Title

**The Impact of Individual Factors
on Knowledge Sharing Quality**

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Abstract:
 Individual factors have been known of their significant impact on knowledge sharing behaviour in organisation. It is the aim of this paper to investigate the relationship

between individual factors such as awareness, trust and personality and the quality of knowledge sharing in Malaysian public agencies. Survey method employing questionnaires as technique for collecting data

was used. The survey involved three selected government departments executed from October through December 2008 involving a sample of 428 respondents. The data collected was analysed using SPSS version

16.0. Factor analysis and reliability test were performed to ensure the validity and reliability of the instrument. Confirmatory factor analysis was carried out to verify the existence of three dimensions of

individual factors. Analysis reveals that there is a positive and significant correlation between individual factors and the quality of knowledge sharing. The results of multiple regression analysis indicate that

personality is the most significant predictor of knowledge sharing quality followed by trust and awareness.

Introduction

It is evident that through effective creation and transfer of knowledge, organisation would be able to gain competitive advantage and superior

performance (Kogut & Zander, 1992; Grant, 1996). Thus, modern organisations are striving towards managing their knowledge so as to enable it to be shared from within the organisation. This is due to the

fact that knowledge is now regarded as an asset capable of giving many untold benefits that make a difference between successful and less successful organisation. A remarkable contribution of knowledge

sharing is improving the quality of service delivery of an organisations particularly the public ones and these organisation are more service oriented rather than producing goods as their products. Thus, in

the public sector, the term 'competitive advantage' could mean 'serving the public' as the ultimate objective of public organizations (Binz-Scharf, 2003). As such, public organization ought to manage

its organizational knowledge efficiently and effectively in order to enhance the quality of service delivery.

National University of Singapore (NUS) in its survey in 2007

discovered that 35% out of 32 respondents from developing countries agreed that sharing knowledge becomes the main objective of knowledge management initiative (Yuen, 2007). Such claim is in line with

Al-Hawamdeh (2003) who asserts that this endeavour has been considered as most important dimensions in knowledge management. Why does organisation share its knowledge? What are the

factors that impacted the initiative? Previous studies proved that there are several factors affecting knowledge sharing. But these studies were merely focusing on organisational or technological

perspectives. Limited studies were carried out emphasising of other factor such as individual perspective (Samied & Wahba, 2007). Regardless of the factors researched, study on knowledge sharing initiative in Malaysia,

particularly in the public sector is still at scarce (McAdam & Reid, 2000; Syed Ikhsan & Rowland, 2004).

Al-Hawamdeh (2003) suggests that it is time for researchers to

now shift their studies by emphasising on individual perspective rather than on organisational and technological ones as knowledge sharing is an 'unnatural act'. In the light of

this, this study is executed to address the following questions:

1. Does awareness has significant effect on knowledge sharing quality?

2. Does trust has significant effect knowledge sharing quality?

3. Does personality has significant effect on knowledge sharing quality?

In the next section, literature review related to the study is presented followed by research theoretical framework, research methodology and discussion of the results. In conclusion, the authors summarize the key

findings and present some limitations of the study.

Literature review

Knowledge management and knowledge sharing

Knowledge management is defined as a process of

identifying, organizing and managing knowledge resources (Al-Hawamdeh, 2003). This involves creating, generating, capturing storing, sharing and using of knowledge to support and improve individual

performance (Kinney, 1998; Davenport & Prusak, 1998). Apparently, sharing knowledge is one of the processes in knowledge management (Davenport & Prusak, 1998). It is 'the process of transferring

knowledge from a person to another in an organization' (Park et al. 2003). Knowledge sharing is a deliberate act that makes knowledge reusable by other people through knowledge transfer (Lee & Al-

Hawamdeh, 2002). Perhaps, through knowledge sharing individuals could exchange tacit or explicit knowledge, hence, together create new knowledge (Van den Hooff, 2003). The process could only occur when

an individual is really interested in helping others to develop a new capability for action (Senge, 1990). For the purpose of this study, the authors adopt the definition of knowledge sharing provided by Gibbert & Krause

(2002) who defined the term as the willingness of employees in an organization to share with their colleagues the knowledge they have acquired or created.

Knowledge is of little value unless it is shared (Small & Sage, 2006) and the significance of knowledge sharing lies in the quality of the knowledge shared. Much of the previous studies emphasised on knowledge

sharing behaviour, rather than on the quality. Therefore, it is the aim of this study to research on the quality of knowledge sharing since quality knowledge becomes the main concern of a

matured community (Chiu et al., 2006).

Knowledge sharing in public sector
It is a recent phenomenon that knowledge sharing gains its

popularity and importance in public sector (Zhang et al., 2006). Knowledge sharing as subset of knowledge management has been given high priority and expressively stated in organisation's

information policy. The motives is to improve the quality of service delivery (Thomas, 2005). For a non profit organization like government agency, knowledge sharing represents ways to increase

continuous performance, and is thought to improve customers and employees satisfaction (Pan & Scarbrough, 1998).

There is only limited information on knowledge

management in public sector in Malaysia due to the fact that only a handful of research has been carried out in the country (Syed Ikhsan & Rowland, 2004). This has inspired these authors to embark on this endeavour.

The study focuses on individual related factors because to share knowledge, it starts from the individual himself/herself. It is important to identify factors affecting knowledge sharing from individual perspective

because some public employees consider 'knowledge is power' and they are reluctant to share knowledge.

Individual factors and knowledge sharing

In order for knowledge management to be effective, it requires a fundamental change in the way companies run their

business. This is particularly significant as the heart of any effective change is the people themselves (Davis, 1998). The knowledge of the people is created and expanded through social interaction between

people and their creative activities (Nonaka & Takeuchi, 1995). Changing people's behaviour seems to be most difficult especially promoting knowledge sharing among employees (Bock et al., 2005)

Previous studies reveal that people are reluctant to share knowledge though their organizational culture promotes the practice (Lu et al., 2003). According to Riege (2005), there

are seventeen potential individual factors that hinder people from sharing knowledge. These include:

• lack of time to share knowledge

- fear that sharing may jeopardize job security
- lack of awareness
- dominance in sharing explicit over tacit knowledge

- apply of strong hierarchy, position-based status, and formal power
- inadequate capture, evaluation, feedback, communication, and tolerance of past mistakes that would

improve individual and organizational learning effects
• differences in levels of experience
• lack of interaction

- poor verbal/written communication and interpersonal skills
- difference of age
- difference of gender
- lack of social network
- differences of education levels

- taking ownership of intellectual property because of fear of not receiving recognition and accreditation from managers and colleagues

- lack of trust in people because they misuse knowledge or take unjust credit for it
- lack of trust in the accuracy and credibility of knowledge due to the source

• differences in national culture or ethnic background; and values and beliefs associated with it.

But the list does not end here. Lee and Al-Hawamdeh (2002)

identify a few additional individual factors that impacted the practise. These are appreciation of the importance of knowledge, communication skills, motivation, absorptive capacity, reputation,

incompatible personality, disciplinary ethnocentrism and technophobia). In addition, Engstrom (2006) suggests other factors such as career satisfaction, job satisfaction and career prospect also affect

knowledge sharing behaviour while Ryu et al. (2006) believe individual factors such as attitude, subjective norms and perceived behaviour also have significant role. Apparently, there are many other factors

that affect knowledge sharing. This is evident when Awad & Ghaziri (2004) suggest factors like personality and attitude; Lin (2007) suggests enjoyment in helping others and self-efficacy; and Van den Brink (2003)

identifies motivations, trust and care that enable knowledge sharing. From the literatures, it is evident there are many individual related factors that influence knowledge sharing practise. This is because many

researchers combined many related socio-psychological theories to develop a theoretical model to study knowledge sharing in organizations (Samieh & Wahba, 2007). However, since the study on

knowledge sharing in public sector is still at scarce (McAdam & Reid, 2000; Syed Ikhsan & Rowland, 2004), to the knowledge of the authors, there is as yet no well-established knowledge sharing model.

Therefore, synthesizing from literatures and authors vast experience in public sector, factors which are considered closely relevant to public sector are selected. The selection also

is based on the combination of self awareness theory, social exchange theory and personality theory. This study selects only three individual factors to be included in the study. Those factors are: awareness (Lee &

Al-Hawamdeh, 2002), trust (Lee & Al-Hawamdeh, 2002; Sharratt & Usoro, 2003) and personality (Awad & Ghaziri, 2004). Basically, awareness and trust are based on Lee & Al-Hawamdeh actor's framework

and personality, derived from Awad & Ghaziri (2004), is a new construct added to this study's theoretical model.

Awareness

Objective Self-Awareness (OSA) theory (Duwal & Wicklund, 1972) postulates that individual's consciousness is directed either toward one's self

or the external environment. OSA is defined as a state of consciousness in which individual's attention is focused on the self (Duwal & Wicklund, 1972). The person involve in self evaluation between one's

standard and actual behaviour. The more negative the gap between standard and actual behaviour, the more negative self-evaluation becomes. In recent years, the concept of awareness has become

increasingly the interest of researchers in knowledge management and virtual communities (Daneshgar 2001). They consider awareness as mechanism for enhancing collaboration and knowledge

sharing in collaborative process (Daneshgar, 2001). Awareness at all levels of employees is the main component of successful implementation of knowledge management programme (Chong & Pandya, 2003).

Employees inclusive the top management should aware the importance of knowledge sharing (Van den Brink, 2003) to create knowledge sharing culture. However, to provide awareness for knowledge

management has become the top challenge in knowledge management program (Yuen, 2007). Any organization that is at unawareness phase (Van den Brink, 2003) does not realise the contribution of knowledge

against their competitors (Parlby, 1999). Preliminary awareness phase is very important for knowledge sharing success (Argani, 2009). Lee and Al-Hawamdeh (2002) suggest that the appreciation of

the importance of knowledge would influence knowledge sharing among employees. The inculcation of awareness of the importance of knowledge encourage discussion process and provide space for creative

thinking, risk taking and the readiness to make mistake for improvement (Hadi, 2005). In this study, awareness is defined as the degree to which an employee believes that the understanding of knowledge

management and appreciation
of the importance of knowledge
sharing benefits will affect their
knowledge sharing quality.
Hence, it is hypothesized that:

H1: Awareness has a significant effect with knowledge sharing quality.

Trust

Social Exchange Theory (Homans, 1958) postulates that

individuals exchange resources via social exchange relationship. Social exchange is characterized by unspecified personal obligations, intrinsic rewards and trust (Blau, 1964). In knowledge sharing, social

exchange occurs when people interact to transfer knowledge and trust is the key and prerequisite to knowledge transfer (Davenport & Prusak, 1998; Coleman, 1999; Disterer, 2001). Trust is the highest

human communication and it is the blood of any organization. When someone has a high level of trust, they will work efficiently (Covey, 2006). Trust can be viewed as an expression of confidence between few

parties during whatever exchange, in which it will not bring bad or risk through the action of other parties, or confidence that will not be exploited by any party (Jones & George, 1998).

Trust between individuals should be started by physical interaction like face-to-face interaction (Skyrme, 1997). Whether trust encourages or restrains knowledge sharing

depends on face-to-face interaction (Davenport & Prusak 1998) between individuals. Nohria and Eccles (1992) discover that face-to-face interaction is important in developing and maintaining

trust. The actual mode of communication that generates high trust compared to other modes (Bos et al., 2002).

The theory of the importance of trust and knowledge sharing in

organization has been supported by several empirical studies (Connelly, 2000). Pan and Scarbrough (1998) assert that environment of trust is a prerequisite to knowledge sharing. As trust is closely

related to knowledge sharing (Levin et al., 2002), therefore, organization should provide an environment that enable employees to trust each other, work together, to be motivated to share knowledge and involve

in discussion (Van den Brink, 2003). Such an environment is deem necessary since trust and openness could encourage active knowledge sharing behaviour by means of improving communication

speed by giving mandate to organizational members to share the knowledge they possess (Von Krogh, 1998). In the contrary, distrust could hinder information sharing from taking place (Orlikowski, 1993).

In organizations that are separated geographically, electronic communication is determined as capable of playing major role in connecting them. However, without trust,

geographical location and organizational distance would become psychological restriction to the process (Jones & George, 1998). In this study, trust is defined as the degree to which an employee believes that

sharing knowledge will benefit them and they will not be exploited by any party in the organization (Riege, 2005; Jones & George, 1998). Hence, it is hypothesized that:

H2: Trust has a significant effect on knowledge sharing quality.

Personality

Personality can be categorised into two types, extravert and

introvert (Jung, 1971). According to Jung (1971) extravert personality 'is an 'outward-turning' of libido that involves a positive movement of interest away from one's inner experience toward outer

experience'. On the hand, introvert personality 'is an inward-tuning' of psychic energy and involves a negative movement or withdrawal of subjective interest away from outer objects and toward one's

inner experience' (Allen, 2003). To Jung (1971) introvert person has more problems to interact with others compared to extraverts (Lebowitz, 1989). Many researchers believe that the ability of employees to share

knowledge initially depend on their communication skills either verbal or written (Riege, 2005; Davenport & Prusak, 1998; Hendriks, 1999). However according to Awad & Ghaziri (2004), personality is

one of the factors that influence knowledge sharing. For instance, extrovert, self-confidence and feel secure are more likely to share knowledge compared to those who are introvert, self-centred or

security conscious. In this study, personality is defined as the degree to which an employee perceives themselves as extrovert or introvert, self-confidence or self-centred and feel secure or always cautious

(Awad & Ghaziri, 2004). Hence, it is hypothesized that:

H3: Personality has a significant effect on knowledge sharing quality.

Theoretical framework

This paper adapts the framework outlined by Lee & Al-Hawamdeh (2002) and Chiu et al. (2006) to investigate the relationship between individual

factors and knowledge sharing
quality emphasising on the
quality of the knowledge shared.
The quality of the knowledge
shared becomes the main
concern because though
knowledge sharing does take

place in organization (Van den Brink, 2003) but the quality of the knowledge shared is always of question. Knowledge shared by employees in organization is meaningless if it does not help improve individual performance

which in turns lead to organizational performance. In nonprofit organizations, knowledge sharing is the means for continuous performance improvements and increase customer and employee

satisfaction (Pan & Scarbrough, 1998; Senge, 1997; Rumizen, 1998). The theoretical framework of the study is presented in Figure 1 (view in full PDF)

Method

Population and sample

The size of population involved for the study is about 1200. This consists of middle managers

from three selected central agencies in Putrajaya. The middle managers are positioned between the top management and supporting staff. They were chosen as they are directly involved in formulating policies

for public sector financial management, human resource management and socio-economic development. Knowledge is aspired and created by middle managers (Nonaka & Takeuchi, 1995), and

systematically generated at this level (McAdam & Reid, 2000). Policy making and business development are trusted by the knowledge-based activities of government agencies (Husted et al., 2005). Stratified random

sampling was used in this study and questionnaires were sent to 734 officers. 450 were returned (61.25%) and 428 were usable.

Measurement

The instruments for individual factors were developed by the researchers based on previous literatures (Lee & Al-Hamawdeh, 2002; Davenport &

Prusak, 1998). For knowledge sharing quality, the instruments were adapted from Chiu et al. (2006), McKinney et al. (2002) and DeLone & McLean (2003). Knowledge sharing quality is measured in terms of relevancy,

easy to understand, accuracy, completeness, reliability and timeliness. The items were adapted from McKinney et al. (2002) web-information quality and DeLone and McLean (2003) concept of information quality.

Individual factors consist of three constructs: awareness (3 items), trust (3 items) and personality (3 items). Six items were used to evaluate the response towards knowledge sharing quality. Responses were

measured using five Likert scales with 1=strongly disagree and 5=strongly agree.

Findings and discussions

Demographic profile of the respondents

The respondents' demographic characteristics are presented in the Table 1 below.

Table 1 Respondents' demographic characteristics (n=428) (view in full PDF)

There were 233 (54.4%) female and 195 (45.6%) male respondents (indicates the ratio of female and male is almost

balance). Most of the respondents' age (71.7%) ranged between 26 to 40 years old and 66.6% are junior managers (grade 41 to 44). Almost all of the respondents have a first degree and 73.4%

have less than 10 years work experience in public sector

Profile of individual factors and knowledge sharing quality

Descriptive analysis for individual factors indicate that awareness (mean=4.28,

S.D=.426) is the most important that affect knowledge sharing quality among government officers followed by trust (mean=4.03, S.D=.406) and personality (mean=3.98, S.D=.517). In terms of

descriptive profile of knowledge sharing quality, relevant knowledge sharing has the highest mean with a statistical value of 4.11 and standard deviation = 0.462 followed by easy to understand dimension

(mean 4.06, S.D=0.418), reliability (mean 3.95, SD=0.469), accuracy (mean 3.85, SD=0.5649) and completeness (mean 3.67, SD=0.639). Based on the item mean scores, respondents have

reported that relevancy as being the most important followed by easy to understand and timeliness.

Goodness of measure

Validity and reliability tests were conducted to test the appropriateness of the measure undertaken for the study. Factor analysis was conducted as a

data reduction technique and also to determine whether items are tapping into the same construct. The factor analysis was done separately on independent and dependent factors because it is

inappropriate to mix dependent and independent variables in a single analysis (Hair et al. 2006). During factor analysis, factors with eigen value of more than one would be retained for further analysis (Hair et al.

2006). Reliability test was applied to ensure consistency in measurement across time and various items in the instrument (Sekaran 2005).

Individual Factors

All the 9 items of individual factors were submitted for analysis using Principal Component Analysis (PCA). The KMO value is 0.719 which

exceeds the recommended value of 0.6 (Sekaran, 2005; Hair et al., 2006; Kaiser, 1974) and the Bartlett's Test of Sphericity is significant. The results (KMO and Bartlett's) suggest that the sampled data is appropriate to

proceed with a factor analysis procedure. Table 6 presents the result of varimax factor rotation of all variables for individual factors. The PCA extracted three distinct components with eigen values exceeding 1.0. Three

items from awareness loaded on Factor 1 with a variance of 23.86 percent, three items from trust loaded on Factor 2 with a variance of 20.54 percent and three items from personality loaded on Factor 3 with a

variance of 20.12 percent. The total variance achieved is 71.25 percent. The Cronbach's Alpha value for all the factors were between 0.698 and 0.894 meeting the acceptable value 0.6 (Sekaran, 2005; Hair et al.,

2006; Kaiser, 1974). The results are presented in Table 4 and 5 below.

Table 4: KMO and Bartlett's test for individual factors instrument (view in full PDF)

Table 5: Factor analysis and reliability test results on individual factors (view in full PDF)

Knowledge Sharing Quality

Principal Component Analysis (PCA) was also performed for the 6 items of the knowledge sharing quality. The result shows that Kaiser-Meyer-Olkin

of Sampling Adequacy (KMO) value is 0.813. This value is excellent because it exceeds the recommended value of 0.6 (Kaiser, 1974; Pallant, 2001) and the Bartlett's Test of Spehericity is significant

(0.000). The results (KMO and Bartlett's test) suggest that the sampled data is appropriate to proceed with a factor analysis procedure. The PCA extracted one distinct component with eigen values exceeding 1.0. Six

items were loaded on a single factor with the variance of 53.65 percent. The Cronbach's Alpha value was 0.827 meeting the acceptable value is 0.6 (Sekaran, 2005; Hair et al., 2006; Kaiser, 1974). The results are presented

in Table 6 and 7 (view in full PDF)

Overall, the results statistically show that the items used in the study are valid and measure what it is supposed to measure.

The instrument is reliable (with high consistencies with Cronbach Alpha for all the factors more than 0.65) that meets the acceptable value of 0.60 (Sekaran, 2005; Hair et al. 2006; Kaiser, 1974).

Test of relationship

To identify the relationship between individual factors and knowledge sharing quality, correlation analysis was conducted. Correlation analysis

indicates the strength and direction of bivariate relationship between the independent and dependent variables under studied. The result of correlation analysis shows that all the variables are

significantly correlated with knowledge sharing quality. It indicates that personality (r=0.382, p<0.01), trust (r=0.373, p<0.01) and awareness (r=0.358, p<0.01) have shown significant

correlations with knowledge sharing quality among government officers.

A multiple regression was conducted to identify the strongest predictor and how

much variance in knowledge sharing quality explained by individual factors. Table 8 show the results of multiple regression analysis. (view in full PDF)

The results of multiple regression show that individual factors have significant effects on knowledge sharing quality. The model is significant (p<0.01) with F-value of 52.272. The coefficient of determination

(R2) is 0.270, which indicates that 27.0% of the variance in knowledge sharing quality was explained by the independent variables (awareness, trust and personality). The results indicate that personality

(b=0.266), is the most significant predictor of knowledge sharing quality followed by trust (b=0.253) and awareness (b=0.206) Therefore it can be concluded that all

hypotheses (H1, H2 and H3)
were supported.

Conclusion

Findings of the study proved
that reveal the purpose of this

study i.e. to identify the relationship between individual factors and knowledge sharing quality is successfully achieved. Individual factors (awareness, trust and personality) correlate significantly with knowledge

sharing quality. Personality seems to be the most significant predictor on the quality of knowledge sharing, followed by trust and awareness. This finding is of help to the government of Malaysia in

formulating a new policy to encourage the sharing of knowledge among employees in all its agencies. It is time for the government of Malaysia to organize programmes and trainings that could help in

creating awareness, trust and building the appropriate personality suitable for the endeavour amongst its staff, the entire public servants. It is evident that any fundamental change should start from the

people. Without the appropriate personality, awareness and trust, knowledge sharing in public sector will all in vain. Continuous awareness programmes could help to change worker's personality,

increase their awareness and build trust among themselves.

Though this study has achieved its goal, but it is also not without limitation. First, the scope of the study was restricted to only

three agencies located in Putrajaya. Therefore, generalizing the findings to government agencies nationwide can be questioned. Second, the study relies merely on quantitative approach. It is

suggested that for future study qualitative approach by means of open ended interview is to be adopted to yield information not obtainable for questionnaires. Third, study on knowledge sharing at operating agencies at

state, district or local councils
level is also worth to embark on.
A comparative study between
public and private sectors could
also be considered. Fourth, this
study only concentrates on
knowledge sharing quality

rather than form the quantity
aspect. It is useful to combine
knowledge sharing form both
the quality and quantity aspects
in order to reap the benefits of
the practice in maximum.
Finally, the study focuses only

on three factors from individual perspective. Future research should extend its scope to other individual factors such as other types of personality.

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