel, the necessity of travel is not altogether mitigated as physical proximity facilitates transfer of some tacit knowledge which relies more heavily on trust and social capital. Overcoming cultural distance is often more complicated and whilst there are some theoretical arguments that technology can facilitate overcoming cultural

divides and facilitating tacit knowledge sharing, further work on the empirical evidence is required (Panahi et al., 2013, p. 379). The use of expatriates can assist in mitigating various dimensions of distance. For example, they can build social capital between HQ and subsidiaries and mediate between cultural and language differences through their physical presence (Davis & Luiz, 2015). Expatriates also facilitate the improvement of knowledge transfers and act as internal ‘consultants’ feeding best practices and innovations between HQ and subsidiary instead of this knowledge leaking to external contractors (Vance et al., 2014).

As regards knowledge adoption we find that relevance and localization is important. This underpins the need for embedding knowledge transfers within local contexts and recognizing the dynamic and interactive nature of knowledge transfers and learning (Bengoa & Kaufmann, 2014). Respondents warned against over zealousness which can result in too much information flowing in all directions. This overloading can reduce absorption. This would inevitably lead to knowledge ‘noise’ occurring and this could lead to the subsidiaries’ performance declining over time.

These results lead to our conceptual framework around transferring knowledge within MNCs – see figure 2. The knowledge chain starts (directional movement shown by thick internal arrows) with the creation of knowledge (1), it is then diffused (2) which results in the knowledge being adopted (3) by individuals within the organization. Finally, the knowledge is utilized (4) within the various functions within the MNC. Standardization (A) of knowledge impacts phase 1 and 2 (creation and diffusion), expatriates (B) impact 1, 2 and 3 (creation, diffusion, and adoption) and finally relevance and localization (C) impact 3 and 4 (adoption and utilization). The standardization of reporting and information flow between HQ and subsidiary in a MNC lessens

the impact of distance and involves the codification of knowledge which assists in the transfer. The use of expatriates in the case of both organizations has been noted. Vance et al. (2014) underline the role that expatriates can play in knowledge flows within MNCs and suggest that this can be further formalized through the use of home country nationals acting in liaison roles. Samsung takes the use of expatriates to its fullest deploying a complete mirror management structure based within its subsidiary. This mirror management structure assists with the bi-directional communication and transfer of knowledge between the local subsidiary and HQ and lessens cultural and linguistic misunderstandings. The relevance of knowledge arriving in a local subsidiary lowers the likelihood of local staff ignoring the knowledge that is received and this impacts the adoption of this knowledge.

Our framework reinforces the notion that organizational knowledge creation is context dependent (Nonaka, Toyama, & Konno, 2000; Nonaka & Von Krogh, 2009; Nonaka, Von Krogh, & Voelpel, 2006) or what Nonaka et al. (2000) refer to as *ba*. They describe *ba* as a shared space or platform which can be a physical, virtual or mental space that allows a common interpretation of the technical data. We see *ba* in our framework along the two dimensions of trust and rationalization. The latter is encapsulated in the formal processes through which knowledge transfers are codified through, for example, standardization. But *ba* emphasizes that trust among organizational members evolve both as an output and a moderating factor in that process (von Kroch, Nonaka, & Rechsteiner, 2012, p. 242). Our model illustrates the importance of trust to facilitate cooperation and interaction (confirming the work of Bengoa and Kaufmann, 2015). For example, the use of expatriates demonstrates both dimensions as does localization. Mirror management structures being used by Samsung represent a rationalized deployment of expatriates, but at the same time



expatriates are transmitters of trust and social capital in both directions between HQ and the subsidiary. Likewise, localization demonstrates trust in the local capacity of the subsidiary but also demonstrates a formalized/rationalized approach to knowledge transfers. Bengoa and Kaufmann (2014) question ethnocentric approaches to knowledge transfer methodologies and emphasize the importance of knowledge being culturally embedded. They warn against knowledge alienation where distance emerges between personal identification with the knowledge and a lack of connection to it. We argue that this requires both a rationalized approach and one that facilitates interpersonal trust as this will help overcome dimensions of distance, especially geographic and cultural distance.

## **INSERT FIGURE 2**

## **6. Conclusion**

The implications of our research is far-reaching. We illustrate the practical ways in which MNCs organize their internal resources and overcome various dimensions of distance in ensuring knowledge transfers. By choosing two companies from such divergent home countries (one industrialized and one newly industrialized, with very different cultural settings) and analyzing their knowledge transfers with their South African subsidiaries we are able to unpack various dimensions of distance and how their organizational structures and processes affects this. Understanding the factors which impede and enhance these knowledge transfers better allow management to design processes and put systems in place which can more effectively transfer knowledge. In both companies we see elements of rationalization and trust at work and neither sufficiently compensates for the other. Whilst rationalization allows for large knowledge transfers and works well with explicit knowledge, trust allows for nuances and tacit knowledge to be

amplified and transferred. This has implications for management both in terms of recognizing the different dimensions of knowledge but also the different systems which are required to enhance each. Today as we see a proliferation of technology which facilitates the negation of distance, our research warns against underestimating the softer dimensions of face-to-face communication which is particularly effective at building trust and supporting the transfer of tacit knowledge. Our research also highlights the different factors which affect knowledge transfers at different phases of the knowledge chain and this is relevant to any organization wishing to impact a particular part of this chain.

This study focused on two organizations operating in the technology sector which results in limitations in terms of generalizability. Future research could test the conceptual framework in non-technology focused firms, which may be less au fait with the use of technology for managing knowledge chains. Secondly, we focused on one host country location, name South Africa, and future research could explore multiple host locations to see whether HQs are more likely to allow for reverse diffusion of knowledge in other country contexts. Thirdly, our research did not fully examine how knowledge transfers changed over time and a longitudinal study would allow for this exploration especially in the context of rapidly advancing technological developments. In this regard, the ability to share tacit knowledge through this process would be particularly insightful given the dearth of empirical research (Panahi et al., 2013). Fourthly, our model highlights the dimensions of trust and rationalization in the knowledge transfer process but did not fully investigate the webs of association between these dimensions and how they may affect the other in a dynamic fashion. This is a novel area for future research. Lastly, it would be useful, considering the hierarchical nature of both organizations to compare them with less hierarchical,

more networked-based firms, potentially also in the technology sector, to examine how different organizational structures impact on the knowledge chain. Despite these limitations, our research points to some valuable insights as regards knowledge transfers within MNCs and how they organizationally manage the effects of different dimensions of distance as regards these transfers.

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## Appendix 1 – Interview Guide

1. How do you communicate with HQ? How often do you communicate?
2. What works well and what does not as regards the different forms of communication you use?
3. Are there ever problems with the understandability of knowledge received from HQ? (e.g. from a language or cultural perspective)?
  - i. Are there situations when knowledge received from HQ is partially misunderstood resulting in incorrect implementation? If yes, can you give an example?
4. What mechanisms are in place within the company to facilitate knowledge transfers between HQ and South Africa?
5. Are employees in South Africa always aware of what they need to ‘know’ and ‘do’ in order to fulfill their functions? Is there ever a disconnect between the ‘do’ and the ‘know’ and, if so, how does this manifest?
6. Do you create know-how or knowledge in South Africa that is used to make decisions at an HQ level?
  - a. How is this transferred to HQ?
  - b. Are there set structures for feeding information to HQ?
  - c. Are you aware of any products that have been developed or designed by HQ, based on local knowledge from South Africa?
7. What do you think affects the adoption and learning of knowledge arriving in South Africa from HQ?
  - a. How well motivated are the South African staff to take in new knowledge from HQ?
  - b. Are the education levels of staff different in South Africa to HQ? How does this affect the adoption of knowledge received from HQ?
8. When a new initiative is started, or a new process is implemented, or new knowledge is transferred into South Africa based on instruction from HQ are earlier adopters (internal staff) identified?
  - a. If so, how are these early adopters identified?
  - b. If not, how is the process started?

- c. How is the initiative or process communicated to the broader company?
- d. Can you give an example of a success in this category?
- e. Can you give an example of a time where this process did not work and the initiative was abandoned?

\* When interviewing HQ staff, the HQ in the questions were replaced with South Africa, such that one was discussing the communication from their perspective with South Africa.

**Table 1: Modes of the knowledge creation**

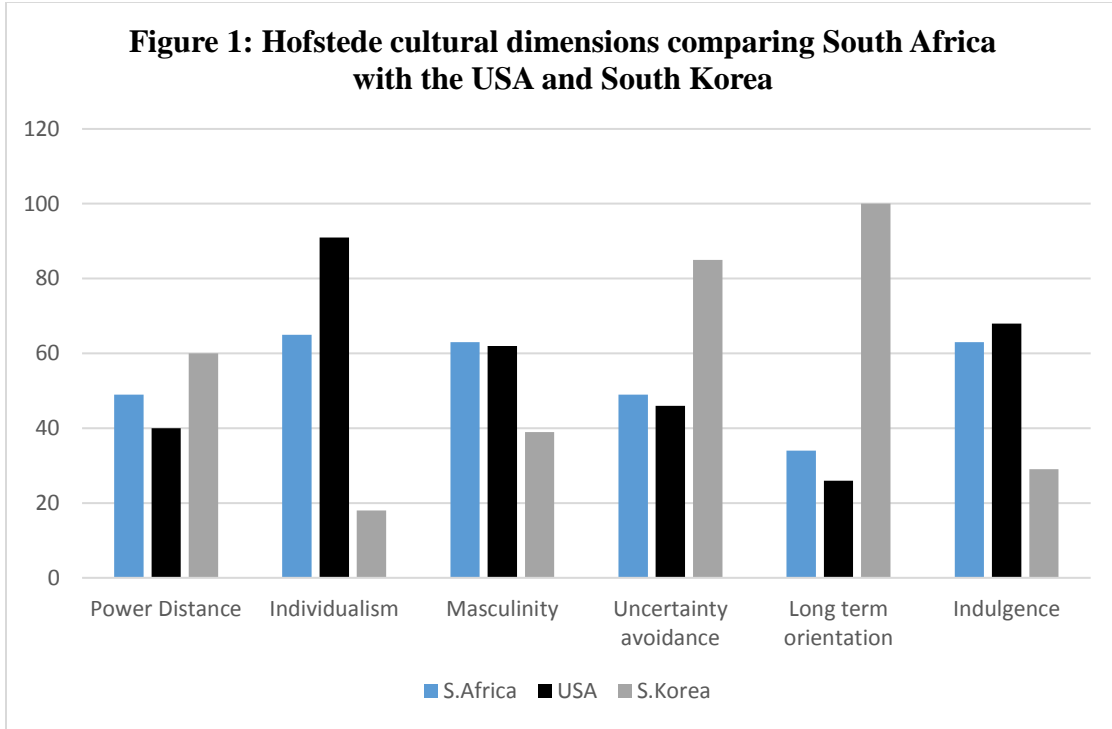
	<b>Tacit Knowledge</b>	<b>Explicit Knowledge</b>
	<i>To</i>	
<b>Tacit Knowledge</b>	<i>Socialization</i> (Sharing knowledge through shared experiences)	<i>Externalization</i> (Articulating knowledge through its publication)
	<i>From</i>	
<b>Explicit Knowledge</b>	<i>Internalization</i> (Knowledge receiving and application by an individual: learning-by-doing)	<i>Combination</i> (Organizing and integrating knowledge)

Source: adapted from Nonaka, 1994, p.19

**Table 2: Knowledge chain – major themes which emerged**

<b>Knowledge chain</b>	<b>Rationalization: Common Codes</b>	<b>Trust: Common Codes</b>
Knowledge creation	Standardization, hierarchy, expatriates	Expatriates
Knowledge diffusion	Standardization, use of technology, expatriates	Travel/personal contact for transfer of tacit knowledge, expatriates,
Knowledge adoption	Relevance of knowledge, localization, knowledge push from HQ, early adopters, expatriates	Expatriates, localization, early adopters
Knowledge utilization	Relevance, localization, hierarchy	Localization





Source: <http://geert-hofstede.com/>

**Figure 2: Knowledge transfer process**

