Knowledge sharing attitude and behaviour in Saudi Arabian organisations: why trust matters

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Abstract: The paper explores the factors that affect employees' attitude and behaviour towards knowledge sharing in Saudi Arabian organisations. A mixed methods approach was used to gather data through a survey and semi-structured interviews. Trust was found to have a negative relationship with knowledge sharing attitude while collaborative climate, management support, openness, and rewards were found to affect knowledge sharing attitude. Although the study found a relationship between knowledge sharing attitude and behaviour, collaborative climate is the only factor that influenced knowledge sharing behaviour as mediated by knowledge sharing attitude. Qualitative findings offer further insight into the role of trust as a catalyst in facilitating knowledge sharing. They also shed light on the internal and external factors that influence knowledge sharing attitude and behaviour. The study contributes to the knowledge sharing literature by illuminating the interrelations of context, attitude, and behaviour, offering implications for human resource management.

Keywords: knowledge sharing; cognition; behaviour; context; trust; mixed methods; Saudi Arabia.

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1 Introduction

Knowledge is regarded as a powerful intellectual resource to help organisations remain competitive in volatile times (Cabrera et al., 2006; Nonaka and Takeuchi, 1995; Swart et al., 2014). However, organisational knowledge can only be gained and accumulated through individuals that spills over to teams and collectively affects the organisation as a whole (Griffith and Sawyer, 2010). Information alone is not knowledge as it requires interpretation in relation to a context that can be converted into practical knowledge for capacity building (Argote and Ingram, 2000). Knowledge is therefore the know-what and know-how of things surrounding a context that individuals act upon to produce certain results (Nonaka, 1994). In organisations, knowledge is intimately bound to practise where the diffusion of knowledge occurs through social interaction (Swart and Kinnie, 2003). When individuals engage in knowledge sharing, they shape each other's knowledge boundaries to make sense of a particular context (Tsoukas, 1996). Hence, knowledge sharing, whether through formal or informal processes, is critical to organisational survival as it will help employees see connections between interdependent tasks and solve interdisciplinary problems (Bhatt, 2002).

Unlike the western world, knowledge sharing in the Arab world is a rather fascinating phenomenon. While there has been an increasing interest in this area of research in the Middle East (e.g., Al-Alawai et al., 2007; Migdadi, 2009; Yeo and Marquardt, 2013), few studies have actually explored the processes and outcomes of knowledge sharing in sufficient depth (c.f., Abdul-aziz and Lee, 2007; Al-Adaileh and Al-Atawi, 2011; Mohamed et al., 2008). The Middle Eastern context is unique in that workforce patterns are highly complex with more educated Arabs holding promising positions in various job functions across industries despite its reliance on expatriates. The workforce is partly affected by nationalisation strategies with the aim of grooming local talent (Mimouni and Metcalfe, 2012). While such strategies do not necessarily displace foreign talent, many organisations in the region also recognise the need to maintain a heterogeneous workforce by creating new functions that could capitalise on a great variety of expatriates (Mohamed et al., 2008). Working in a complex environment of multiple nationalities makes knowledge sharing a less-than-straightforward process. In fact, knowledge sharing could be manipulated to serve as a tool for preserving or removing social relations (Yeo and Marquardt, 2014).

Saudi Arabia is no exception. Being a closed country with a unique social fabric where there is no complete freedom in the interaction between males and females, Saudi Arabia offers an interesting context from which to explore knowledge sharing

phenomena. Further, recognised as a male-dominant society (Mimouni and Metcalfe, 2012), knowledge sharing could present itself in less predictable ways in organisations. It must also be noted that the 'closeness' does not prevent the country from attracting foreign partnerships and opening up business opportunities for cross-border collaborations (Al-Bahussin and El-Garaihy, 2013). At the strategic level, organisations have become less predictable. Knowledge has thus been perceived as a critical resource and an asset for maintaining competitive advantage (Cummings, 2004).

As organisations in the Middle East embark on internationalisation plans, the need to develop knowledge sharing practices cannot be overemphasised. In the case of Saudi Arabia, knowledge transfer has been largely hampered by the lack of infrastructure of information and technology (Al-Khaldi and Wallace, 1999). Also, literacy and competence of employees are unequally distributed, affecting the success of many knowledge sharing initiatives in the Middle East (e.g., Migdadi, 2009; Yeo and Marquardt, 2013). Mohamed et al. (2008) found that there are shortfalls in knowledge sharing practices in the region due to economic, political, and cultural factors. Ideas could be 'stolen' for personal use or information could be manipulated to serve political acts undermining the intrinsic value of knowledge sharing. They further found that interpretations of knowledge are equally important for subsequent application and use. Knowledge sharing could either help employees to make sense of ambiguous contexts or create new areas of interest that may or may not add value to individuals or their organisation (Reus et al., 2009).

Technology could also help facilitate knowledge sharing. More than a decade ago, researchers found that Saudi Arabian organisations mainly focused on exploiting technology to ensure knowledge transfer (e.g., Al-Khaldi and Wallace, 1999; Yavas, 1997). While acknowledging that social factors, emotional readiness, job performance, and environment are equally important considerations, not much research has been done to explore the individual, social, and organisational factors that affect knowledge sharing in the Saudi Arabian context since then. This study is therefore guided by the following research questions:

1 What are the factors affecting employees' attitude towards knowledge sharing in Saudi Arabian organisations?

2 How will employees' attitude influence their behaviour towards knowledge sharing?

The study makes three contributions to the literature. First, it suggests that knowledge sharing at the individual level does not necessarily consider knowledge as internal to individuals; rather, knowledge could operate externally from individuals if they view knowledge sharing as a tool towards achieving personal objectives rather than an intrinsic social exchange of knowledge of value to one another (c.f., Lave and Wenger, 1991; Tsoukas, 1996). Second, the study posits that in contexts of complexity due to workforce diversity such as Saudi Arabia, the interplay of cognition and behaviour as associated with knowledge sharing is far more complex than meets the eye. This perspective challenges the assumption that a positive attitude could lead to a positive behaviour towards knowledge sharing (c.f., Bock et al., 2005; Liu and Liu, 2011). Third, the study illuminates trust as both a psychological and social mechanism that affects knowledge sharing processes operating at multiple levels. This perspective offers further insight into knowledge sharing as more than an interpersonal and inter-organisational process (c.f., Cabrera et al., 2006; Empson, 2001).

2 Theoretical perspectives

2.1 Definitions

Knowledge is defined as an intellectual resource serving as a competitive advantage for organisations to complete in the global arena (Argote and Ingram, 2000; Nag et al., 2007). As such, being able to create knowledge and sustain the use of knowledge has become a strategic vision for organisations seeking to transform themselves (Swart and Kinnie, 2003). In order for knowledge to be utilised for organisational competitiveness, it must first be shared at the individual level and then assimilated at the group level to ensure collective diffusion (Tempest, 2009). One of the determinants of organisational performance is through the capitalisation of tacit knowledge. However, tacit knowledge is difficult to codify and express in words, and hence cannot be stored readily (Polanyi, 1962). It can only be acquired through observation, imitation, and practice (D'Eredita and Barreto, 2006). Explicit knowledge, on the other hand, can be codified and expressed in words and other recognisable forms (Ipe, 2003). Knowledge sharing can therefore serve to bridge the gap between tacit and explicit knowledge (Nonaka and Takeuchi, 1995).

Knowledge sharing is an exchange between individuals and groups where knowledge is the content through which task information, expertise, and feedback are intertwined to help organisation members understand and perform their jobs better (Swart et al., 2014). A critical aspect of knowledge sharing lies in the experience of individuals where knowledge that is situated in the context of individual experiences becomes a unique source of competence which, when shared with others, will create a larger knowledge base contributing towards organisational competitiveness (Argote and Ingram, 2000). However, knowledge sharing starts with individuals, whose intent to share what they know is to a certain extent influenced by social circumstances. The more complex and ambiguous the context, the more hesitant is the knowledge sharing intent (Yeo and Marquardt, 2013). Consequently, knowledge sharing does not necessarily lead to the creation of knowledge; instead, it could be used to explore and exploit knowledge shared by others for personal gain (Cabrera et al., 2006). Unless knowledge is shared spontaneously and freely between individuals and groups that lead to collective action for organisational purposes, knowledge sharing becomes a social tool for exploiting human relationships to achieve personal goals (Blau, 1964).

Given the different facets of knowledge sharing in complex contexts – that is, contexts built on network structures rather than a dominant corporate culture (Tempest, 2009) – the linkage between knowledge attitude and behaviour becomes an important question to consider. The point of contention therefore lies in the dichotomy between how one thinks and how one acts (Ajzen and Fishbein, 1980). For instance, if one perceives a context as safe for knowledge sharing and intends to engage in genuine knowledge exchange, one is likely to 'act' on the sharing of knowledge by engaging in meaningful dialogue, feedback, and reflection (Abrams et al., 2003). However, if one feels that there is a lack of trust between the parties involved in knowledge sharing, one may choose to take a step back by doing more observation than involving in the direct 'act' of sharing (Empson, 2001). The ability to share knowledge also impinges on the extent to which knowledge is ultimately shared (Liu and Liu, 2011). When one is confronted by a lack of confidence due to social threat, one is likely to withdraw from the intrinsic intent of knowledge sharing after calculating the risks involved. At the core is one's willingness to release the knowledge one knows and communicates it freely with

others in order to learn something from them (Dyer and Chu, 2003). If knowledge escalates to the collective level, the organisation will then be able to organise, reuse, and transfer the collective knowledge to serve its competitive needs (Griffith and Sawyer, 2010).

2.2 Knowledge sharing in context

Given our focus on the telecommunications as well as gas and oil industries as our research contexts, we review several relevant studies on knowledge sharing. First, the gas and oil industry proves to be much more diverse than one would expect. Employees are engaged in a variety of tasks and activities with both internal and external stakeholders including contractors and vendors. As such, Abdul-aziz and Lee (2007) found that the only way to promote knowledge sharing in a diverse work environment is to develop a strong corporate culture by building knowledge through teams. As project teams are highly prevalent in this industry, it is expected that employees collaborate with others to get a job done. Knowledge sharing can therefore serve as a platform for employees of diverse backgrounds to see the 'big picture' and discuss alternative work processes. The study also found that management support is of primary importance to promoting knowledge sharing practices, particularly in encouraging more experienced employees to share their know-how with less-experienced ones.

Second, the telecommunications industry relies on a network of social relations through a wide range of customers. Chong et al. (2009) discovered that knowledge mapping – that is, knowledge identification, sharing, and storage – could be facilitated through the formation of expert groups where specialised knowledge is shared within a community of practice (Lave and Wenger, 1991). They further identified several essential factors such as manpower, time, and cost as contributing to the success of expert-group knowledge sharing. As this industry is often fuelled by keen competition among smaller and more agile players, strong leadership and management support would be required to sustain knowledge sharing as a capacity-building strategy (Liu and Liu, 2011). We next describe a preliminary framework that we have developed to frame our understanding of knowledge sharing processes in Saudi Arabia.

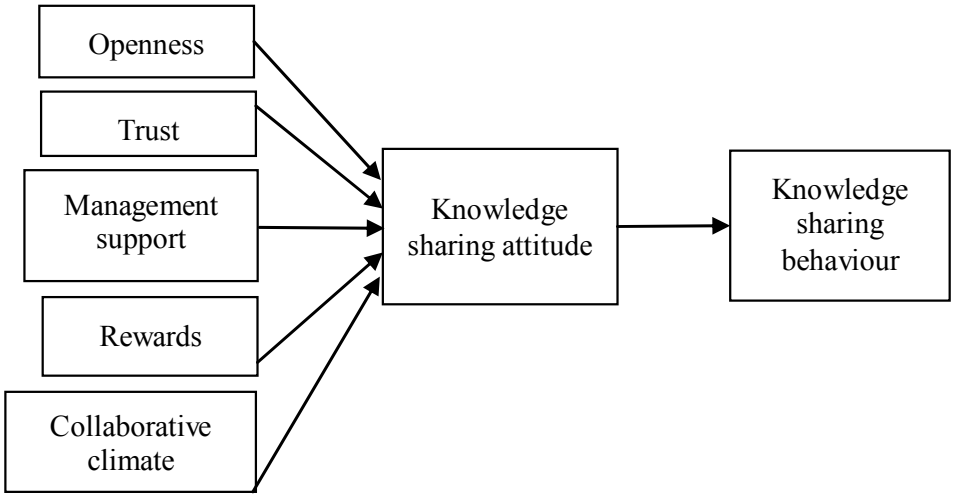
3 A conceptual framework of knowledge sharing

Our experience in several corporate-wide knowledge sharing programmes in Saudi Arabia led us to conceptualise knowledge sharing as both influenced by internal and external stimuli. We discovered that there is an inherent network relationship operating at different levels in organisations through a 'wasta' (in-group) system where who you know gets you what you want (Mimouni and Metcalfe, 2012). Such informal relationship adds to the complexity of social relations, making knowledge sharing a fascinating process in Saudi Arabia. Understanding this process would require us to explore the 'thinking' and 'acting' of individuals, and how to determine if there is a connection between the two. In other words, we wanted to explore if a positive attitude necessarily leads to a positive behaviour towards knowledge sharing. By positive attitude, we refer to the value that one places on knowledge and the sharing of it to enlarge the knowledge base (Swart and Kinnie, 2003). In a similar vein, we define positive behaviour as taking appropriate action such as engaging in formal and informal dialogue through feedback

and questioning to challenge assumptions and offering new information that could help change the way others think and act (Lauring and Selmer, 2012).

Reviewing the literature based on our understanding of the Saudi Arabian context led to the identification of two individual factors, namely 'openness' and 'trust', as well as three organisational factors, namely 'management support', 'rewards', and 'collaborative climate' as influencing knowledge sharing attitude and behaviour, as illustrated in Figure 1 (e.g., Argote and Ingram, 2000; Bakker et al., 2006; Bartol and Srivastava, 2002; Ipe, 2003; Liao, 2008; McDermott and O'Dell, 2011; Nag et al., 2007). The individual and organisational factors as well as the relationship between the two are of particular importance to explore since the localised-multi-cultural context of Saudi Arabian organisations is governed by the interplay of power and control offering both opportunities and constraints for knowledge sharing (Yeo and Marquardt, 2013). By localised-multi-cultural, we suggest a context that is constituted of employees from diverse backgrounds yet converging on a 'local' organisational culture which is largely influenced by the national culture (Al-Adaileh and Al-Atawi, 2011). We next discuss each variable in Figure 1 in greater detail.

Figure 1 A framework of knowledge sharing



First, 'openness' is the willingness of individuals to communicate and interact with each other by embracing each other's worldviews and values in things that matter to them or a context familiar to them such as their organisation (Lane and Bachmann, 1998). In the context of knowledge sharing, openness is an individual characteristic that determines the intent of an action that encourages the participation of others (Liu and DeFrank, 2013). For instance, when one shares knowledge openly with others – that is, the intent of bringing to other people's attention the knowledge others might not be familiar with – one creates a boundary of a reciprocal relationship where the party receiving the knowledge is expected to share something back in return. The process of giving and receiving knowledge forms a mutual loop of knowledge exchange ideal for bridging personal experiences and organisational practice (Dabos and Rousseau, 2004). We therefore hypothesise the relationship between openness and knowledge sharing as follows:

H_1 Openness between employees will lead to a positive attitude towards knowledge sharing.

Second, 'trust' is also an individual characteristic suggesting that one is willing to expose one's vulnerability to others despite one's ability to control the situation (Mayer et al., 1995). In organisational contexts, it was found that the higher the level of trust, the greater the psychological safety in encouraging knowledge sharing (Collins and Smith, 2006). Where there is trust between employees, there is little need for them to be overly protective of their own ego by withholding knowledge from others. Further, trust was found to contribute towards the sharing of tacit knowledge where individuals engage in deep conversations to relate to each other's experiences (Lin, 2007). A study in Bahrain suggests that there is a direct positive correlation between trust and knowledge sharing (Al-Alawai et al., 2007), leading to our second hypothesis:

H_2 Trust between employees will lead to a positive attitude towards knowledge sharing.

Third, 'management support' is one of the most critical factors in promoting knowledge sharing in organisations (Avolio and Bass, 1995). As reinforced by Schein (1985), management has the power to influence and shape organisational culture. As such, management support would be crucial for institutionalising knowledge sharing as part of organisational practice by creating an environment of learning and development (Lin and Lee, 2004). With management support, employees were found to increase their willingness to share and consolidate knowledge for increasing the intellectual capital of the organisation (Lin, 2007). Such support is often perceived as a commitment of the organisation to the development and investment of individuals by increasing their level of competence through knowledge sharing (Chan and Maugorgne, 1998). Accordingly, we develop our third hypothesis:

H_3 Management support will lead to a positive attitude towards knowledge sharing.

Fourth, 'rewards' are incentives often used as a human resource strategy to reinforce employees' attitude and behaviour (Currie and Kerrin, 2003). Rewards can be direct and indirect, and serve as a motivational device in reinforcing employees' perceived self-efficacy in task performance (Liu and Liu, 2011). Rewards could also increase the level of knowledge diffusion in organisations, particularly when employees relate rewards to the value their organisations place on knowledge sharing. For example, in IBM 25% of the overall performance evaluation of their customer service employees is based on their level of knowledge sharing participation in order to improve customer service (Bartol and Srivastava, 2002). Closer to our research context, a Bahrain study found that rewards significantly improved knowledge sharing practices in organisations, increasing their level of innovation in products and services (Al-Alawai et al., 2007), leading to our fourth hypothesis:

H_4 Rewards will lead to a positive attitude towards knowledge sharing.

Fifth, 'collaborative climate' is an organisational attribute that promotes teamwork, task coordination, and employee cooperation (Chatman and Flynn, 2001). When people work together to figure out how work is done, they inadvertently engage in knowledge sharing translating self-interest into team learning (Liu and DeFrank, 2013). It was found that knowledge sharing dynamics increase with member diversity as multiple perspectives are challenged and negotiated to develop new knowledge patterns (Lauring and Selmer,

2012). A collaborative climate encourages different interpretations of tasks, work processes, and expectation, within which knowledge sharing becomes a by product of group dynamics (Sveiby and Simons, 2002). In the process, members develop shared understandings and perceive knowledge sharing as a means of connecting with others at a higher and wider level (Liao, 2008). We reinforce the relationship between collaborative climate and knowledge sharing in our fifth hypothesis:

H_5 A collaborative climate will lead to a positive attitude towards knowledge sharing.

Cognitive and behavioural research suggests there is a relationship between how one thinks and how one acts (Dabos and Rousseau, 2004). Particularly, a positive attitude could lead to a positive behaviour towards knowledge sharing, as reinforced in a number of studies (e.g., Bock et al., 2005; Lin and Lee, 2005). For instance, if one believes that knowledge sharing is not only beneficial for oneself and others, one will seek opportunities to create activities that will facilitate the exchange of knowledge. Knowledge sharing attitude therefore determines one's intent in social exchange (Gibson, 2001). If the intent is not for self-gratification but rather for the liberation of others through exposure of new knowledge, one is more likely to translate intent into action. A positive attitude connects frames of references of past and lived experience to perceived experience. In bridging the gap between different cognitive representations, one tends to gravitate one's thinking towards specific action patterns to enact those representations (Argyris, 1999). It is with this understanding that we develop our sixth hypothesis:

H_6 A positive knowledge sharing attitude will lead to a positive behaviour towards knowledge sharing.

In this study, we also posit that knowledge sharing attitude produces mediating effects between the five identified factors and knowledge sharing behaviour (e.g., Barreto, 2002; Cabrera et al., 2006; Gruber and Duxbury, 1999). Frames of references residing in the minds of individuals are largely influenced by how they perceive themselves and their social world. Perceptions drawn from past experience can shape their reality to the extent that they develop action patterns to concretely experience that reality (Argote and Ingram, 2000). The interplay of cognition and behaviour is further facilitated by the interaction of internal and external factors. For instance, if one thinks that the environment is safe to share knowledge freely given the right management support, one will take a proactive step towards enacting their intent by engaging others in knowledge sharing (Liu and DeFrank, 2013). We hence develop our final hypothesis as follows:

H_7 Knowledge sharing attitude will mediate the relationship between the five factors (openness, trust, management support, rewards, and collaborative climate) and knowledge sharing behaviour.

4 Methods

We utilised a mixed methods approach to exploring knowledge sharing phenomena in Saudi Arabian organisations, combining quantitative and qualitative methods. The first stage involved the development of a questionnaire based on focus groups using constructs

from Barreto (2002) and Gruber and Duxbury (1999) as a reference. In the second stage, we conducted a survey using the finalised questionnaire to gather data from three Saudi Arabian organisations that had implemented knowledge sharing programs. In the third stage, we conducted semi-structured interviews to gain further insights into issues related to knowledge sharing based on the survey results. Mixed methods research is appropriate as it not only integrates the generation and verification of theory in a single study but also allows researchers to make deeper inferences from different sources of data (Molina-Azorin, 2012). In view of this, mixed methods research lends itself well for understanding complex knowledge sharing processes in Saudi Arabia.

4.1 The survey

The questionnaire for this study was finalised through three focus groups of five members each based on scale items adapted from Barreto (2002) and Gruber and Duxbury (1999). We referred to Barreto's research instrument because it incorporated both formal and informal knowledge sharing processes. On the other hand, Gruber and Duxbury's instrument took into consideration both internal and external factors as affecting knowledge sharing attitude and behaviour. Both instruments offered different facets of knowledge sharing as relevant to the context of Saudi Arabia. However, in order to ensure that the final questionnaire was sufficiently contextualised, we randomly selected five respondents from each of the three Saudi Arabian organisations that had experience developing knowledge sharing programmes to participate in three focus group discussions. These discussions served three purposes: first, to provide further insight into specific issues relating to knowledge sharing; second, to clarify the relevant scale items from the chosen instruments; and third, to identify potential trends in knowledge sharing that could be explored in a subsequent stage in this research (Guba and Lincoln, 1994).

In the questionnaire, a six-point Likert-type scale ranging from '1' (strongly disagree) to '6' (strongly agree) was used to ensure that there would not be any neutral responses as the statements used were specific to the respondents' knowledge sharing experience in the three organisations chosen for the study (Shavelson, 1988). Two of them are in the gas and oil industry while the third organisation is in the telecommunications industry. We managed to gain access into these organisations as we were involved as external researchers to review their knowledge sharing programmes. The preliminary questionnaire refined through focus group discussions was piloted through 60 participants, of whom 20 were randomly selected from each of the three organisations (Reynolds et al., 1993). The pilot results finalised the factor loadings and ascertained the reliability scores for the main survey (Sekaran, 2000). The final questionnaire contains seven constructs all with a reliability score of above 0.7 (see Table 1). Here are some examples of the scale items: 'openness' (*We know that we can depend on each other to exchange knowledge*), 'trust' (*I will not share any knowledge that will put me and my colleagues at a disadvantage*), 'management support' (*I am able to obtain the resources I need to share my knowledge with others*), 'rewards' (*We are recognized in one way or another for our knowledge sharing efforts*), 'collaborative climate' (*My department encourages knowledge sharing through teamwork*), 'knowledge sharing attitude' (*I engage in knowledge sharing as it helps me in my work*) and 'knowledge sharing behaviour' (*I share knowledge actively on all occasions*).

Table 1 Composite variables in the main study

Variables	*Items*	*Cronbach's α*	*Range*	*Mean*	*S.D.*
Openness	4	0.835	1.00–6.00	4.21	0.811
Trust	3	0.858	1.00–6.00	4.29	0.792
Management support	3	0.912	1.32–6.00	4.33	0.767
Rewards	5	0.839	1.40–6.00	3.97	0.724
Collaborative climate	4	0.844	1.35–6.00	4.14	0.771
Knowledge sharing attitude	4	0.872	1.72–6.00	4.28	0.725
Knowledge sharing behaviour	6	0.846	1.63–5.85	4.16	0.633

Following an online survey distributed to all employees of those departments that had embarked on either formal and/or informal knowledge sharing programmes in the three organisations, 284 usable returns were received from a total population of 2,187 employees making a response rate of 13%. We submitted the survey data to SPSS 20.0 for analysis and conducted confirmatory factor analysis using AMOS 20.0 to validate the scales. We further examined the relationship between the variables using path analysis as it provides a mechanism for testing the internal adequacy of measurements and the degree of correspondence between theory and observation (Olobatuyi, 2006).

4.2 The interviews

Results from the survey led us to conduct a more in-depth exploration of knowledge sharing processes through semi-structured interviews. Including a qualitative dimension to the study allowed us to explore the interpretations of knowledge sharing based on employees' lived and perceived experience (Eisenhardt, 1989). We embarked on a convenience sampling drawn from the earlier three organisations totalling 45 informants with 15 selected from each organisation. We approached employees as we met them in our research sites and asked if they would be keen on sharing their perception of and experience in both formal and informal knowledge sharing (Sekaran, 2000). We asked three broad questions with probes such as 'openness', 'trust', 'management support', 'rewards' and 'collaborative climate':

1 Why do you share knowledge with others?

2 How do you share knowledge with others?

3 How does trust play out in the knowledge sharing process?

All interviews were conducted in English given the diverse mix of informants comprising Saudis (n = 9) (coded S1-S9), other Arabs (n = 13) (coded OA1-OA13), western expatriates (n = 10) (coded WE1-WE10) and Asian expatriates (n = 13) (coded AE1-AE13). It must be noted that all interviewees including the pilot stage are male as social constraints prevented us from interviewing female employees. Each interview lasted averagely 45 minutes and only a third of the interviews were tape-recorded as not all informants were comfortable with tape-recording. Where appropriate, we asked for evidence from internal documents to help us understand the processes and outcomes of knowledge sharing. Interview data were recorded in keywords and phrases with occasional chunks of text recorded in almost verbatim to be used as potential quotes.

Data were coded using the variables (probes) of the conceptual framework as a starting point, followed by the identification of themes based on patterns of meanings emerging from the messy data (Krippendorff, 1980). We subsequently finalised the themes based on patterns of meanings using NVivo through the identification of nodes (Lee, 1999).

5 Findings

5.1 Survey results

In the main survey, we received a total of 284 responses with 84% male respondents and 16% female respondents. The three research sites from which our data were drawn are largely male dominant. There is a fair distribution of age groups ranging from 26–35 years, 36–45 years and above 45 years; educational qualifications with three-quarters of the respondents holding at least a Bachelor's degree; and job functions with a third of the respondents assuming managerial responsibilities and the others spread across administrative, technical and service-oriented functions. Table 1 presents further descriptive statistics in terms of means, ranges and standard deviations. The results indicate that respondents generally perceived knowledge sharing as influenced by openness, trust, management support, rewards and collaborative climate. The highest and lowest mean scores suggest that while 'management support' (4.33) was perceived as the most noticeable driving force of knowledge sharing in Saudi Arabian organisations, 'rewards' (3.97) was not directly experienced by the respondents. The dichotomy between the two factors could be due to the fact that knowledge sharing was perceived as part of learning and development rather than as a means to an end. Hence, these organizations did not consider incentives as particularly crucial for promoting knowledge sharing.

Table 2 Results of knowledge sharing behaviour model: path coefficients (n = 284)

Predictors	*Dependent variables*	*B*	*P*
Openness	Knowledge sharing attitude	0.137	*
Trust	Knowledge sharing attitude	0.051	0.335
Management support	Knowledge sharing attitude	0.185	***
Rewards	Knowledge sharing attitude	0.129	**
Collaborative climate	Knowledge sharing attitude	0.227	***
Knowledge sharing attitude	Knowledge sharing behaviour	0.480	***

Notes: *p < 0.05, **p < 0.01, ***p < 0 .001 level (two-tailed)

Results of the path analysis indicate that openness, management support, rewards and collaborative climate have a positive significant effect on knowledge sharing attitude (see Table 2). Among the relationships tested, four path coefficients are statistically significant. The path coefficients between the variables are as follows: 'openness' and 'knowledge sharing attitude' (β = 0.137, p < 0.05), 'management support' and 'knowledge sharing attitude' (β = 0.185, p < 0.001), 'rewards' and 'knowledge sharing attitude' (β = 0.129, p < 0.01) and 'collaborative climate' and 'knowledge sharing attitude' (β = 0.227, p < 0.001). These variable relationships

are all positive and statistically significant. Further, 'collaborative climate' had the strongest influence on 'knowledge sharing attitude' with the highest path coefficient among the other four independent variables. The path coefficient between 'knowledge sharing attitude' and 'knowledge sharing behaviour' (β = 0.480, p < 0.001) is also positive and statistically significant. The path coefficients illustrated in Table 2 support the five hypotheses, namely H_1, H_3, H_4, H_5 and H_6. However, the relationship between 'trust' and 'knowledge sharing attitude' (β = 0.051, p > 0.05) is not statistically significant, rejecting H_2.

When testing mediation effects, both path analysis and hierarchical regression should be taken into consideration (Baron and Kenny, 1986). As a further step to path analysis, results obtained from the hierarchical regression indicate that 'knowledge sharing attitude' does not completely mediate the relationship between the five factors and 'knowledge sharing behaviour', partially supporting H_7. Illustrated in Table 3, it is clear that there is an increase in the adjusted R^2 of 6.4% from model 1 to model 2 and a decrease in β of 'openness' (0.044), 'trust' (0.016), 'management support' (0.060), 'rewards' (0.038) and 'collaborative climate' (0.069) from model 1 to model 2. All β of the five independent variables are reduced from model 1 to model 2, indicating that these changes point to 'knowledge sharing attitude' as having some mediation effects between these five factors and 'knowledge sharing behaviour'.

Table 3 Measure of mediation effects of the attitude towards knowledge sharing

Independent variables	*Model 1*	*Model 2*
	B	*B*
Openness	0.241***	0.197***
Trust	–0.124*	–0.140*
Management support	0.206***	0.146**
Rewards	0.072	0.034
Collaborative climate	0.136*	0.067
Knowledge sharing attitude		0.317***
adj. R^2	0.211	0.275
F	34.544***	40.561***

Note: *p < 0.05, **p < 0.01, ***p < 0.001, two-tailed

In the case of 'trust', there is an increase in the adjusted R^2 of 6.4% and a decrease in β of 0.016 from model 1 to model 2. Since the relationship between 'trust' and 'knowledge sharing attitude' is insignificant, the mediation effects are ruled out. In the case of 'openness', 'management support' and 'rewards', the adjusted R^2 is increased by 6.4% together with a decrease in β of 0.044, 0.060 and 0.038 respectively from model 1 to model 2. Since the reductions of β are not significant, the mediation effects of 'knowledge sharing attitude' in relation to these three variables and 'knowledge sharing behaviour' are also ruled out. However, the reduction in β of 'collaborative climate' from model 1 to model 2 is 0.069, changing the β in model 1 from significant to insignificant in model 2. This finding indicates that 'knowledge sharing attitude' does produce mediation effects between 'collaborative climate' and 'knowledge sharing behaviour'.

5.2 Interview results

Qualitative findings from the second stage not only reinforce the survey results but also provide further insight into the interrelations of the five factors, knowledge sharing attitude and behaviour. On why the informants share knowledge with others, we received a variety of responses such as "it increases your visibility in the company if people take your ideas seriously" (OA5), "it makes your job easier when others you work with have the right knowledge" (WE7), "so that we can create relationships when exchanging ideas" (S2) and "you want others to know what you know" (AE11). Probing further using the key factors that were found positively related to knowledge sharing attitude in the survey, informants went deeper into each factor in responding to how they actually engaged in knowledge sharing. For instance, most informants perceived management support as a key driver in promoting knowledge sharing as "our [Arab] culture respects leadership and anything endorsed by leaders will be taken seriously" (OA9). Others cited examples such as "the need for 'space' for us to share knowledge with one another" (AE6) as "most units work in silos" (WE1). From a more political angle, management support is crucial as "they (decision makers) should know what we are doing" (S8) rather than "creating an initiative and then not following through" (OA8).

Due to the network structure of these three organisations, most informants found collaborative climate as "giving us the corridor to tell someone about what we know about the job and more" (OA1). Almost all informants we interviewed have worked in project teams and hence, "when your task is linked to theirs (other teams) you will force yourself to see the other side of the wall" (WE4) and together "we form some new ideas especially when there's cross-generational exchange of ideas between the younger and older employees" (OA9). Although the three organisations from which the data were drawn had introduced knowledge sharing as more of a formalised process, their employees did not particularly understand the "incentive to share and use knowledge for the benefit of the company" (S6), frequently asking, "What is in it for us?" (WE3) For some informants, interpretations of rewards associated with knowledge sharing include "to be recognized for my performance appraisal" (AE11), "prizes for [shared] knowledge that has made an impact on our work or the company" (OA13) and "opportunities to try new things like working on different projects…getting to know other business areas" (S3). Despite their interpretations, most informants felt that appropriate rewards, whether formal or informal, would certainly motivate knowledge sharing practices.

Given the diversity of the workforce which is rather typical in Saudi Arabian organisations, openness is a personal attribute that is "hard to control and predict" (WE10) as "people may choose to withdraw from sharing knowledge because of fear or uncertainty of the environment" (OA3). For some, being too open "can work to your disadvantage as people may size you up when they think you are a threat [to them]" (AE12). Openness is in many ways related to trust between employees as complex power relations exacerbate the building of trust in organizations. A number of informants reflected that "even when people seem open to talk about things, others may not fully trust them for their words" (S7) largely due to the different values employees place on "communication, knowledge, and relationship" (AE3). For many others, "trust is a difficult thing to understand and develop here [Saudi context] as honesty and sincerity can sometimes be taken as exposing a person's weaknesses" (OA13). As such, most informants felt that trust is fundamental to "working meaningfully with each other and getting the job done without any hidden agenda" (WE9).

Probing further, we discovered that trust was viewed at a much deeper and complex level than meets the eye. Although interpretations of trust were varied, all informants converged on the understanding that "trust makes you an 'insider' so that you can receive the same kind of benefits of the 'inner circle' (in-group)" (WE10). As most informants agreed, "Without basic trust, you probably cannot get anything (information or work-related tasks) back in return [from others]" (AE4). The sense of reciprocity is largely operative in a high-context culture as illustrated in these Saudi Arabian organizations. As reflected, trust unites people and tasks in such a way that "my trust in you motivates me to be committed to my action and I expect the same from you" (OA11). However, some informants viewed trust as "an enemy....because when you mistrust someone or some people, you could get yourself into trouble as people might abuse your trust... for their own selfish gain" (WE7).

In the context of knowledge sharing, "trust could be turned into a political act when people offer a false sense of trust to undermine other people's weak points" (AE10) Whether genuine or politicised trust, it can potentially influence perception of openness, management support, rewards, collaborative climate, knowledge sharing attitude and behaviour. Because of the complex nature of social relations in these organisations, our qualitative data also suggest that knowledge sharing behaviour could be facilitated through any of the factors as illustrated in Figure 1 without an understanding of one's attitude. As an informant put it, "people are quick to see results but not the process" (AE6) resulting in "acting before thinking" (S5).

6 Discussion

6.1 Factors affecting knowledge sharing attitude

In response to the first research question, we found that knowledge sharing is both a process and strategy of socialisation, similar to other studies in the Saudi Arabian context (e.g., Al-Adaileh and Al-Atawi, 2011; Al-Bahussin and El-Garaihy, 2013; Migdadi, 2009). In building relationships, people tend to discuss differences in opinions openly, some for genuine reasons while others as politicised acts (e.g., Yeo and Marquardt, 2013). Whatever the reasons common understanding in the knowledge exchange could usually be established based on both internal and external factors. As found, collaborative climate is the strongest predictor of knowledge sharing attitude as this is largely due to the network structure of the three Saudi Arabian organisations where the research took place. Task interdependence and variety of team members provide the necessity and space for individuals to collaborate and engage in knowledge exchange. This finding is similar to other studies in some respects (e.g., Lauring and Selmer, 2012; Liu and DeFrank, 2013; Migdadi, 2009; Swart and Kinnie, 2003) although we found that the more heterogeneous the team composition and the less permanent the team tenure, the higher the propensity for knowledge sharing. However, our finding contradicts Al-Adaileh and Al-Atawi's (2011) study in a telecommunications organisation in Saudi Arabia where they found that teamwork and collaboration did not necessarily promote knowledge sharing.

Similar to several other studies (e.g., Avolio and Bass, 1995; Lin and Lee, 2004; Lin, 2007), we found that perception of management support is critical to knowledge sharing as a practice, not merely an initiative. Our study extends current understanding of

management support by revealing a cultural perspective of leadership in Saudi Arabian and perhaps Middle Eastern organisations where decisions from management are a corporate voice that should be followed rather than challenged (Mimouni and Metcalfe, 2012). Another external factor found to have a positive relationship with knowledge sharing attitude is rewards. Our finding concurred with several Middle Eastern studies (e.g., Al-Bahussin and El-Garaihy, 2013; Al-Alawai et al., 2007; Migdadi, 2009) where incentives were found to drive knowledge sharing to achieve practical results. Although tangible incentives are crucial for promoting the desired behaviour, our study found that indirect rewards such as opportunities to assume leadership roles, exposure to different areas of work and a longer-term recognition in terms performance are better able to sustain the right attitude towards knowledge sharing (c.f., Liu and Liu, 2011). Through our qualitative data, we also discovered that positive knowledge sharing attitude can produce learning effects at the individual and group level if trigged by appropriate stimuli such as an attractive incentive scheme (c.f., Bartol and Srivastava, 2002).

A key internal factor affecting knowledge sharing attitude is openness which has been found to develop trust between knowledge users and collaborators (e.g., Al-Bahussin and El-Garaihy, 2013; Argote and Ingram, 2000; Lane and Bachmann, 1998). However, our study found that both openness and trust contribute differently to knowledge sharing attitude. Although openness was found to be positively related to knowledge sharing attitude, it was perceived more of an external rather than an internal influence where employees were merely responding to the corporate value of transparency insofar as knowledge sharing is concerned. All three of our research organisations place considerable value on transparency as a way of encouraging more open conversations often resulting in knowledge sharing. However, when employees perceived openness as related to trust in a more personal way, they would adopt a different knowledge sharing attitude. As trust was not found to have a positive influence on knowledge sharing, there could be other contextual and cultural factors that affect openness and trust in relation to knowledge sharing in more profound ways (c.f., Yeo and Marquardt, 2013).

6.2 Relationship between knowledge sharing attitude and behaviour

In response to the second research question, we found a direct positive relationship between knowledge sharing attitude and behaviour, a finding consistent with several studies (e.g., Lin and Lee, 2004; Lam, 2005; Swart et al., 2014). However, this finding offers a different perspective of knowledge sharing attitude as a mediator where it only mediates between collaborative climate and knowledge sharing behaviour relative to the other factors such as openness, management support and rewards. Given the complexity of social dynamics in the network structure of our research context, we found that individuals often engage in a greater interplay of cognition and behaviour when exchanging knowledge with one another (Cummings, 2004; Gibson, 2001); there is great complexity in the way they think and act as individuals and in group settings. As mentioned, team diversity and tenure create new dynamics for collaboration resulting in individuals involving in greater reflection, dialogue and feedback in the sharing and use of knowledge (Lave and Wenger, 1991; Mohammad and Dumville, 2001).

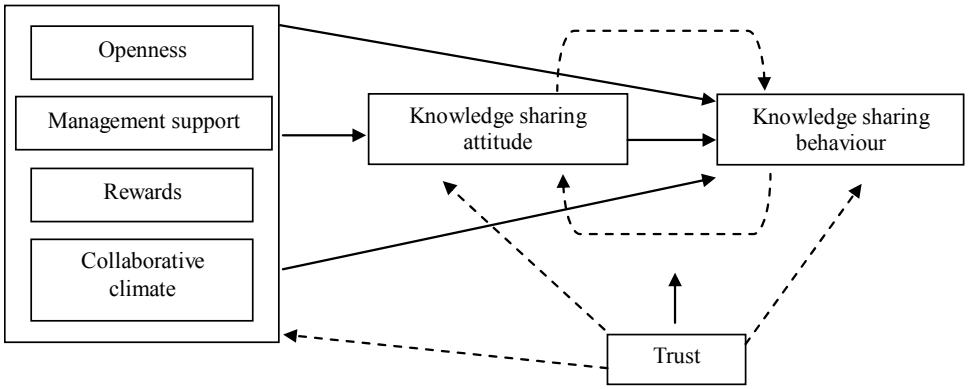
Given the high-context culture of the Arab world, the relationship between knowledge attitude and behaviour may not be necessarily straightforward. Our qualitative findings provide further insight. When knowledge sharing is perceived as a political act, individuals experience tension in the ‘thinking’ and ‘acting’ of the knowledge sharing

process. For instance, a misalignment between personal aspirations and organisational objectives may cause individuals to adopt a negative attitude towards knowledge sharing but still participate in the sharing of 'artificial' knowledge (c.f., Nag et al., 2007). This is knowledge they do not particularly believe in but what others want to know about and what management may be impressed with. On other occasions, individuals may have a positive attitude towards knowledge sharing but choose to distance themselves from doing so as they believe that expert knowledge should be kept as a source of competitive advantage for themselves and their own in-group members (c.f., Cabrera and Cabrera, 2005). Yet, others are fearful of the consequences of sharing the wrong knowledge that may have a negative impact on their professional identity even though they may believe in the intrinsic value of knowledge sharing (c.f., Willett, 2000).

7 Implications for theory

Further analysis of our findings has led us to a modified conceptual framework (see Figure 2). Contrary to other studies (e.g., Chan and Mauborgne, 1998; Collins and Smith, 2006; Lin, 2007; Shen et al., 2014), we found that trust operates at different levels – individual, team and organisational – and plays a critical role in facilitating knowledge sharing. This finding extends the theoretical perspectives of knowledge sharing in several ways. First, trust is characterised as an ability to communicate one's strengths and vulnerabilities to others without feeling short changed or disadvantaged in any way (Lane and Bachmann, 1998). In the context of our study, trust at different levels can influence individuals' perception of both the internal and external factors as associated with knowledge sharing. Current research in knowledge sharing tends to focus on trust at a single level (e.g., Al-Adaileh and Al-Atawi, 2011; Lin, 2007; Shen et al., 2014).

Figure 2 A modified framework of knowledge sharing



Second, trust promotes mutual respect, understanding and tolerance, helping employees to appreciate each other despite individual differences and opposing worldviews (Costigan et al., 1998). Extending this perspective, we found trust to have a direct

influence on knowledge sharing attitude and behaviour. However, the influence could work either way, positive or negative. In complex organisational contexts, as seen in our study, trust could create tension and suspicion in employee relationships undermining shared objectives. This affects individuals' attitude in exposing their knowledge with others for fear that they may lose control of the interpretation of knowledge by those whose intent is unclear. Current research has not particularly explored the subtleties of trust as indirectly affecting knowledge sharing attitude and behaviour (e.g., Abrams et al., 2003; Al-Alawai et al., 2007; Dyer and Chu, 2003).

Third, the building of trust requires time and effort, often supported by a distinct cross-cultural management strategy (Chan and Mauborgne, 1998). According to Rousseau (1995), the lack of trust is considered a breach of psychological contract but whether this disjunction has other implications on employees' propensity for knowledge sharing remains to be further explored empirically. Instead, our modified framework posits that trust mediates the relationship between knowledge sharing attitude and behaviour to the extent that it creates new frames of references to enable individuals to modify the way they think and act in shifting contexts (Thompson and Bunderson, 2003). Trust could therefore lead to a deeper level of psychological contract between the knowledge one possesses and the need for others to benefit from in order to complete a current or future shared task, but it might not. Clearly, this is an area not sufficiently researched (c.f., Bakker et al., 2006; Hislop, 2003).

8 Implications for human resource management (HRM)

The study offers several implications for HRM. First, our findings offer insight into the importance of trust as an enabling agent (see Figure 2) and this can help HR professionals to understand the psychological mechanism that engages employees in the sense-making of their roles, tasks and activities (Jones and George, 1998; Swart et al., 2014). In order to build a collaborative learning culture, HR professionals need to capitalize on the diversity of individuals to create different values for the organisation based on individual characteristics, socialisation tactics and organisational attributes (Liao, 2008; Shen et al., 2014). Second, by institutionalising knowledge sharing as a practice, HR professionals could consider job redesign through greater task interdependence to generate coordination between individuals and teams (Tempest, 2009). By providing a safe environment for reflection, feedback and dialogue, employees will learn more effectively on their jobs by harnessing the space for openness and knowledge sharing (Cabrera and Cabrera, 2005). Third, incentive schemes through formal and informal motivational devices could be considered to increase employee engagement based on the nature of tasks and individuals' potential for greater challenges (Bartol and Srivastava, 2002). HR professionals could work closely with line supervisors and managers to help identify appropriate reward mechanisms for their employees. Fourth, understanding the relationship between individuals' attitude and behaviour could help HR professionals to reconsider performance measures (Collins and Smith, 2006). As organisational tasks become more complex, individual performance should be reviewed continually through close partnership with supervisors and managers to ensure a closer alignment between individual and organisational objectives.

9 Conclusions

This study explores the interrelations of context, attitude and behaviour in knowledge sharing processes. Contextual attributes include both internal and external stimuli that influence individuals' perception and interpretation of knowledge sharing in complex organisations. Such organisations, as in the case of Saudi Arabia, are characterised by a highly heterogeneous workforce where diversity offers uncontested interpretations of the triad – context, attitude and behaviour – in knowledge sharing research (c.f., Chatman and Flynn, 2001). This study also found that knowledge sharing attitude serves as a mediator between collaborative climate and knowledge sharing behaviour, illuminating the triad in the context of complex organisations (c.f., Sveiby and Simons, 2002).

Particularly, this study found that trust has an uncertain and ambiguous relationship with knowledge sharing attitude which could work in different ways, depending on situational factors (c.f., Bakker et al., 2006; Lin, 2007). However, we emphasise the centrality of trust as a critical underlying unifier of both internal and external stimuli affecting the way individuals conceptualise and actualise knowledge sharing (c.f., Yeo and Marquardt, 2013). Therefore, there is a need to explore, expose and critique the crucial features of the working of trust within workplace relations. As Mayer et al. (1995) indicated, a distinction needs to be made between an assessment of trustworthiness by the trustor of the trustee's ability, benevolence and integrity. Further, in making such assessments of trustworthiness, overtime people develop generalised expectations about trustworthiness, referred to as their trust propensity which affects decisions about trusting others (Colquitt et al., 2007). Trust propensity may persist over time and affect willingness to trust others such as leaders and managers, employees from other departments and so on.

This research was limited by the lack of wider organizational access in Saudi Arabia where most organisations are not open to research carried out by external parties. Also, the research was limited to three relatively large organisations with adequate resources to promote knowledge sharing, ignoring smaller organisations that might have a different way of practicing knowledge sharing. Given socio-cultural constraints, the lack of female subjects further skewed our findings towards a more male-dominant perspective. Even though we managed to capture some responses from female employees in the survey, the representation was not sufficiently judicious to warrant further analysis. While we had access to three research sites, we did not perform a cross-organizational or a cross-sample analysis as our aim was not to explore the subtle patterns of perception and interpretation relative to knowledge sharing. Instead, our aim was to explore general phenomena in knowledge sharing in rarely-contested environments like Saudi Arabia to illuminate the interplay of context, attitude and behaviour.

As a way of advancing this research, we suggest that more in-depth studies be done to explore the subtleties of contextual influence on knowledge sharing attitude and behaviour. Researchers should seek to employ mixed methods through a longitudinal orientation to capture the complex processes of knowledge sharing in localized and diversified organisational environments. On the conceptual front, trust is a fascinating concept that could be explored through cultural lenses to determine how it plays out in different work environments (c.f., Costigan et al., 1998). The conceptual linkage between attitude and behaviour in knowledge sharing processes also needs further attention as how one thinks may not necessarily lead to how one acts (c.f., Swart et al., 2014). Finally, the integration between internal (e.g., openness and trust) and external stimuli

(e.g., collaborative climate, management support and rewards) could be further investigated to determine if there are mutually-implicating forces that facilitate both intrinsic and extrinsic motivational factors to promote more sustainable knowledge sharing practices (c.f., Reus et al., 2009; Shen et al., 2014).

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