

The role of knowledge codification and communication in standard operating procedures

Authors: Elizabeth McKenzie, Conor McTiernan

Author: Elizabeth McKenzie, LYIT

Address: Letterkenny Institute of Technology,

School of Tourism,

Shore Road,

Killybegs,

Co. Donegal

E-Mail: Elizabeth.McKenzie@lyit.ie

Phone Number: 074 9186625

Author: Conor McTiernan, LYIT

Address: Letterkenny Institute of Technology,

School of Tourism,

Shore Road,

Killybegs,

Co. Donegal

E-Mail: Conor.McTiernan@lyit.ie

Phone Number: 074 9186626

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Contemporary strategic management and innovation research places much emphasis on the concept of knowledge and knowledge management (Nonaka and Takeuchi, 1995; Grant, 1996; Davenport et al, 1997; Darroch, 2005) and the importance of linking knowledge management to the strategic objectives of the organisation (Cooper, 2006; Rhodes et al, 2008). Modern organisations accept the notion of the knowledge economy and aspire to “evolve into a knowledge-generating, knowledge-integrating and knowledge-protecting organisation” (Tece, 2000). This emphasis on knowledge, and the management thereof, centres on creation, diffusion, storage and application of either existing or new knowledge (Canter et al, 2011). Research suggests knowledge acquisition, identification, development, diffusion and usage as key concepts of knowledge management (Alvani and Leinder, 2001; Canter et al, 2011; Rhodes et al, 2008), or the simpler ‘get, use, apply and contribute’ model as proposed by Bukowitz and Williams (1999). Whilst researchers may differ on definitions and perspectives of knowledge management (Grant, 1996; Brown and Duigad, 2000) the intention is to improve the ‘wisdom’ (Rhodes et al, 2008) within the organisation to ensure improved decision making and increase innovation, performance and competitive advantage (ibid). Argote and Ingram (2000) posit that it is the knowledge that is embedded in interactions between people, tools and tasks that create and sustain competitive advantage and therefore research has centred on two themes; the importance of knowledge within an organisation and secondly, how various forms of knowledge are moved between and within organisations (Shaw and Williams, 2009; Tsai, 2001; Cooper, 2006; McElroy, 2003). This movement of knowledge, or knowledge transfer, requires an ability to learn, to transfer that learning and act upon it quickly to gain competitive advantage (Welch, 2001) for the purpose of innovation.

While it has been established that knowledge transfer within an organisation is very important, the actual transfer of knowledge within many organisations is still a source of concern and problem for management (Jacob and Ebrahimpur, 2001). If operating procedures and policies are not laid out in writing in a clear and concise manner, management spend excessive and unnecessary time explaining processes to members of an organisation (McCarthy, 2001). Frattini (2007) contends that there is a compelling argument for the transfer of explicit and tacit knowledge through standard operating procedures (SOP’s), where SOP’s are defined as the written aims at standardising general activities (Cook, 1998). A stated goal of SOP’s is to allow all parties involved in an organisation to be aware of specific rules and guidelines, which allows, as much as is possible, for the smooth and efficient running of an organisation (Jones, 2002; Downes, 2000).

This literature review examines, from a multidisciplinary perspective, the dyadic relationship between the codification of knowledge and utilisation of an appropriate taxonomy of knowledge transfer and the implications for standard operating procedures.

Key words: Standard Operating Procedures, Knowledge management, codification of knowledge, taxonomy of knowledge transfer.

Introduction

The link between knowledge management and innovation in progressive, contemporary, post-bureaucratic organisations has been much debated by researchers (Darroch, 2005; Nonaka and Takeuchi, 1995) with an emphasis being placed on the importance of linking such activities with the strategic goals of the organisations (Rhodes et al, 2008; Cooper, 2006). Central to knowledge management activities is the development of a culture of 'intend to learning' (Hamel, 1991) in which individuals, teams and departments are encouraged to capture and utilise appropriately sourced knowledge which is shared through inter and intra-firm knowledge transfer (Canter et al, 2011).

Though knowledge management strives to create platforms for such collaboration, the desired levels of knowledge transfer may not be realised. The body of research on barriers to knowledge transfer highlight issues such as selection of appropriate sources of information (Minbaeva, 2007; Spraggon and Bodolica, 2011; Hjalager, 2002; Weinfield et al, 2010), use of inappropriate knowledge transfer process (Cooper, 2006) and knowledge transfer structures (Walsh and Ungson, 1991; Shaw and Williams, 2009).

The nature of the task must be considered (Spraggon and Bodolica, 2011), the knowledge type being transferred (Cohen and Levinthal, 1990; Cavusgil et al, 2003) and special consideration should be given to attributes such as the 'stickiness' of tacit knowledge (Reed and DeFillipi, 1990). Holistically, organisations must consider the complexity of knowledge being transferred and its context dependency (Tsoukas and Vladimirou, 2001) and the new knowledge's fit with the destination and its recipients (Cooper, 2006). The use of an appropriate media (Dennis et al, 2008) is also imperative to ensure understanding by the recipient (Spraggon and Bodolica, 2011).

Many organisations have developed and implemented Standard Operating Procedures (SOP's) as a measure against such barriers, where SOP's are defined as the written aims at standardising general activities (Cook, 1998). While the development and implementation of SOP's has been widely practiced, this paper researches contemporary academic best practice in knowledge codification and examines relevant taxonomies of knowledge transfer in an effort to determine best practice in SOP design and communication.

The role and current usage of SOP's

Compared to the general subject area of knowledge management, the authors suggest, following an extensive search, that there is a paucity of literature which addresses specific issues such as the role, usage and development of SOP's in the tourism and hospitality industry. From the Irish perspective, Melia's (2011) research on performance management and her reference to Flanagan's 2005 unpublished work are the most contemporary. The limited contemporary literature suggests that SOP's are powerful tools for gaining and maintaining control of work procedures (Fischer et al, 2010; Davidson, 2003). They define the direct and

indirect details of every task which can be the difference between success and failure in today's economy (Hsieh and Hsieh, 2001) with an aim to accomplish the highest level of order and standardisation in any organisation (Manghani, 2011). Standardisation is defined as "an activity that gives rise to solutions for repetitive application to problems in various disciplines" (ibid).

Manghani (2011) posits that the activity of standardisation is not designed; it's established and encompasses determination, formulation, issuing and enforcement of standards. Once correctly and fully completed, the development of standards process brings workers, managers, and advisers together in a collaborative way (ibid). As a result, everyone has a stake and this focuses everyone's abilities on doing the best job possible with the resources available. The SOP development process, while challenging, can provide significant performance improvements and guidance on business practices and routine activities (Heymann, 1992) as well as providing an effective communication tool that allows all employees job understanding and satisfaction (Jones, 2002). SOP's are the ultimate result of a standardisation activity (Hsieh and Hsieh, 2001).

While it has been established that knowledge transfer within an organisation is very important, the actual transfer of knowledge within many organisations is still a source of concern and problem for management (Jacob and Ebrahimpur, 2001). If operating procedures and policies are not laid out in writing in a clear and concise manner, management spend excessive and unnecessary time explaining processes to members of an organisation (McCarthy, 2001). Frattini (2007) contends that there is a compelling argument for the transfer of both explicit and tacit knowledge through SOP's where a stated goal of SOP's is to allow all parties involved in an organisation to be aware of specific rules and guidelines, which allows, as much as is possible, for the smooth and efficient running of an organisation (Jones, 2002; Downes, 2000).

SOP's are integral to quality management within the industry, but as Juran (1992) reminds us that while conformance to a specific, static standard is desired, quality is a moving target. Therefore, SOP's must constantly evolve and act as written work processes which support and guide people on the way an activity is undertaken (Solberg, 2000) and eliminate variation in work performance caused by different people completing the same work processes in different ways (Rasmussen, 1990). Through the elimination of variances in work processes, quality can be promoted through consistent implementation of a process or procedure within the organisation (Suzaki, 2010).

It is vital to any organisation that staff are being utilised to the highest possible standard (Hunger, 2011). This can often be jeopardised with the implementation of new procedures and policies or with the hiring of new staff (ibid). SOP's are capable training and development tools for training and mastering established and new procedures (Kirby, 2013). As a result the author contends that it is incumbent for management to identify every key process for every team, set the highest possible standard and then to develop a simple check list for every SOP that could be use every day to train new and develop existing staff and their skill sets (ibid). Having identified SOP's as key tools for the standardisation of processes through the internal

transfer of knowledge within an organisation, an investigation into the role of knowledge management will be conducted with an emphasis on examining the role of SOP's as a knowledge management tools.

The role of knowledge management

Knowledge can be explicit or tacit (Nonanka, 1991; Polanyi, 1996). Mode one and explicit knowledge are based on accepted criteria, could be easily codified and transferred (Cavusgil et al, 2003; Shaw and Williams, 2009) and can take such forms as academic texts, reports, documents or databases (Weinfield et al, 2010). Tacit knowledge, or know-how, is more difficult to codify or transfer, passed between individuals (Cooper, 2006; Shaw and Williams, 2009) and is inherently 'stickier' than explicit knowledge (Tsai, 2001) in the sense that it can be embedded in individuals or teams of an organisation (Canter et al, 2011) and is therefore a difficult commodity to bring to the marketplace (Hall and Mairesse, 2006). This 'stickiness' suggests knowledge collection and deployment is a crucial challenge for managers (Mowery et al, 1996) and increases the complexity of modern knowledge management (Spraggon and Bodolica, 2011). Though difficult, tacit knowledge can be gradually converted to explicit knowledge through articulation (Hislop et al, 1997) which can increase the potential for knowledge movement within or between organisations; knowledge transfer. The cumulative levels of tacit and explicit knowledge within an organisation can be referred to as the knowledge stocks of the organisation (Cooper, 2006).

Organisations wishing to embrace innovations and efficiencies, through for example the introduction of standardisation, must consider the management of existing and potential knowledge stocks. A suggested first step of knowledge management is the development of an understanding of the existing environment of the organisation, identification of what knowledge is required and thus identification of the knowledge gaps (Rhodes et al, 2008) which can be addressed through the capturing of required knowledge. Frequently researchers use the analogy of diffusion of a disease to explain knowledge capture (Hethcote, 2000; Diekmann and Heesterbeek, 2000; Baggio and Cooper, 2010) where the recipient of the 'epidemic' is 'susceptible' (S) to the disease and after being exposed over a period of time becomes 'infected' (I). Recipients of captured knowledge may be susceptible to new knowledge but for knowledge transfer to be completed, infection must occur (Baggio and Cooper, 2010). For some organisations, infection may result in 'recovery' (R), where knowledge gaps previously identified are filled whilst other organisations may, through a process of re-evaluation, identify new needs and knowledge gaps which require the organisation to become susceptible again, academics refer to these potential outcomes as SIR and SIS models (ibid).

Having identified the existing and required knowledge stocks, organisations should consider appreciating the challenges of knowledge capture and diffusion with the goal of transferring the most appropriate knowledge through the organisation in an effective and efficient manner.

Knowledge transfer

Knowledge transfer is based on the concept of knowledge diffusion where innovations and ideas are shared over a period of time within a social system (Rodgers, 1995 from Cooper, 2006) or between units such as individuals, departments, divisions and is a process where the experience of one unit affects another and this manifests changes in knowledge or performance of that unit (Argote and Ingram, 2000). Such collaboration within an organisation requires a change of prerogative; historically many individuals and teams assumed that 'knowledge is power', but many organisations have altered this position to encourage a culture of 'sharing is power' amongst team members (Baggio and Cooper, 2010).

The challenge of achieving successful intra firm knowledge transfer given the variety of knowledge types, dimensions and forms suggests appropriate channels or mechanisms of knowledge transfer are supported to facilitate the objectives. Transfer could be achieved through learning by observation (Hall and Williams, 2008), through horizontal or vertical collaboration with competitors or suppliers (Weinfield et al, 2010), through labour mobility (Henry and Pinch, 2000; Hjalager, 2002; Cooper, 2006; Argote and Ingram, 2000), or via influential knowledge brokers (Tushman and Scanlan, 1981; Hall and Williams, 2008). This suggests that SOP's are not the only knowledge transfer tool an organisation could use.

Combinations of existing explicit and tacit knowledge reside in multiple repositories within an organisation (Argote and Ingram, 2000). Walsh and Ungson (1991) contend that there are five such repositories, or knowledge bins, in organisations; individual members, roles and organisational structures, organisations standard operating procedures, the culture and the procedures and practices used by the organisations. Given that knowledge is stored in such repositories and embedded in its members, tools and tasks (Argote and Ingram, 2000; Shaw and Williams, 2009), the challenge for knowledge management is knowing which person, task and tool via which network to employ when attempting inter or intra organisation knowledge transfer (Argote and Ingram, 2000).

The challenge for knowledge management is that all parties positively influence knowledge transfer. The goal of the parties must be to leverage intellectual assets and re-engineer structures to support knowledge management and increase successful knowledge transfer (Cooper, 2006). The process must not be indiscriminate (Baggio and Cooper, 2010); it must allow for the culture of the various parties (Galbraith, 2002; Spender and Grant, 1996; Ives et al, 2003; Cooper, 2006) and the existing formal and informal structures and processes (Rhodes, 2008; Shaw and Williams, 2009). Equally, the knowledge transfer must be controlled and managed (Galbraith, 2002) through transparent controls, human resource management and leadership (Rhodes et al, 2008) to allow for timely interventions which potentially realise competitive advantages and innovation changes to products or processes (Shaw, 2004). The use of standard procedures could aid in the embedding of such changes as they act as transparent controls.

The above literature coupled with the barriers of knowledge transfer outlined in the introduction suggests that existing team members should be involved in the design and implementation of SOP's as this may encourage a breakdown of knowledge retention in

individuals, provide recognition for the fact that existing team members are repositories of knowledge and encourage the desired positive attitude towards knowledge capture, diffusion and transfer. The requirement for the recipient organisation to have 'intent to learning' (Hamel, 1991) may depend on the organisations resources, learning environment, organisational culture and strategic strategy (Weinfield et al, 2010). This suggests that the role of senior management in knowledge transfer is important (Thomas, 2011) especially as the organisation must ensure that by the end of the process, obsolete and unrequired existing knowledge within the organisation is filtered out (Cooper, 2006). These challenges and an organisations ability to overcome them may be explained by examining the concept of absorption capacity.

Absorption capacity

The development of a 'culture of learning' as referred to earlier may be difficult to achieve. Constant memory development and thus development of knowledge repositories, increases an organisations capacity for knowledge acquisition which in turn increases the potential for the development of new knowledge stocks (Bower and Hiligard, 1981). The importance of learning to learn for organisations is crucial (Cohen and Levinthal, 1990) and previous experience helps (Ellis, 1965 from *ibid*) especially if specific knowledge gaps can be related to existing problem solving skills and methods (*ibid*).

Brief exposure to such prior learning and knowledge is insufficient (Cohen and Levinthal, 1990), it must be intense and developed over time (Harlow, 1959 from Cohen and Levinthal, 1990) and this constant investment in identification of knowledge repository gaps, increases learning skills and tools which in turn increases the organisations memory and knowledge development capacity (Zahara and George, 2002). The development of prior learning skills and knowledge coupled with the ability to recognise the value of the new information, assimilate it and link it to strategic goals is deemed the organisations absorption capacity (Cohen and Levinthal, 1990; Zahara and George, 2002).

The role of encouraging employees of the organisation to develop their agility, motivation and opportunity (AMO) is emphasised as this is critical to the development of absorption capacity and key to the development of competitive advantage (Applebaum et al, 2000) and business performance (Tsai, 2001). A lack of absorption capacity in a member of the collaboration will reduce knowledge transfer rates (Szulanski, 1996). Key determinants of absorption capacity include technical capabilities (Mowery et al, 1996) and, as already stated, prior learning and competencies (Cohen and Levinthal, 1990).

Building on Cohen and Levinthal's seminal work in 1990, Zahara and George (2002) suggest two forms of absorption capacity exist; potential capacity, where organisations with absorption capacity acquire knowledge but which results with low levels of empirical evidence of change and secondly realised absorption capacity, where organisations achieve knowledge transfer and exploitation with some empirical evidence of change. The authors suggest that whilst previous researchers defined absorption capacity as the ability to value, assimilate and

apply new knowledge (Cohen and Levinthal, 1990) with special reference to tacit knowledge transfer (Mowery et al, 1996) for the purpose of innovation (Kim, 1998), this failed to measure the “ability of firms to recognise two apparently incongruous sets of information and then combine them to arrive at a new schema” (Zahara and George, 2002). Through re-conceptualisation of existing components of absorption capacity and categorisation of a four step process; firstly acquisition through prior investments and knowledge, secondly assimilation through understanding, thirdly transformation through internalisation and conversion and finally exploitation through use and implementation, the authors suggest the gap between potential and realised capacity may be diminished.

The role of the third transformation stage (Zahara and George, 2002) in the development of realised absorption capacity is a most crucial phase in knowledge transfer. It is at this stage that the organisation develops and refines routines that combine existing knowledge and the newly acquired and assimilated knowledge. This process may require creative destruction in the sense that knowledge may be added, deleted or may have to be reinterpreted (Nolan and Crossan, 1995 from Zahara and George, 2002) and the older or dated knowledge stocks are deleted (Cooper, 2006). Previously stated barriers to knowledge transfer include a lack of compatible technology, differentiations in systems of work, lack of trust of new knowledge, lack of trust within inter personnel contacts, a lack of prior experience of the knowledge transfer process and differentiations in the cultures of the collaborative network. It is at the transformation phase when the motivations of the organisations management and employees are tested. The espoused desire to source and exploit new knowledge to leverage competitive advantage may only be realised through achieving sufficient transformation capacity. It could be suggested that organisations that involve team members in the design and implementation of SOP's, with the support of senior management, have a greater opportunity to successfully transform existing knowledge stocks to their updated equivalents.

Though the importance of the codification of knowledge and use of an appropriate medium of communication are present at all four stages of Zahara and George's model for knowledge absorption, the authors considers these particular issues as imperative at the transformation phase. As alluded to earlier, for knowledge in the form of SOP's to be transferable it must be written and structured in a way that is understood by all parties and therefore the role knowledge codification is worthy of research.

Knowledge codification

Earlier in this paper the concept of codification was introduced and it refers to a means of creating conditional statements which are understood by a receiver (Cowan et al, 2000). Mode one and explicit knowledge are by their nature prepared as conditional statements but this does not ensure they are understood by recipients, tacit knowledge can be articulated as suggested earlier but again this does not ensure comprehension of the recipient.

Codification aims to devise information into messages that ensure a reproduction of capacities and capabilities that comprise knowledge (Cohendet and Seitmueller, 2000). It can involve a

three step process; firstly the creation of models, secondly the creation of languages and finally the creation of messages (David and Foray, 1995). The use of models and language that is understood by both or all collaboration parties is imperative and when this is achieved a 'codebook' may be said to exist (Cowan et al, 2000). As the models and language of the codebook stabilise, the greater flux of knowledge between the collaborative parties which in turn introduces new concepts and ideas for which models and language must be created and the process begins again (Cohendet and Seitmueller, 2000).

The recipient of the new codified knowledge, such as an SOP, can reconstitute it and disseminate it within their organisation, department or for themselves with varying degrees of effectiveness depending on their cognitive framework, the organisations culture and willingness to learn, and prior learning experience (Cooper, 2006; Cowan et al, 2000; Cohen and Leventhal, 2000). For teams, the role and importance of inter-personal relationships creates 'capabilities of understanding' which allows for increased codification of existing knowledge (Ancori et al, 2000). A primary obstacle to codification within the knowledge transfer process is challenge of altering the 'habits of thought' of individuals and groups in the process (Cohendet and Seitmueller, 2000) and poses the challenge, should scarce resources focus on accessing information or be allocated to increase skills to exploit the information? Cohendet and Seitmueller (2000) suggest that to increase organisations core competencies a greater emphasis must be placed on development of tacit knowledge understanding and skill at codification of same; a common challenge in the development of SOP's.

Effective knowledge management emphasises the importance of not fixating on the process but on the purpose of knowledge codification (Cooper, 2006), in this case the development of SOP's. The author suggests a three step process to achieve same; firstly ensure strategic objectives of the project are identified as noted earlier in this paper, secondly identify the appropriate sources of knowledge and thirdly, assess the codified language using 'appropriate techniques' (ibid). One such technique is to ensure the appropriate medium of communication is being exercised and that the media richness is capable of supporting effective knowledge transfer (de Luca and Valacich, 2006; Spraggon and Bodolica, 2011). It should be noted that the language, media choice and media richness chosen must be cognisant of the potentially delicate balance between internal and external communication needs (Cohen and Levinthal, 1990). Further debate on the taxonomy of knowledge transfer is included later in this paper.

Appropriately codified intra organisation knowledge transfer is more effective than non-codified communication as collaborators recognise language being used (Argote and Ingram, 2000). For example, research suggests that at intra organisation level, communication by methods such as SOP's are highly effective and contribute more to knowledge creation and diffusion than external sources such as trade shows (Rulke et al, 2000). It could be suggested that facilitation of knowledge acquisition and assimilation in an effort to create potential absorption capacity and cognisance of audience when codifying knowledge is not enough when attempting to remove barriers of transformation. The role of the inter-personal relationships must be again considered. Paulus and Yang (2000) posit that organisations that expose employees to access new knowledge and give sufficient independence to communicate

with a variety of groups whilst maintaining independence were more effective at knowledge transformation than organisations who simply pooled ideas of individual group members.

While appropriate communication between individuals, groups and organisations may, in theory, facilitate the creation of the codebook required to remove causal ambiguity (Szulanski, 2000), and some single dimensional studies have been conducted to investigate elements of the codification and communication medium challenge (Dennis et al, 2008; Li et al, 2010), the process must consider the multidimensionality of the knowledge transfer process (Spraggon and Bodolica, 2011). Having debated the issues of knowledge management, knowledge transfer, absorption capacity and knowledge codification, the authors propose to investigate the role of SOP's as they are commonly used in the tourism and hospitality industry as a method of articulation of tacit and explicit knowledge for the purpose of knowledge transfer.

Development of SOP's

In tourism and hospitality management industrial standards such as HACCP (Hazard Analysis Critical Control Points) and ISO9000 (International Standards Organisation) and management tools such as TQM (Total Quality Management) have been designed to help organisations to maintain control of process and quality control, while achieving competitiveness in a global business environment (Garvin, 1900). At the centre of all of these programmes are SOP's (ibid).

Stup (2002) suggests that while SOP's are a piece of paper consisting of a step by step procedure on completing a task, there is more to it than just that. The author contends that to achieve the full benefits of SOP's, management need to view SOP's as a process including planning for results, development, implementation, monitoring, and performance feedback.

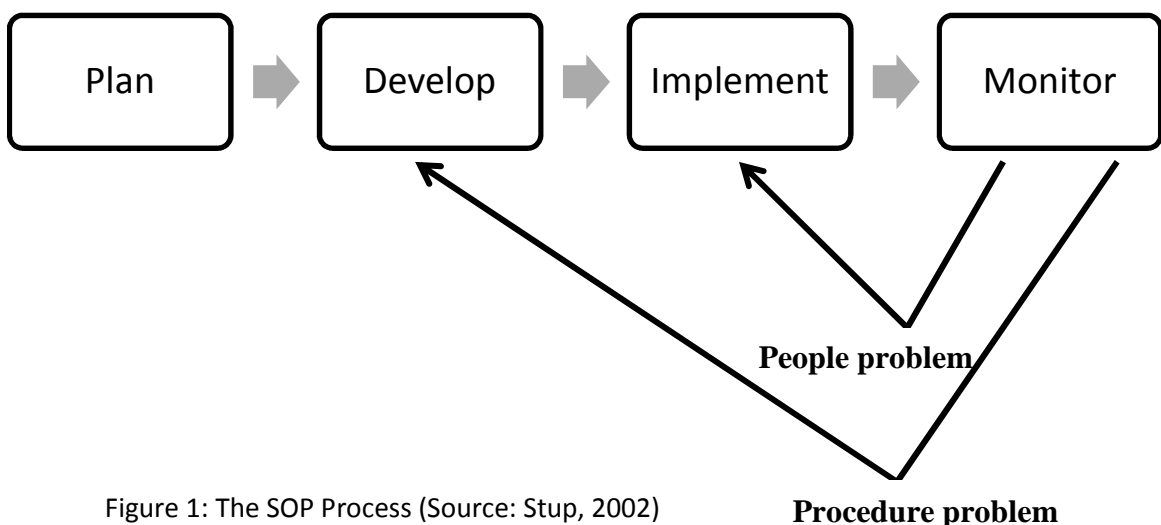


Figure 1: The SOP Process (Source: Stup, 2002)

Just like other management activities, advance planning greatly increases the chance of success, especially at the transformation phase when developing and implementing SOP's (Stup, 2002). While the planning and development stage of completing a set of SOP's can be time consuming the overall results will allow an organisation to be more effective and efficient (Garvin, 1900) and the author outlines five steps to achieving a successful design of SOPs with a focus on the identification of the purpose, task and individual, as per Argote and Ingram (2000).

As alluded to in earlier debates, the development stage is a most important, as it is here that people must begin to feel ownership in the SOP (Stup, 2002). It is at this stage that management should provide a first draft of the procedure for everyone to review before any procedures are set in place. It should be communicated to staff that operational procedures can address operational problems and that their input, which allows for the specific context, is imperative in ensuring the organisation gaining competitive advantage (Fischer et al, 2010).

A significant consideration at this stage is the importance of using a very specific layout that should be followed to achieve maximum effectiveness (Solberg, 2000). An easy to read, step by step format which may also include pictures to avoid any language barriers must be adhered to (ibid) and an emphasis should be placed on the remove unambiguity way and ensuring clarity of purpose (Heymann, 1992; Veillatte, 2006). Such structures could aid the development of an appropriate codebook and the use of language familiar to employees, i.e. contextual, may aid the development of the required absorption capacity.

Having highlighted literature on the development of procedures cognisant of such issues as absorption capacity and codification the authors propose to investigate contemporary research on best practice for inter and intra firm procedure communication.

Taxonomy of knowledge transfer

Spraggon and Bodolica (2011) contend that an integrative taxonomy for inter-firm knowledge transfer is necessary and posit there are four theoretical constructs that form the basis of such a taxonomy, these are the degree of programmability, level of discretion, scope of coverage and process orientation (ibid). The model allows for a variety of knowledge transfer types, processes and communication methods required. Programmability assess the degree of planned communication methods ranging from formal to informal settings, level of discretion relates to the range of freedom given to recipients of new knowledge and their obligation to embrace new processes, scope of coverage refers to the number of individuals involved and process orientation categorises the level of human-based or technology-based interaction in the knowledge transfer process (ibid). Having examined the range of constructs the authors support four related categories of communication medium, see Figure 2, namely static virtual, dynamic virtual, canonical face-to-face and non-canonical face-to-face (ibid) where canonical refers to the degree of formalisation and planning given to the knowledge transfer practice (Orlikowski, 2002 from Spraggon and Bodolica, 2011).

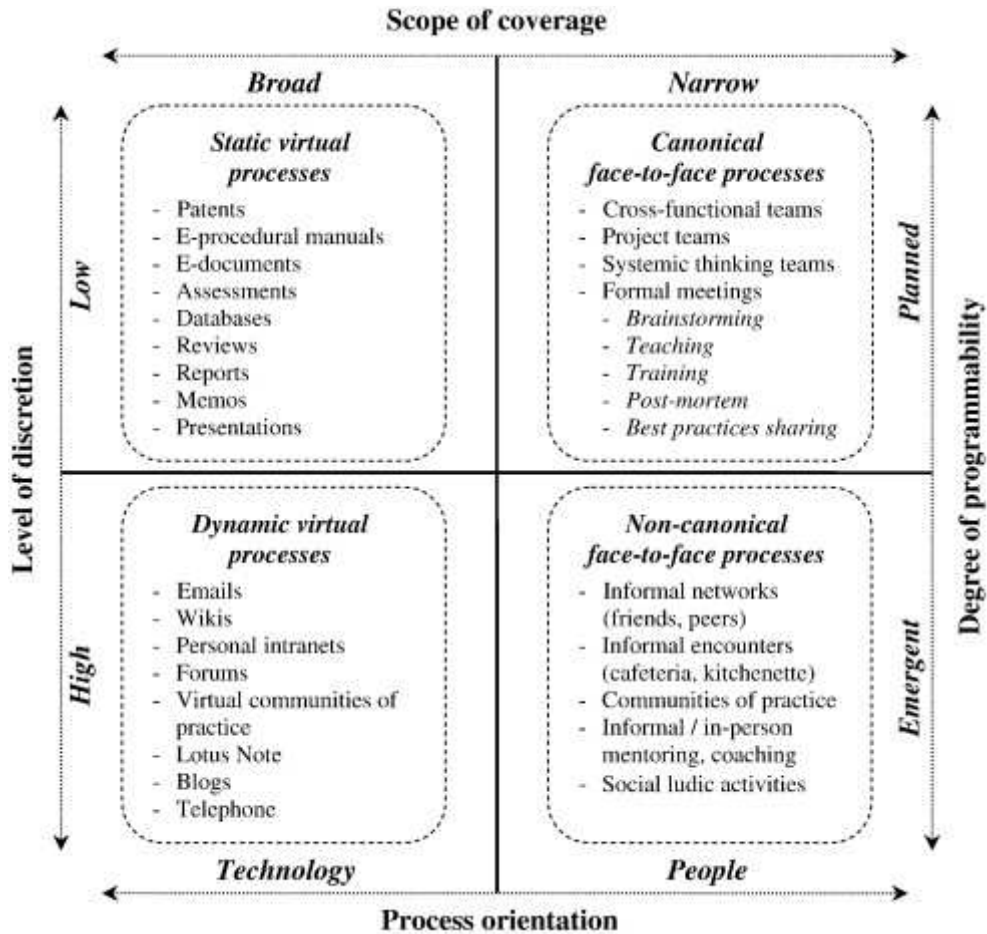


Figure 2: Taxonomy of knowledge transfer processes (Spraggon and Bodolica, 2011).

By allowing for a variety of knowledge transfer types and predicting the most effective communication method, this model addresses the challenge of improving the transformation capacity of the recipient organisation and increases the likelihood of realised absorption capacity. In an attempt to address issues such as lack of motivation and mutual trust or distrust, poor absorption capacity, cultural incompatibility, high levels of stickiness and casual ambiguity (Minbaeva, 2007), the authors also identify barriers to knowledge transfer based on the four categorised communication mediums, see Figure 3. These models allow collaborators within an organisation or alternative community of knowledge to pursue a holistic approach to knowledge transfer by identifying the their individual gaps in knowledge, agreeing on the somewhat predetermined knowledge transfer process and identifying the most relevant communication method appropriate for a variety of stages in the knowledge transfer process.

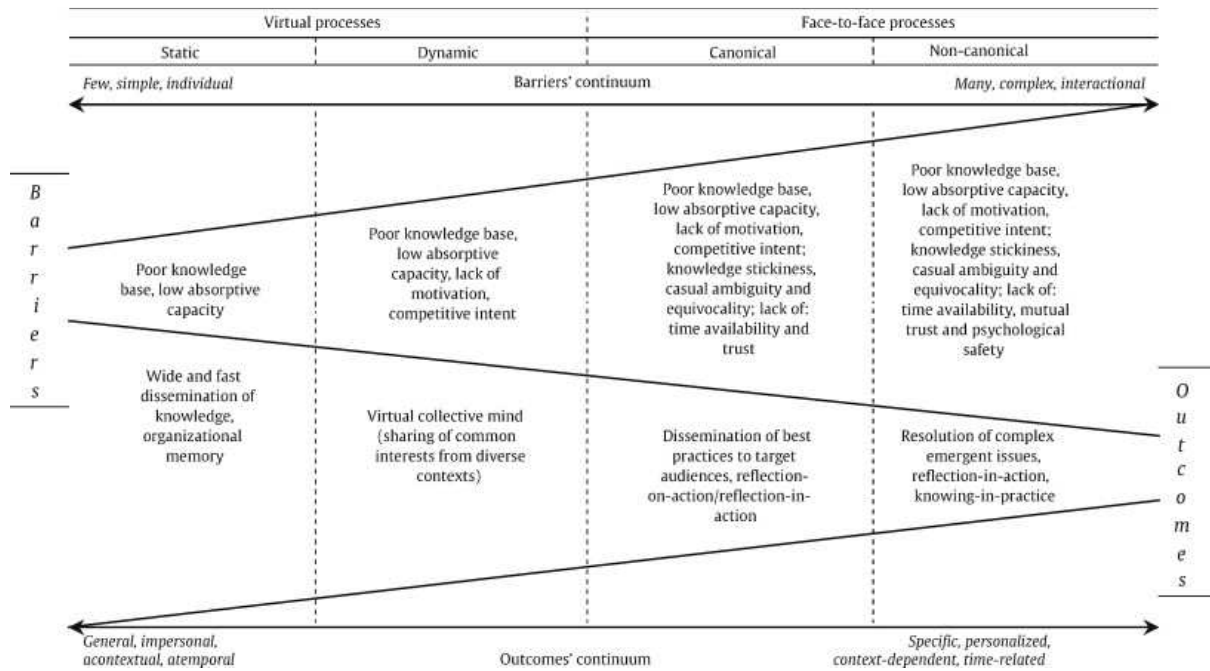


Figure 3: Dominant barriers and expected outcomes of process categories (Spraggon and Bodolica, 2011).

From Figure 2, Spraggon and Bodolica (2011) contend that allowing for knowledge type and context, there is a most appropriate way to convey information in any given circumstance, where context is determined by level of discretion, scope of coverage, degree of programmability and process orientation. It could be suggested that the model also attempts to address the issue of how best to transfer knowledge and ensure that procedures within an organisation are complied with (Garvin, 1900).

Given that SOP's are codified statements and that the purpose is to communicate to a focused group of people a standard which contains low levels of discretion and are planned in terms of programmability that a canonical face-to-face processes should be considered as the most appropriate communication method. By selecting this method the papers authors suggest that the challenge of improving the transformation capacity of the recipient organisation may be addressed and could increase the likelihood of realised absorption capacity.

Key findings and themes for future research

This literature review investigates best practice in knowledge codification and examines contemporary research in the determination of appropriate methods of SOP communication at the distribution stage by examining appropriate taxonomies of knowledge transfer.

The literature suggests that quality is ever changing (Juran, 1992) and that one approach to its management is to ensure that standards are identified, conformed to and that this process should be dynamic in the sense that existing quality management systems and procedures must be constantly reviewed for a competitive advantage to be leveraged by an organisation. Given the link between competitive advantage and knowledge management (Darroch, 2005), senior management are charged with the development of a knowledge management strategy, linked to the strategic objectives of the firm, including the development of appropriate knowledge transfer channels cognisant of the need to enhance the absorption capacity of the individuals and teams in the organisation.

It has been established that SOP's are an appropriate method of explicit and tacit knowledge transfer (Frattini, 2007) but such a process is contextual in that the codification of the knowledge process must be influenced by all team members (Stup, 2002) with the support of senior management (Thomas, 2011). This could be further enhanced by identifying which individuals participate in the process through identification of the appropriate purpose, task and person(s) involved (Argote and Ingram, 2000). This may also reduce the sticky embeddedness of tacit knowledge, especially if appropriate staff are temporarily transferred to where the intended knowledge recipients are employed (Hjalager, 2002).

For the knowledge to be successfully transferred a recognition of the difference between potential and realised absorption capacity (Zahara and George, 2002) is imperative and that employees have a critical mass of absorption capacity as a result of previous learning (Cohen and Levinthal, 1990) which is especially pertinent at the transformation phase of Zahara and George's model. This could be enhanced through selecting an appropriate communication method and given that the purpose of SOP's are to ensure high degrees of programmability with low levels of discretion, canonical, or formal, face-to-face communication is recommended (Spraggon and Bodolica, 2011) which can reduce barriers to knowledge transfer such as casual ambiguity and a lack of motivation.

Future research on this topic could address the lack of literature on this area, especially from a tourism and hospitality perspective. Quantitative research on the use of SOP's and their codification and communication is recommended. Perhaps of greater interest is a qualitative study which could address such issues as the role of SOP's in the development of absorption capacity, the role of employees in the codification of SOP's and the impact of the communication method used to implement the SOP on the acceptance and adherence of employees.

Inappropriate knowledge codification and communication of SOP's are not the only potential sources of error in knowledge transfer. Further research on other barriers and enablers of knowledge transfer such as formal and informal structure of the organisation, employee morale, levels of education of employees, organisational culture and sources of casual ambiguity in the knowledge codification process are recommended. It should also be noted that much academic debate on absorption capacity focuses on the existence of internal and external organisational boundaries rather than investigating the nature of such boundaries

(Easterby-Smith et al, 2008). Further qualitative research cognisant of Carlile's (2002) research on pragmatic, syntactic and semantic boundaries is also recommended.

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