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THE SOCIAL PROCESSES AND FACTORS AFFECTING ORGANIZATIONAL KNOWLEDGE CREATION AND SHARING IN NEW ZEALAND FIRMS*

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Abstract

This research delves into social processes and antecedent factors that influence organizational knowledge creation and sharing in NZ firms. The ideal processes or barriers have not been fully explored, especially in New Zealand context where the paucity of research in knowledge management still exists. To extend the knowledge management research stream, the study incorporates these two theoretical views into a single conceptual model and extends the organizational knowledge creation theory by considering set theory in terms of social and motivational factors. We attempt to link social processes, trust, rewards and IT support constructs within a nomological network that could predict factors that might influence organizational knowledge creation and sharing in New Zealand firms. Data were gathered using an online survey and analyzed using Partial Least Squares technique. Results show that trust, hard rewards and certain social processes have positive impact on organizational knowledge creation and sharing. In addition, trust and soft rewards are found to be positively associated with peer mentoring. Use of IT is positively associated with knowledge combination. Implications of the study are discussed.

Keywords: *Knowledge creation, Knowledge sharing, Social processes, Rewards, Trust, Peer mentoring.*

YENİ ZELANDA FİRMALARINDA ÖRGÜTSEL BİLGİ OLUŞTURMA VE PAYLAŞIMINI ETKİLEYEN SOSYAL SÜREÇLER VE FAKTÖRLER

Öz

Bu araştırma, NZ firmalarında kurumsal bilgi yaratma ve paylaşmayı etkileyen sosyal süreçleri ve bu süreçlere ortam oluşturan faktörleri araştırmaktadır. Yeni Zelanda'da bilgi yönetimi ile ilişkili araştırmalar hala yetersiz olduğundan gerek süreçlerin tamamı gerekse olabilecek engeller tam olarak keşfedilmemiştir. Bu çalışma, bilgi yönetimindeki araştırma akışını genişletmek için tek bir kavramsal modele iki teorik görüşü dahil etmektedir. Bu şekilde sosyal ve motivasyonel faktörler de göz önünde bulundurularak kurumsal bilgi yönetim teorisinin genişletilmesi amaçlanmıştır. Bununla birlikte, Yeni Zelanda şirketlerinde kurumsal bilgi yaratma ve paylaşmayı etkileyebilecek sosyal süreçler, güven, ödüller ve IT destek yapıları gibi tahmin edilebilecek faktörler arasında nomological bir bağlantı olabileceğine işaret ettik. Çevrimiçi bir anket kullanılarak elde edilen veriler Partial Least Squares tekniği ile analiz edilmiştir. Sonuçlar, güven, maddi ödül ve belirli sosyal süreçlerin kurumsal bilgi oluşumu ve paylaşımına pozitif etkisinin olduğunu göstermiştir. Buna ilaveten güven ve yumuşak ödüllerin akran danışmanlığı ile olumlu bir ilişkisi olduğu bulunmuştur. Son olarak BT kullanımı bilgi kombinasyonları ile pozitif ilişki içerisindedir. Çalışmanın sonuçları tartışılmıştır.

Anahtar Kelimeler: *Bilgi oluşturma, Bilgi paylaşma, Sosyal süreçler, Ödüller, Güven, Paydaş Gözlemi.*

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1. INTRODUCTION

Over the past few decades, knowledge management (KM) evolved as a separate field of organizational management (Nonaka, 2005: 3; Nonaka & Toyama, 2005: 41; Rai, 2011; Shu-Chen, ChienHsing, & Ping-Chieh, 2011: 780). There has been a large volume of studies examining organizational knowledge management over a broad spectrum. Smith and Rupp (2002: 250), and Rong and Grover (2009: 376) investigated knowledge sharing in terms of organisational learning and innovation. They realized the strategic significance of organizations that have the ability to capture, process and share collective expertise and intelligence and leverage it to encourage learning, enhance innovation and increase organizational competitiveness.

The paucity of studies in knowledge management in New Zealand indicates this is an under-researched disciplinary area which has not received enough attention from practitioners and scholars. The critical questions here then become: Why did organizations fail to achieve KM objectives? What makes organizations better at KM to ensure sustainable competitive advantage? In response, various scholars have investigated various drivers of organizational knowledge, ranging from social factors to organizational, motivational and psychological factors. The assumption behind these antecedents is that they facilitate a firm's knowledge management (Dyck, Starke, Mischke, & Mauws, 2005; Easa & Fincham, 2012; Martín-de-Castro, López-Sáez, & Navas-López, 2008; Tammets & Laanpere, 2012; Travaille & Hendriks, 2010).

For the past decades, literature that studied firm's capability to develop sustainable competitive advantage through creating and sharing knowledge has highlighted the crucial role of knowledge creation in successful organizations (Chia, 2003; Ho & Ganesan, 2013; Reychav & Weisberg, 2010). Many scholars acknowledged that organizations that utilize a knowledge creation process can benefit from better connection of knowledge in both new and unique ways (Lee & Choi, 2003: 180; Nonaka & Konno, 1998: 41). The process also allows firms to create business value and improve efficiency by amplifying knowledge embedded within the organization and enables the transition of knowledge into functional activities (Nonaka & Konno, 1998: 41; Nonaka, Toyama, & Konno, 2000: 5). With a general consensus is that knowledge creation and sharing (KCS) can result in sustainable competitive advantage. The key question becomes: "What influence knowledge creation and sharing in New Zealand organizations?"

The SECI model is the cornerstone of the knowledge creation theory, which explains the process of KCS. In knowledge creation theory, social processes were the main antecedents and functions of KCS. Comprising socialization, externalization, combination and internalization, the model is probably the most influential and a good, distinctive theoretical foundation to investigate knowledge not only because it broadly covers both knowledge sharing and knowledge creation (Shu-Chen et al., 2011: 1041), more importantly it also arguably best embraces the characteristics of KM, and explores the interrelationships between both explicit and tacit knowledge.

Social and motivational factors not included in the theory, even though scholars generally claim that social and motivational factors also play an important part in organizational knowledge management (Ali, Whiddett, Tretiakov, & Hunter, 2012: 500; Ardichvili, Page, & Wentling, 2003: 65; Peralta & Saldanha, 2013: 538). Further, the model was based on a Japanese management cultural context and previous studies that examined the model were in the North American and European contexts. Arguably, in the New Zealand context, the impact of peer mentoring along with social, technological and motivational factors could vary or even contrast to that found in previous studies. In order to make the claim that motivational and social factors can be the primary antecedents of KCS in the New Zealand context, we need to examine both motivational and social factors and the knowledge creation process in the NZ setting. This leads to the current question: What role do social processes and social and motivational factors play in influencing organizational KCS in New Zealand firms? And what role do social, motivational and IT factors play in influencing social processes in the context of organizational KCS in New Zealand firms?

Knowledge has become increasingly significant and now plays a more crucial role in stimulating long-term growth. There is a general agreement among researchers that organizational knowledge is a source of sustainable competitive advantage (Ho & Ganesan, 2013: 93; Scalzo, 2006: 60; Syed-Ikhsan & Rowland, 2004: 98). It is apparent that appropriate understanding of how to implement knowledge management strategies is crucial for organizations. This is because one key aspect for organizations seeking competitive advantage in the K-economy is learning to work more effectively, through knowledge. However, the lack of effective knowledge management in New Zealand presents serious challenges to local organizations. As shown by reports of local government agencies, there are various issues concerning healthcare professionals not taking full advantage of available tools for facilitating the sharing of tacit knowledge, which was reportedly shared significantly less than explicit knowledge. Additionally, task related information, successful experience and lessons learnt from failure

are not shared or shared minimally between firms on a need to know basis (Lips, O'Neill, & Eppel, 2011: 255). Therefore, there is a need for organizations in NZ to be proactive in dealing with existing and future challenges presented in knowledge management.

2. LITERATURE REVIEW

2.1. The Dynamic Theory of Organizational Knowledge Creation and SECI Model

Organizational KCS is generally linked both to the "knowledge-based views and theories of the firm" (Grant, 1996; Smith, 2001) and the earlier work of Polanyi (1962) on the classification of organizational knowledge (tacit and explicit). Nonaka (1994) drew upon these associations and established the Dynamic Theory of Organizational Knowledge Creation. Nonaka (1994) criticized that such a paradigm reflects a static and passive view of the organizational knowledge. According to Nonaka et al. (2000), "knowledge creation is a continuous process through which one overcomes the individual limitations and restrictions imposed by prevailing information and experience by attaining a new perspective, a new observation of the environment and new knowledge" (p.7).

Proposed by Nonaka (1994: 14), the theory hypothesizes that organizational learning is a dynamic process of systematic routines of individual knowledge transfer, accumulation and exchange, in an upward manner to the organization level. Characterized as a dynamic spiral converting tacit knowledge to explicit knowledge, the theory suggests organisation knowledge creation can be viewed as recurring "transactions" between tacit and explicit knowledge, dynamically. That is, the process is initiated from the individual level where tacit knowledge is being extracted from an individual to make it explicit. The output is then expanded through social interactions for the purpose of capturing the diversity of perspectives for re-internalization of tacit knowledge. This will eventually become shared knowledge at the organisational level. This once again highlights the social process orientation of organizational KCS.

In order to describe the spiral nature of the knowledge creation process Nonaka proposed and illustrated a cyclical model which consists of four modes of knowledge conversion driven by the interactions between tacit and explicit knowledge within the organization. The four modes of knowledge conversion are: socialization, combination, externalization, and internalization. According to Nonaka and Takeuchi (1995): "These four modes of knowledge conversion are what individuals experience and are also the mechanisms by which knowledge is communicated and amplified throughout an organization" (p.13).

2.2. Social Exchange Theory

There has been support in the literature for social exchange theory being useful as a theoretical base for investigating certain aspects of organizational KCS. We argue that it is important to examine trust and rewards in the context of social exchange for organizational KCS as it involves an exchange relationship between people or a collective where knowledge is the source of the exchange with the expectation of reciprocity (Wei-Li, Bi-Fen, & Ryh-Song, 2007: 326). Moreover, individuals participate in exchange "transactions" based on their evaluation of the perceived ratio of cost and benefit, and are likely to engage in behavior when mutual gratification is provided or the expected rewards such as reputation and tangible incentives have been received (Blau, 1964).

Informed by social behavior in economic undertakings in the economic exchange theory, that is, the social behavior observed during the trading of commodities between individuals, the social exchange theory suggests that goal oriented human behavior is driven by the same element explained in the economic exchange theory: rewards after the cost of the behavior. The theory is viewed as the exchange of activity, tangible or intangible, rewarding or costly, between at least two people (Homans, 1961).

Social exchange theory adopts the logic of economic cost and benefit with a focus on interpersonal relationships. Unlike the economic commodities, social engagement, human behavior or exchange in the social exchange theory are based on an ongoing reciprocal process (Andresen, Ekker, & Gottschalk, 2007: 477).

In the context of organizational KCS, rewards and incentives can motivate knowledge sharing behaviors and the cooperative interaction of a well maintained exchange relationship fostered by trust. For instance, studies by Okyere-Kwakye and Nor (2011: 66) and Hung, Durcikova, Lai and Lin (2011: 417) suggest individuals only share knowledge when there is mutual trust and the expectation of reward for sharing knowledge will be met.

The goal of this research is to investigate the existence of relationships among social processes, antecedent factors and organizational KCS in New Zealand. As illustrated in the conceptual model, social processes (socialization, peer mentoring, knowledge combination and knowledge internalization) are known to have a positive impact on KCS. We also posit that motivational (reward), social (trust) and technological (IT support) factors positively affect some of the social processes and organizational KCS, respectively (Figure 1).

2.3. Socialization and Organizational Knowledge Creation and Sharing

Experienced workers can use socialization as a "social interactions icebreaker'' mechanism to share tacit knowledge which can only be practically shared through similar means of face-to-face interaction, making socialization arguably a product of knowledge sharing in addition to its early effect on organization' knowledge creation (Bock & Kim, 2002: 15; Castro, López-Sáez, & Delgado-Verde, 2011: 872; Nonaka, 2007: 165; Sazali, Haslinda, & Raduan, 2009: 411). Socialization also serves as a method for integrating new members into the organization or even beyond organizational boundaries as it provides the opportunity for individuals to develop connections with other members, customers and suppliers within or outside the organization. Thus, socialization is the social process for tacit KCS through shared experience (Nonaka, 1994).

Hypothesis 1: *Socialization is positively associated with organizational knowledge creation and sharing.*

2.4. Knowledge Combination and Organizational Knowledge Creation and Sharing

Knowledge and ideas that are not shared with a wider group have limited organizational value (Bolisani, Scarso, & Giuman, 2014: 138). The explicit knowledge newly captured and created during a peer mentoring relationship can be converted into more complex and systematic sets of explicit knowledge (Nonaka, 1994) for the purpose of greater utilization and sharing across the wider organization (Nonaka, 1994).

Based on the wide support in the literature for social processes as a second-order factor (knowledge creation theory) influencing organizational knowledge creation (Andreeva & Ikhilchik, 2011: 56; Shih-Wei & Yu-Hung, 2004: 205; Li & Zhang, 2015: 1544), we argue that if social processes as a whole can influence organizational KCS as a second-order latent construct, then it is realistic to claim that combination as a sub-factor of the social processes will have a direct impact on organizational KCS. As informed by Nonaka (1994) and Bryant and Terborg (2008), combination can create knowledge independently of the other three social processes, we posit that combination allows knowledge exchange, combination and new knowledge collection in tangible or intangible forms. In doing so, existing knowledge is assimilated to pave the way for new KCS across the organization which ultimately positively influences organizational KCS.

Hypothesis 2: *Knowledge combination is positively associated with organizational knowledge creation and sharing.*

2.5. Peer Mentoring and Organizational Knowledge Creation and Sharing

The process of knowledge externalization converts tacit knowledge into explicit knowledge (Nonaka, 1994). This conversion of knowledge can be facilitated by explicitly expressing tacit concepts in a more comprehensible form of language and visual content. There is support in the literature for peer mentoring performing the role of knowledge externalization by implementing these conversion practices in a peer mentoring relationship for converting tacit knowledge held by individual employees into explicit forms. These include job related numeric data, written descriptions, graphs, diagrams and images shared or co-created with more knowledgeable individual members of the team that can facilitate subsequent group discussions and analysis beyond the granular level (Anand, Ward, Tatikonda, & Schilling, 2009: 453; Hansen & Haas, 2001: 1).

When looking at organizational knowledge as a whole, the skills an employee mastered or the new knowledge this employee created do not readily become available to other members in the organization. Previous research argued that peer mentoring with socializing and storytelling can assist in sharing and transferring complex tacit knowledge (Bryant, 2005: 319; Bryant & Terborg, 2008: 11; Ruginosu, 2014: 297; Swap, Leonard, Shields, & Abrams, 2001: 96). When an employee can comfortably articulate the foundation of his or her tacit knowledge, this employee can peer mentor other mentees in the organization. This allows his or her implicit knowledge to be externalized, via various activities such as recording thoughts and noting key points, thus converting tacit knowledge that is in contextual form into explicit knowledge (Bryant, 2005; Eddy, Tannenbaum, Lorenzet, & Smith-Jentsch, 2005).

The impact of peer mentoring in turning knowledge from tacit to explicit was noted by scholars. Several studies show that employees who participated in a mentoring relationship consistently increase their knowledge and skills (Ploeg, Witt, Hutchison, Hayward, & Grayson, 2008: 22; Sambunjak, Straus, & Marusic, 2010: 75). More importantly, knowledge sharing is enhanced when mentors impart their tacit knowledge and demonstrate their skills to mentees.

We argue that if social processes as a whole can influence organizational KCS as a second-order construct, then it is reasonable to assume that peer mentoring as a sub-factor of the social processes will have a direct impact on organizational KCS. As informed by Nonaka (1994) and Bryant and Terborg (2008), knowledge externalization can create knowledge independently of the other three social processes; thus to some extent, it is reasonable to assume that peer mentoring allows the conversion of tacit to codified explicit knowledge to

occur in isolation as more experienced mentors articulate and illustrate their own perspectives and ideas during mentoring sessions. Hence, we reason that the codified knowledge produced by peer mentoring alone can then be combined with existing tacit knowledge from members of other teams. In doing so, knowledge is circulated and shared across the organization, which ultimately positively influences organizational KCS.

Hypothesis 3: *Peer mentoring is positively associated with organizational knowledge creation and sharing.*

2.6. Internalization and Organizational Knowledge Creation and Sharing

Internalization is a social process for converting explicit knowledge into tacit knowledge. This last sequential stage of the social process resembles the traditional notion of "learning by doing" (Nonaka, 1994: 20), in which it facilitates the conversion of explicit knowledge into tacit knowledge through reviewing, interpreting and embodying explicit knowledge. Supported in the literature (Anand et al., 2009), the efforts put into learning and acclimatizing best practices from other avenues within the organization make possible the collection and conversion of explicit knowledge to a more useful and comprehensible form. This in turn can be absorbed by other individuals working in the processes. As stated by Nonaka et al. (2000), "knowledge internalization is the process in which knowledge becomes valuable when it is internalized in individuals' tacit knowledge base through shared mental models or technical know-how" (p.63).

As informed by Nonaka (1994) and Bryant and Terborg (2008), it is reasonable to assume that internalization can create knowledge independently of the other three social processes. When individuals compare and understand (learning by doing) existing and new concepts incorporating personal experience, their understanding and personal learning will be enhanced. As "learning by doing" can correct personal mistakes, entrenching skills and knowledge into an individual's mind and making their understanding of existing and new concepts and ideas more able to be used in daily routines, it will eventually contribute to improved group and organizational learning.

Hypothesis 4: *Internalization is positively associated with organizational knowledge creation and sharing.*

2.7. Trust and Socialization

Depending on the context, trust is commonly assessed as a competence based or integrity based personal quality (Das & Teng, 2001; McEvily, Perrone, & Zaheer, 2003). In psychology, Rotter defines trust as "an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied on" (Rotter, 1967: 651).

The theory posits a strong, long term relationship between social exchange and the relational dimension of social bonds such as trust (Chadwick-Jones, 1976), highlighting the significance of trust in social processes. Where trust exists, parties are more willing to engage in interaction and that subsequent exchange relationship is easier to create and maintain (Krok, 2013: 106).

Socialization constitutes social activities such as team building, social gatherings and meetings where members can share experiences. The atmosphere of trust amongst group members directly affects the outcome of the socialization (Nonaka, 1994). An environment where there is a high level of trust provides a secure social foundation that reduces undesirable opportunist behavior (Hsu, Ju, Yen, & Chang, 2007: 154) and increases openness in interactions (Renzl, 2008: 216). As a result, individuals feel more comfortable and engaged in gathering more information about the environment, which will reduce uncertainty and ambiguity.

This is supported by findings established in the literature that socialization is negatively associated with uncertainties and anxieties for new employees and positively related to trust (Ashforth, Sluss, & Saks, 2007: 452; Lapointe, Vandenberghe, & Boudrias, 2014: 602; Robinson, 1996: 575). A high mutual trust climate leads to increased companionship and support amongst individuals in organizations (Baumeister & Leary, 1995: 514). Thus, we argued that members of teams are better integrated socially in trusting relationships.

Hypothesis 5: *Trust is positively associated with socialization.*

2.8. Trust and Peer Mentoring

While there has been empirical support showing the importance of trust for socialization, there is still a lack of empirical research on the relationship between trust and mentoring (Hezlett & Gibson, 2007: 384; Levin & Cross, 2004: 1477), especially in the context of organizational KCS. Scholars regularly presume the existence of trust in exchange relationships, which presents problems when referring to fundamental exchange relationships, since they can lead to outcomes other than trust outcomes. This shows that trust is rooted in social exchange theory and significant in predicting the outcome of a relationship. Thus, it is irrational to isolate trust from the social processes, which include peer mentoring.

In the context of social processes, trust is frequently referred to regarding mentor functions and roles (Ragins & Cotton, 1999: 529). Mutual trust and fidelity were considered unique features of a mentor by students in education research (Liang, Spencer, Brogan, & Corral, 2008: 168). It has been recognized that trust must be present for mentor and protégés in order to allow functional peer mentoring relationships to occur and continue (Bakioglu, Hacifazlioglu, & Ozcan, 2010: 245; Six & Sorge, 2008: 857). It is considered an important component of mentoring relationships (Hezlett & Gibson, 2007). Hence, we argued that trust plays a significant role in peer mentoring (Dappen & Isernhagen, 2006: 164).

Hypothesis 6: *Trust is positively associated with peer mentoring.*

2.9. Trust and Organizational Knowledge Creation and Sharing

Trust has an impact on the social exchange behaviors between individuals. Supported in the literature, in the absence of trust, two parties are less willing to engage in cooperative interaction (Nahapiet & Ghoshal, 1998). According to Dovey (2009), trust "is indispensable to the creation of a social environment in which ideas are freely generated, honestly assessed and selected"(p.13). Nonaka (1994) and Chiu, Hsu, and Wang (2006) suggest that because individuals' contributions during the exchange are not simple to evaluate, this interpersonal trust is an important factor for establishing an atmosphere for voluntary activities such as KCS.

A noticeable distinction between a highly trusted relationship and a casual relationship is that it can be very difficult to evaluate one's attitude towards the latter, making trust potentially a significant influential factor in voluntary activities such as knowledge sharing.

It has been established in the literature that trust plays a crucial role in knowledge management. Janowicz-Panjaitan and Noorderhaven (2009) and Davenport and Prusak (2000) argued that trust is a strong determinant of the willingness of liaison personnel to engage in tacit knowledge sharing and an essential factor of the knowledge management process. This implies the need for an atmosphere of trust to sustain social exchange for optimizing knowledge sharing. Trust has certainly been seen as a prerequisite for a collaborative culture and organizational climate and the success of knowledge management (Ribière & Tuggle, 2008: 68), as distrust is considered to be correlated with knowledge hoarding (Sankowska, 2013: 90) and negatively associated with individual individuals' willingness to share their tacit knowledge and create new knowledge (Ngah, Hoo, & Ibrahim, 2009: 115).

Hypothesis 7: *Trust is positively associated with organizational knowledge creation and sharing.*

2.10. Peer Mentoring and Socialization

It has been established in the literature that peer mentoring and mentoring programs facilitate socialization (Cawyer & Friedrich, 1998; Cawyer, Simonds, & Davis, 2002). According to Wright (1992), an experienced person in a mentoring relationship serves as a "teacher, master, guider or protector, to a younger, inexperienced individual searching for identity, for autonomy" (p.45). Newcomers can use mentoring programs as an avenue for easing the anxieties of organizational entry (Wright, 1992). In education, mentoring programs were considered as beneficial for socialization and newcomers suggested that mentors facilitate their own socialization (Cawyer & Friedrich, 1998: 225). Mentoring programs are often implemented to alleviate the challenges involved in the socialization process (Kirk, 1992: 59).

The positive possibilities of peer mentoring were recognized as enablers that enhance the process of socializing newcomers into the work environment. For instance, providing support for establishing a supportive interpersonal relationship and the opportunity to understand the organization and learn daily job related tasks (Miller & Jablin, 1991: 98). Newcomers' socialization of information from a peer mentoring relationship is considered an overt form of indication that the newcomer is actively participating in the socialization process (Miller & Jablin, 1991: 97). We argued that, to an extent, peer mentoring relationships exemplify the socialization process. In the absence of a peer mentoring relationship for communicating ideas and concepts that are difficult to articulate explicitly, a positive effect of socialization would be greatly constrained.

Hypothesis 8: *Peer mentoring is positively associated with socialization.*

2.11. Rewards and Peer Mentoring

Organizational mentors may not always want to tell others what they know or to share their knowledge because they may fear losing leverage by revealing it (Amayah, 2013: 463; Husted, Michailova, Minbaeva, & Pedersen, 2012: 756). Previous research has shown individuals choose to hoard knowledge instead of sharing it (Connelly, Zweig, Webster, & Trougakos, 2012: 64; Peng, 2012: 119). For example, a report shows that 76% of survey respondents from organizations in the United States had hidden knowledge (Connelly et al., 2012). Several antecedents for constraining KCS were identified which include distrust, organizational climate, lack of time and lack of incentive and rewards (Menon & Pfeffer, 2003: 509).

Organizational rewards can range from hard rewards (Bridson, Evans, & Hickman, 2008; Hall, 2001; Hammermann & Mohnen, 2014; Wirtz, Mattila, & Lwin, 2007) - the expectation of obtaining explicit and tangible benefits or outcomes (e.g. financial rewards, reciprocity, promotion and other job related benefits) in return for performing knowledge sharing activities - to soft rewards (Bridson et al., 2008: 365; Hammermann & Mohnen, 2014: 2) - the expectation of obtaining non-tangible benefits or outcomes (e.g., reputation, friendships and relationships with other parties) (Cruz, Pérez, & Cantero, 2009: 480; Hummel, Burgos, Tattersall, Brouns, Kurvers., & Koper, 2005: 356; Kankanhalli, Lee, & Lim, 2011: 107). Rewards have traditionally been used for the purpose of reciprocating favors and maintaining relationships (Hall & Widen-Wulff, 2008: 14). Informed by social exchange theory, which implies a bilateral behavioral relationship between rewards and replication of behavior, and predicts the exchange relationship between two parties, we argue that the provision of rewards is an influential determinant of an individual's willingness to share information.

There is support in the literature for the rewards factor being applicable to peer mentoring relationships. Soft and hard external rewards have been identified as possible influences on information exchange (Iqbal, Toulson, & Tweed, 2015: 1072; Young & Perrewé, 2004: 108), and peer mentoring has been considered a reciprocal exchange of information (Young & Perrewe, 2000: 108). We argue that both hard and soft rewards have a positive impact on peer mentoring.

Hypothesis 9: *Soft rewards are positively associated with peer mentoring.*

Hypothesis 10: *Hard rewards are positively associated with peer mentoring.*

2.12. Rewards and Organizational Knowledge Creation and Sharing

As discussed previously, rewards influence social exchange behaviors and peer mentoring relationships between individuals. Further, if rewards have a positive influence on the sub-factors of the social process, in this case peer mentoring, then we argued that it is reasonable to assume that rewards influence organizational KCS.

It has been established in the literature that those who are willing to share knowledge will withdraw if there are "free riders" (Dyer & Nobeoka, 2000: 347; Huseman & Goodman, 1999: 204) due to lack of compensation or benefit. We then argued that both soft and hard rewards play a crucial role in KCS as they treat the process more formally, and motivate individuals by rewarding them. Supported by many scholars, soft rewards such as recognition and reputation and hard rewards such as promotion and financial rewards can be used to help build a collaborative culture in organizations (Wang & Noe, 2010: 118) and stimulate knowledge sharing (Iqbal et al., 2015: 1072; Scekic, Truong, & Dustdar, 2013: 72; Zhang & Vogel, 2013: 148).

There is further support in the literature for rewards having a positive impact on organizational knowledge creation. For example, Wang and Hou (2015: 1) suggest that soft and hard rewards (financial rewards, promotions and other benefits) have great influence on employees' knowledge sharing behaviors. Durmusoglu, Jacobs, Nayir, Khilji and Wang (2014: 29) found a positive association between knowledge sharing and rewards. Based on the wide support in the literature and informed by social exchange theory, we argued that both soft and hard rewards have a positive impact on organizational KCS.

Hypothesis 11: *Soft rewards are positively associated with organizational knowledge creation and sharing.*

Hypothesis 12: *Hard rewards are positively associated with organizational knowledge creation and sharing.*

2.13. IT Support in KM and Knowledge Combination

It has been established in the literature that successful KCS in knowledge-based organizations requires fusion of people and information technology (Hosseini, 2011; Iyengar, Sweeney, & Montealegre, 2015; Lopez-Nicolas & Soto-Acosta, 2010; Tammets & & Laanpere, 2012; Choi, Lee, & Yoo, 2010). Although informed by social exchange theory, KCS behavior involves people more than technology. However, an individual's decision to create and share knowledge, and their effectiveness in doing so, can be affected by IT.

Although there has been general support in the literature for IT's positive impact on KM, we argue that IT is more applicable to knowledge combination in the context of KCS. Alavi and Leidner (2001: 199), Lopez-Nicolas and Soto-Acosta (2010: 521) and Chou and Wang (2003: 169) posit that information technology facilitates, supports and enhances the knowledge combination process and the creation of new knowledge. Various scholars claim that IT support enhances KCS from the perspective of knowledge combination: storage (e.g., knowledge repositories), retrieval and representation (Argote & Miron-Spektor, 2011: 1129; Dulipovici, 2009; Lee, Szulanski, & Rittiner, 2016: 99). Tippins and Sohi (2003: 746) argue that IT contributes to knowledge combination via an accelerated rate of acquiring and disseminating information and knowledge, an enhanced environment for consensus development due to better sharing and interpretations of information, and a structural arrangement supporting the collection, storage and retrieval of knowledge.

Further, previous studies suggest that individuals' use of IT is in accordance with their perception and understanding about the ease of use and support of the systems (Kulkarni, Ravindran, & Freeze, 2006: 315; Yu, Kim, & Kim, 2004: 4). A study by Paroutis and Al Saleh (2009: 56) highlights that employees' not using technology for sharing and creating knowledge can be attributed to lack of knowledge about the IT system, benefits of the tool and instructions on how to use them.

Hypothesis 13: *The use of IT to support knowledge management practices are positively associated with knowledge combination.*

Figure 1 demonstrates the conceptual model for the study as described above.

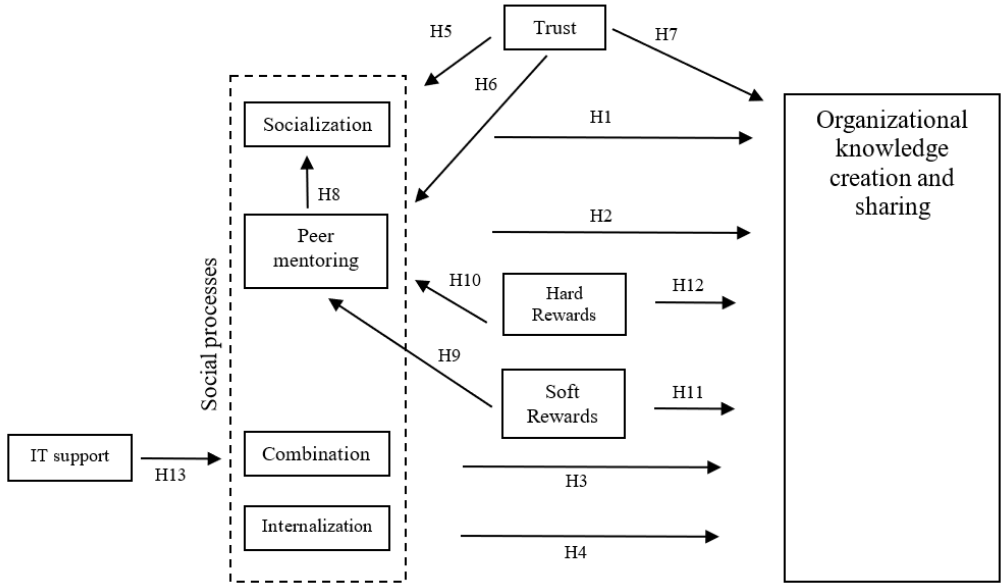

Figure 1. Conceptual model

3. METHODS

In order to address the research questions of this study, an online survey was conducted. Organizations were randomly selected as each organization would have had involved in some form to KCS. Employees from each of the selected organizations were the target respondents. Previously validated scales were adapted for the study. We adopted KCS (Bryant & Terborg, 2008), socialization, combination measurement, internalization measurement (Huang & Wang, 2002), peer mentoring measurement (Bryant, 2005), trust (Peralta & Saldanha, 2013), soft rewards and hard rewards (Wang & Hou, 2014) and IT (Choi et al., 2010) construct for the study. For all the scales, each item was measured using a five-point semantic differential scale ranging from one (strongly disagree) through five (strongly agree), with three being neither agree nor disagree.

We obtained a random sample of 5,000 New Zealand organizations' email addresses from the Yellow Pages; and the Kompass.com business directory. In addition, we approached NZ professionals on LinkedIn.co.nz (Claybaugh & Haseman, 2013: 94; Irfan et al., 2013: 224).

The data used in this analysis were collected through a web-based survey, which is designed to be completed online with negligible cost of distribution and provides advantages in terms of reaching many geographical areas (Fink, 2013). The questionnaires were sent via email. Emails containing the survey invitation with an embedded URL link for accessing the survey questionnaire were sent to email addresses of the selected organizations. To increase the response rate, follow-up emails were sent two weeks after the initial one to remind targeted respondents to complete the questionnaire. For LinkedIn members, survey invitation posts were displayed to members in the selected LinkedIn groups (Holmbeck, Li, Schurman, Friedman, & Coakley, 2002).

A total of 357 responses were received with the total sample size use of useable data for analyzing as 202. Table 1 lists the respondent demographic characteristics in terms of gender, age, industry type and ethnicity, and education level, length of service in the organization and industry sector. The majority of the respondents were male. The majority of the respondents were aged 40-59 years old. Most of the respondents were NZ European. With regard to length of service, 17% of the respondents had worked for the organization for less than 2 years, 15% 2-5 years, 13% 6-10 years, and 16% of the respondents 11-20 years. In terms of qualifications, most of the respondents have Bachelors and Master's degrees.

Table 1. Participants' demographic characteristics

Age	Percentage	**Ethnicity**	Percentage
20-29 years	10%	*Asian*	4%
30-39 years	12%	*Maori*	2%
40-49 years	20%	*NZ European*	62%
50-59 years	24%	*Other*	9%
60 years or over	16%	*Pacific Island*	1%
Unknown/Did not answer	16%	*Unknown/Did not answer*	22%
Industry sector	Percentage	**Qualification**	Percentage
Accommodation and Food Services	2%	*High School or Below*	6%
Administrative and Support Services	4%	*Certificate*	6%
Agriculture, Forestry and Fishing	3%	*Diploma*	9%
Arts and Recreation Services	2%	*Bachelor's Degree*	25%
Construction	3%	*Graduate Certificate*	0%
Education and Training	8%	*Graduate Diploma*	3%
Electricity, Gas, Water and Waste Services	0%	*Bachelor Honours Degree*	3%
Financial and Insurance Services	1%	*Postgraduate Certificate*	1%
Health Care and Social Assistance	4%	*Postgraduate Diploma*	9%
Information Media and Telecommunication	9%	*Master's Degree*	14%
Manufacturing	6%	*Doctoral Degree*	5%
Other Services	12%	*Unknown/Did not answer*	17%
Professional, Scientific and Technical Services	12%	**Length of service**	Percentage
Public Administration and Safety	6%	*11-20 years*	17%
Rental, Hiring and Real Estate Services	0%	*20 years +*	15%
Retail Trade	2%	*2-5 years*	16%
Transport, Postal and Warehousing	2%	*6-10 years*	14%
Wholesale Trade	3%	*Less than 2 years*	18%
Unknown/Did not answer	17%	*Unknown/Did not answer*	19%
Gender	Female	*Male*	*Did not Answer*
	34%	47.50%	18%

4. ANALYSIS

Structural Equation Modeling (SEM) based approaches are the two most popular, extensively employed approaches for testing measurement and structural models in information systems research (Boudreau, 2000). Partial Least Square Path Modeling (PLS-SEM) is an SEM based method, which supports testing and estimating complex cause-effect relationship models with latent variables.

PLS is known for its suitability for early-stage research model building (Fornell & Bookstein, 1982), does not impose normality and multivariate homogeneity requirements, works with small sample size and nonlinear relationships (Hair, Ringle, & Sarstedt, 2011; Kock, 2010a; Kock, 2010b; Kock, 2015). PLS can evaluate measurement and structural models at the same time. Considering the exploratory and predicative nature of this study, PLS-SEM which focuses on causal-effect prediction and is oriented more towards theory building and variance explained maximization is probably a suitable analysis tool (Hair, 2014).

This study used both the Mann-Whitney U test and Levene's statistic for homogeneity of variance to examine non-response bias. These tests were conducted using statistical software R (Fox, 2005; Team, 2015). In order to ensure the two groups of respondents did not differ significantly, comparisons were made based on variables of respondents' demographic characteristics including age, gender and length of service in the organization. Summarized in Table 2, Levene's statistics test results show no evidence for rejecting the null hypothesis that the variances of the two groups are equal. In addition, the p-values of the Mann-Whitney U test were greater than 0.05 for all comparisons, thus accepting the null hypothesis of statistical equality of the means of the two populations. Informed by the test results, we found no evidence of significant differences between late and early respondents in terms of gender, age and length of service in the organization, suggesting non-response bias did not represent a problem in this study.

Table 2. Non-response bias testing

Test	Gender	Age	Length of service
Wilcoxon-Mann-Whitney Test	W = 2112.5	W = 613	W = 521.5
p-value	0.1673	0.7277	0.3874
Levene's Statistics	F = 0.0526	F = 0.1304	F = 0.1496
p-value	0.8189	0.7191	0.7002

According to Nunnally (1978), reliability represents the ability to produce consistent results in research. Cronbach's alpha coefficient is known as a fundamental measure of reliability of research instruments and provides information on the associations between questionnaire items and assists the researcher's decisions on the removal or modification of items.

We tested how well the measurement items relate to the constructs by examining construct validity, convergent validity and discriminant validity. Convergent validity can be demonstrated through indicator reliability, composite reliability and average variance extracted (AVE). We checked item reliability by extracting the factor- and cross-loadings of all items to their reflective latent variable. All item factor loadings of the respective constructs were greater than the minimum threshold value of 0.5 (Chin, 1998b; Hair, 2009; Hutzschenreuter, 2009), as shown in Table 3.

Table 3. Factor loadings

Items	KCS	Trust	PMen	INT	SOC	COM	HRW	SRW	ITS
Item 1	0.755	0.857	0.695	0.87	0.654	0.7	0.906	0.739	0.848
Item 2	0.778	0.799	0.707	0.797	0.68	0.697	0.915	0.734	0.755
Item 3	0.676	0.786	0.662	0.692	0.681	0.696	0.697	0.705	0.817
Item 4	0.724		0.698		0.708	0.752	0.865	0.793	0.775
Item 5	0.77								

As Table 4 demonstrates, composite reliability values are above the minimum threshold of 0.7 (Becerra-Fernandez & Leidner, 2008; Katsoni & Stratigea, 2016), indicating respective constructs have high levels of internal consistency reliability. This is supported by Cronbach's alphas coefficient, which also provides evidence of composite reliability; they were above 0.6 (Diamantopoulos & Siguaw, 2000), confirming the convergent validity of these items.

Table 4.3 Composite reliability (CR) and Cronbach's Alpha (C-Alpha) coefficients

KCS	Trust	PMen	INT	SOC	COM	HTW	SRW	ITS	Reliability
0.84	0.931	0.804	0.809	0.833	0.832	0.857	0.87	0.889	CR
0.762	0.888	0.676	0.645	0.731	0.73	0.776	0.8	0.833	C-Alpha

AVE measures the amount of the variance captured by a latent construct relative to that caused by measurement error; our results show AVE for each of the latent variables were all above the recommended value of 0.5 (Flynn & Zhao, 2015; Fornell & Larcker, 1981; Segars, 1997) and the square roots of average variances extracted (AVEs) were all greater than 0.707 (Flynn & Zhao, 2015; Fornell & Larcker, 1981; Segars, 1997).

The study verified discriminant validity through evaluating the cross-loading criterion and the shared variance between items and constructs (Fornell & Larcker, 1981). Item loadings on the intended construct were greater than their cross-loadings with other constructs, suggesting stronger relationships between constructs

and their respective items when compared with that of other constructs in the model (Hutzschenreuter, 2009). Further, the correlations between the latent variables shown as off-diagonal values in Table 5 indicated the square roots of AVE of constructs were greater than inter-construct correlations, demonstrating a greater shared variance between the construct and its items relative to that between the other constructs. These tests show discriminant validity and that all of the constructs used in this study are reliable.

Table 5. Correlations and square roots of AVE values

	KCS	Trust	PMen	INT	SOC	COM	HRW	SRW	ITS
KCS	(0.717)								
Trust	0.395**	(0.904)							
PMen	0.329**	0.29**	(0.712)						
INT	0.183*	0.045	0.35**	(0.765)					
SOC	0.385**	0.34**	0.521**	0.297**	(0.745)				
COM	0.236**	0.237**	0.418**	0.423**	0.494**	(0.744)			
HRW	0.181*	0.05	0.16*	0.24**	0.035	0.181*	(0.777)		
SRW	0.241**	0.118	0.417**	0.286**	0.418**	0.35**	0.387**	(0.793)	
ITS	0.439**	0.262**	0.304**	0.142*	0.261**	0.249**	0.117	0.199*	(0.817)

Note: Square roots of average variances extracted (AVEs) shown on diagonal.
KCS= Knowledge creation and sharing; PMen= Peer mentoring; INT= Internalization; SOC= Socialization; COM=Knowledge Combination; HRW= Hard rewards; SRW= Soft rewards; ITS= IT support
p<.10. * p<.05. **p<.001.

A test of multicollinearity was conducted prior to hypotheses testing to ensure there was no violation of the assumption of multicollinearity (Midi & Bagheri, 2013; Miles, 2005). As shown in Table 6, the VIF of the predictor constructs are below the tolerance level of 5 (Kock, 2010a; Sarmento, 2005; Wissmann, Toutenburg, & Shalabh, 2007), indicating there was no evidence of multicollinearity.

Table 6. Full collinearity VIFs

KCS	Trust	PMen	INT	SOC	COM	HTW	SRW	ITS
1.513	1.3	1.631	1.341	1.862	1.573	1.281	1.548	1.306

5. RESULTS

We used a PLS-SEM algorithm to assess the significance and relevance of the model relationships, presented as path coefficients that provide insights into the significance of the relationships between the independent and dependent variables. The study used the R^2 of endogenous latent constructs to measure the predictive accuracy or explanatory power of the theoretical model (Aik-Chuan, Garry Wei-Han, Keng-Boon, & Binshan, 2015; Chin, 1998b; Sarstedt, Ringle, Smith, Reams, & Hair, 2014). As shown in Table 7, the analysis of the structural model (inner model) revealed that our model explained approximately 31% of the variance in KCS, 31% of the variance in peer mentoring and 35% of the variance in socialization, well exceeding the recommended 10% threshold (Falk & Miller, 1992) for suitable explanatory power, suggesting adequate predictive accuracy of the research model (structural model). The study also examined the predictive relevance which was measured by the Q^2 value (Hair, Sarstedt, Ringle, & Mena, 2012). As shown in Table 7, the results demonstrate that Q^2 values were above 0 for all endogenous constructs, supporting the model's predictive relevance for these endogenous constructs (Grote, Herstatt, & Gemünden, 2012; Šerić, Gil-Saura, & Mollá-Descals, 2016).

Table 7.4 R-squared and Q-squared coefficients

KCS	Trust	PMen	INT	SOC	COM	HTW	SRW	ITS	
0.31		0.308		0.353	0.083				R-Square
0.338		0.314		0.353	0.084				Q-Square

Our first hypothesis predicts a direct positive relationship between socialization and organizational knowledge creation. This hypothesis is supported (β=0.14, P=0.02) and yields a significant path in the model, indicating that socialization is positively associated with organizational knowledge creation. Surprisingly, although not statistically significant, knowledge combination (β=-0.04, P=0.31) has a negative path coefficient. In addition, peer mentoring (β=0.02, P=0.37) and knowledge internalization (β=0.07, P=0.17) also do not make a significant contribution to the equation, indicating there are no significant relationships between these constructs and organizational KCS; thus we reject the null hypothesis for H2, H3 and H4, and accept the null hypothesis for H1.

Our fifth hypothesis predicts a direct positive relation between trust and socialization. The test result suggests the level of trust is important when it comes to socialization. Trust and socialization (β=0.30, P<0.001) yield a positive and statistically significant path. Thus, this hypothesis of trust having a positive impact on socialization is supported.

Our sixth hypothesis, which predicts a direct positive relation between trust and peer mentoring, yielded a positive and statistically significant path (β=0.37, P <0.001). The result suggests trust is important for peer mentoring. Thus, this hypothesis of trust having a positive impact on peer mentoring is supported, which also supports the view of trust playing a significant role in peer mentoring to allow functional peer mentoring relationships to occur and continue.

Our seventh hypothesis, which predicts a direct positive relation between trust and organizational KCS, yielded a positive and statistically significant path (β=0.4, P <0.001). The result suggests trust is an influential factor for organizational KCS. Thus, this hypothesis of trust having a positive impact on KCS is supported.

Our eighth hypothesis, which hypothesized peer mentoring is positively related to socialization, was supported with a highly significant path coefficient of 0.4 (P<0.001). The result suggests a positive relationship between peer mentoring and organizational KCS.

Our ninth hypothesis, which hypothesized soft rewards are positively related to peer mentoring, yielded a statistically significant path (β=0.354, P <0.001), indicating the hypothesis that there is a significant relationship between soft rewards and peer mentoring is supported. The results of this analysis are summarized in Figure 2. Surprisingly, our tenth hypothesis, which hypothesized hard rewards are positively related to peer mentoring, yielded a weak, negative and statistically insignificant path (β=-0.017, P=0.4), indicating the hypothesis that there is a significant relationship between hard rewards and peer mentoring is not supported.

Our eleventh hypothesis, which hypothesized soft rewards are positively related to organizational KCS, yielded a weak and statistically insignificant path (β=0.05, P=0.24), indicating it had no significant effect on KCS, thus not supporting the hypothesis that there is a significant relationship between soft rewards and organizational KCS. Our twelfth hypothesis, which hypothesized hard rewards are positively related to organizational KCS, yielded a statistically significant path (β=0.14, P=0.02), indicating it had no significant effect on KCS, thus supporting the hypothesis that there is a significant relationship between hard rewards and organizational KCS.

Our last hypothesis, which hypothesized IT support for KM practices is positively related to organizational KCS, yielded a statistically significant path (β=0.29, P<0.001), indicating it had a significant effect on knowledge combination, thus supporting the hypothesis that there is a significant relationship between use of IT to support knowledge management practices and knowledge combination.

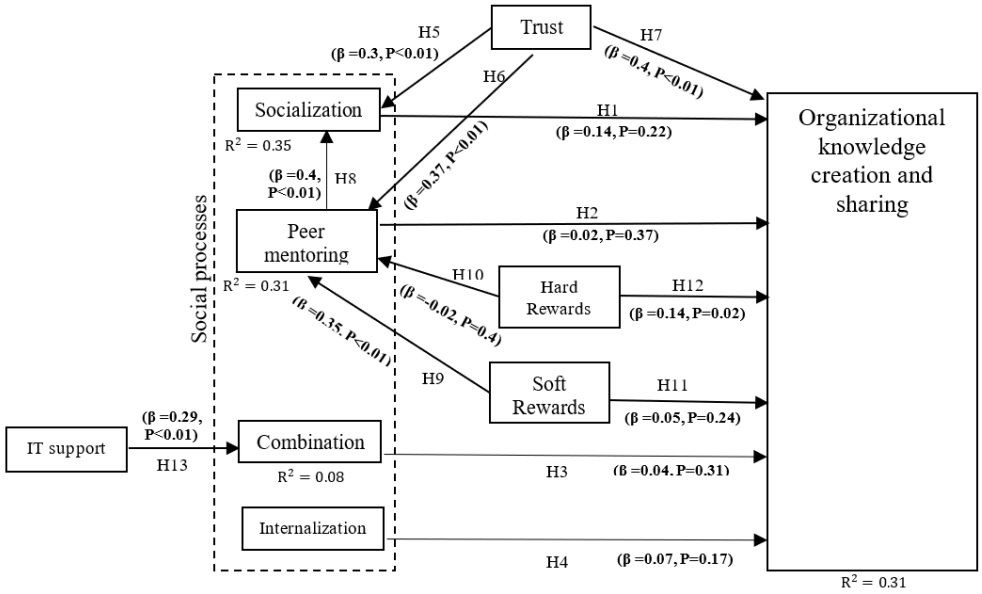

Figure 2. Path coefficients

6. DISCUSSION AND CONCLUSION

This research aimed at better understanding the organizational KCS in New Zealand context. For this purpose, the focus of this thesis, as stated in the introduction, was "the social processes and antecedent factors that influence organizational knowledge creation and sharing in New Zealand firms".

We proposed this empirical question about the conceptual and statistical structure of the organizational KCS in New Zealand based on a total of thirteen hypotheses, of which goal is to identify and examine the relationship amongst social processes, antecedent factors and organizational KCS in New Zealand firms-in a sample of professionals from organizations across New Zealand. To generate the findings for this thesis question, an initial conceptual/exploratory model and measurement model were developed. PLS-SEM analysis was conducted for testing hypotheses based on survey data of obtained from the abovementioned sample.

The first hypothesis, we hypothesized that socialization is positively associated with organizational knowledge creation and sharing, results suggest that this hypothesis held true. This claims socialization has a significant direct influence on organizational KCS in New Zealand, which is supported by previous research (Li & Zhang, 2015: 1544; Ramirez & Morales, 2011: 444; Tan, Lye, Ng, & Lim, 2010: 192; Travaille & Hendriks, 2010: 423).

The second and fourth hypothesis, hypothesized relationships were outlined as: knowledge combination is positively associated with organizational knowledge creation and sharing, internalization is positively associated with organizational knowledge creation and sharing. Although the literature reviewed suggested that knowledge combination, internalization (Li & Zhang, 2015: 1544; Chaikrongrag & Angkasith, 2010: 218; Tan, Lye, Ng, & Lim, 2010: 192) results suggest these hypotheses are not supported.

An empirical study by Bryant and Terborg (2008: 14) suggests a positive, statistically significant relationship between higher perceived levels of peer mentoring and higher perceived levels of knowledge creation and sharing. Surprisingly, in contrast to this prior research, the result of hypothesis 3, which hypothesized peer mentoring was positively associated with organizational knowledge creation and sharing, did not hold true in the current study. Further specific studies of the impact of peer mentoring in organizational KCS would inform this line of research.

Aligned with that in the literature (Baumeister & Leary, 1995: 515; Hsu et al., 2007: 162), our fifth hypothesis, which hypothesized that trust is positively associated with socialization held true. In addition, our sixth hypothesis, which hypothesized that trust is positively associated with peer mentoring, also held true, as found in previous studies (Dappen & Isernhagen, 2006: 162; DuBois & Karcher, 2012: 102; Sipe, 2002: 253; Bakioglu, Hacifazlioglu, & Ozcan, 2010: 245). This consistent with the views of social exchange theory, which posits that trust is vital for the social exchange process and the quality and desirability of the exchange. The finding will support future research literature focused on trust and social processes; in this case trust held strong direct effect on both socialization and peer mentoring.

The seventh hypothesis, which hypothesized that trust is positively associated with organizational knowledge creation and sharing, held true. This claim was supported by previous research (Don Jyh-Fu & Dunk, 2013: 51; Nejatian, Nejati, Zarei, & Soltani, 2013: 242; Renzl, 2008: 211) and this finding will support future research literature focused on trust; in this case trust held strongest direct effect on organizational KCS in New Zealand firms.

The eighth hypothesis was as follows: Peer mentoring is positively associated with socialization. Based on the results of the PLS-SEM, this hypothesis held true. Perceived peer mentoring has a significant direct effect on socialization. Within this relation, peer mentoring possibly held strong predictive power in socialization, as is noted in the literature (Cawyer, Simonds, & Davis, 2002: 228).

The ninth and tenth hypothesis, were as follows: hard rewards are positively associated with peer mentoring, and soft rewards are positively associated with peer mentoring, respectively. In contrast to the literature (Iqbal et al., 2015: 1072; Young & Perrewé, 2004: 108), the hypotheses held partially true. Based on the results of the PLS-SEM, hard rewards did not have a significant direct effect on peer mentoring while soft rewards was on the contrary. This contribution to the literature helps to support the future research being conducted on peer mentoring in New Zealand context, with the added focus on the impact of rewards. This finding supports the need to further study how different types of rewards can facilitate better peer mentoring in New Zealand context.

The eleventh and twelfth hypothesis, were as follows: soft rewards are positively associated with organizational knowledge creation and sharing, and hard rewards are positively associated with organizational knowledge creation and sharing, respectively. There have been a wide support in the literature for the positive relationship between rewards and organizational KCS. For example, Wang and Hou (2015) suggest that soft and hard rewards (financial rewards, promotions and other benefits) have great influence on KCS behaviors. Durmusoglu, Jacobs, Nayir, Khilji and Wang (2014: 19) also found a positive association between KCS and rewards. However, in contrast to the literature (Scekic, Truong, & Dustdar, 2013; Zhang & Vogel, 2013), findings of the current study show the hypotheses held partially true. While hard rewards was found to have significant direct effect on organizational KCS in New Zealand firms, soft rewards on the other hand did not have the same direct effect. By nature, hard rewards that would bring tangible benefits or outcomes such as various financial rewards, promotion in the organization and other benefits related to job (Bridson et al., 2008: 365; Hammermann & Mohnen, 2014: 8; Wirtz et al., 2007: 328) would be motivating the employees directly regarding knowledge sharing. The behaviors bringing such benefits would be easier to report in the performance evaluations and supported by the management. Such benefits would be easier to track and receive in a relatively short period of time as they would be officially recognized by the management. An organization motivating employees for sharing knowledge with such quick returning and tangible benefits would receive positive outcomes sooner. On the other hand, soft rewards that are associated with non-tangible benefits or outcomes including but not limited to reputation, friendships and relationships with other parties (Cruz et al., 2009: 480; Hummel et al., 2005: 355; Kankanhalli et al., 2011: 108) would be hard to record officially for the recognition. Even though such relationships would bring some benefits to employees as these relationships would help employees to form a personal network of relationships, they are not always for the purpose of obtaining any rewards. As hypothesized in the study, such relationships were expected to bring some rewards. However, the indirect effects of these rewards on knowledge sharing can be explained with the various aspects such as culture at national and organizational levels. New Zealand is considered as individualistic culture in which employees are considered as "self-reliant" and decisions generally made based on merit and more tangible criteria depending on the amount and quality of the produced work (Hofstede, 2021). Such culture could be dominant in New Zealand organizations and the effect of relationships would be indirect in knowledge sharing. Accordingly, relationships at personal level would not be a matter of reward directly. Employees would be sharing organizational knowledge for hard rewards but sharing information for the sake of relationship may be accepted by the employees as it would not be considered professional. However, this sort of friendship and relationship with other employees or colleagues would help employees improve their personal network and benefit from it in an unplanned manner as opportunities appear.

The last hypothesis was about the use of IT to support knowledge management practices and knowledge combination. Consistent to that in the literature (Garcia-Barriocanal, Sicilia, & Sanchez-Alonso, 2013; Gargon, Williamson, & Clarke, 2015; Yen, 2009; Yuan, Zhao, Liao, & Chi, 2013), the hypotheses was supported. Based on the results, IT support on KM have a significant direct effect on knowledge combination. This contribution to the literature helps to support and confirm the positive impact of IT support on KM on knowledge combination in New Zealand context. The values of editing, combining, processing and synthesizing of new knowledge that IT support brings should not be neglected.

6.1. Limitations and Future Studies

There are certain limitations of this study which should be addressed. First, the survey collects self-reported data based on the perceptions of individuals, measured by rating scales, rather than asking informants about organization attributes. Some items such as hard rewards measures are more adequate than a rating scale. Secondly, the study was not longitudinal in design, so the causal relationships in the research model were inferred from underlying theory. Causal relationships established by longitudinal research with multiple sources of measurement would be useful in further validation of these causal relationships.

In the current study we limited our scope to four sub-constructs of social processes, one social factor and one motivational factor. Because social processes are a broad concept, there may be other social processes in NZ organizations that are involved with organizational knowledge creation. It is possible that the other social processes may produce different effects on organizational knowledge creation and sharing other than those investigated in this study. Future research should include more sub-constructs of social processes and social and motivational factors for investigating KCS.

To the best of our knowledge, the current study is the first in New Zealand to provide quantitative analysis of the impact of social processes and social and motivational factors in New Zealand firms. Although we followed a rigorous research approach, our findings are based upon the data collected from a sample of employees and future research should investigate the inconsistencies between the theoretical foundations and results of this study.

Furthermore, the current study focused on social processes and social exchange factors, and hence only examined the causal path between IT support and knowledge combination. Future research should investigate the impact of IT on organizational KCS. The study also did not control for the effects of gender, age, and length of service in the current organization. This should be investigated in future research.

Finally, the study targeted employees in New Zealand organizations. The sample is comprised of employees and organizations with respect to geography. This can be a limitation with respect to generalizability to other geographic contexts that are significantly different from social, cultural or organizational factors in New Zealand. Accordingly, the results of the study can be generalized for only organizations in New Zealand, employees with similar demographics and working in an environment matching to New Zealand organizations. In addition, the generalization of the study's findings could be extended to the organizations having similar features in terms of size and culture within countries having similar natural culture aspects. As these characteristics and features would refer to a small number of participants and organizations in terms of comparability, future studies would need to test the same or similar model to this study in different organizational context and with employees having differing backgrounds. In spite of the limitations, we believe that the findings of this study contribute to the paucity of research on knowledge management in a New Zealand context.

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