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Negotiate, reciprocate, or cooperate? The impact of exchange modes on inter-employee knowledge sharing

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Negotiate, reciprocate, or cooperate? The impact of exchange modes on inter-employee knowledge sharing

1. Introduction

Inter-employee knowledge sharing has become one of the most critical issues facing contemporary managers. Knowledge sharing is defined as the willingness of employees to share tacit (i.e., experience, expertise, know-how, know-where, know-whom) and explicit (i.e., reports, templates, documents) information with their fellow co-workers (Nonaka, 1994; Bock et al., 2005). It is a voluntary, conscious process by which an employee converts his or her knowledge into the most suitable format for the recipient and makes this knowledge available for one or more fellow colleagues, which results in a joint or collective knowledge ownership (Ipe, 2003).

Knowledge sharing activities have existed in various forms throughout human history. In the last quarter of the twentieth century, knowledge sharing issues attracted the attention of industry practitioners because of the exponentially growing pressure on organizations to increase their effectiveness, efficiency, and agility (Wiig, 1997; Prusak, 2001; Serenko and Bontis, 2013). Soon after, knowledge sharing issues entered mainstream academic research and started appearing in scholarly publications in the areas of management, organization science, information systems, and human resources (Baskerville and Dulipovici, 2006; Dwivedi et al., 2011; Carmeli, Gelbard and Reiter-Palmon, 2013; Israilidis et al., 2015). Currently, knowledge sharing is considered one of the most important management research issues. For example, the most frequently downloaded article published in the *Journal of Knowledge Management* (Milne, 2007) is on the topic of knowledge sharing.

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In addition to the growing attention within academia, knowledge sharing is also considered one of the most important issues in both private and public organizations (Amayah, 2013; Fullwood, Rowley and Delbridge, 2013; Huang, Chiu and Lu, 2013; Yeo and Marquardt, 2015) because it has a positive effect on the level of organizational competitiveness, innovativeness, and economic performance (Mills and Smith, 2011; Andreeva and Kianto, 2012; Kianto, Andreeva and Pavlov, 2013; Donate and Guadamillas, 2015; Yahyapour, Shamizanjani and Mosakhani, 2015). The key objective of scholars is to understand the cognitive, contextual, and motivational factors facilitating intra-organizational knowledge flows (Minbaeva, Mäkelä and Rabbiosi, 2012). Of particular concern is the influence of social exchange relationships on various employee behaviors, including knowledge sharing (Deckop, Cirka and Andersson, 2003; Chen and Choi, 2005; Hansen, 2011; Hansen et al., 2013; Lin and Lo, 2015).

Social exchange relationships emerge when individuals interact with one another in group settings. As people exchange various resources, including goods, services, and knowledge, they develop their personal preferences expressed during the exchange process. The extant literature identifies four distinct modes of social exchange: negotiated, reciprocal, generalized, and productive (Lawler, 2006). When an employee engages in the negotiated mode, he or she explicitly establishes reciprocation conditions *a priori* knowledge exchange takes place. In this case, a knowledge recipient must clearly commit to reciprocation in a pre-defined form (e.g., promises to share his or her knowledge in return). In case of the reciprocated mode, a person believes that the knowledge recipient will eventually share his or her knowledge in return (i.e., without explicitly negotiating the rules of reciprocation). An individual who engages in the generalized knowledge exchange mode assumes that if he or she shares his or her knowledge with a colleague, other organizational members will share their knowledge with him or her later.

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In contrast to the previous types of knowledge exchange, an employee who engages in the productive mode shares his or her knowledge for purely altruistic reasons because he or she believes that all employees work together towards a common goal and should, therefore, unconditionally help one another. Thus, a knowledge contributor expects no direct or indirect reciprocation.

On the one hand, previous studies emphasize the importance of the knowledge exchange modes discussed above on intra-organizational knowledge sharing processes (Chen and Choi, 2005). On the other hand, the impact of each of these modes on knowledge sharing attitude and subsequent behaviors remains mostly unknown. For example, does the negotiated mode facilitate knowledge sharing or does it trigger knowledge hiding? Is the use of reciprocation in the form of reward conducive to knowledge sharing? Does the productive mode trigger desirable sharing behaviors? The present study attempts to answer these questions.

The rest of this paper is structured as follows. The next section forms a theoretical background for this study. It describes inter-employee knowledge sharing, presents social exchange theory and its extension – the affect theory of social exchange, outlines this study's model, and lists related hypotheses. Section three describes methodology and corresponding results. Section four presents implications, and the last section offers concluding remarks.

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2. Theoretical background

2.1 Inter-employee knowledge sharing

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The knowledge-based view of the firm suggests that knowledge is a key resource required to ensure superior organizational performance (Grant, 2002; Kaše and Zupan, 2009). Thus, organizations should be motivated to identify, internally disseminate, and universally apply knowledge possessed by individual employees. However, knowledge, which resides within individuals, has been traditionally considered a source of power and key to personal success (Foucault, 1980; Townley, 1993; Heizmann and Olsson, 2015). The conflict of knowledge ownership emerges every time knowledge is transferred from one employee to another (Rechberg and Syed, 2013) because the shared knowledge may eventually spread throughout the entire organization and become an irrevocable part of organizational intellectual capital but produce few personal benefits for the initial knowledge owner.

Power may be conceptualized along two distinct dimensions: social (i.e., one's ability to control or influence others) and personal (i.e., one's ability to be free of control or influence by others) (van Dijke and Poppe, 2006; Lammers, Stoker and Stapel, 2009). Each dimension may have a different effect on an employee's attitude towards knowledge sharing depending on his or her seniority level, self-confidence, perceptions of job security, career plans, working style, and relationships with colleagues. For example, a supervisor, who is unsure of his or her competency but wants to keep his or her current position, may consider a selfish tactic to gain social power by accumulating and retaining knowledge without sharing it with his or her subordinates. A lower-level employee may try to build personal power through the accumulation of knowledge and expertise in order to achieve job autonomy. To gain social and/or personal power, employees may fail to fully disclose knowledge with proven value that may benefit the entire organization, incompletely disclose potentially important knowledge, hoard knowledge regardless of harm to others, and intentionally falsify or misrepresent knowledge (Duncan, 1986). Overall, regardless

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of the category of power and individual intentions, knowledge sharing requirements create a moral dilemma for all employees.

Social dilemma theory posits that people working in group settings rationally pursue their self-interest and exert less effort towards a common objective. They do not wish to contribute to the shared resource, collective outcome, or public good; instead, they exhibit social-loafing or free-riding behaviors because they hope to benefit from the effort of others (Kerr, 1983). The body of organizational knowledge, into which employees contribute their knowledge and benefit from the knowledge shared by their colleagues, may be considered a form of public good from the collective perspective (Cabrera and Cabrera, 2002; Cabrera and Cabrera, 2005). Thus, intra-organizational knowledge sharing is subject to the same problems as people experience with respect to public good contributions – they may engage in knowledge hoarding behaviors due to power loss perceptions, ignorance, or misalignment between personal and organizational goals.

Various analytical frameworks have been applied in order to understand the issue of intra-organizational knowledge sharing, including business transaction theory (Barachini, 2009), self-efficacy theory (Endres et al., 2007), the theory or reasoned action (Casimir, Ng and Cheng, 2012b), the theory of planned behavior (So and Bolloju, 2005; Gagné, 2009), the Triandis Model (Triandis, 1980; Jeon, Kim and Koh, 2011), self-determination theory (Cockrell and Stone, 2010), and the discourse analytic paradigm (Crane, 2012). Additionally, social exchange theory has the potential to improve our understanding of knowledge sharing processes, motivational factors, contextual elements, and relevant relationships (Hall, 2003; Hall, Widén and Paterson, 2010; Liu et al., 2012). The following sub-section describes this theory in more detail.

2.2 Social exchange theory

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Social exchange theory is best defined as a frame of reference, a collection of propositions, or a set of hypotheses that explain people's behavior within a social system as exchange processes between entities (Ekeh, 1974; Chadwick-Jones, 1976). It was formed and recognized as a distinct social psychology and sociology theory in the 1950s (Emerson, 1976), but its concepts were initially documented in the academic literature almost a century ago (Frazer, 1919; Malinowski, 1922). Social exchange theory evolved from the works of Thibaut and Kelley (1959), who empirically tested complex relations in larger groups, Homans (1958; 1974), who formalized and outlined the key principles of the theory, and Blau (1964), who emphasized the elements of social context from the utilitarian perspective, including integration, support, power, and dynamics. Despite diverging points of view, these theorists agree that the social system consists of interdependent exchange processes, which are contingent on the actions of all participants and are governed by exchange relations.

A social exchange system is a joint activity of two or more players when each actor possesses and may offer something valuable from the other actors' perspective. Actors voluntarily create, maintain, and terminate social relations based on their expectations of rewarding actions from others. This implies that social exchange is a two-way, mutually contingent, reciprocal, and jointly beneficial process consisting of a series of "transactions" or "exchanges" (Emerson, 1976). With respect to the cooperative activities of small groups, social exchange is considered the foundation of repeated interactions between the same parties (Molm, 2006). Social exchange consists of individual, yet interconnected acts of giving that produce benefits for the receiver and may prompt eventual reciprocation of benefits in some form. As a result of this mutually rewarding behavior, enduring relationships may be formed and sustained because people are motivated by their self-interest.

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Social exchange theory is robust, and it may be applied at both macro- and micro-sociological levels. For example, at the macro level, it was used to study the various aspects of inter-organizational relationships (Lambe, Wittmann and Spekman, 2001; Das and Teng, 2002). At the micro-level, social exchange theory was applied to test the relationship between perceived organizational support and leader-member exchange (Wayne, Shore and Liden, 1997), to understand customer behavior (Yi and Gong, 2008), to examine the relationship between high-performance human resource practices and corporate entrepreneurship (Zhang and Jia, 2010), to link human resource management practices to individual performance outcomes (Alfes et al., 2013), and to explore the socialization issues facing new hires (Korte, 2009). As such, social exchange theory has become an influential conceptual paradigm for understanding workplace behavior from a human resource management perspective (Coyle-Shapiro, Morrow and Kessler, 2006; Farndale et al., 2011). Most importantly, it was applied to understand knowledge sharing behaviors (see Table I). Liu et al. (2012), in their meta-analysis of 52 empirical studies, concluded that social exchange theory is an important tool for exploring various aspects of knowledge sharing.

*** Insert Table I about here ***

The contribution, scientific merit, and impact of social exchange theory are unarguable (Cropanzano and Mitchell, 2005). However, social exchange theory has several limitations outlined below:

- Focusing solely on individual acts. Social exchange theory focuses on acts and shows how *A's* behavior influences *B's* behavior, and how *B's* behavior affects *A's* behavior during reciprocation. By focusing solely on individual acts, it does not consider

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interaction processes as a social, group phenomenon within a unique cultural context (Cook, 2000; Molm, 2006).

- Ignoring coercive power. Social exchange theory does not take into account the possibility of coercive power in non-negotiated social exchange relations (Molm, 1997; Lui, Ngo and Hon, 2006). For example, when *A* is simply forced to act towards *B* because of threats, promises, laws, or organizational policies with no expectations of reward.
- Concentrating on the exchange of material possessions. The theory was initially developed to study the exchange of material possessions when one party has to sacrifice something of tangible value (Schaefer, 2011). Knowledge is more valuable than material goods because it may be subsequently transferred to the third party yet retain all or some of its value for the previous owner (Schaefer, 2009); this may limit the explanatory power of social exchange theory when applied to intangible properties.
- Overlooking the subjective value of intangible objects. The rational economic model, which forms the foundation for social exchange processes, assumes that both parties constantly compare the value of exchanged possessions. However, the value of intangible objects, such as shared knowledge, advice, and expertise, which currently prevail in inter-employee exchanges, is virtually impossible to measure objectively. Their value also has different weight for each side of exchange.
- Omitting altruistic motives. Social exchange theory is based on the issue of reciprocity and benefit, whereas some exchange processes may be inspired by purely altruistic motives without expectations of reciprocity (Heath, 1976).

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- Concentrating on person-to-person sentiments. Social exchange theory focuses on person-to-person sentiments instead of person-to-group ties, group cohesion, trust, collective identity, and repetitive exchange.
- Disregarding affective processes. Social exchange theory neglects the role of human emotions which, in fact, prevail during social exchanges (Lawler and Thye, 1999). During knowledge sharing episodes, instead of receiving extrinsic (i.e., material) benefits, individuals may exhibit feelings of joy, pleasure, satisfaction, belongingness, confidence, excitement, pride, etc. which may influence future knowledge exchange decisions.
- Ignoring the mode of social exchange. Social exchange theory does not take into consideration the mode of social exchange which may potentially affect knowledge sharing attitudes.

All the limitations discussed above are crucial from the knowledge sharing perspective. Therefore, this study applies the affect theory of social exchange (Lawler, 2001), which augments and extends social exchange theory by capitalizing on its strengths and addressing its weaknesses (Lawler, 2006).

2.3 The affect theory of social exchange

The affect theory of social exchange, proposed by Lawler (2001), explains how and under what circumstances a micro social order develops commitment to exchange relations and collective identity (Lawler, 2006). A micro social order is a "recurrent pattern of interaction among a set of actors, from which they come to perceive themselves as a unit (i.e., a group) and to develop feelings about that unit" (Lawler, 2002, pp. 4-5). The affect theory of social exchange explicates

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how social interaction facilitates the emergence and existence of relations and groups when social units derive value from themselves. This theory is very useful for investigating inter-employee knowledge sharing activities for two reasons.

First, affect theory shows that emotions, produced during social interactions, affect the strength of the person-group ties (Thye, Lawler and Yoon, 2011) and, therefore, influence knowledge sharing decisions. It assumes that social exchange generates global emotions which serve as reinforcing or punishing stimuli. Individuals tend to reproduce positive global emotions and avoid negative ones. They also exert cognitive effort to understand the sources or causes of global emotions thereby creating specific emotions directed towards social units within which they experienced these feelings. As a result, they develop affective attachment or detachment towards their social unit (Lawler, Thye and Yoon, 2006; Yoon and Lawler, 2006), which is critical from the knowledge sharing perspective.

The extant literature emphasizes the role of emotions with respect to knowledge sharing. Reus and Liu (2004) propose that social interactions within knowledge-intensive networks generate emotions among group members. Lawler (2003) states that emotional effects from social interaction stimulate the development of collective identities. Olekalns and Smith (2009) posit that group members who exhibit positive emotions are unlikely to deceive their teammates. Tse and Dasborough (2008) demonstrate that positive emotions are associated with team-member exchange relationships. Oh (2012) shows that enjoyment is the most influential motivator of knowledge sharing behavior. Most importantly, because knowledge is considered the source of power (Rechberg and Syed, 2013; Heizmann and Olsson, 2015), knowledge ownership perceptions may trigger various emotions when employees experience a knowledge sharing dilemma. On the one hand, there may be a natural desire to assist a follow colleague. On the

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other hand, a self-serving feeling may make it difficult for someone to share his or her intellectual property unless a sharing behavior will be eventually rewarded.

Second, the affect theory of social exchange demonstrates that the modes of social exchange have an impact on knowledge sharing. The affect theory suggests that there are four types of exchange modes: negotiated, reciprocal, generalized, and productive (Molm, 2003; Lawler, Thye and Yoon, 2008), which may influence attitude towards knowledge sharing. *Negotiated exchange* refers to bargaining over the terms of agreement. It involves offer-counteroffer sequences that are explicitly agreed upon in advance. When employee *A* asks employee *B* for help, *B* unambiguously articulates the reciprocation requirements (e.g., *A* must share his or her knowledge with *B* in return) a priori knowledge exchange. *Reciprocal exchange* is somewhat similar to negotiated exchange, but the expectation of reciprocity is assumed rather than clearly articulated before the exchange takes place. The processes of giving and receiving are still sequential, but they are conducted over longer time intervals and are based on presumed rather than explicitly articulated reciprocity agreement. In this case, when *B* shares his or her knowledge with *A* upon request, *B* assumes that *A* will eventually reciprocate. *Generalized exchange* involves more than two individuals who share knowledge with one another, but knowledge givers and receivers are not matched is pairs. In this form of exchange, *B* provides *A* with knowledge expecting that another group member (e.g., *C*) will eventually share knowledge with *B* when needed.

Productive exchange includes no expectations of reciprocity. Instead, all members work collaboratively towards a mutual goal by producing a common good. All group members cooperate, help, and provide unilateral benefits to one another. They also receive benefits from their fellow colleagues as part of operational routine. In productive exchange, organizational

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members share their knowledge with others at first request; when needed, they request and receive knowledge from their colleagues because they jointly produce a collective good for everyone's advantage. Overall, negotiated, reciprocal, and generalized modes assume that knowledge providers will be directly or indirectly compensated for their behavior (i.e., reciprocation conditions were agreed upon in negotiated exchange, were assumed in reciprocal exchange, and may be provided by other members in generalized exchange) (Molm, 2003). In contrast, the productive mode assumes that knowledge providers do not expect reciprocation; instead, they contribute their knowledge to the common good for mutual benefit. According to affect theory, the forms of social exchange described above regulate the effect of emotions on affective attachment to a group (Lawler, 2006; Lawler, 2007; Lawler et al., 2008) and, therefore determine knowledge sharing attitudes (van den Hooff and van Weenan, 2004). Evidence also suggests that knowledge sharing attitude has a direct impact on a person's knowledge sharing intentions (Hsu and Lin, 2008), which in turn determine knowledge sharing behaviors (Bock et al., 2005; Jeon et al., 2011).

Whereas the existence of positive emotions in knowledge exchange has been already established in the literature, the impact of social exchange modes on knowledge sharing remains largely unknown (Chen and Choi, 2005). This study attempts to fill that void.

2.4 Model and hypotheses

Initially, when knowledge management practices were launched in organizations in the late 1990s, it was assumed that extrinsic rewards were necessary to motivate employees' knowledge sharing behaviors. In contrast to their expectations, researchers observed that over-reliance on extrinsic incentives, such as external stimuli, prizes, awards, titles, financial compensation,

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bonuses, and official recognition systems, did not produce desirable knowledge sharing behaviors (Riege, 2005; Kaše, Paauwe and Zupan, 2009). Instead, intrinsic motivation, defined as sharing one's own expertise with colleagues because doing so is inherently enjoyable, pleasurable, interesting, and important (Ryan and Deci, 2000), was found to be a powerful knowledge sharing tool (Wang, Clay and Forsgren, 2015). For example, Cruz et al. (2009) and Martin-Perez and Martin-Cruz (2015) empirically demonstrate that intrinsic motivation improves knowledge transfer processes whereas extrinsic motivation does not. Osterloh and Frey (2000) posit that intrinsic rather than extrinsic motivation is required for the transfer of tacit knowledge. Jeon et al. (2011) state that intrinsic motivational factors are more influential than extrinsic ones in terms of their impact on knowledge sharing behaviors of community-of-practice members. Liao et al. (2011) also observe that bloggers are mainly driven by intrinsic motives.

Several factors may explain a key role of intrinsic motivation as a determinant of knowledge sharing behavior. First, knowledge contributors receive intrinsic rewards almost immediately after a successful episode of knowledge transfer, whereas they usually receive extrinsic rewards much later. In some cases, reciprocation may never take place. According to the concept of delayed gratification (Mischel, Ebbesen and Raskoff Zeiss, 1972), individuals often prefer a smaller yet immediate reward instead of waiting for a more valuable one. Thus, they may develop a preference towards immediate intrinsic incentives and forgo extrinsic ones. Second, even though knowledge contributors may believe that the value of extrinsic rewards is higher than that of intrinsic ones, they may realize that the probability of receiving them is very low. As a result, they focus on intrinsic rewards simply because those are more likely to occur. Third, some employees may not assume that knowledge sharing has to be a two-way communication

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process. They may simply share their knowledge on request believing that receivers do not have to reciprocate.

Most importantly, the extrinsic value of knowledge diminishes from the knowledge owner's perspective after it was shared. An extrinsically motivated knowledge provider may benefit from the knowledge sharing act. The problem, however, lies in the very nature of the transferred good – given its intangible characteristics it may quickly disseminate throughout the entire organization and generate no additional future benefits for the original provider. Thus, a single act of sharing may cause a complete loss of psychological ownership over the knowledge (Pierce, Kostova and Dirks, 2003; Peng, 2013; Li et al., 2015) and facilitate no future extrinsic benefits for the contributor. Instead, the use of extrinsic incentives encourages employees to engage in knowledge hiding behaviors, defined as an "intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person" (Connelly et al., 2012, p. 65). Accordingly, Foss et al. (2009) observed that intrinsic motivation has a strong positive impact on sharing knowledge with others whereas extrinsic rewards facilitate knowledge hiding actions.

Negotiation and reciprocation are forms of extrinsic motivation because contributors expect to receive knowledge in return. They are not motivated by the feelings of pleasure, interest, importance, and joy coming from the mere act of knowledge sharing. Instead, they wish to obtain something of value that they may later use to their own advantage. The negotiated, reciprocated, and generalized modes of exchange appeal to extrinsic motivational factors and, therefore, cannot facilitate positive knowledge sharing attitudes and subsequent behaviors.

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Related phenomena have already been documented in previous research. Chiu et al. (2006) conclude that personal outcome expectations have no impact on the quantity and quality of shared knowledge. Instead, it is community-related outcome expectations that drive knowledge sharing behaviors. Hsu and Lin (2008) state that expected reciprocal benefits do not contribute to the development of positive attitudes towards knowledge sharing. In contrast, altruistic motives drive knowledge sharing attitudes and actions. Wasko and Faraj (2005) show that expectation of reciprocity has no effect on the helpfulness of contributions in electronic environments. Instead, knowledge sharing is driven by the desire to assist colleagues and help an organization to reach its goals. In a similar vein, Vuori and Okkonen (2012) demonstrate that financial rewards and personal career advancing inhibit knowledge sharing. Treloar et al. (2007) and Michie et al. (2011) report that individuals who donate their bodily samples to medical research are mostly influenced by altruistic factors, such as motivation to help society, promote science, and improve their community.

On the one hand, the negotiated, reciprocal, and generalized exchange modes are based on the common assumption that knowledge should be exchanged rather than donated or contributed to the common good. On the other hand, these modes vary in terms of transaction rules, time, and parties involved (Molm, 2010; Willer, Flynn and Zak, 2012) and, therefore, may have a different effect on knowledge sharing attitudes. Particularly, prior research suggests that the negotiated exchange is the weakest mode in terms of developing perceptions of shared responsibility over the outcome. As a result, it contributes little, if anything to group solidarity and affective attachment (Molm, 2003; Molm, Collett and Schaefer, 2007; Molm, Schaefer and Collett, 2009) which are the key components of a positive knowledge sharing climate. Moreover, the negotiated form resembles a transaction-based knowledge exchange mechanism when parties interchange

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their knowledge according to explicit and mutually accepted terms. At the same time, the employment of transaction-based knowledge exchange mechanisms in organizational settings promotes negative attitudes towards knowledge sharing which results in negative behaviors, such as knowledge sharing hostility, knowledge hoarding, and knowledge hiding (Husted et al., 2012). Therefore, the following hypothesis is suggested:

> H1: The negotiated knowledge exchange mode has a negative impact on attitude towards inter-employee knowledge sharing.

The key difference between the reciprocal and generalized knowledge exchange modes is that the former assumes that the original knowledge recipient will eventually reciprocate whereas the latter states that future reciprocation may come from another organizational member. Nevertheless, both of them are based on the belief that the knowledge giver is supposed to benefit from each knowledge sharing episode. In contrast to the negotiated exchange, which explicitly promotes personal self-interest over organizational goals, reciprocal and generalized exchange forms are less extreme and, therefore, should not result in negative attitudes. At the same time, these modes should not contribute to the development of positive knowledge sharing attitudes:

> H2: The reciprocal knowledge exchange mode has no impact on attitude towards inter-employee knowledge sharing.

> H3: The generalized knowledge exchange mode has no impact on attitude towards inter-employee knowledge sharing.

Productive exchange is fundamentally different from the exchange forms discussed above because it assumes that all employees collaborate in order to achieve a mutual goal by generating

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a common good. During the process, they voluntarily exchange their resources, help one another, and consider themselves part of a larger group. Their knowledge contribution actions are motivated by intrinsic rather than extrinsic factors. Even though knowledge sharing has never been investigated from the perspective of the productive exchange mode, an abundance of empirical evidence attests to the existence of a positive relationship between a cooperative climate and knowledge sharing attitude. For example, it was found that unconditionally cooperative behavior develops long-term relationships and encourages commitment whereas reciprocal behavior does not (Back and Flache, 2006; Back and Flache, 2008). Ethical culture is considered a key factor for the implementation success of knowledge management systems (Ruppel and Harrington, 2001), and organizational commitment facilitates knowledge sharing (Chang et al., 2015). Unconditional knowledge exchange facilitates the development of relational bonds (Kuwabara, 2011), true group identity (Thye et al., 2011), trust (Casimir, Lee and Loon, 2012a; Bao, Xu and Zhang, 2015), socialization practices (Korte, 2010), organizational citizenship (Deckop et al., 2003; Ma and Qu, 2011), and morality (Pagliaro et al., 2013), which encourage knowledge sharing attitudes (Cabrera and Cabrera, 2002; Kramer, 2006). Therefore:

> H4: The productive knowledge exchange mode has a positive impact on attitude towards inter-employee knowledge sharing.

The theory of reasoned action is a general framework that was developed to predict and explain virtually any type of human behavior in various contexts (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). It has been fruitfully applied and validated in various environments, including information systems (Davis, Bagozzi and Warshaw, 1989) and knowledge management (Casimir et al., 2012b). The theory suggests that intentions to engage in a particular behavior are determined by an attitude towards this behavior. The existence of this relationship has been

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confirmed with respect to a variety of behaviors, including knowledge sharing (Lin, 2007; Schauer, Vasconcelos and Sen, 2015). According to Bock et al. (2005), knowledge sharing attitude has an impact on two different types of intentions: intentions to share tacit knowledge and intentions to share explicit knowledge. The distinction between tacit and explicit knowledge is well-established in the literature (e.g., see Polanyi, 1958; Nonaka, 1994; Nonaka and Takeuchi, 1995). Tacit knowledge is acquired through education, training, and experience and resides in the minds of individuals. Tacit knowledge is not formalized, clearly identified, and recorded. Essentially, it has yet to be articulated (Klaas et al., 2012). In contrast, explicit knowledge may be transmittable through formal language in a systematic way. It is created when tacit knowledge is documented in the form of reports, templates, or documents that may be transferred internally and externally as well as stored for later use. As such, explicit knowledge represents tacit knowledge that has been extracted from its original owners and recorded.

With respect to the present study, it is suggested that attitude towards knowledge sharing has a positive impact on both tacit and explicit knowledge:

H5: Attitude towards inter-employee knowledge sharing has a positive impact on intentions to share tacit knowledge.

H6: Attitude towards inter-employee knowledge sharing has a positive impact on intentions to share explicit knowledge.

Based on the discussion above, the following model is proposed (Figure 1):

*** Insert Figure 1 about here ***

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3. Methodology and results

3.1 Study design

Items measuring attitude towards knowledge sharing and intentions to share tacit and explicit knowledge were adapted from Bock et al. (2005). The knowledge sharing attitude scale included one negatively-worded question which served as a cognitive speed-bump to reduce common method bias (Hinkin, 1995; Podsakoff et al., 2003). Scales for the forms of exchange were developed based on the conceptual definitions and examples identified in the social exchange literature (Molm, 2003; Lawler, 2006; Molm et al., 2007; Molm et al., 2009; Molm, 2010). Three questions for each category of exchange were proposed (i.e., twelve questions in total). An extensive face validity assessment of the instrument was done by consulting a group of research experts and potential respondents. Three rounds of revisions were done. After each round, adjustments to the questions were made based on the received feedback. Next, items pertaining to social exchange modes were pilot-tested by using a group of 105 knowledge workers. An acceptable level of item and construct reliability and validity was achieved. All items were measured on a 7-point Likert-type scale. To identify the presence of social desirability bias (Crowne and Marlowe, 1960), a short version of the Marlowe-Crowne scale was administered (Reynolds, 1982), which is a common approach in management research (Merriman and Sen, 2012). Appendix presents the questionnaire.

In order to empirically test the suggested model, a survey of 691 employees selected from fifteen independent credit unions in North America (seven in the USA and eight in Canada) was conducted. These institutions were recruited with the assistance of two professional

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organizations providing credit union services (Filene Research Institute and Credit Union Central of Canada).

Credit union employees are required to engage in knowledge sharing activities for several reasons. First, credit unions act as an intermediary between internal savers and borrowers who generate both supply and demand on loanable funds. This creates a conflict of interest because it is very difficult to simultaneously increase the dividend yet minimize the loan interest rate (Smith, Cargill and Meyer, 1981; Patin and McNiel, 1991). Second, the financial industry has undergone a major deregulation phase which increased competition from both domestic and foreign institutions and squeezed profit margins (Barron, West and Hannan, 1998). Third, the advent of the Internet created a new breed of competitors, such as virtual banks (Dandapani and Lawrence, 2008), money transmitters (e.g., PayPal) (González, 2004), and digital currencies (e.g., BitCoin) (Grinberg, 2011). Fourth, the financial crisis of 2008 dramatically damaged the financial industry and identified its major weaknesses (Kotz, 2009). Thus, the best option for credit unions is to increase their efficiency by promoting knowledge sharing as a means for cost reduction, generating higher revenues, and satisfying customers (Bontis and Serenko, 2009; Seguí-Mas and Izquierdo, 2009). The executives of these credit unions confirmed the existence of inter-employee knowledge sharing practices. Therefore, these credit union employees represent a valid sample with respect to the purpose of this study. This study's data were collected as part of a larger project (see Serenko, Bontis and Hull, 2015).

Participation in this study was voluntary, and no enrolment discrimination criteria were used. At each credit union, a manager sent an email invitation to a randomly selected group of employees that contained a study description and a link to an online survey. Twenty-six percent of all employees participated in the survey. Seventy-four and twenty-six percent of the respondents

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were female and male, respectively. They were 42 years old on average, ranging from 19 to 77 years old. They had spent ten years employed by their respective credit union and five years in their current position. Overall, the respondents were well-educated; over 70% had a diploma or degree from a post-secondary institution. Ninety-three, six, and one percent were employed full-time, part-time, and casual, respectively. Forty-eight percent worked in a branch, forty-five percent in a head office, and seven percent on other premises.

The examination of the hypothesized model proceeded in two steps: 1) analysis of the measurement model and 2) analysis of the structural model.

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3.2 The measurement model

Model analysis was done by means of SmartPLS v.2. Partial Least Squares (PLS) is a variance-based structural equation modelling technique that is more suitable for the present investigation than its co-variance based counterpart (i.e., LISREL) (Chin and Gopal, 1995; Chin and Todd, 1995; Chin, 1998; Vinzi et al., 2010). First, PLS was developed for exploratory research when new constructs are developed and validated during the study. Second, it places fewer restrictions on the minimum number of indicators per construct. Third, the purpose of the analysis is to verify (H1, H4, H5, and H6) or to refute (H2 and H3) the existence of a causal relationship between the constructs rather than to obtain the best fit of the model.

Before proceeding with the analysis of the measurement model, common method bias was assessed by means of the Harman's (1967) one factor test. For this, exploratory factor analysis with all 22 items was done and an un-rotated solution was examined (Malhotra, Kim and Patil, 2006). Six factors with the eigenvalue of one appeared, with the first one accounting for only 32% of total variance. Thus, common method bias was unlikely to exist. Out of seven constructs,

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only two exhibited small correlations with the social desirability bias scale. Therefore, social desirability bias was not an issue in this study.

Table II presents descriptive statistics and reliability assessment for items and constructs. All item loadings exceeded 0.7 and captured over 50% of the variance of their respective construct. Item-to-total correlations also exceeded the recommended cut-off point of 0.35 (Nunnally and Bernstein, 1994). All constructs had high reliability, measured by Cronbach's alpha (over 0.7), composite reliability (over 0.7), and average variance extracted (AVE) (over 0.5), as recommended by Fornell and Larcker (1981). All item loadings were significant at the 0.001 level.

*** Insert Table II about here ***

To test for discriminant validity of the items, a matrix of loadings and cross-loadings was constructed (Table III). It showed that all items loaded higher on their respective construct than they cross-loaded on other constructs. To establish discriminant validity of the constructs, a construct correlations table was developed in which diagonal items represent the square root of AVE (Table IV). Because the square root of AVE exceeded the inter-construct correlations, construct discriminant validity was ensured (Gefen, Straub and Boudreau, 2000; Gefen and Straub, 2005).

*** Insert Table III and Table IV about here ***

3.3 The structural model

Figure 2 presents the structural model. Five hypotheses were supported and one was rejected. Particularly, it was found that the generalized form of exchange has a positive impact on knowledge sharing attitude.

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*** Insert Figure 2 about here ***

4. Implications

The purpose of this study was to test the effect of social exchange modes (negotiated, reciprocal, generalized, and productive) on inter-employee knowledge sharing. For this, the affect theory of social exchange was employed as a lens of analysis. A theoretical model was proposed and empirically tested through a survey administered to 691 knowledge workers in fifteen North American credit unions. Several findings were identified that warrant further elaboration.

4.1 The affect theory of social exchange may be effectively applied in the KM domain

This study empirically demonstrated that the affect theory of social exchange provides a solid theoretical framework to investigate the concept of knowledge sharing. It extends social exchange theory that is generally considered an important tool to understand individual-level knowledge sharing (Liu et al., 2012) by identifying the role of four different categories of social exchange, such as negotiated, reciprocal, generalized, and productive, which determine attitude towards knowledge sharing. The affect theory of social exchange also emphasizes the role of emotions arising during employees' interactions as a mechanism that strengthens ties among colleagues which in turn impact their knowledge sharing decisions. Prior research has established the importance of emotions in workplace (Bono et al., 2007), and it is likely that emotions also play an important role in knowledge sharing.

4.2 The negotiated mode of social exchange is harmful from the knowledge sharing perspective

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As hypothesized in H1, the negotiated mode of social exchange has a negative impact on knowledge sharing attitude ($\beta = -0.12$, $p < 0.01$). This form of exchange represents an extreme form of reciprocation when a knowledge contributor explicitly and clearly establishes the conditions under which he or she will share knowledge with a fellow employee. This mode does not promote group attachment, solidarity, and cohesion (Molm, 2003; Molm et al., 2007; Molm et al., 2009). Most importantly, when employees engage in negotiated knowledge exchange, they develop negative knowledge sharing attitudes that may inhibit their knowledge sharing behaviors. This mode resembles the conditions of forced reciprocation when a knowledge receiver has to agree on the conditions of a knowledge donor a priori knowledge exchange takes place. Overall, this form of social exchange is harmful for the entire organization because it may undermine internal knowledge flows and hinder the success of knowledge management initiatives.

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4.3 The reciprocal mode of social exchange brings no knowledge sharing benefits

As proposed in H2, it was confirmed that the reciprocal exchange mode has no effect on knowledge sharing attitude ($\beta = 0.04$, n.s.). According to the reciprocal mode, a knowledge contributor is motivated by the expectation that a knowledge receiver will also share his or her knowledge in return. Even though this condition was not unambiguously discussed, the anticipation of a valuable reward (i.e., knowledge) resembles the case of extrinsic motivation. The extant literature advocates that extrinsic motivation has little, if any effect on knowledge sharing attitudes and subsequent behaviors (e.g., see Cruz et al., 2009). The same lack of relationship was observed in the present study. On the one hand, the reciprocal mode of knowledge exchange is less harmful than the negotiated form because it does not trigger negative behaviors. On the other hand, it still fails to foster desirable knowledge sharing attitudes.

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Overall, managers should realize the importance of eliminating the negotiation and reciprocation principles from routine knowledge sharing practices. These represent the form of extrinsic motivation, which does not trigger knowledge sharing behaviors.

4.4 The generalized mode of social exchange slightly improves employees' knowledge sharing attitude

In contrast to expectations (H3), it was observed that the generalized form of exchange has a positive effect on knowledge sharing attitude ($\beta = 0.12$, $p < 0.01$). Even though the generalized mode is related to extrinsic motivation, the fact that reciprocation is expected from other organizational members partially rectifies this issue. When a knowledge donor shares knowledge under the assumption that other organizational members will eventually reciprocate, he or she may (consciously or unconsciously) believe that the entire organization has some attributes of a knowledge sharing culture and knowledge sharing is a positive, desirable, and productive behavior. Nevertheless, the strength of the identified relationship is relatively weak.

4.5 The productive mode of social exchange is the best facilitator of employees' knowledge sharing attitude

As proposed in H4, the productive mode has a strong, positive impact on attitude towards knowledge sharing ($\beta = 0.40$, $p < 0.01$). This form is fundamentally different from the previous ones because a knowledge donor is intrinsically motivated by a desire to unconditionally contribute to the success of the entire organization for the benefit of all members.

Due to the altruistic nature of behavior, the knowledge donor may develop strong social ties with the knowledge recipient in the future. Particularly, because the knowledge sharing process involves affective feelings, such as positive emotions, perceptions of friendship, and interpersonal trust, it may strengthen reciprocal expressive ties between the knowledge recipient

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and knowledge donor. Expressive ties are mental affective links among employees that facilitate positive social behaviors including knowledge exchange (Zhou, Siu and Wang, 2010; Ling, Hong and Zhang, 2011). This further confirms the importance of intrinsic motivation and altruistic behaviors in organizational context.

Thus, managers should focus on the development of positive knowledge sharing culture when all employees believe they contribute to a common good. When developing a knowledge management strategy or attempting to accelerate collaborative behaviors in an organization, it is very important to consider the significance of intrinsic incentives. For example, in some organizations, a knowledge sharing tool (e.g., Microsoft SharePoint) is used to disseminate information more readily to all organizational members. In this case, allowing users to provide feedback ratings on documents (e.g., thumbs up, thumbs down, ranking scores, etc.) provides an appropriate mechanism to facilitate immediate intrinsic rewards that may encourage future altruistic knowledge sharing behavior.

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4.6 Employees' attitude towards knowledge sharing promotes their intentions to share knowledge

As outlined in H5 and H6, attitude towards knowledge sharing has a positive effect on intentions to share tacit (β = 0.42, $p < 0.01$) and explicit (β = 0.33, $p < 0.01$) knowledge. This further demonstrates the nomological validity of the theory of reasoned action (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980) with respect to knowledge sharing behaviors. The relationship between attitude for sharing is stronger for tacit versus explicit knowledge even though both are substantive. The main implication is that the real bulk of intellectual capital in any organization resides in tacit format which also has a stronger outcome. Naturally, the easiest way to promote tacit knowledge sharing in organizations is through the socialization process (Nonaka and

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Takeuchi, 1995). However, when employees do not benefit from close proximity to one another, the socialization process becomes more difficult to enable. In the case of great physical distance among collaborators, managers should support intellectual capital exchange through conferences, town halls meetings, and even video facilities.

4.7 Intra-organizational knowledge sharing processes are best understood from the perspective of organizational culture

The findings shed some light on the importance of approaching intra-organizational knowledge sharing initiatives from the organizational culture perspective. When employees consider their knowledge a social or personal source of power, they face a moral dilemma every time they are supposed to share their knowledge with their fellow co-workers. As an extreme, undesirable, and harmful social structure, the negotiated mode is inappropriate because individuals ignore the rightness of the knowledge sharing action itself. Instead of contributing to the success of the entire organization, individuals engage in self-serving, utilitarian, and egoistic behaviors by explicitly specifying knowledge sharing rules. As a result, they develop negative knowledge sharing attitudes.

A similar line of reasoning applies to the reciprocal knowledge exchange mode because individuals are still looking for their personal benefit. In contrast to the negotiated mode, however, the reciprocal structure does not facilitate the development of negative knowledge sharing attitudes. Nevertheless, it still does not lead to the appropriate knowledge sharing behaviors. This problem partially disappears in the generalized knowledge exchange mode which triggers positive knowledge sharing attitudes. If the organizational culture encourages knowledge sharing, those who share their knowledge with a fellow co-worker but expect reciprocation from other employees may inadvertently assume that knowledge sharing is part of their routine

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operations and, therefore, develop positive knowledge sharing attitudes. Employees who engage in productive knowledge exchange inadvertently develop perceptions of affective attachment to their organization which triggers an important organizational citizenship behavior – knowledge sharing.

5. Limitations and Conclusion

The issue of inter-employee knowledge sharing has become one of the most important topics in the field of management. The present study empirically demonstrates the importance of positive organizational climate that fosters the sense of organizational identity when all employees work collaboratively towards a mutual goal. Only under these circumstances can employees develop positive knowledge sharing attitudes and behaviors. Other approaches to knowledge sharing, especially when employees expect reciprocation, are either harmful or may not produce desirable outcomes.

Despite its contribution, this study had several limitations. First, only individuals employed in the financial sector were surveyed, which reduces the generalizability of the findings. Even though these people represent the knowledge-intensive economy, future researchers should conduct similar investigations in other industries. Generalizability may also be improved by examining knowledge sharing behaviours across non-Western and non-Anglophonic settings.

Second, this study reveals the impact of knowledge exchange modes on knowledge sharing, but it does not explain why employees favor one form of exchange over another. Third, this study did not differentiate between partial and full knowledge sharing (e.g., see Ford and Staples, 2010). It is possible that the effect of the exchange modes investigated in this study differs with respect to partial versus full knowledge sharing attitude. Future researchers are recommended to

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look into this issue. Fourth, the credit union industry in particular may be perceived as more collaborative in nature due to its member-centric approach compared to other institutions within financial services. Therefore, more research is needed to test the generalizability of this study's findings.

The main objective of this study was to investigate the impact of four types of knowledge exchange modes (negotiated, reciprocal, generalized, and productive) on inter-employee knowledge sharing behaviours. The results suggest that senior management has to take a critical role in the development of a positive knowledge sharing culture which can be achieved when all employees believe they contribute to a common good instead of pursuing their own personal benefits. Furthermore, it is critical for Chief Knowledge Officers and other senior executives responsible for KM initiatives to fully consider all four types of knowledge exchange when attempting to accelerate knowledge sharing behaviours in an organization.

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References

Ajzen, I. and Fishbein, M. (1980), *Understanding attitudes and predicting social behavior*, Prentice-Hall, Englewood Cliffs, N.J.

Alfes, K., Truss, C., Soane, E. C., Rees, C. and Gatenby, M. (2013), "The relationship between line manager behavior, perceived HRM practices, and individual performance: examining the mediating role of engagement", *Human Resource Management*, Vol. 52 No. 6, pp. 839-859.

Amayah, A. T. (2013), "Determinants of knowledge sharing in a public sector organization", *Journal of Knowledge Management*, Vol. 17 No. 3, pp. 454-471.

Andreeva, T. and Kianto, A. (2012), "Does knowledge management really matter? Linking knowledge management practices, competitiveness and economic performance", *Journal of Knowledge Management*, Vol. 16 No. 4, pp. 617-636.

Back, I. and Flache, A. (2006), "The viability of cooperation based on interpersonal commitment", *Journal of Artificial Societies and Social Simulation*, Vol. 9 No. 1.

Back, I. and Flache, A. (2008), "The adaptive rationality of interpersonal commitment", *Rationality and Society*, Vol. 20 No. 1, pp. 65-83.

Bao, G., Xu, B. and Zhang, Z. (2015), "Employees' trust and their knowledge sharing and integration: the mediating roles of organizational identification and organization based self-esteem", *Knowledge Management Research & Practice*, Vol. in-press No., pp. 1-14.

Barachini, F. (2009), "Cultural and social issues for knowledge sharing", *Journal of Knowledge Management*, Vol. 13 No. 1, pp. 98-110.

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Barron, D. N., West, E. and Hannan, M. T. (1998), "Deregulation and competition in the financial industry", *Industrial and Corporate Change*, Vol. 7 No. 1, pp. 1-32.

Bartol, K. M., Liu, W., Zeng, X. and Wu, K. (2009), "Social exchange and knowledge sharing among knowledge workers: the moderating role of perceived job security", *Management and Organization Review*, Vol. 5 No. 2, pp. 223-240.

Baskerville, R. and Dulipovici, A. (2006), "The theoretical foundations of knowledge management", *Knowledge Management Research & Practice*, Vol. 4 No. 2, pp. 83-105.

Blau, P. M. (1964), *Exchange and power in social life*, John Wiley, New York.

Bock, G.-W. and Kim, Y.-G. (2002), "Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing", *Information Resources Management Journal*, Vol. 15 No. 2, pp. 14-21.

Bock, G.-W., Zmud, R. W., Kim, Y.-G. and Lee, J.-N. (2005), "Behavioral intention formation in knowledge sharing: examining the rules of extrinsic motivators, social-psychological forces, and organizational climate", *MIS Quarterly*, Vol. 29 No. 1, pp. 87-111.

Bono, J. E., Foldes, H. J., Vinson, G. and Muros, J. P. (2007), "Workplace emotions: the role of supervision and leadership", *Journal of Applied Psychology*, Vol. 92 No. 5, pp. 1357-1367.

Bontis, N. and Serenko, A. (2009), "A causal model of human capital antecedents and consequents in the financial services industry", *Journal of Intellectual Capital*, Vol. 10 No. 1, pp. 53-69.

Cabrera, A. and Cabrera, E. F. (2002), "Knowledge-sharing dilemmas", *Organization Studies*, Vol. 23 No. 5, pp. 687-710.

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Cabrera, E. F. and Cabrera, A. (2005), "Fostering knowledge sharing through people management practices", *International Journal of Human Resource Management*, Vol. 16 No. 5, pp. 720-735.

Carmeli, A., Gelbard, R. and Reiter-Palmon, R. (2013), "Leadership, creative problem-solving capacity, and creative performance: the importance of knowledge sharing", *Human Resource Management*, Vol. 52 No. 1, pp. 95-121.

Casimir, G., Lee, K. and Loon, M. (2012a), "Knowledge sharing: influences of trust, commitment and cost", *Journal of Knowledge Management*, Vol. 16 No. 5, pp. 740-753.

Casimir, G., Ng, Y. N. K. and Cheng, C. L. P. (2012b), "Using IT to share knowledge and the TRA", *Journal of Knowledge Management*, Vol. 16 No. 3, pp. 461-479.

Chadwick-Jones, J. K. (1976), *Social exchange theory: its structure and influence in social psychology*, Academic Press, London.

Chang, W.-J., Liao, S.-H., Lee , Y.-J. and Lo, W.-P. (2015), "Organizational commitment, knowledge sharing and organizational citizenship behaviour: the case of the Taiwanese semiconductor industry", *Knowledge Management Research & Practice*, Vol. 13 No. 3, pp. 299-310.

Chen, S. and Choi, C. J. (2005), "A social exchange perspective on business ethics: an application to knowledge exchange", *Journal of Business Ethics*, Vol. 62 No. 1, pp. 1-11.

Chin, W. W. (1998), "*The Partial Least Squares approach for Structural Equation Modeling*", in: G. A. Marcoulides (Ed.), Modern methods for business research, Lawrence Erlbaum Associates, Mahwah, N. J., pp. 295-336.

Chin, W. W. and Gopal, A. (1995), "Adoption intention in GSS: relative importance of beliefs", *Data Base for Advancements in Information Systems*, Vol. 26 No. 2-3, pp. 42-64.

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Chin, W. W. and Todd, P. A. (1995), "On the use, usefulness, and ease-of-use of structural equation modeling in MIS Research: a note of caution", *MIS Quarterly*, Vol. 19 No. 2, pp. 237-246.

Chiu, C. M., Hsu, M. H. and Wang, E. T. (2006), "Understanding knowledge sharing in virtual communities: an integration of social capital and social cognitive theories", *Decision Support Systems*, Vol. 42 No. 3, pp. 1872-1888.

Cockrell, R. C. and Stone, D. N. (2010), "Industry culture influences pseudo-knowledge sharing: a multiple mediation analysis", *Journal of Knowledge Management*, Vol. 14 No. 6, pp. 841-857.

Connelly, C. E., Zweig, D., Webster, J. and Trougakos, J. P. (2012), "Knowledge hiding in organizations", *Journal of Organizational Behavior*, Vol. 33 No. 1, pp. 64-88.

Cook, K. S. (2000), "Advances in the microfoundations of sociology: recent developments and new challenges for social psychology", *Contemporary Sociology*, Vol. 29 No. 5, pp. 685-692.

Coyle-Shapiro, J. A.-M., Morrow, P. C. and Kessler, I. (2006), "Serving two organizations: exploring the employment relationship of contracted employees", *Human Resource Management*, Vol. 45 No. 4, pp. 561-583.

Crane, L. (2012), "Trust me, I'm an expert: identity construction and knowledge sharing", *Journal of Knowledge Management*, Vol. 16 No. 3, pp. 448-460.

Cropanzano, R. and Mitchell, M. S. (2005), "Social exchange theory: an interdisciplinary review", *Journal of Management*, Vol. 31 No. 6, pp. 874-900.

Crowne, D. P. and Marlowe, D. (1960), "A new scale of social desirability independent of psychopathology", *Journal of Consulting Psychology*, Vol. 24 No. 4, pp. 349-354.

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Cruz, N. M., Pérez, V. M. and Cantero, C. T. (2009), "The influence of employee motivation on knowledge transfer", *Journal of Knowledge Management*, Vol. 13 No. 6, pp. 478-490.

Dandapani, K. and Lawrence, E. R. (2008), "Virtual bank failures: an investigation", *Managerial Finance*, Vol. 34 No. 6, pp. 399-412.

Das, T. K. and Teng, B.-S. (2002), "Alliance constellations: a social exchange perspective", *Academy of Management Review*, Vol. 27 No. 3, pp. 445-456.

Davis, F. D., Bagozzi, R. P. and Warshaw, P. R. (1989), "User acceptance of computer technology: a comparison of two theoretical models", *Management Science*, Vol. 35 No. 8, pp. 982-1003.

Deckop, J. R., Cirka, C. C. and Andersson, L. M. (2003), "Doing unto others: the reciprocity of helping behavior in organizations", *Journal of Business Ethics*, Vol. 47 No. 2, pp. 101-113.

Donate, M. J. and Guadamillas, F. (2015), "An empirical study on the relationships between knowledge management, knowledge-oriented human resource practices and innovation", *Knowledge Management Research & Practice*, Vol. 13 No. 2, pp. 134-148.

Duncan, W. J. (1986), "Ethical issues in the development and application of business and management knowledge", *Journal of Business Ethics*, Vol. 5 No. 5, pp. 391-400.

Dwivedi, Y. K., Venkitachalam, K., Sharif, A. M., Al-Karaghouli, W. and Weerakkody, V. (2011), "Research trends in knowledge management: analyzing the past and predicting the future", *Information Systems Management*, Vol. 28 No. 1, pp. 43-56.

Ekeh, P. P. (1974), *Social exchange theory: the two traditions*, Harvard University Press, Cambridge, Massachusetts.

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Emerson, R. M. (1976), "Social exchange theory", *Annual Review of Sociology*, Vol. 2 No. 1, pp. 335-362.

Endres, M. L., Endres, S. P., Chowdhury, S. K. and Alam, I. (2007), "Tacit knowledge sharing, self-efficacy theory, and application to the Open Source community", *Journal of Knowledge Management*, Vol. 11 No. 3, pp. 92-103.

Farndale, E., van Ruiten, J., Kelliher, C. and Hope-Hailey, V. (2011), "The influence of perceived employee voice on organizational commitment: an exchange perspective", *Human Resource Management*, Vol. 50 No. 11, pp. 113-129.

Fishbein, M. and Ajzen, I. (1975), *Belief, attitude, intention, and behavior: An introduction to theory and research*, Addison-Wesley Pub. Co., Reading, MA.

Ford, D. P. and Staples, S. (2010), "Are full and partial knowledge sharing the same?", *Journal of Knowledge Management*, Vol. 14 No. 3, pp. 394-409.

Fornell, C. and Larcker, D. F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

Foss, N. J., Minbaeva, D. B., Pedersen, T. and Reinholt, M. (2009), "Encouraging knowledge sharing among employees: how job design matters", *Human Resource Management*, Vol. 48 No. 6, pp. 871-893.

Foucault, M., Ed. (1980), "*Power/knowledge: selected interviews and other writings, 1972-1977*". Pantheon Books, New York.

Frazer, J. G. (1919), *Folk-lore in the Old Testament: studies in comparative religion, legend and law. Vol. 2*, MacMillan and Co., London.

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Fullwood, R., Rowley, J. and Delbridge, R. (2013), "Knowledge sharing amongst academics in UK universities", *Journal of Knowledge Management*, Vol. 17 No. 1, pp. 123-136.

Gagné, M. (2009), "A model of knowledge-sharing motivation", *Human Resource Management*, Vol. 48 No. 4, pp. 571-589.

Gefen, D. and Straub, D. (2005), "A practical guide to factorial validity using PLS-Graph: tutorial and annotated example", *Communications of the Association for Information Systems*, Vol. 16 No. Article 5, pp. 91-109.

Gefen, D., Straub, D. and Boudreau, M.-C. (2000), "Structural Equation Modeling and Regression: guidelines for research practice", *Communications of the Association for Information Systems*, Vol. 4 No. 7, pp. 1-77.

González, A. G. (2004), "PayPal: the legal status of C2C payment systems", *Computer Law & Security Review*, Vol. 20 No. 4, pp. 293-299.

Grant, R. M. (2002), "*The knowledge-based view of the firm*", in: C. W. Choo and N. Bontis (Eds.), The strategic management of intellectual capital and organizational knowledge, Oxford University Press, Oxford, pp. 133-148.

Grinberg, R. (2011), "Bitcoin: an innovative alternative digital currency", *Hastings Science & Technology Law Journal*, Vol. 4 No. 1, pp. 160-207.

Hall, H. (2003), "Borrowed theory: applying exchange theories in information science research", *Library and Information Science Research*, Vol. 25 No. 3, pp. 287-306.

Hall, H., Widén, G. and Paterson, L. (2010), "Not what you know, nor who you know, but who you know already: examining online information sharing behaviours in a blogging environment through the lens of social exchange theory", *Libri: International Journal of Libraries and Information Services*, Vol. 60 No. 2, pp. 117–128.

Downloaded by University of Sussex Library At 19:05 12 July 2016 (PT)

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Hansen, S. D. (2011), "Ethical leadership: a multifoci social exchange perspective", *Journal of Business Inquiry*, Vol. 10 No. 1, pp. 41-55.

Hansen, S. D., Alge, B. J., Brown, M. E., Jackson, C. L. and Dunford, B. B. (2013), "Ethical leadership: assessing the value of a multifoci social exchange perspective", *Journal of Business Ethics*, Vol. 115 No. 3, pp. 435-449.

Harman, H. H. (1967), *Modern factor analysis*, University of Chicago Press, Chicago.

Heath, A. (1976), *Rational choice and social exchange: a critique of exchange theory*, Cambridge University Press, London.

Heizmann, H. and Olsson, M. R. (2015), "Power matters: the importance of Foucault's power/knowledge as a conceptual lens in KM research and practice", *Journal of Knowledge Management*, Vol. 19 No. 4, pp. 756-769.

Hinkin, T. R. (1995), "A review of scale development practices in the study of organizations", *Journal of Management*, Vol. 21 No. 5, pp. 967-988.

Homans, G. C. (1958), "Social behavior as exchange", *American Journal of Sociology*, Vol. 63 No. 6, pp. 597-606.

Homans, G. C. (1974), *Social behavior: its elementary forms*, Harcourt Brace, New York.

Hsu, C. L. and Lin, J. C. C. (2008), "Acceptance of blog usage: the roles of technology acceptance, social influence and knowledge sharing motivation", *Information & Management*, Vol. 45 No. 1, pp. 65-74.

Huang, M.-C., Chiu, Y.-P. and Lu, T.-C. (2013), "Knowledge governance mechanisms and repatriate's knowledge sharing: the mediating roles of motivation and opportunity", *Journal of Knowledge Management*, Vol. 17 No. 5, pp. 677-694.

Downloaded by University of Sussex Library At 19:05 12 July 2016 (PT)

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Husted, K., Michailova, S., Minbaeva, D. B. and Pedersen, T. (2012), "Knowledge-sharing hostility and governance mechanisms: an empirical test", *Journal of Knowledge Management*, Vol. 16 No. 2, pp. 754-773.

Ipe, M. (2003), "Knowledge sharing in organizations: a conceptual framework", *Human Resource Development Review*, Vol. 2 No. 4, pp. 337-359.

Israilidis, J., Siachou, E., Cooke, L. and Lock, R. (2015), "Individual variables with an impact on knowledge sharing: the critical role of employees' ignorance", *Journal of Knowledge Management*, Vol. 19 No. 6, pp. 1109-1123.

Jarvenpaa, S. L. and Staples, S. (2000), "The use of collaborative electronic media for information sharing: an exploratory study of determinants", *The Journal of Strategic Information Systems*, Vol. 9 No. 2-3, pp. 129-154.

Jeon, S., Kim, Y.-G. and Koh, J. (2011), "An integrative model for knowledge sharing in communities-of-practice", *Journal of Knowledge Management*, Vol. 15 No. 2, pp. 251-269.

Kankanhalli, A., Tan, B. C. Y. and Wei, K.-K. (2005), "Contributing knowledge to electronic knowledge repositories: an empirical investigation", *MIS Quarterly*, Vol. 29 No. 1, pp. 113-143.

Kaše, R., Paauwe, J. and Zupan, N. (2009), "HR practices, interpersonal relations, and intrafirm knowledge transfer in knowledge-intensive firms: a social network perspective", *Human Resource Management*, Vol. 48 No. 4, pp. 615-639.

Kaše, R. and Zupan, N. (2009), "Human capital and structural position in knowledge networks as determinants when classifying employee groups for strategic human resource

Downloaded by University of Sussex Library At 19:05 12 July 2016 (PT)

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management purposes", *Journal European Journal of International Management*, Vol. 3 No. 4, pp. 478-494.

Kerr, N. L. (1983), "Motivation losses in small groups: a social dilemma analysis", *Journal of Personality and Social Psychology*, Vol. 45 No. 4, pp. 819-828.

Kianto, A., Andreeva, T. and Pavlov, Y. (2013), "The impact of intellectual capital management on company competitiveness and financial performance", *Knowledge Management Research & Practice*, Vol. 11 No. 2, pp. 112-122.

Kim, J. (2010), "Faculty self-archiving: motivations and barriers", *Journal of the American Society for Information Science and Technology*, Vol. 61 No. 9, pp. 1909-1922.

Klaas, B. S., Semadeni, M., Klimchak, M. and Ward, A.-K. (2012), "High-performance work system implementation in small and medium enterprises: a knowledge-creation perspective", *Human Resource Management*, Vol. 51 No. 4, pp. 487-510.

Korte, R. F. (2009), "How newcomers learn the social norms of an organization: a case study of the socialization of newly hired engineers", *Human Resource Development Quarterly*, Vol. 20 No. 3, pp. 285-306.

Korte, R. F. (2010), "'First, get to know them': a relational view of organizational socialization", *Human Resource Development International*, Vol. 13 No. 1, pp. 27-43.

Kotz, D. M. (2009), "The financial and economic crisis of 2008: a systemic crisis of neoliberal capitalism", *Review of Radical Political Economics*, Vol. 41 No. 3, pp. 305-317.

Kramer, R. M. (2006), "*Social capital and cooperative behavior in the workplace: a social identity perspective*", in: S. R. Thye and E. J. Lawler (Eds.), Advances in group processes, Emerald Group Publishing Limited, Bingley. 23, pp. 1-30.

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Kuvaas, B., Buch, R. and Dysvik, A. (2012), "Perceived training intensity and knowledge sharing: sharing for intrinsic and prosocial reasons", *Human Resource Management*, Vol. 51 No. 2, pp. 167-187.

Kuwabara, K. (2011), "Cohesion, cooperation, and the value of doing things together: how economic exchange creates relational bonds", *American Sociological Review*, Vol. 76 No. 4, pp. 560-580.

Lambe, J., Wittmann, C. M. and Spekman, R. E. (2001), "Social exchange theory and research on business-to-business relational exchange", *Journal of Business-to-Business Marketing*, Vol. 8 No. 3, pp. 1-36.

Lammers, J., Stoker, J. I. and Stapel, D. A. (2009), "Differentiating social and personal power: opposite effects on stereotyping, but parallel effects on behavioral approach tendencies", *Psychological Science*, Vol. 20 No. 12, pp. 1543-1548.

Lawler, E. J. (2001), "An Affect Theory of Social Exchange", *American Journal of Sociology*, Vol. 107 No. 2, pp. 321-352.

Lawler, E. J. (2002), "Micro social orders", *Social Psychology Quarterly*, Vol. 65 No. 1, pp. 4-17.

Lawler, E. J. (2003), "*Interaction, emotion, and collective identities*", in: P. J. Burke, T. J. Owens, R. T. Serpe and P. A. Thoits (Eds.), Advances in identity theory and research, Kluwer Academic Publishers, New York, pp. 135-149.

Lawler, E. J. (2006), "*Exchange, affect, and group relations*", in: A. J. Trevino and C. Tilly (Eds.), George C. Homans: History, theory, and method, Paradigm Publishers, London, pp. 177-201.

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Lawler, E. J. (2007), "*Affect and group attachments: the role of shared responsibility*", in: E. A. Mannix, M. A. Neale and C. P. Anderson (Eds.), Research on managing groups and teams: affect and groups, Emerald Group Publishing Limited, Bingley. 10, pp. 185-216.

Lawler, E. J. and Thye, S. R. (1999), "Bringing emotions into social exchange theory", *Annual Review of Sociology*, Vol. 25 No. 1, pp. 217-244.

Lawler, E. J., Thye, S. R. and Yoon, J. (2006), "Commitment in structurally enabled and induced exchange relations", *Social Psychology Quarterly*, Vol. 69 No. 2, pp. 183-200.

Lawler, E. J., Thye, S. R. and Yoon, J. (2008), "Social exchange and micro social order", *American Sociological Review*, Vol. 73 No. 4, pp. 519-542.

Li, J., Yuan, L., Ning, L. and Li-Ying, J. (2015), "Knowledge sharing and affective commitment: the mediating role of psychological ownership", *Journal of Knowledge Management*, Vol. 19 No. 6, pp. 1146-1166.

Liao, H.-L., Liu, S.-H. and Pi, S.-M. (2011), "Modeling motivations for blogging: an expectancy theory analysis", *Social Behavior and Personality*, Vol. 39 No. 2, pp. 251-264.

Liao, L.-F. (2008), "Knowledge-sharing in R&D departments: a social power and social exchange theory perspective", *International Journal of Human Resource Management*, Vol. 19 No. 10, pp. 1881-1895.

Lin, H.-F. (2007), "Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions", *Journal of Information Science*, Vol. 33 No. 2, pp. 135-149.

Lin, S.-W. and Lo, L. Y.-S. (2015), "Mechanisms to motivate knowledge sharing: integrating the reward systems and social network perspectives", *Journal of Knowledge Management*, Vol. 19 No. 2, pp. 212-235.

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Ling, H., Hong, D. C. and Zhang, C. H. (2011), "Research on tacit knowledge integration: a synthesis of social ties and TMS", *Knowledge Management Research & Practice*, Vol. 9 No. 3, pp. 256-262.

Liu, C.-C., Liang, T.-P., Rajagopalan, B., Sambamurthy, V. and Wu, J. C.-H. (2012), "Knowledge sharing as social exchange: evidence from a meta-analysis", *Pacific Asia Journal of the Association for Information Systems*, Vol. 3 No. 4, pp. 21-47.

Lui, S. S., Ngo, H.-Y. and Hon, A. H. Y. (2006), "Coercive strategy in interfirm cooperation: mediating roles of interpersonal and interorganizational trust", *Journal of Business Research*, Vol. 59 No. 4, pp. 466-474.

Ma, E. and Qu, H. (2011), "Social exchanges as motivators of hotel employees' organizational citizenship behavior: the proposition and application of a new three-dimensional framework", *International Journal of Hospitality Management*, Vol. 30 No. 3, pp. 680-688.

Malhotra, N. K., Kim, S. S. and Patil, A. (2006), "Common method variance in IS research: a comparison of alternative approaches and a reanalysis of past research", *Management Science*, Vol. 52 No. 12, pp. 1865-1883.

Malinowski, B. (1922), *Argonauts of the Western Pacific: an account of native enterprise and adventure in the archipelagoes of Melanesian New Guinea*, Routledge & Kegan Paul Ltd., London.

Martin-Perez, V. and Martin-Cruz, N. (2015), "The mediating role of affective commitment in the rewards - knowledge transfer relation ", *Journal of Knowledge Management*, Vol. 19 No. 6, pp. 1167-1185.

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Merriman, K. K. and Sen, S. (2012), "Incenting managers toward the triple bottom line: an agency and social norm perspective", *Human Resource Management*, Vol. 51 No. 6, pp. 851-871.

Michie, M., Henderson, G., Garrett, J. and Corbie-Smith, G. (2011), ""If I could in a small way help": motivations for and beliefs about sample donation for genetic research", *Journal of Empirical Research on Human Research Ethic*, Vol. 6 No. 2, pp. 57-70.

Mills, A. M. and Smith, T. A. (2011), "Knowledge management and organizational performance: a decomposed view", *Journal of Knowledge Management*, Vol. 15 No. 1, pp. 156-171.

Milne, P. (2007), "Motivation, incentives and organisational culture", *Journal of Knowledge Management*, Vol. 11 No. 6, pp. 28-38.

Minbaeva, D. B., Mäkelä, K. and Rabbiosi, L. (2012), "Linking HRM and knowledge transfer via individual-level mechanisms", *Human Resource Management*, Vol. 51 No. 3, pp. 387-405.

Mischel, W., Ebbesen, E. B. and Raskoff Zeiss, A. (1972), "Cognitive and attentional mechanisms in delay of gratification", *Journal of Personality and Social Psychology*, Vol. 21 No. 2, pp. 204-218.

Molm, L. D. (1997), "Risk and power use: constraints on the use of coercion in exchange", *American Sociological Review*, Vol. 62 No. 1, pp. 113-133.

Molm, L. D. (2003), "Theoretical comparisons of forms of exchange", *Sociological Theory*, Vol. 21 No. 1, pp. 1-17.

Molm, L. D. (2006), "*Homans's vision of social exchange*", in: A. J. Trevino and C. Tilly (Eds.), George C. Homans: History, theory, and method, Paradigm Publishers, London, pp. 135-156.

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Molm, L. D. (2010), "The structure of reciprocity", *Social Psychology Quarterly*, Vol. 73 No. 2, pp. 119-131.

Molm, L. D., Collett, J. L. and Schaefer, D. R. (2007), "Building solidarity through generalized exchange: a theory of reciprocity", *American Journal of Sociology*, Vol. 113 No. 1, pp. 205-242.

Molm, L. D., Schaefer, D. R. and Collett, J. L. (2009), "Fragile and resilient trust: risk and uncertainty in negotiated and reciprocal exchange", *Sociological Theory*, Vol. 27 No. 1, pp. 1-32.

Nonaka, I. (1994), "A dynamic theory of organizational knowledge creation", *Organization Science*, Vol. 5 No. 1, pp. 14-37.

Nonaka, I. and Takeuchi, H. (1995), *The knowledge-creating company: how Japanese companies create the dynamics of innovation*, Oxford University Press, Oxford.

Nunnally, J. C. and Bernstein, I. H. (1994), *Psychometric Theory*, McGraw Hill, New York.

Oh, S. (2012), "The characteristics and motivations of health answerers for sharing information, knowledge, and experiences in online environments", *Journal of the American Society for Information Science and Technology*, Vol. 63 No. 3, pp. 543-557.

Olekalns, M. and Smith, P. (2009), "Mutually dependent: power, trust, affect and the use of deception in negotiation", *Journal of Business Ethics*, Vol. 85 No. 3, pp. 347-365.

Osterloh, M. and Frey, B. S. (2000), "Motivation, knowledge transfer, and organizational forms", *Organization Science*, Vol. 11 No. 5, pp. 538-550.

Pagliaro, S., Brambilla, M., Sacchi, S., D'Angelo, M. and Ellemers, N. (2013), "Initial impressions determine behaviours: morality predicts the willingness to help newcomers", *Journal of Business Ethics*, Vol. 117 No. 1, pp. 37-44.

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This is a pre-print of a paper and is subject to change before publication. This pre-print is made available with the understanding that it will not be reproduced or stored in a retrieval system without the permission of Emerald Group Publishing Limited.

Patin, R. P. and McNiel, D. W. (1991), "Benefit imbalances among credit union member groups: evidence of borrower-dominated, saver-dominated and neutral behaviour?", *Applied Economics*, Vol. 23 No. 4, pp. 769-780.

Peng, H. (2013), "Why and when do people hide knowledge?", *Journal of Knowledge Management*, Vol. 17 No. 3, pp. 398-415.

Pierce, J. L., Kostova, T. and Dirks, K. T. (2003), "The state of psychological ownership: integrating and extending a century of research", *Review of General Psychology*, Vol. 7 No. 1, pp. 84-107.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y. and Podsakoff, N. P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903.

Polanyi, M. (1958), *Personal knowledge: towards a post-critical philosophy*, University of Chicago Press, Chicago.

Prusak, L. (2001), "Where did knowledge management come from?", *IBM Systems Journal*, Vol. 40 No. 4, pp. 1002-1007.

Rechberg, I. and Syed, J. (2013), "Ethical issues in knowledge management: conflict of knowledge ownership", *Journal of Knowledge Management*, Vol. 17 No. 6, pp. 828-847.

Reus, T. H. and Liu, Y. (2004), "Rhyme and reason: emotional capability and the performance of knowledge-intensive work groups", *Human Performance*, Vol. 17 No. 2, pp. 245-266.

Reynolds, W. M. (1982), "Development of reliable and valid short forms of the Marlowe-Crowne social desirability scale", *Journal of Clinical Psychology*, Vol. 38 No. 1, pp. 119-125.

Downloaded by University of Sussex Library At 19:05 12 July 2016 (PT)

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This is a pre-print of a paper and is subject to change before publication. This pre-print is made available with the understanding that it will not be reproduced or stored in a retrieval system without the permission of Emerald Group Publishing Limited.

Riege, A. (2005), "Three-dozen knowledge-sharing barriers managers must consider", *Journal of Knowledge Management*, Vol. 9 No. 3, pp. 18-35.

Ruppel, C. P. and Harrington, S. J. (2001), "Sharing knowledge through intranets: a study of organizational culture and intranet implementation", *IEEE Transactions on Professional Communication*, Vol. 44 No. 1, pp. 37-52.

Ryan, R. M. and Deci, E. L. (2000), "Intrinsic and extrinsic motivations: classic definitions and new directions", *Contemporary Educational Psychology*, Vol. 25 No. 1, pp. 54-67.

Schaefer, D. R. (2009), "Resource variation and the development of cohesion in exchange networks", *American Sociological Review*, Vol. 74 No. 4, pp. 551-572.

Schaefer, D. R. (2011), "Resource characteristics in social exchange networks: implications for positional advantage", *Social Networks*, Vol. 33 No. 2, pp. 143-151.

Schauer, A., Vasconcelos, A. C. and Sen, B. (2015), "The ShaRInK framework: a holistic perspective on key categories of influences shaping individual perceptions of knowledge sharing", *Journal of Knowledge Management*, Vol. 19 No. 4, pp. 770-790.

Seguí-Mas, E. and Izquierdo, R. J. S. (2009), "Studying the financial resources for agrifood industry and rural development: description of human capital in credit unions through Delphi analysis", *Interciencia*, Vol. 34 No. 10, pp. 718-724.

Serenko, A. and Bontis, N. (2013), "The intellectual core and impact of the knowledge management academic discipline", *Journal of Knowledge Management*, Vol. 17 No. 1, pp. 137-155.

Serenko, A., Bontis, N. and Hull, E. (2015), "An application of the knowledge management maturity model: the case of credit unions", *Knowledge Management Research & Practice*, in-press.

Downloaded by University of Sussex Library At 19:05 12 July 2016 (PT)

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This is a pre-print of a paper and is subject to change before publication. This pre-print is made available with the understanding that it will not be reproduced or stored in a retrieval system without the permission of Emerald Group Publishing Limited.

Smith, D. J., Cargill, T. F. and Meyer, R. A. (1981), "Credit unions: an economic theory of a credit union", *Journal of Finance*, Vol. 36 No. 2, pp. 519-528.

So, J. C. F. and Bolloju, N. (2005), "Explaining the intentions to share and reuse knowledge in the context of IT service operations", *Journal of Knowledge Management*, Vol. 9 No. 6, pp. 30-41.

Staples, D. S. and Webster, J. (2008), "Exploring the effects of trust, task interdependence and virtualness on knowledge sharing in teams", *Information Systems Journal*, Vol. 18 No. 6, pp. 617-640.

Thibaut, J. W. and Kelley, H. H. (1959), *The social psychology of groups*, John Wiley, Oxford, England.

Thye, S. R., Lawler, E. J. and Yoon, J. (2011), "The emergence of embedded relations and group formation in networks of competition", *Social Psychology Quarterly*, Vol. 74 No. 4, pp. 387-413.

Townley, B. (1993), "Foucault, power/knowledge, and its relevance for human resource management", *Academy of Management Review*, Vol. 18 No. 3, pp. 518-545.

Treloar, S. A., Morley, K. I., Taylor, S. D. and Hall, W. D. (2007), "Why do they do it? A pilot study towards understanding participant motivation and experience in a large genetic epidemiological study of endometriosis", *Public Health Genomics*, Vol. 10 No. 2, pp. 61-71.

Triandis, H. C. (1980), "*Values, attitudes, and interpersonal behavior*", in: H. E. Howe and M. M. Page (Eds.), Nebraska symposium on motivation, 1979, University of Nebraska Press, Lincoln, pp. 195-260.

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Tse, H. H. M. and Dasborough, M. (2008), "A study of exchange and emotions in team member relationships", *Group & Organization Management*, Vol. 33 No. 2, pp. 194-215.

van den Hooff, B. and van Weenan, F. d. L. (2004), "Committed to share: commitment and Computer-Mediated Communication use as antecedents of knowledge sharing", *Knowledge and Process Management*, Vol. 11 No. 1, pp. 13-24.

van Dijke, M. and Poppe, M. (2006), "Striving for personal power as a basis for social power dynamics", *European Journal of Social Psychology*, Vol. 36 No. 4, pp. 537-556

Vinzi, V. E., Chin, W. W., Henseler, J. and Wang, H., Eds. (2010), "*Handbook of partial least squares: concepts, methods and applications*". Springer, Berlin.

Vuori, V. and Okkonen, J. (2012), "Knowledge sharing motivational factors of using an intra-organizational social media platform", *Journal of Knowledge Management*, Vol. 16 No. 4, pp. 592-603.

Wang, X., Clay, P. F. and Forsgren, N. (2015), "Encouraging knowledge contribution in IT support: social context and the differential effects of motivation type", *Journal of Knowledge Management*, Vol. 19 No. 2, pp. 315-333.

Wasko, M. M. and Faraj, S. (2005), "Why should I share? Examining social capital and knowledge contribution in electronic networks of practice", *MIS Quarterly*, Vol. 29 No. 1, pp. 35-57.

Wayne, S. J., Shore, L. M. and Liden, R. C. (1997), "Perceived organizational support and leader-member exchange: a social exchange perspective", *Academy of Management Journal*, Vol. 40 No. 1, pp. 82-111.

Wiig, K. M. (1997), "Knowledge management: where did it come from and where will it go?", *Expert Systems with Applications*, Vol. 13 No. 1, pp. 1-14.

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Willer, R., Flynn, F. J. and Zak, S. (2012), "Structure, identity, and solidarity: a comparative field study of generalized and direct exchange", *Administrative Science Quarterly*, Vol. 57 No. 1, pp. 119-155.

Yahyapour, S., Shamizanjani, M. and Mosakhani, M. (2015), "A conceptual breakdown structure for knowledge management benefits using meta-synthesis method", *Journal of Knowledge Management*, Vol. 19 No. 6, pp. 1295-1309.

Yeo, R. K. and Marquardt, M. J. (2015), "To share or not to share? Self-perception and knowledge-sharing intent", *Knowledge Management Research & Practice*, Vol. 13 No. 3, pp. 311-332.

Yi, Y. and Gong, T. (2008), "The effects of customer justice perception and affect on customer citizenship behavior and customer dysfunctional behavior", *Industrial Marketing Management*, Vol. 37 No. 7, pp. 767-783.

Yoon, J. and Lawler, E. J. (2006), "*Relational cohesion model of organizational commitment*", in: O. Kyriakidou and M. F. Ozbilgin (Eds.), Relational perspectives in organizational studies: a research companion, Edward Elgar Publishing, Northampton, Massachusetts, pp. 138-162.

Zhang, Z. and Jia, M. (2010), "Using social exchange theory to predict the effects of high-performance human resource practices on corporate entrepreneurship: evidence from China", *Human Resource Management*, Vol. 49 No. 4, pp. 743-765.

Zhou, S., Siu, F. and Wang, M. (2010), "Effects of social tie content on knowledge transfer", *Journal of Knowledge Management*, Vol. 14 No. 3, pp. 449-463.

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Appendix

The Questionnaire

Attitude towards knowledge sharing.

My knowledge sharing with other organizational members is ...

KSA1. good.

KSA2. harmful. (negatively worded item)

KSA3. an enjoyable experience.

KSA4. valuable to me.

KSA5. a wise move.

Intentions to share tacit knowledge.

IST1. I intend to share my experience or know-how from work with other organizational members in the future.

IST2. I will provide my know-where or know-whom at the request of other organizational members.

IST3. I will try to share my expertise from my education (or training) with other organizational members.

Intentions to share explicit knowledge.

ISE1. I intend to share my work reports, templates, and documents with members of my organization in the future.

ISE2. I will provide my work reports, templates, and documents to members of my organization.

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Negotiated form of social exchange.

NKE1. I share knowledge with my fellow employee only when I explicitly negotiate with him/her that we engage in mutually beneficial knowledge exchange.

NKE2. Every time I share knowledge with my fellow employee, I clearly state that he/she should reciprocate.

NKE3. I share knowledge with my fellow employee only after he/she promises to share his/her knowledge in return.

Reciprocal form of social exchange.

RKE1. I share knowledge with my fellow employee because I expect him/her to share his/her knowledge with me in return.

RKE2. Every time I share knowledge with my fellow employee, I assume that he/she will reciprocate.

RKE3. When I share knowledge with my fellow employee, I believe he/she will return a favor by sharing his/her knowledge with me in the future.

Generalized form of social exchange.

GKE1. I share knowledge with my fellow employee because I expect other employees to share their knowledge with me.

GKE2. Every time I share knowledge with my fellow employee, I assume that other employees will reciprocate.

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GKE3. When I share knowledge with my fellow employee, I believe that other employees will return a favor by sharing their knowledge with me in the future.

Productive form of social exchange.

PKE1. I share knowledge with my fellow employee because doing so benefits the entire organization.

PKE2. Every time I share knowledge with my fellow employee, I do so because I am a responsible citizen within a cooperative enterprise.

PKE3. When I share knowledge with my fellow employee, I contribute to the success of my organization.

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List of Figures

Figure 1 The Proposed Model

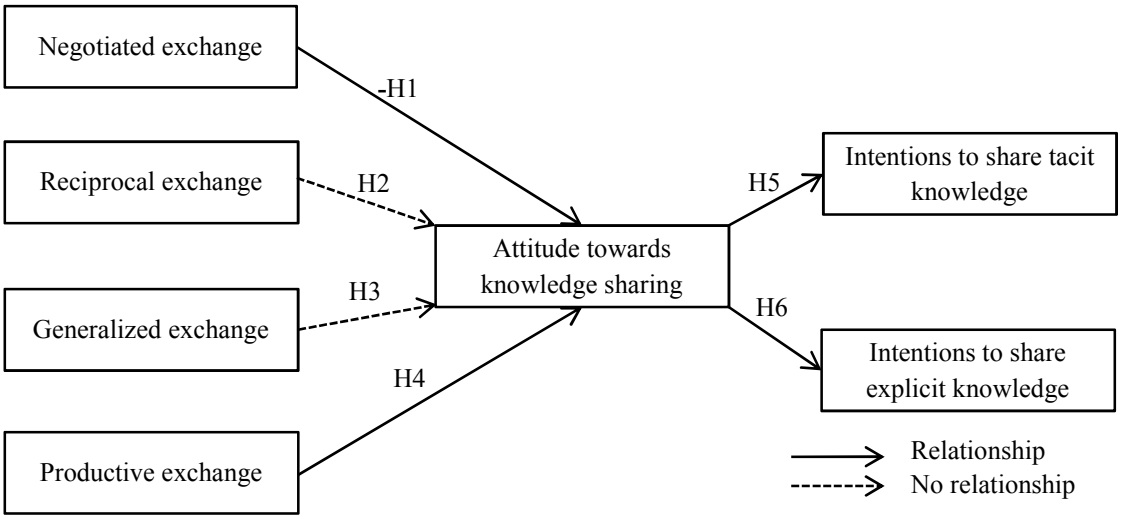
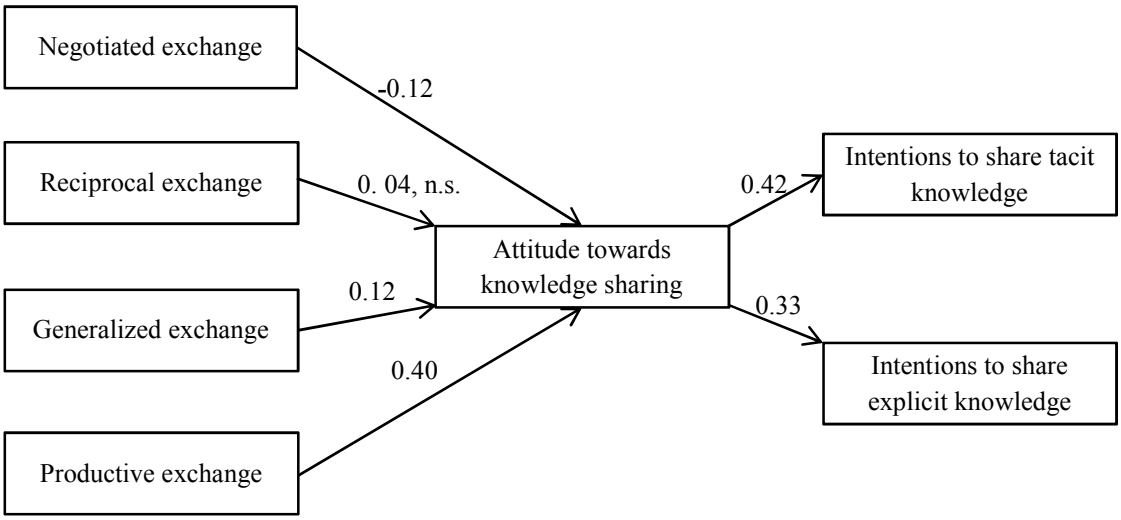


Figure 2 The Structural Model (all relationships are significant at 0.01 level unless indicated otherwise)



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List of Tables

Table I The application of social exchange theory in the knowledge sharing domain

Study	Context	Key Findings
Bartol et al. (2009)	IT industry	Perceived organizational support is positively associated with knowledge sharing.
Bock and Kim (2002)	Organizations	Expected rewards have no impact on knowledge sharing. Instead, knowledge sharing attitude is a key factor affecting actual knowledge sharing behavior.
Jarvenpaa and Staples (2000)	Collaborative electronic media	The use of collaborative electronic media for information sharing depends on the degree of task interdependence.
Hall (2003)	The knowledge market	Social exchange theory may be fruitfully applied to problems in information science.
Hall et al. (2010)	Community of bloggers	Social exchange theory is a useful tool for explaining online information sharing behaviors. Social rewards, including validation of one's group membership, are powerful incentives.
Kankanhalli et al. (2005)	Electronic knowledge repositories	Intrinsic factors (knowledge self-efficacy and enjoyment in helping others) impact contribution of knowledge.
Kim (Kim, 2010)	Self-archiving practices of faculty members	Altruism – the idea of providing benefits for others – is the key reason for contributing one's research work to open access venues.
Kuvaas et al. (2012)	Employee training	The relationship between perceived training intensity and knowledge sharing depends on the level of social exchange perception.
Liao (2008)	R&D departments	Rewards, expert power, and trust have a positive effect on knowledge sharing behavior.
Lin and Lo (2015)	Healthcare knowledge workers	Reward systems are important knowledge sharing facilitators.
Staples and Webster (2008)	Virtual teams	There is a strong positive relationship between trust and knowledge sharing. Knowledge sharing improves team effectiveness.

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Table II Descriptive statistics and reliability assessment (AVE – average variance extracted)

Item	Mean	SD	Item-total Correlation	Loading	Error	Cronbach's Alpha	Composite Reliability	AVE
NKE1	2.35	1.82	0.59	0.832	0.051			
NKE2	2.34	1.68	0.61	0.759	0.064	0.75	0.848	0.652
NKE3	1.53	1.07	0.54	0.828	0.066			
RKE1	3.35	2.29	0.91	0.949	0.033			
RKE2	3.63	2.18	0.92	0.951	0.032	0.95	0.967	0.907
RKE3	4.08	2.22	0.88	0.958	0.050			
GKE1	4.01	2.20	0.78	0.874	0.019			
GKE2	4.09	2.13	0.84	0.903	0.019	0.89	0.926	0.801
GKE3	4.50	2.06	0.78	0.915	0.012			
PKE1	6.38	1.06	0.88	0.849	0.043			
PKE2	6.23	1.15	0.79	0.876	0.024	0.92	0.910	0.771
PKE3	6.43	0.99	0.87	0.908	0.018			
KSA1	6.19	1.10	0.81	0.902	0.021			
KSA2(R)	6.63	1.00	0.61	0.799	0.039			
KSA3	5.83	1.26	0.78	0.883	0.023	0.90	0.945	0.774
KSA4	6.00	1.28	0.83	0.910	0.018			
KSA5	6.00	1.33	0.77	0.902	0.019			
IST1	5.91	1.42	0.87	0.951	0.010			
IST2	5.89	1.45	0.85	0.940	0.012	0.93	0.963	0.897
IST3	6.09	1.27	0.85	0.950	0.011			
ISE1	5.75	1.61	0.90	0.975	0.007	0.95	0.975	0.951
ISE2	5.73	1.64	0.90	0.975	0.006			

Note: NKE – negotiated knowledge exchange mode; RKE – reciprocal knowledge exchange mode; GKE – generalized knowledge exchange mode; PKE – productive knowledge exchange mode; KSA – knowledge sharing attitude; IST – intentions to share tacit knowledge; and ISE – intentions to share explicit knowledge. R – negatively worded item.

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Table III Matrix of loadings and cross-loadings

	NKE	RKE	GKE	PKE	KSA	IST	ISE
NKE1	**0.832**	0.111	0.046	-0.179	-0.167	-0.062	-0.079
NKE2	**0.759**	0.240	0.155	-0.114	-0.101	-0.023	-0.015
NKE3	**0.828**	0.130	0.055	-0.254	-0.181	-0.106	-0.057
RKE1	0.130	**0.949**	0.554	0.127	0.117	0.111	0.078
RKE2	0.165	**0.951**	0.590	0.116	0.124	0.102	0.083
RKE3	0.209	**0.958**	0.594	0.145	0.168	0.133	0.084
GKE1	0.055	0.502	**0.874**	0.238	0.178	0.175	0.186
GKE2	0.111	0.581	**0.903**	0.182	0.203	0.190	0.233
GKE3	0.077	0.555	**0.915**	0.258	0.245	0.230	0.224
PKE1	-0.228	0.102	0.197	**0.849**	0.331	0.318	0.258
PKE2	-0.152	0.100	0.203	**0.876**	0.415	0.349	0.294
PKE3	-0.251	0.153	0.260	**0.908**	0.458	0.380	0.337
KSA1	-0.218	0.112	0.202	0.430	**0.902**	0.399	0.330
KSA2	-0.186	0.054	0.149	0.275	**0.799**	0.273	0.199
KSA3	-0.149	0.168	0.250	0.423	**0.883**	0.371	0.263
KSA4	-0.176	0.142	0.201	0.433	**0.910**	0.386	0.313
KSA5	-0.133	0.153	0.224	0.446	**0.902**	0.398	0.337
IST1	-0.097	0.128	0.225	0.408	0.413	**0.951**	0.665
IST2	-0.078	0.101	0.194	0.358	0.392	**0.940**	0.663
IST3	-0.072	0.119	0.215	0.370	0.388	**0.950**	0.622
ISE1	-0.072	0.090	0.243	0.318	0.325	0.660	**0.975**
ISE2	-0.061	0.078	0.225	0.347	0.325	0.680	**0.975**

TABLE IV Construct correlations (note: the diagonal elements are the square root of the AVE of a respective construct)

	NKE	RKE	GKE	PKE	KSA	IST	ISE
NKE	**0.807**						
RKE	0.181	**0.952**					
GKE	0.091	0.610	**0.895**				
PKE	-0.239	0.137	0.253	**0.878**			
KSA	-0.194	0.147	0.236	0.464	**0.880**		
IST	-0.087	0.123	0.224	0.400	0.421	**0.947**	
ISE	-0.068	0.086	0.240	0.341	0.334	0.687	**0.975**

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