



The Mediating Effect of Tacit Knowledge Sharing on the Relationship between Perceived Supervisor Support and Innovative Behaviour among Nurses in a Malaysian Public Teaching Hospital

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ABSTRACT

Drawing upon social exchange theory, this study tested tacit knowledge sharing as a mediator of the relationship between perceived supervisor support and innovative behaviour. A sample of 339 nurse-supervisor dyads from a Malaysian public teaching hospital was selected for the distribution of questionnaire. Using the structural equation modeling (SEM), the following significant relationships are concluded: (1) perceived supervisor support on tacit knowledge sharing, (2) perceived supervisor support on innovative behaviour, (3) tacit knowledge sharing on innovative behaviour, and (4) the mediating role of tacit knowledge sharing. The current study adds significantly to the body of knowledge on social exchange theory and can help teaching hospital hospital supervisors to support nurses by providing proper direction to develop effective workplace relationship between nurses and supervisors in achieving innovative behaviour

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INTRODUCTION

In the present information society, knowledge is regarded as the most valuable asset in an organisation because knowledge is a contributing factor to individual and the organisational success (Casimir et al., 2012; Sergeeva & Andreeva, 2016). Knowledge sharing has been found to be a key mediator through which social exchange influences individual innovativeness (Wang & Noe, 2010). One of the organisations that demand knowledge sharing is the healthcare industry particularly the hospital. However, knowledge and skills do not exist in a vacuum. Instead, both should be intuitively shared to improve various aspects of performance (Liao & Chuang, 2004). Because of its nature of activities, hospitals must build stimulating knowledge sharing environment to foster innovative behaviour among the employees. This need is seen to be more relevant to a teaching hospital, which is a type of hospital that promotes the improvement of health care through learning and research (Chiu, Schaeffer, & Nakfoor, 2013; Gok & Sezen, 2012). As such, knowledge sharing puts more demands for excellent education in a teaching hospital compared to a non-teaching hospital.

Despite of its importance, the issue of knowledge sharing in Malaysia has received little attention particularly, in the nursing profession despite the fact that 80 per cent of nurses were tasked in primary care units, which make them well positioned to contribute to innovation in clinical practices (Hughes, 2006; Ying et al., 2016). In addition, the research of perceived supervisor support in relation to both tacit knowledge sharing and innovative behaviour appears to be an exciting area to be researched as it still remains fragmented. Parallel to this, it is argued that, the employees' perception on their supervisor support should be examined with respect to knowledge sharing and innovative behaviour since they are the consequences of various types of individual factors (Parzefall et al., 2008). Hence, this study address the question of whether knowledge sharing mediates the relationship between perceived supervisor support and innovative behaviour among the nurses in a teaching hospital.

LITERATURE REVIEW

Tacit Knowledge Sharing

Tacit knowledge denotes the knowledge possessed by individuals that is difficult to be communicated to others via words and symbols (Polanyi, 1962). The aspects of tacit knowledge are those that cannot be easily written down, but instead are best transmitted via training or expanded through personal experience (Wagner & Sternberg, 1985). The effective transfer of tacit knowledge often is thought to require extensive personal contact and support (Lin, 2007). People often possess a large quantity of valuable tacit knowledge that is hard to imitate, describe, and transfer. Due to that, the tacit knowledge possessed by employees can be regarded as a source of innovation and sustainable competitive advantage.

Only a small body of literature addresses the factors that foster tacit knowledge sharing. Much of the work on tacit knowledge sharing has been focused mostly at the conceptual level (e.g., Brockmann & Anthony, 2002) and has posited that socialisation processes play a key role in sharing tacit knowledge. Empirical work has found that support positively relates to tacit knowledge sharing intentions, but these intentions do not bear a strong relationship with actual knowledge sharing behaviour of the subordinate and supervisor (Xerri & Brunetto, 2013). In a study that examined tacit knowledge sharing in general, perceived support of the coworkers, and organizational support were found to relate positively to tacit knowledge sharing (Hu and Randel, 2014; Lin, 2007). Although these studies emphasise the support encompassed in the social exchange between individual and organisation, they do not consider perceived support from the supervisors.

Social Exchange Theory

The formulation of this study's conceptual model use social exchange theory as its basis. The concept of social exchange assumes that people participate in exchanged behaviour because they firmly believe that benefits are more rewarding than the cost (Blau, 1964). Fundamentally, these unified approaches explain a social exchange in regards of the intangible or intrinsic benefits such as respect, knowledge, and appreciation. However, the social exchange does not guarantee any reciprocal outcome as there is no rules or agreement between individuals that conduct the interaction (Cropanzano & Mitchell, 2005).

In the context of perceived supervisor support, the social exchange theory explains that the kind of support from supervisors plays a major role in shaping the employee's behaviour in which they share information, collaborate with each other and involve in decision making (Kim & Ko, 2014). When the employee perceived their supervisor is supportive, they will respond with supportive behavior as well. As such, the supervisor undertakes a major role to facilitate social relationships and the ability to share knowledge. An employee will perceive strong sociopolitical support when the supervisor expresses confidence in his or her abilities (e.g., encourage, optimism and active).

In addition, drawing from the social exchange theory (Blau, 1964), individuals share their knowledge because they perceive that they will receive a benefit as a result of such behaviour. Individuals that provide support for the positive organisational environment are more likely to share knowledge. Knowledge sharing is a premise on social exchange. Cropanzano and Mitchell (2005) argue that knowledge sharing occurs due to reciprocation of favors received such as maintenance of future relationships, job security, and balance of power (Brock et al., 2005; Cabrera & Cabrera, 2005). At the same time, the concept also helps explain employees organisational performance, citizenship behaviour and innovative behaviour (Casimir et al., 2012).

The theorists of social exchange posit that social exchange involves a series of interactions that over a period, generates obligations between the direct exchange parties and indirect parties (Cropanzano, 2015). Social exchange theory also explains the worth (Blau, 1964) from the social interactions or relationships between individuals. Within an organisation, when an employee is satisfied with the workplace exchange, he/she is more inclined to respond with better performance in the workplace (Cropanzano, 2015). Based on this argument, we believe that the reciprocal relationships between nurse and supervisor generate high-quality relationship and promote innovative behaviour (e.g., new procedures and creative ideas). The innovative behaviour is what keeps the hospitals alive through continuous renewal and growth which benefits the medical students and the society.

The relationships of perceived supervisor support, tacit knowledge sharing and innovative behaviour

Perceived supervisor support refers to the employees' general views concerning the degree to which their supervisors care about their well being towards the organisation (Maertz et al., 2007). The benefits of perceived supervisor support are widely recognised in the literature and found to be positively related to several organisational outcomes (Ng & Sorensen, 2008; Yavas, Karatepe, & Babakus, 2010). Study shows that perceived supervisor support creates "enabling relationships with others that make it easier for employees to learn" and hence facilitate employees sharing of knowledge (Ellinger et al., 2003). The encouragement from supervisors are necessary as it manifests inspirations for employees to perform better in their job. Perceived supervisor support has been shown to be positively associated with employees' perceptions of knowledge sharing and willingness to share knowledge (Lin, 2007). Likewise, a study conducted by DeConnick et al. (2010) found that supervisor support influences the level and quality of knowledge sharing through employee commitment. Additionally, perceived supervisor support and the encouragement of knowledge sharing also increased employees' knowledge exchange and their perceptions of the usefulness of knowledge sharing (Cabrera et al., 2006). Following this, perceived support from supervisor allows the employees to return the benefits they receive and they are more likely to share knowledge towards whom they have social exchange relationship (Cropanzano & Mitchell, 2005). Thus, the following hypothesis is proposed:

H1: Perceived supervisor support is positively related to tacit knowledge sharing

When employees perceived supervisor support by giving empowerment, the employees tend to demonstrate independent creative thinking and show high degree of job competence. This context is particularly true for healthcare professionals including nurses and doctors (Yulk, 2010) and other professionals that requires high degree of empowerment. Such phenomenon is theoretically explained by Cropanzano (2015) which specifies that when supervisor support their employees' values, employees will tend to reciprocate by showing appreciation through commitment in achieving organisational goals including being creative and innovative (Scott & Bruce, 1994). Likewise, Oldham and Cummings (1996) state that supportive, open interaction and non-controlling supervisors created a work environment that foster creativity.

Additionally, Eisenberger et al., (1986) discovered perceived supervisor support to be positively related to innovation. Moreover, previous literature suggests that all types of innovation has some variation of risk attached and is difficult to facilitate (Xerri, 2012). Employees may acquire professional knowledge from supportive

supervisors that provide possible ways of doing new things (Scott & Bruce, 1994). It is argued that working with supportive supervisor promotes an environment that encourages open communication on new ideas. Employees who have a good relationship with supervisors are more successful at work and become productive although job stress is severe (Cummins, 1990). Based on the social exchange theory (Blau, 1964), direct supervision is an act of organisational agents. Often the actions by agents reflect the actions of the organisations. The employees might reward favorable supervisory action by showing desired behaviour. It is contended that employees who perceived their supervisors as supportive obtain relevant resources to deal with stressful and innovative tasks. Hence, based on these arguments, the following hypothesis is proposed:

H2: Perceived supervisor support is positively related to innovative behaviour

The relationship between tacit knowledge sharing and innovative behaviour

Although there have been numerous studies looking at the role of knowledge sharing on innovative behaviour (Lee & Hong, 2014), knowledge sharing on innovation capability (Akhavan & Mahdi Hosseini, 2016; Lin, 2007), and knowledge sharing on innovation performance (Jian & Wang, 2013; Hu, Horng, & Sun, 2009; Ritala et al., 2015), less emphasis is found on tacit knowledge sharing's role on innovative behaviour. A few exceptions are studies that examined tacit knowledge sharing on team innovation (Hu & Randel, 2014) and innovation speed and innovation quality (Wang & Wang, 2012). Hu and Randel (2014) found that tacit knowledge sharing was found to mediate the relationship between extrinsic incentives for knowledge sharing and innovative team. On the other hand, Wang and Wang (2012) demonstrated that tacit knowledge sharing facilitates innovation speed and quality.

Tacit knowledge sharing benefits the nurses by getting supportive ideas and as such, contribute to innovative behaviour. In other words, the innovative behaviour is the result of the benefit (e.g. respect and knowledge) received through the exchange. The knowledge-based reciprocation happened when individual has access to knowledge and use it as a stimulus for innovative (Radaelli et al. 2014) for the benefit of others. In the context of a teaching hospital, the knowledge gained (e.g. training, conferences, informal communication, experiences, and documents) from nurses will indirectly benefit the medical students, patients, and the society. Additionally, when hospital introduces new products or services such as new medical devices, manuals and hospital procedures, nurses will utilise the skills and knowledge over time to operate the products and services.

The social exchange theory posits that interaction between individuals does not only benefit the members of the organisation, but the society as well (Cropanzano, 2015). From the reciprocation and improvement activities such as creative ideas, the knowledge chain (from nurse to the medical students) will benefit directly to the hospital operations and indirectly to the society. In other words, society is gaining self-interest benefit from the indirect mutual collaboration display by the nurses. The advantages towards societal outcomes include improvement in hospital services, and less medical errors. Building on this theoretical basis, tacit knowledge sharing is viewed as a crucial element that promotes individuals' engagement towards innovative behaviour. Thus, the following hypothesis is proposed:

H3: Tacit knowledge sharing is positively related to innovative behaviour

The mediating effect of tacit knowledge sharing

Knowledge sharing is considered to have a mediating role between perceived supervisor support and innovative behaviour due to a number of arguments. Based on the theoretical discussions of Cropanzano (2015), Lavelle et al. (2007) and Radaelli et al., (2014), knowledge sharing with the supervisors has not been given much attention in empirical research as a potential mediator on the relationship. Cropanzano (2015) for example, has suggested that perceived supervisor support can influence the employee's motivation to share knowledge. Similarly, knowledge sharing between employees plays a critical role in the social exchange relationship model of Lavelle et al. (2007). Finally, as noted by Radaelli et al. (2014), one of the key aspects for employees to have social relationships to demonstrate innovative behaviour is that employees enjoy sharing knowledge.

Wang and Noe (2010) in their literature compilation also indicate that employees who are most valued in an organisation are those willing to share knowledge. Building on Kahn (1990), the study argued that since innovative behaviour is perceived as risky, employees will engage in innovative behavior when they feel confident and psychologically safe. Employees that experience supervisor support and good workplace

relationship will feel encouraged to share knowledge. Hence, knowledge sharing might be a mechanism that mediates associations between the perceived supervisor support and innovative behaviour. Such a proposal converges with debates (Kahn, 1990; Lavelle et al., 2007; Wang & Noe, 2010) that perceived supervisor support plays a bigger role in influencing innovative behavior via knowledge management. Based on these ideas, the following hypothesis is framed:

H4: Tacit knowledge sharing mediates the relationship between perceived supervisor support and innovative behaviour

METHOD

This research studied the relationship between perceived supervisor support, tacit knowledge sharing and innovative behaviour from the point of view of the nurses and supervisors in the Malaysian public teaching hospital. The existing literature provides the study’s basic research model. Figure 1 shows that perceived supervisor support (PSS), innovative behaviour (IB), and tacit knowledge sharing (TKS) as the independent variable, dependent variable; and mediator variable respectively.

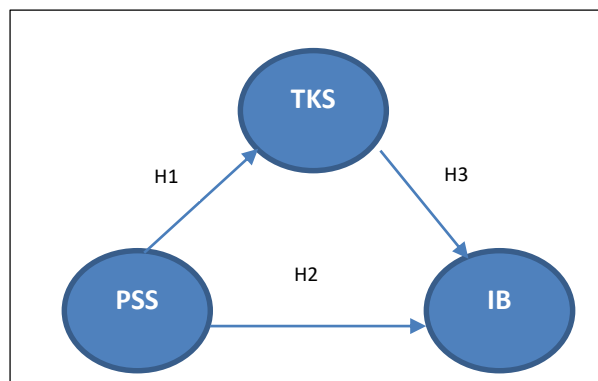


Figure 1 Conceptual model of perceived supervisor support (PSS), tacit knowledge sharing (TKS) and innovative behaviour (IB)

Procedure and Sample

The data collection followed a quantitative approach consisting of an exploratory cross-sectional and cross-level design survey. The researcher was granted access to the teaching hospital in the study to conduct the pre-test, pilot test and the actual data collection. After several amendments from the pilot study, the formal data collection was carried out. Three-hundred sixty questionnaires were distributed to the nurses. Over a period of approximately one month, 339 questionnaires were collected, yielding a response rate of 94.17 percent.

The respondents for this study included all nurses employed in a Malaysian public teaching hospital. The population in this study came from 3 major disciplines which were divided into 9 areas in the teaching hospital. The areas were (1) medical discipline (medical and pediatric), (2) surgery discipline (surgery, obstetrics, and gynecology (O&G), and orthopaedic) and (3) ambulatory discipline (intensive, emergency, psychiatry, and operating theater). To date, the latest numbers of nurses obtained from the Nursing Department as of June 2017 were 1,679 in total. As mentioned earlier, the nursing employees from a teaching hospital were selected with the assumption that they were more committed and innovative due to their additional responsibilities to promote teaching and learning.

The study used disproportionate stratified random sampling where the population was partitioned into the non-overlapping group, and a sample was selected based on the subgroup (Creswell, 2014). The disproportionate stratified random sampling was used in the present study due to the disproportionate of the subgroup population in the 9 major disciplines. Random selection was based on the inclusion and exclusion criteria to achieve the specific objectives of this study. Additionally, the random selection prevented biases and outliers during the data analysis. For the sampling, this study included the nurse matrons (direct supervisor) and clinical nurses who were responsible for providing care to the patients and have collaboration with each other. Appendix A shows the flow of the data collection process in the teaching hospital.

Measures

Unless otherwise noted, all ratings used a 7-point Likert scale with 1 being strongly disagree and 7 being strongly agree.

Perceived supervisor support

Following the work of Eisenberger et al. (1986), the 9-item version scale was revised by Ladd and Henry (2000) to reflect supervisor support. This study adopted the latter. The choice was made due to the questions developed by Ladd and Henry (2000) are more behavioural-based and place less emphasis on friendship descriptors as compared to other measurements (Cureton, 2014). The questions include both positive and negative wording as logic and validity check (Cureton, 2014). Participants responded to questions such as “Help is available from the supervisor when I have a problem”. The Cronbach alpha for this scale was 0.95.

Tacit knowledge sharing

In the survey instrument, the definition of tacit knowledge sharing was provided to help respondents understand the meaning. Tacit knowledge is defined as “the knowledge which is very difficult to articulate, formalise and communicate such as know-how and the way people do things in the organisation” (Hu & Randel, 2014). The 5-item measurement developed by Lin (2007) was used. Participants responded to questions such as “My supervisor share his/her knowledge based on his/her experience” Cronbach alpha for this scale was 0.93.

Innovative behaviour

The supervisors were asked to assess their nurses using Scott and Bruce (1994) 10-item innovative behavior measurement. The supervisors responded to questions such as “The nurse pay attention to issues that are not part of their daily work”. The Cronbach alpha for innovative behaviour was 0.88.

RESULTS

Table 1 demonstrates the results for the hypothesised model. The results of convergent validity depicted in the table outline the convergent validity, internal validity, and the discriminant validity for all three latent variables in this study. The convergent validity is items in a scaleability to come or load together as a single construct. The standardised loadings should be larger than 0.70, suggesting that the indicators share more variance with their respective latent variable than with error variance. A good model fit in PLS is presented when there is significant path coefficient with accepted R² values and a good construct reliability (Gefen et al., 2000). The model predictability reflected by the value of R² is another vital strength determination of the model (Chin, 1998). For the evaluation of the reliability, composite reliability and average variance extracted (AVE), shown in table factor loadings are the two significant measurements utilised in this study. Composite reliability is proposed to be higher than 0.70 (Hair et al., 2016). The other measurement of AVE indicates the variance amount that confines from its indicators relative to the amount due to the measurement error (Chin, 1998). The proposed minimal critical value for AVE is 0.5 (Hair et al., 2016). The composite reliability and the AVE values shown in Table 1 factor loadings achieve these requirements.

Table 1 Factor Loadings of the Hypothesised Model

Latent Variable	Convergent Validity		Internal Reliability		Discriminant Validity	
	Factor Loadings	AVE	Composite Reliability	Cronbach's Alpha	HTMT interval include 1	confidence does not
PSS	>0.50 0.847 0.855 0.854 0.847 0.541 0.752 0.604 0.705 0.737	>0.50 0.573	>0.70 0.922	>0.60 0.904	Yes	

Table 1 Cont.

TK	0.874	0.677	0.912	0.881	Yes
	0.875				
	0.762				
	0.717				
	0.868				
IB	0.798	0.539	0.921	0.904	Yes
	0.796				
	0.644				
	0.605				
	0.824				
	0.795				
	0.777				
	0.698				
	0.718				
	0.656				

Mediating Effect of Tacit Knowledge Sharing

Firstly, the first model was presented with direct path from perceived supervisor support to tacit knowledge sharing and innovative behaviour. Both links were significant at the 0.000 level with the path coefficient of 0.629 and 0.761 respectively. At this point, no indirect effect was hypothesised or evaluated (Refer Table 2). This was followed by the second model with tacit knowledge sharing playing a mediating role between perceived supervisor support and innovative behaviour (Refer Figure 3). The two distinct figures were made based on Baron and Kenny (1986) four-step technique to assess the mediating effect. The two figures had:

- i. A direct path from perceived supervisor support to tacit knowledge;
- ii. A direct path from the perceived supervisor support to innovative behavior;
- iii. A direct path from the tacit knowledge sharing to innovative behavior; and
- iv. A direct path from the perceived supervisor support to innovative behaviour, and an indirect path from perceived supervisor support to tacit knowledge and then from tacit knowledge sharing to innovative behaviour.

Mediation is said to exist when the direct path coefficient between the independent variable and dependent variable decreased at the time that the indirect path through mediator is established. The direct path is assessed both ways; without the intervention of the mediator and with the intervention of the mediator. The original direct path standardised beta of 0.761 has changed to 0.248 after the introduction of tacit knowledge sharing as mediator. The amount of the decrease of the relationship between perceived supervisor support and innovative behaviour accounted by the mediator was 0.513. The mediation effect significance was measured by using the application of bootstrapping technique. The result extracted from the bootstrapping showed that the indirect effect of perceived supervisor support to innovative behaviour with tacit knowledge sharing as the mediator is significant at $p < 0.000$ (Refer Table 4). The variance accounted for (VAF) determines the size of indirect effect in relation to the total effect (Hair et al., 2010). When VAF is less than 20 percent, no mediation take place. On contrary, when VAF has very large outcome of above 80 percent, one can assume full mediation. A situation where VAF is larger than 20 percent and less than 80 percent, partial mediation exists. In this study, it was found that the VAF ($0.629 * 0.784 = 0.493$) was larger than 20 percent and less than 80 percent, which shows that partial mediation effect exists. Therefore, all hypotheses were supported (Refer Table 5).

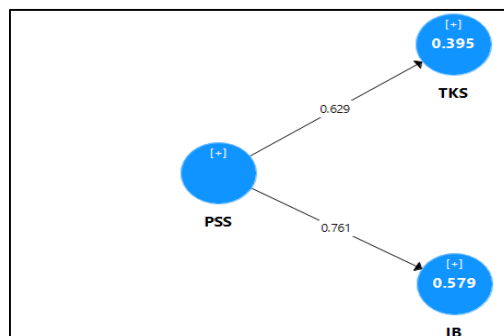


Figure 2 Direct Path Coefficient and R²

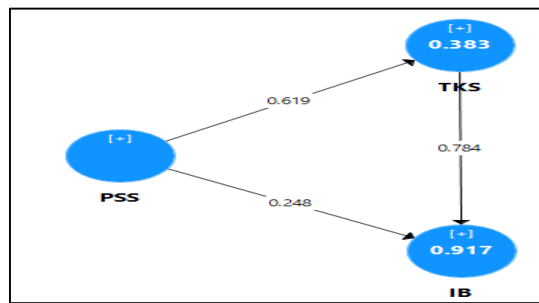


Figure 3 Indirect Path Coefficient and R²

Table 2 Path Coefficients Perceived Supervisor Support to Tacit Knowledge Sharing and Perceived Supervisor Support to Innovative Behaviour

	Beta	t-value
PSS – TKS	0.629	18.970
PSS - IB	0.761	31.907

Table 3 Path Coefficients Perceived Supervisor Support to Tacit Knowledge Sharing, Perceived Supervisor Support to Innovative Behaviour, and Tacit Knowledge Sharing to Innovative Behaviour

	Beta	t-value
PSS – TKS	0.619	18.035
PSS - IB	0.248	9.411
TKS - IB	0.784	34.694

Table 4 Indirect Effect Perceived Supervisor Support on Innovative Behaviour

Indirect	Effect	SE	t-value	p-value
TKS	0.485	0.488	18.261	0.000

Table 5 Hypotheses Result

	Hypotheses Relationship	Path Coefficient	p-value	Conclusion
H1	Perceived supervisor support is related positively to knowledge sharing.	0.619	0.00	Supported
H2	Perceived supervisor support is related positively to innovative behaviour	0.248	0.00	Supported
H3	Tacit knowledge sharing is related positively to innovative behaviour	0.784	0.00	Supported
H4	Tacit knowledge sharing mediates the relations between perceived supervisor support and innovative behaviour	0.485	0.00	Supported

DISCUSSION AND CONCLUSION

The purpose of this study is to establish an understanding of the mediating effect of tacit knowledge sharing on perceived supervisor support and innovative behaviour relationship. A review from the previous study in the area of perceived supervisor support, tacit knowledge sharing and innovative behaviour was performed. From the initial findings, it was found that perceived supervisor support had a positive and significant direct effect on innovative behaviour. The study found that perceived supervisor support influenced innovative behaviour, providing a right condition for the employee and supervisor relationship within the context of innovation. The results are consistent with previous studies (Hu & Randel, 2014; Lin, 2007; Xerri & Brunetto, 2013) and suggest that the teaching hospital management should focus on supervisor support towards the nurses to increase the innovativeness. Specifically, the results suggest that if supervisor support at work was to be enhanced, the nurses will feel more empowered to be more innovative. Based on the findings, it also shows that tacit knowledge

sharing plays a role as mediator and has a mediating effect on perceived supervisor support and innovative behavior relationship in a Malaysian public teaching hospital. It is concluded that higher level of perceived supervisor support holds an important role towards nurses as it facilitates opportunities for tacit knowledge sharing, which in turn leads to innovative behaviour.

The results suggest that teaching hospital should focus on building more support between the nurses and supervisors. Nurses perceived support of their supervisors not only stimulate innovative behaviour, but also directly influence workplace relationships. The existence of support in an environment in which ideas are freely generated can help transform the services towards better patient care. Such environment requires the supervisors to be competent at maintaining good relationships within and across the hospital wards so that the nurses also feel comfortable in adopting and sharing ideas.

This study is not without its limitations. The first one is due to method adopted. The use of a quantitative approach is not able to explain the detailed reasons behind the relationships between variables (Xerri, 2012). The use of a qualitative approach may add further value towards the findings and give insights on the issues surrounding innovative behaviour among nurses. In addition, the sample size in this study involved a small sample of nursing employees' population and was confined to only one teaching hospital residing in Klang Valley. As such, this research cannot highlight specific comparisons across the different types of hospital in Malaysia. A more diverse sample size could be considered as a post research.

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APPENDIX

Appendix A: Data Collection Flow of the Study

