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Supervisory Justice, Organizational Citizenship Behavior, and Innovative Behavior: The Mediating Role of Tacit Knowledge Sharing among Nurses

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Abstract

Aims: Using the perspective of social exchange theory, this study aims to provide insight on the relationship between supervisory justice, organizational citizenship behavior (OCB) and innovative behavior using mediation approach of tacit knowledge sharing. Research on the justice, OCB, and tacit knowledge sharing relationship has received minimal research attention although the role of justice and OCB is influencing the social exchange relationship quality between the employee and supervisor is well established. **Method:** Data were collected on a sample of 339 nurse dyads in 3 major disciplines in a Malaysian public teaching hospital. The data analyses were performed using Structural Equation Modelling (SEM) which confirmed using Partial Least Square (PLS 3.0). PLS is applied to test the research model as it has a less critical requirement of the sample size to validate. **Findings:** For the direct effect, the results provide support for the acceptance of all hypotheses because there are statistically significant relationships. For the indirect effect, following the mediation analysis procedure, it is concluded that tacit knowledge sharing partially mediates the relationship since both the direct and indirect effects are significant. **Conclusion:** This study provides a new perspective on the mediating effect of tacit knowledge sharing in predicting innovative behavior from individual factors (supervisory justice and OCB) among nurses. **Contributions:** From a theoretical perspective, this study contributes to the literature by introducing the mediating effect of tacit knowledge sharing on the relationships between individual factors and innovative behavior. From a practical perspective, this study provides empirical evidence on the proposed framework and provides an understanding of the relationships within a workplace allows teaching hospitals to initiate appropriate steps towards achieving their organizational goals.

Keywords: Tacit Knowledge Sharing, Supervisory Justice, Organizational Citizenship Behavior, Innovative Behavior

Introduction

Teaching hospitals are one of the most complex organizations within the healthcare sector (Fahey & Burbridge, 2008; Gagnon et al., 2015) because its main objective is to train new doctors and nurses. In such a context, tacit knowledge sharing (e.g. communication and training) is crucial for the nurses to behave innovatively in providing the best quality of healthcare (Tasselli, 2015). An important issue in Malaysia and other countries is the shortage of nurses. In Malaysia, the nurse to population ratio is 1:308 (Ministry of Health, 2017) instead of the recommended 1:200 for developing countries. The statistics by Malaysian Department of Statistics also reveal that nurses living abroad accounted for a critical 20 percent of Malaysia's 84,000 nurses (Ling, 2012) and the shortage is expected to increase by an alarming rate of 25 percent from 92,681 in the year 2014 to 130,000 in the year 2020.

The current shortfall affects the work of nurses which resulted in double duty and perform non-nursing functions which impeded direct patient care (Pillay, 2017). The problem is worsened by the active recruitment of qualified nurses by foreign countries such as Singapore and Saudi Arabia (Pillay, 2017). Based on the nursing shortage, it is significant for a teaching hospital to understand the individual factors affecting nurses' performance (Xerri, 2012). Supervisory justice and OCB are grouped under individual factors as it considered as personality or person-specific factors that contribute to innovativeness (Parzefall et al., 2008). Research suggests that tacit knowledge sharing within an organization can stimulate mutual learning which leads to innovative behavior (Scott & Bruce, 1995; Ying et al., 2016). Tacit knowledge drives innovative behavior when it is shared, a different perspective could stimulate "energy that is channeled into new ideas" (Leonard & Sensiper, 1998, p. 118). Moreover, tacit knowledge sharing has been found to contribute to innovativeness through a high level of social exchanges (Radaelli et al., 2014). According to Hu and Randel (2014), tacit knowledge sharing across organizations resulted in increased organizational innovativeness. The same effect may be found between individuals. For such reasons, this research attempts to focus on the mediating effect of tacit knowledge sharing on the relationship between individual factors and innovative behaviour among nurses.

This study contributes by investigating the mediating effect of tacit knowledge sharing on the relationships between supervisory justice and OCB and innovative behaviour. Several researchers (Lin, 2007, Mura et al., 2013; Ying et al., 2016) have only examined the direct effect of individual factors on innovative behaviour and the direct effect of supervisory justice and OCB on tacit knowledge sharing, and this has limited the understanding of the overall the causal relationship. Recognizing this gap, this study introduces a mediating effect that hypothesized supervisory justice and OCB influence tacit knowledge sharing, which in turn influences nurses' innovative behaviour.

Review of Literature

Relationship between supervisory justice and innovative behavior

Studies on supervisory justice and innovative behavior were also found to be positively significant (Janssen, 2004; Kim & Lee, 2013, Young, 2012). For example, Janssen (2004) examines how perceptions of distributive and procedural justice are related to innovative behavior. The results from 118 first-line managers from six organizations in public health institutions found that distributive and procedural justice is related to innovative behavior. Kim and Lee (2013) find that justice dimensions are significant with innovative behavior. In

addition, an empirical result showed that justice dimensions were related to the innovative behavior of employees (Young, 2012).

When employees perceived they are treated fairly or justice, they will strongly engage in workplace social exchange (Cropanzano & Rupp, 2008). If the employees are keen on such treatment by their supervisor, then they will reciprocate the favorable treatment through their behavior and attitude. Employees who tend to perceive their supervisor as justice and value them as an important asset, in turn, promotes a positive attitude towards innovative behavior. Thus, stated below is the proposed hypothesis:

H1: There is a positive relationship between supervisory justice and innovative behavior

Relationship between Organizational and Innovative Behavior

Several researchers have found that OCB is related to innovative behavior (Podsakoff et al., 2000; Sharma & Bhatnagar, 2014; Xerri & Brunetto, 2013). For instance, Podsakoff et al. (2000) found that OCB is related to organizational effectiveness which supports innovative behavior. Sharma and Bhatnagar (2014) propose a model after an extensive review of the literature that OCB is a strong predictor of knowledge workers' innovative behavior. At the same time, Xerri and Brunetto (2013) also report that OCB is positively related to innovative behavior.

Individuals who like to help others or show OCB tend to pay little attention to whether anything is received in return. It is a form of altruism behavior as one attempts to enhance the welfare of others (Fang & Chiu, 2010). Using SET, it is expected that employees who experience positive workplace relationships are likely to reciprocate to their colleagues including the supervisors. Research in examining employee behavior is crucial to OCB and innovative behavior often requires employees to do more than their ordinary work (Podsakoff et al., 2009). Based on these studies, OCB is needed for nurses' innovative behavior. Therefore, it is proposed that a teaching hospital environment that inculcates helping one another is positively related to innovative behavior.

H2: There is a positive relationship between OCB and innovative behavior

Relationship between Supervisory Justice and Tacit knowledge Sharing

Research on the justice and tacit knowledge sharing relationship received minimal research attention although the role of justice in influencing the social exchange relationship quality between the subordinate and employee is well established (Wang & Noe, 2010). For instance, Rupp and Cropanzano (2002) test a social exchange model of multi-foci justice (e.g. organizational justice and supervisory justice). The results showed that the supervisor interactional justice influences the performance rather than the supervisory procedural justice. In another study, Schepers and van den Berg (2007) find procedural justice is positively correlated with the employees' knowledge sharing. Similarly, Lin (2007) states that procedural justice influences on tacit knowledge sharing through organizational commitment and the interactional justice influence tacit knowledge sharing through co-worker's trust. Following the SET, tacit knowledge sharing is upheld through equality in the relationships (Organ, 1990). It shows that when employees perceived fair treatment, they are prone to share knowledge with others. The perceive can come from procedures carried out by the

organization such as workloads allocation, work schedules, and task responsibilities (Colquitt, 2001).

Several researchers have suggested that justice facilitates the formation of the social exchange relationship (Lavelle et al., 2007; Rupp & Cropanzano, 2002; Walumbwa et al., 2009). As a result, individuals who perceived justice are likely to increase their task performance and engage in knowledge sharing (Cropanzano, 2015). The fact that knowledge sharing is a self-motivated behavior, employees who feel motivated by justice presented by their supervisor will engage in more tacit knowledge sharing (Wang & Noe, 2010). In addition, Cropanzano et al. (2007) suggest that justice may stimulate knowledge sharing. Although the study did not specifically mention supervisory justice, the perceived justice may provide a direct support influence on knowledge sharing. It is argued that when nurses perceived they are treated fairly by their supervisor in terms of working procedures, they are motivated to share tacit knowledge. Thus, stated below is the proposed hypothesis

H3: There is a positive relationship between supervisory justice and tacit knowledge sharing

Relationship between Organizational Citizenship Behavior and Tacit Knowledge Sharing

According to Dehgani et al. (2015), OCB has important consequences in the workplace and one of the consequences is knowledge sharing. Though in limited numbers, there are studies that measure the relationship between OCB and knowledge sharing (Dehgani et al., 2015; Lin, 2008; Ramasamy & Thamaraiselvan, 2011; Tee & Yong, 2011). For instance, Dehgani et. al. (2015) examine the role of OCB in promoting knowledge sharing among university employees. The results indicate that there is a significant correlation between OCB dimensions (e.g. altruism, conscientiousness, sportsmanship, courtesy, and civic virtue) and knowledge sharing. Lin (2008) states that knowledge sharing is influenced by OCB dimensions. Similarly, Ramasamy and Thamaraiselvan (2011) examine the relationship between OCB and knowledge sharing in 181 part-time undergraduate students working full time in various industries. The SEM result revealed that OCB is positively related to knowledge sharing. Tee and Yong (2011) investigate the roles of self-worth, in role behavior and OCB in supporting employees' knowledge sharing behavior. One of the hypotheses is to test the relationship between OCB and knowledge sharing. Data surveyed of 116 Information Systems personnel showed that OCB is positively related to the intention to share knowledge.

SET posits that intrinsic motivation influence knowledge sharing in terms of altruism (Lin, 2007). By engaging in intellectual pursuit, employees are motivated to share their experiences because solving problems is viewed as challenging and they enjoy helping one another (Wasko & Faraj, 2005). Winter (1987) states that tacit knowledge is a form of competitive advantage. When an organization achieves a competitive advantage, the need for OCB increases. With due respect, knowledge sharing may influence an employee's performance positively based on the definition. Similarly, Lin (2007) states that the dimensions of OCB and knowledge sharing are positively correlated. Knowledge sharing could not take place without the act of volunteerism or OCB. As OCB becomes common in an organization, a manifestation of employees' tacit knowledge sharing is expected to rise (Demirel et al., 2011). Since OCB reflects the unselfishness of employees towards others, it is predicted that OCB will lead to tacit knowledge sharing. Therefore, stated below is the proposed hypothesis

H4: There is a positive relationship between OCB and tacit knowledge sharing

Relationship between Tacit Knowledge Sharing and Innovative Behavior

The relationship between knowledge sharing and Innovative behavior has been a subject of interest for many researchers (Hu & Randel, 2014; Reagans & McEvily, 2003; Wang & Wang, 2012; Ying et al., 2016). Between the variables, the causal link has always been from knowledge sharing to innovative behavior. To illustrate, Hu and Randel (2014) argue that as knowledge sharing such offers a competitive advantage, employees that facilitate it are likely to accomplish innovative outcomes. In addition, Reagans and McEvily (2003) note that knowledge sharing between employees help to emerge innovative ideas. The existence of social relationships between employees may stimulate knowledge sharing and minimize ambiguity. Wang and Wang (2012) empirically tested 89 high technology firms find that tacit knowledge sharing has a significant effect on innovation. Ying et al. (2016) explore the impact of knowledge sharing behavior among nurses in the Danish Hospital's Intensive Care Units (ICUs) on nurse innovation. The study develops a multi-source survey of more than 200 nurses in the 22 ICU units of 17 Danish hospitals.

The collective knowledge generates an underpinning for and boosts the employee's innovative behavior. The notion of examining the tacit knowledge sharing and innovative behavior is seen to be interesting to the academics and the practitioners. Considering the importance of this issue, it is highly relevant to the healthcare organizations, particularly the teaching hospital. The lack of information found in the literature regarding the association of tacit knowledge sharing and innovative behavior creates an urgency to encourage more study to be done in understanding the holistic view of these relationships. Based on the ideas from the nursing practice and shared within the wards, more evidence-based innovation can be initiated with the help of other clinicians and the leader's support (Amo, 2006). By engaging in tacit knowledge sharing activities, it is expected that nurses may become more innovative in general. Thus, stated below is the proposed hypothesis

H5: There is a positive relationship between tacit knowledge sharing and innovative behavior

The Mediating Effect of Tacit Knowledge Sharing

Several types of research have performed on the relationship between supervisory justice, organizational citizenship behavior with tacit knowledge sharing and supervisory justice, organizational citizenship behavior with innovative behavior in isolation, suggesting that for further research on the simultaneous relationship between individual factors, tacit knowledge sharing, and innovative behavior. The results of the findings could contribute to the new perspective in the literature and could be appli to other organizations. Employees who perceived overall supervisory justice tend to exhibit cooperative behavior (Podsakoff et al., 2000). When employees perceived their supervisor to treat them well, there are possibilities for employees to take part in tacit knowledge sharing. Since knowledge sharing cannot be forced, cooperation and willingness attitude is crucial. In order to encourage employees to share knowledge, the supervisor needs to ensure every aspect of justice is implemented (Cropanzano & Rupp, 2008). On this basis, it is assumed that when employees perceived supervisors to be supportive, they are likely to continue engaging tacit knowledge sharing.

OCB is one of the factorsare related to an organization, which could gain a competitive advantage (Xerri & Brunetto, 2013). As the relationship between employees developed, reciprocity will be established which encourages employees helping one another beyond their job descriptions. The unselfishness of employees towards others provides a meaningful relationship as it is associated with a commitment to share tacit knowledge sharing. Wasko and Faraj (2005) suggest when employees engage with intellectual pursuit, they are motivated to share their experiences as solving problems is viewed as challenging and they enjoy helping one another. It is suggested that employees who constantly helping each other will end up in tacit knowledge sharing.

According to Hu and Randel (2014), tacit knowledge sharing across organizations resulted in increased organizational innovativeness. The same effect may be found between individuals. Therefore, stated below are the proposed hypotheses

H6: Tacit knowledge sharing mediate between supervisory justice and innovative behavior
H7: Tacit knowledge sharing mediate between OCB and innovative behavior

Conceptual Framework of the Study

Figure 2.1 exhibits the hypothesized model of this study. Two individual factors act as the independent variables (e.g. supervisory justice and organizational citizenship behavior). Whereas, tacit knowledge sharing is represented as the mediator and innovative behavior as the dependent variable.

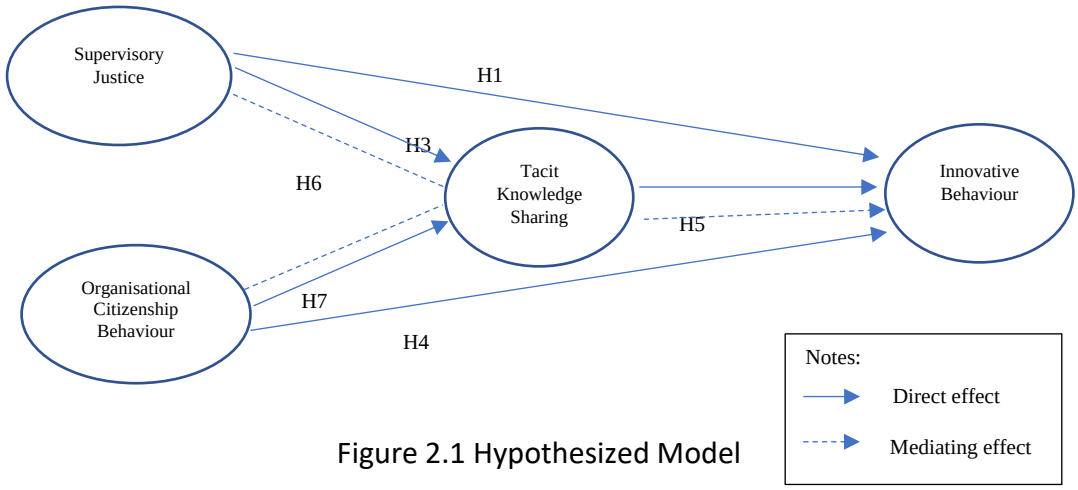

Figure 2.1 Hypothesized Model

The Study

Aims

The aim of this study was to provide insightful analysis to corroborate the supervisory justice and organizational citizenship behavior by nurses that encourage the occurrence of tacit knowledge sharing and innovative behavior. Subsequently, this study examines the potential mediator role of tacit knowledge sharing in the proposed relationships.

Design

By considering the nature of the research problem, the present study employed the quantitative approach. The reason is that the research aims to test a set of hypotheses include confirming and adding to the present theory.

Participants

The participants for this study include the nurse matrons (direct supervisor) and registered nurses who are responsible for providing care to the patients and have collaboration with each other. Currently, there are three major disciplines in clinical services. The adjustments for the size of population (S) for the nurses in the teaching hospital as follows:

S= n / [1 + (n / nurse's population)]

S = 384 / [1 + (384 /1679)] = 384/1.2556

= 307 nurses

Hence, the sample size for registered nurses is 307 respondents (N=307). Instead of 307 nurses, this study distributed 360 questionnaires to increase the number of response rates and to minimize the invalid data (Table 3.1).

Table 3.1

Number of Participants

Discipline	Areas	Number of Nurses	Number of Samples
Medical	Medical	339	72
	Pediatric	199	42
Surgery	Surgery	222	47
	O&G	374	80
	Orthopedic	100	22
Ambulatory	Intensive	95	21
	Emergency	60	14
	Psychiatry	55	12
	Operating Theatre	235	50
Total		1679	360

Source: Field Survey, 2018

Ethical Considerations

The ethical consideration procedures started with nominating a principal investigator to allow the researcher to gain access to the teaching hospital. The principal investigator must be an academician from the teaching hospital and their role is to monitor the data collection process. Once the principal investigator is chosen, the researcher proceeds with completing the required research forms downloaded from the teaching hospital website. The completed forms (softcopy) were emailed according to the Research and Innovation Secretariat of the teaching hospital. Within 2 months of submission, the researcher received an approval letter from the Ethical Committee with a project code of UKM FPR.4/244/FF-2017-217.

Data Collection

After receiving approval from the teaching hospital Research Committee Board, a cross-sectional survey data collection was conducted. The researcher was granted access to the teaching hospital to conduct the pre-test, pilot test, and the formal data collection process.

Instruments

Measurement for this study was borrowed from the established work of several researchers. The survey consists of two sets of questionnaires:

i. Set One: The first set was evaluated by the frontline nurses containing measures of respondent and organization background, individual factors (supervisory justice and OCB) and tacit knowledge sharing.

ii. Set Two: The second set of questionnaires was completed by the supervisor with which they rate their consenting nurse's innovative behavior. Specifically, the individual factors served as the independent variables, tacit knowledge sharing as the mediator and innovative behavior served as the dependent variable.

Supervisory justice which includes the procedural supervisor justice and interactional supervisor justice was measured using 11 items developed by Rupp and Cropanzano (2002). Since the measurement of supervisory justice is considered new, it has not been applied in the nursing literature. Nevertheless, the measurement was developed by Rupp and Cropanzano (2002) found the measures to be reliable and published the instruments in the Organizational Behavior Journal. The measurement is a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), and the Cronbach alpha was 0.75 for procedural justice and 0.79 for interactional justice.

The OCB items were measured the 8-item OCB directed at individuals (OCBI) and 8-item OCB directed at the organization (OCBO). Items used in this study are selected from a pool created by the previous OCB which has been validated by Lee and Allen (2002). The items are tapping behavior that is beneficial to the individuals and the organization. A 7 point Likert scaled was used. The Cronbach alpha for the measurements for OCBI and OCBO were 0.83 and 0.88, respectively.

Tacit knowledge sharing is viewed as an activity in which knowledge is exchanged among members of an organization through experience. In this study, five items of tacit knowledge sharing were adopted from Lin (2007). The tacit knowledge sharing item is measured on a seven-point scale with 1 representing strongly disagree to 7 represent strongly agree and the Cronbach alpha was reported at 0.93.

The innovative behavior items of individual employees as the dependent variable were measured by using the 10-item innovative behavior by Scott and Bruce (1994). This scale has demonstrated acceptable reliability and validity in previous researches. The innovative behavior of individual employees was assessed by the nurse supervisor. A common method bias issue could be avoided when the process of gathering the dependent variable of employee innovative behavior is conducted at the supervisor level (Li, Duverger & Yu, 2018; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The instrument's scale ranges from 1 = strongly disagree, and 7=strongly agree and the Cronbach alpha was reported at 0.88.

Data Analysis

The data analyses for this study were undertaken in four principal processes; confirmatory factor analysis (CFA), SEM, analysis using SPSS 22.0 and Smart-PLS 3.0. CFA was employed to test the extent to which observed items linked to the underlying latent factors (Byrne, 2001). Furthermore, the interrelationship of the variables was investigated as well as the regression paths (factor loadings). Also, in preparing for the screening process, the data were tested for violation of statistical assumptions such as outliers, normality, sample size and missing data (Hair et al., 2017). SEM is an appropriate analytical tool to examine the hypotheses in this study because of the benefit of being able to apply the confirmatory method (Bollen, 1989).

Secondly, the SEM allows for multiple equations and can examine the equations simultaneously (Kaplan, 2000; Kline, 2011). A complex model can be examined by SEM and appropriate in analyzing this study objective. Finally, SEM could include the latent variables and can improve the error in measurement.

Validity and Reliability

The reliability values for each variable are showed in Table 3.2. A value of α between 0.5 and 0.7 represents an acceptable level of reliability measures, and 0.7 is regarded as relatively high reliability (Nunnally & Bernstein, 1994).

Table 3.2
Reliability Value

Variable (s)	Reliability	No of Items
Supervisory justice	0.895	10
Organizational citizenship behavior	0.964	16
Tacit knowledge sharing	0.967	5
Innovative behavior	0.890	10

Results

The demographic section as illustrated in Table 4.1showed the respondent's profile who participated in this study. A total of eight demographic components were presented using the frequency test. The eight demographic profiles were gender, age, race, religion, education, working experience as a nurse, working duration, and areas. The data were keyed into Statistical Package for Social Science (SPSS) version 22.0 to generate a detailed statistical report, exploratory analyses on every variable to check any missing or invalid data, and generate additional analyses for normality test, response biases, and common method biases. Every item in the questionnaires was assigned a code (e.g. Male = 0, Female =1), when the data entered into SPSS, where frequency statistics were performed, and no data error was detected.

Table 4.1
Demographic Characteristics

Demographic characteristics		Percentage (n=339)
Gender		
	Male	3.8
	Female	96.2
Age		
	Less than 25 years	6.5
	26 to 50	92.9
	More than 50 years	0.6
Race		
	Malay	96.2

	Chinese	0.9
	India	1.2
	Sabah and Sarawak indigenous	1.8
Religion		
Islam		97.1
	Christian	1.5
	Buddha	0.3
	Hindu	1.2
Education		
	SPM	0.3
	Nursing Certificate	4.4
	Diploma/Advanced Diploma	80.8
	Degree	14.2
	Others	0.3
Working experience as a nurse		
	Below 5 years	24.5
	5 to 10 years	24.8
	More than 10 years	50.7
Working duration in UKMMC		
	Below 5 years	26.3
	5 to 10 years	22.4
	More than 10 years	51.3
Areas		
Medical		20.6
	Pediatric	12.4
Surgery		8.3
O&G		23.3
Orthopedic		7.4
Intensive		6.2
Emergency		4.1
Psychiatry		2.9
Operating Theatre		14.7

First Order CFA and Second-Order CFA

Two variables are categorized as first-order CFA. The variables are innovative behavior and tacit knowledge sharing. Table 4.2 and 4.3 outlines that there are no issues with convergent validity and is considered acceptable. An examination of the ten-item measure of innovative behavior found to be a reasonable parameter. The factor loadings for each indicator and AVE results of 0.54 exceeds the required value of 0.50 (Fornell & Larcker, 1981). On the other hand, the internal consistency reliability presents the composite reliability 0.90 and Cronbach's alpha 0.90 exceeded the suggested cut-off value (Hair et al., 2017), and further

testing discriminant validity stated that the HTMT confidence interval values were below than the threshold value of 1. Therefore, the discriminant validity and the CFA reported outlines a good fit was achieved.

Table 4.2
CFA Result for Innovative Behavior Measurement Model

Latent Variable	**Indicators**	**Convergent Validity**		**Internal Reliability**	**Consistency**
		Loadings	AVE	CR	Cronbach's Alpha
		>0.50	>0.50	>0.70	>0.60
Innovative Behaviour	IB1	0.785	0.54	0.90	0.90
	IB2	0.781			
	IB 3	0.621			
	IB 4	0.582			
	IB 5	0.815			
	IB 6	0.802			
	IB 7	0.790			
	IB 8	0.710			
	IB 9	0.735			
	IB 10	0.674			

Table 4.3
CFA Results for Tacit Knowledge Sharing Measurement Model

Latent Variable	**Indicators**	**Convergent Validity**		**Internal Reliability**	**Consistency**
		Loadings	AVE	CR	Cronbach's Alpha
		>0.50	>0.50	>0.70	>0.60
Tacit Knowledge Sharing	TK1	0.878	0.676	0.912	0.881
	TK2	0.877			
	TK3	0.755			
	TK4	0.709			
	TK5	0.873			

The second-order CFA is a statistical method employed by the researcher to confirm that the theory in this study weights into a certain number of underlying sub-constructs or components (Hair et al., 2014; 2017). In this study, there are two latent variables with second-order factor analysis which are supervisory justice and OCB.

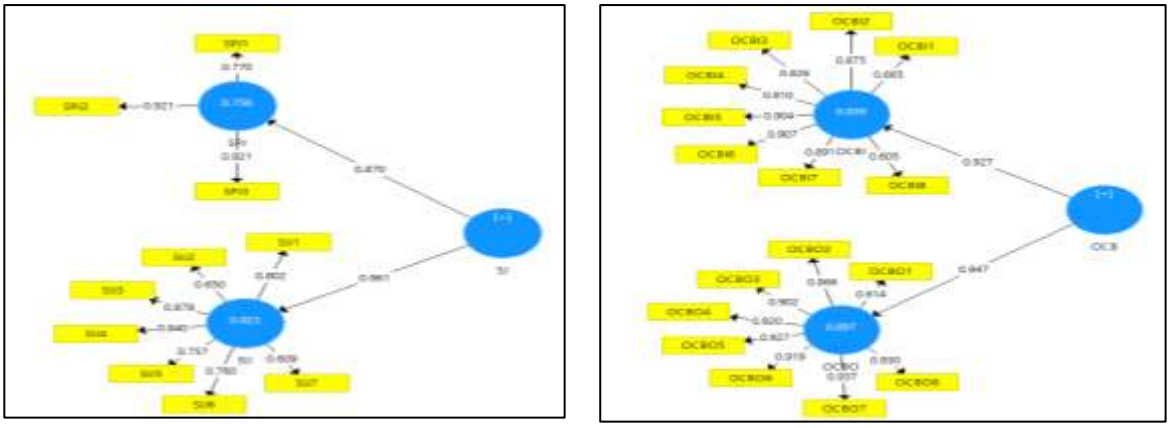

Figure 4.2 Second-Order CFA for Supervisory Justice and Organizational Citizenship Behavior

Re-specified Model

Table 4.4 demonstrates the results of the hypothesized model. The first and second-order CFA was combined to determine the relationships between the constructs.

Table 4.4
Re-Specified Model

Latent Variable	**Indicators**	**Convergent Validity**		**Internal Reliability**	**Consistency**
		Factor Loadings	AVE	CR	Cronbach Alpha
		>0.50	>0.50	>0.70	>0.60
Supervisory Justice	SPJ1	0.887	0.553	0.917	0.897
	SPJ2	0.838			
	SPJ3	0.843			
	SIJ1	0.803			
	SIJ2	0.655			
	SIJ3	0.880			
	SIJ4	0.840			
	SIJ5	0.758			
	SIJ6	0.762			
	SIJ7	0.597			
OCB	OCBI1	0.668	0.635	0.965	0.959
	OCBI2	0.875			
	OCBI3	0.826			
	OCBI4	0.809			
	OCBI5	0.904			
	OCBI6	0.907			
	OCBI7	0.891			
	OCBI8	0.605			
	OCBO1	0.613			
	OCBO2	0.865			
	OCBO3	0.902			
	OCBO4	0.920			

	OCBO5	0.923			
	OCBO6	0.919			
	OCBO7	0.937			
	OCB08	0.798			
Tacit Knowledge Sharing	TK1	0.874	0.676	0.912	0.881
	TK2	0.875			
	TK3	0.762			
	TK4	0.717			
	TK5	0.868			
Innovative Behaviour	IB1	0.798	0.540	0.921	0.904
	IB2	0.796			
	IB 3	0.644			
	IB 4	0.605			
	IB 5	0.824			
	IB 6	0.795			
	IB 7	0.777			
	IB 8	0.698			
	IB 9	0.718			
	IB 10	0.656			

Significant of Direct Analysis

In order to test the significance level, t-statistics for all paths are generated using SmartPLS 3.0 bootstrapping function. Based on the assessment of the path coefficient as shown in Table 4.5 all five the direct relationships are found to have t-value ≥1.645 (one-tailed), the significant at 0.05 level of significance. The summary of the relationships is shown in Table 5.18.

Table 4.5

Hypothesis Testing for Direct Effect

H	Relationship	Std Beta	Std Error	t-value	Confidence Interval (BC)		Decision
					UL	**UL**	
H1	Supervisory Justice ->Innovative Behaviour	-0.041	0.023**	1.795	-0.081	-0.007	S
H2	OCB ->Innovative Behaviour	-0.043	0.018**	2.347	-0.074	-0.014	S
H3	Supervisory Justice ->Tacit Knowledge Sharing	0.149	0.074*	2.011	0.031	0.277	S
H4	OCB ->Tacit Knowledge Sharing	0.166	0.069*	2.417	0.048	0.278	S
H5	Tacit Knowledge Sharing->Innovative Behaviour	0.62	0.025**	24.623	0.583	0.664	S

Note: ***p<0.01, **p<0.05, p *<0.10, *BC = Bias Corrected, UL=Upper Level, LL=Lower Level, S=Supported, NS=Not Supported*

Indirect Analysis (Mediation)

The bootstrapping analysis has shown that two indirect effects which are supervisory justice and OCB: β=0.092 and β = 0.103 are significant with t-values of 2.001 and 2.461 respectively. The indirect effects 95% Boot CI Bias Corrected: [LL=0.002, UL=0.182; and LL=0.027, UL=0.191], do not straddle a 0 in between, indicating there is mediation (Preacher & Hayes, 2004, 2008). Therefore, it is concluded that the mediation effects of two indirect effects (supervisory justice and OCB) are statistically significant. The results of the mediation analysis are presented in Table 4.6.

Table 4.6
Hypothesis Testing on Mediation

No	Relationship	Std. Beta	Std. Error	t-value	Confidence Interval (BC)		Decision	Mediation
					LL	**UL**		
H6	Supervisory Justice->Tacit Knowledge Sharing->Innovative Behaviour	0.092	0.046	2.001	0.002	0.182	S	Competitive (Partial)
H7	OCB->Tacit Knowledge Sharing->Innovative Behaviour	0.103	0.042	2.461	0.027	0.191	S	Competitive (Partial)

*Note: *p<0.05, *p<0.01, BC = Bias Corrected, UL=Upper Level, LL=Lower Level, S=Supported, NS = Not Supported*

Discussion

Hypothesis 1 results reveal that supervisory justice has a negative direct relationship but affects innovative behaviour significantly. The interpretation of the results is that when nurses perceive that their supervisor does not treat them fairly in terms of interaction and their working procedure, they become more innovative. These results contradict those of previous studies (Janssen, 2004; Kim & Lee, 2013; Young, 2012) which found a positive direct relationship between supervisory justice and innovative behaviour.

One possible explanation for the negative causal direct relationship is perhaps because of the challenge the nurses are facing from their supervisors. For example, when the nurses perceived discrimination and unfair treatment from their supervisor, they could have taken it as a challenge to prove their worth to the organization. Such workplace discrimination was expected to facilitate nurses to become more innovative in their work. The perceived unjust treatment increases the stress levels that in turn push employees beyond their comfort zone. According to the stress response curve demonstrated by Nixon (1979), a healthy increase in stress levels will increase performance levels. A manageable level of stress lower than the fatigue point, which is also the distress phase, facilitates good performance levels. This scenario is applicable in a knowledge industry such as a hospital because healthcare professions including nurses are among the first six most stressful jobs in the world (Cooper et al., 2008). Employees in the healthcare industry are more likely to be stressed because they are dealing with matters of life and death. Any kind of negligence could affect their patients (Koinis et al., 2015). Therefore, stressor effects require nurses to be more innovative to survive and succeed in such an environment because of the combined pressures of unjust supervision, close monitoring of patients, and hectic work schedules.

Hypothesis 2 involved looking at the relationship between OCB and innovative behaviour. The results of this study indicate that there is a negative and significant relationship between OCB and innovative behaviour. In other words, the findings indicate that when nurses perceived a weak relationship with minimal voluntary behaviour, they were more prone to show innovativeness. The results obtained from this study contradict those of previous studies carried out by Xerri and Brunetto (2013), which indicate that OCB at both the level of the individual and the organization is positively related to innovative behaviour.

One possible explanation for the negative influence of OCB on innovative behaviour could be due to the individualistic culture within the teaching hospital. Nurses might prefer personal freedom and achievement, which are essential for making important discoveries, innovation, and other significant achievements (Gorodnichenko & Roland, 2011). Additionally, according to Hofstede (2001), individualistic societies are characterized by a weak relation between individuals and it is assumed that everyone is taking care of themselves. It is viewed that individualistic cultures value freedom more than collectivist ones do and hence, employees in individualistic cultures have more opportunities to try new things (Kaasa & Vadi, 2008). Nurses in the teaching hospital might show high levels of individualism where they have less interest to work in a group. According to Yao et al. (2012), individualism contributes to higher creativity and affords employees more time to be innovative. Consequently, higher innovative behaviour in an individualistic culture leads to higher levels of productivity in the long term. In other words, an individualistic culture affects employees' dynamic efficiency and the long-term growth of the organization.

In hypothesis 3, it was outlined that supervisory justice has a positive and direct effect on tacit knowledge sharing. The results for this hypothesis are helpful to illustrate the fact that when nurses perceived fairness in work responsibilities while making job-related decisions, they were more inclined to share valuable tacit knowledge. It strengthens the fact that a higher level of perceived fairness from supervisors motivates employees to share tacit knowledge and perform better at knowledge-based tasks. These results are consistent with previous empirical studies (Lin, 2007; Wang & Noe, 2010), which stated that supervisory justice, particularly in terms of procedural and interactional justice, contributes to tacit knowledge sharing. It can be said that when nurses perceive that they are not treated justly regarding in terms of time availability and their overall work responsibilities, they will probably not be motivated to share their working experience knowledge to increase work performance.

For hypothesis 4, the results showed that OCB has a positive relationship with tacit knowledge sharing. This result is in line with past studies that demonstrated that OCB has a direct positive relationship with tacit knowledge sharing (Cropanzano, 2002; Lin 2007; Rupp & Cropanzano, 2007). The findings of these previous studies indicate that when nurses feel comfortable to help others, they will participate in tacit knowledge sharing.

For hypothesis 5, the results showed tacit knowledge sharing to be positive and significantly correlated with innovative behaviour. This relationship suggests that nurses who are better able to share knowledge are more likely to engage in innovative behaviour. This is turn implies that there are common underlying factors that explain why employees who share knowledge are prone to innovate. The results also suggest that nurses who engaged in innovative behaviour are constantly managing knowledge, in particular by elaborating and disseminating their clinical experiences with others (Taylor & Greve, 2006; Radaelli et al., 2014). It means that nurses who are willing to share not only increased the possibility of social exchange but also minimized knowledge stickiness, increased socialization, and had an enhanced likelihood to be innovative (Noor & Salim, 2012).

In hypothesis 6, the mediating effect was introduced where tacit knowledge sharing was presented as a mediator in supervisory justice and innovative behaviour relationship. In order to test the mediating effect, the PLS analysis was adopted. Several points need to be observed. First, the most accepted relationship between supervisory justice and innovative behaviour is authenticated. The path coefficient of a direct relationship between supervisory justice and tacit knowledge sharing is 0.149, which is significant. Second, the SET that links supervisory justice and tacit knowledge sharing are also well supported, with the path coefficient of the direct relationship between supervisory justice and innovative behaviour is -0.041, which is negative but is significant. Third, the proposed mediator of tacit knowledge sharing on the relationship between supervisory justice and innovative behaviour is empirically tested. Since the direct effect is negative and the indirect effect is positive, the sign of the product is negative (e.g. -0.041 x 0.092 = -0.004). The opposite signs of the direct and indirect effects can offset each other so that the total effect of supervisory justice on innovative behaviour is relatively small. Hence, some of the supervisory justice effects on innovative behaviour can be explained by tacit knowledge sharing.

For hypothesis 7, the mediating relationship was introduced where tacit knowledge sharing mediates between OCB and innovative behaviour. The partial least square (PLS) analysis was espoused to test the mediating effect of tacit knowledge sharing. The relationship between OCB and innovative behaviour is authenticated. The path coefficient of the direct relationship between OCB and innovative behaviour is -0.043 and the path coefficient between OCB and tacit knowledge sharing is 0.103. Finally, the mediation of tacit knowledge sharing between OCB and innovative behaviour was tested. Since the direct effect is negative and the indirect effect is positive, the sign of the product is negative (e.g. -0.043 x 0.103 = -0.004). The findings described that tacit knowledge sharing serves as a competitive partial mediator on these relationships and perhaps as a possible mediator is present indirect effect's sign equals that of the direct effect. Therefore, it is concluded that some of the OCB effects on innovative behaviour are explained by tacit knowledge sharing.

The opposite signs of the direct and indirect effects indicate that there is a competitive partial mediation (Zhao et al., 2010; Ramayah et al., 2018; Soh, Lim, Yee, Ying, & Yin, 2018; Iacob, 2018)

) of tacit knowledge sharing on the relationship between supervisory justice and innovative behaviour and the relationship between OCB and innovative behaviour. It means that tacit knowledge sharing as the intermediate variable will reduce the magnitude of the relationship between supervisory justice and innovative behaviour, along with OCB and innovative behaviour. However, it is possible that tacit knowledge sharing could increase the magnitude of supervisory justice and innovative behaviour and OCB with innovative behaviour.

Limitations and Recommendation for Future Research

The first limitation pertains to the fact that the data of the study were collected from a single case study of a teaching hospital in Malaysia. The issue of red tape from the management of the teaching hospital resulted in a limited time frame for data collection. Although the number of samples collected is sufficient for data analysis, it is still considered small. Therefore, if there had been more time and other resources, more data could have been collected. Possibly the interactive session for a pilot study in a controlled environment could have helped to minimize mistakes in answering questionnaires and get a higher response rate. This study only focused on one type of respondent category which is nurse employees. Although the majority of hospital personnel are nursing employees, who make up

approximately 80 percent of the hospital workforce (Amo, 2006), the successful operation of a teaching hospital requires the involvement of many others including academicians, medical doctors, housemen, pharmacists, hospital medical assistants, and other administrative staff.

Conclusion

It is reasoned that innovative behavior is an important dimension as it forms the basis for the utilization of tacit knowledge sharing and individual factors. The findings of this study represent practical support for innovative behavior. To conclude, this study has provided an important understanding of the individual factors that encourage tacit knowledge sharing which promotes nurses' innovative behavior in a Malaysian public teaching hospital. As such, the present study has provided empirical evidence to confirm that (i) individual factors influence innovative behavior, (ii) individual factors influence tacit knowledge sharing, (iii) tacit knowledge sharing leads to innovative behavior, and (iv) tacit knowledge sharing mediates the relationship of all the individual factors and innovative behavior.

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