

## Elucidating Knowledge Sharing on Innovative Work Behavior: Multiperspective Analysis

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**Abstract.** A long debate about the role of knowledge sharing in changing employee perspectives and behavior has become an important issue to improve innovation, employee performance, organization, and competitive advantage. Recently, some researchers concluded that knowledge sharing starts from a personal perspective in the form of personal commitment but other researchers consider that knowledge sharing comes from the causality of leaders. This study aims to fill the research gap that knowledge sharing cannot be concluded from one perspective but also involves leadership roles to improve innovative work behavior through direct and indirect relationships between research variables and explain the role of knowledge sharing in the SMEs sector that is considered unprepared. This study uses a structural equation model with a quantitative design based on positivism framework to explain the relationship between variables. The research respondents were 177 employees at three managerial levels using the simple random sampling method with non-replacement and analyzed using Smart-PLS 3.0 software. The result of the direct relationship is transformational leadership has a significant effect on commitment, knowledge sharing, and innovative work behavior, while commitment does not significantly influence knowledge sharing. The findings of theoretical research are the synergy of the leadership and individual roles of employees in elaborating the processes that occur in building knowledge sharing, and the variable employee commitment acts as a mediating variable on leadership relations and innovative work behavior. Practically, the results of the study show that managers play a strategic role in developing knowledge sharing that impacts on work innovation and builds a competitive advantage at the individual level. Research limitations are discussed in the paper.

**Keywords:** Transformational Leadership, Employee Commitment, Knowledge Sharing, Innovative Work Behaviour, Competitive Advantage

### 1. INTRODUCTION

Facing the industrial revolution 4.0, it is necessary for organizations to exhibit good performance and have a competitive advantage through optimizing all resources. One of the keys to the success of an organization is human and intellectual capital, although, in reality, its role is still a subject of controversy among academics and practitioners. Intellectual capital is considered to only play a role "behind the table" while the leaders of organizations tend to prefer something which can be seen and contribute important value for the development, performance, and

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sustainability of their organizations. One of the intellectual capitals believed to have an important role in the organization is knowledge sharing.

Knowledge sharing plays an important role in creating innovation, competitive advantage and intellectual capital (Hoof and Weenan, 2004), enhancing innovative work behavior and organization (Ozlen, 2015) promoting ownership, and increasing the contribution of intellectual capital to organizational success (Masa'deh et al., 2015; Pugna and Boldeanu, 2014; Waheed et al., 2013). Although knowledge sharing is considered an important process in an organization, surprisingly there is still a debate over its role because it is not fully understood, especially in its application Nonaka & Takeuchi (1995). To explore the role of knowledge sharing in its capacity to improve innovative work behavior, it is necessary to consider the influential antecedents in it. As shown by various empirical studies, knowledge sharing is influenced by psychological variables, such as trust (Arsawan et al. 2018), leadership (Carmeli et al. 2011), and employee commitment (Riaz et al., 2011).

Studies of the leadership role showed that almost all leadership styles have a strong character in the development of organizations, especially transformational leadership because leaders have the character, charisma and inspiration, individual considerations, intellectual motivation and positive reactions to promote employees' potential (Bass and Avolio., 1990). Transformational leadership type also inspires and becomes an important stimulus in building commitment (Riaz et al., 2011; Emery & Barker, 2007) and invites employees to share knowledge and promote their potential to be more creative and innovative in the work environment. Aside from the positive effects of transformational leadership, there is still a conflicting finding (Elkordy, 2013) that transformational leadership does not have a significant effect on job satisfaction and employees' commitment so it is still necessary to test the effect of this variable. While the positive relationship between knowledge sharing and innovative work behavior was evident in the research conducted by Abukhait, R. M., Bani-Melhem, S., & Zeffane, R. (2019), the research conducted by Yeil et al. (2013) failed to find such positive relationship. The inconsistency of the results of past studies constitutes an important gap in this research.

Furthermore, following Mura et al. (2013), the tendency of individuals to share knowledge and innovate can be improved by incorporating more variables, as well as the fact that the findings of previous research on the influence of knowledge sharing on innovative abilities are still doubtful (Zhu and Mu, 2016; Kim and Lee, 2013; Mom et al., 2007), has encouraged us to re-examine the issue using a more comprehensive perspective which involves transformational leadership variables and commitments believed to have an impact on innovative work behavior while providing answers to debates that still occur regarding the antecedents of knowledge sharing namely transformational leadership and commitment and how the role of knowledge sharing in developing innovative work behavior for employees. In particular, research on knowledge sharing was mostly carried out in large companies because readiness level means that there is a greater challenge in applying knowledge sharing practices, research on knowledge sharing in SMEs has been scarce due to the belief that knowledge sharing practices are difficult to change and measure in such enterprises.

## **2. RELATED WORKS AND HYPOTHESIS DEVELOPMENT**

### **2.1. Transformational leadership**

Bass (1985) argued that a leader who adheres to transformational leadership is a type of leader who motivates subordinates through inspiration, develops personality, concentrates on invisible quality, values and vision in an effort to build good relationships within the

organization, inspire and stimulate employees to demonstrate the best ability to achieve organizational goals ( Riaz & Haider, 2010). To measure transformational leadership, 4 dimensions are used, namely: 1) idealized influence which shows that leaders have strength, self-confidence, self-assurance, consistency and ideas, respect, ability to be role models and maintain high standards, 2) inspirational motivation shows that leaders are able to understand employees using discernment through inspiration, persuasion and motivating, 3) intellectual stimulation is the ability of leaders to answer employees' questions, solve problems, and the ability to think about work in detail and overall responsibility, as well as the ability to face challenges and help improve leadership capability and organization (Long et al., 2014 ) and 4) individualized consideration refers to the ability of leaders to understand employees, increase motivation, be courageous and support employees (Bass, 1985).

## **2.2. Employee Commitment**

Organizational commitment is the identification of the strength of individuals concerning their involvement in each organization such as the strength of beliefs and acceptance of the values and goals of the organization, the feelings to demonstrate the best abilities, and the desire to maintain such feelings as members of the organization. Mowday, Porter, and Steers (1982) stated that employees who are committed to showing their voluntary behavior and have a strong desire to serve the organization. Allen and Meyer (1997) found three dimensions for measuring employees' commitment, namely a) normative, b) continuance and c) affective commitment. Furthermore, it is believed that organizational commitment leads to employees' loyalty to the organization and maintains positive behavior through work (Karim, 2012) and the ethical values of leaders and perceptions of justice.

Luthans (2005) viewed commitment as an attitude which has several definitions and measurements. Specific commitment is defined as 1) a strong desire to survive as a member of the organization, 2) a desire to achieve organizational goals, and 3) assuredness of confidence and acceptance of the values and goals of the organization. Researchers found that employees' commitment has three main dimensions, namely affective, continuance and normative (Allen & Meyer (1997) and Luthans (2005). Dimensions and indicators are compiled as follows: 1) affective which refers to the emotional state of employees, their identification and involvement in organizations, 2) continuance which refers to sensitivity to costs incurred when leaving the organization, and 3) normative is a dimension which refers to the reflection of feelings as employees.

## **2.3. Knowledge Sharing**

Knowledge is very fundamental in organizations because it has a very strong connection with organizational success (Nonaka & Takeuchi, 1995). Knowledge sharing is the process of transferring skills and abilities between employees (Lin, 2007). Meanwhile, Pugna and Boldeanu (2014) suggested that employees exchange knowledge capital to improve innovative work behavior and boost organizational benefits and performance. This implies that knowledge sharing is the greatest resource for organizations to improve performance and gain a sustainable competitive advantage (Lin, 2007; Wang, 2010). Knowledge is very important as one of the key resources in facing challenges (Masa'deh et al., 2016).

To carry out a comprehensive measurement, this paper attempts to elaborate the dimensions of measurement from Nonaka and Takeuchi (1995) about SECI models and Lin (2007) about IOT models, namely the 7 dimensions consisting of 1) socialization, 2) externalization, 3) combination, 4) internalization, 5) Individuals, 6) organizational, and 7) technology factors. The goal is that all respondents truly understand the knowledge sharing process, can interpret dimensions or

indicators and provide original answers according to the actual situation and achieve the research objectives.

## **2.4 Innovative Work Behaviour**

The IWB concept is increasingly popular because economists perceive that innovation is the main determinant of organizational competitiveness. Employees are considered an important trigger because they have intellectual capital in developing innovations which take the form of new combinations of habits, processes, or existing products. Innovative behavior refers to the initiation, development, and implementation of novel and useful ideas which eventually lead to the creation of better products, services, processes or methods (Yuan and Woodman, 2010; Scott and Bruce, 1994; Xerri and Brunetto, 2013).

IWB concerns voluntary willingness to shape innovation in the workplace, such as improving work mechanisms, communicating with colleagues, using computers, or developing new product development services (Dorenbosch et al. 2005). IWB is measured using four dimensions, namely; 1) the discovery of opportunities, that is, the emergence of a problem or phenomenon to be solved. The trigger can be an opportunity to improve conditions or threats that require quick response, 2) generation of ideas, that is, individuals are a source of new ideas (Mumford, 2000) wherein to be able to innovate in addition to being aware it is also important to build new ways to overcome various needs, 3) championing refers to the efforts to fight for innovation which can be accepted by every element of the organization, including how to reduce rejection and how to build acculturation, and 4) the application of ideas which can be implemented in the workplace, in the form of innovation, novel knowledge and ways of working.

## **2.5 Development of Hypothesis**

### **1) The relationship between transformational leadership dan employees' commitment**

The results of the past studies revealed a positive relationship between transformational leadership and affective commitment (Allen and Meyer, 1996; Yucel et al., 2014). Furthermore, Braun et al. (2013) argued that the identification of leaders increases employees' commitment. Popper, Ori, and Ury (1992) claimed that transformational leaders have a tremendous effect on followers and their success in building their commitment. A transformational leader changes and creates meaning for employees. In other words, these leaders change employees by increasing motivation and commitment and empowering them to achieve organizational goals (Yukl, 2010).

*H1: Transformational leadership has a significant positive effect on employees' commitment*

### **2) The relationship between transformational leadership and knowledge sharing**

The relationship between transformational leadership and knowledge sharing was tested by Carmeli et al. (2011) who found that transformational leadership had a positive effect on the behavior of knowledge sharing in organizations, especially among employees. Bradshaw et al. (2015), likewise, found a positive relationship between transformational leadership and knowledge sharing through SECI models (Socialization, Externalization, Combination, and Internalization). Based on the above study findings the following hypotheses can be formulated.

*H2: Transformational leadership has a significant positive effect on knowledge sharing*

### **3) The relationship between transformational leadership and innovative work behavior**

Transformational leadership plays an important role in transforming norms and values, which in turn helps organizational members improve individual performance (Waldman and Atwater, 1994; Jung and Avolio, 2000). Transformational leadership stimulates intellectual thinking which encourages employees to think outside the box, and thus they become more devoted to achieving the organization's vision (Felpe and Goihl, 2002). Transformational leaders also simulate employees' work behavior (Kark et al. 2003) which helps individuals improve their skills and abilities to solve work-related problems (Bass and Avolio, 1997; Geyery and Steyrer, 1998). For example, transformational leaders help employees think outside the box to make independent decisions without relying on others to strengthen their intellectual strength (Le, P.B.; Lei, 2018; Wilson-Evered et al. 2004). Transformational leaders also can develop a unique organizational culture which encourages employees to display innovative work behavior (Aryee et al. 2012; Dorenbosch et al. 2005). Transformational leadership bears all of these main features (for example, problem-solving, motivation, and performance evaluation), which are needed to create and enhance employees' innovative work behavior (DeGroot, 2000). Thus, previous empirical evidence revealed that (Pieterse et al. 2010; Afsar et al. 2014; Pradhan, S.; Jena. 2019) there is a positive relationship between transformational leadership and innovative work behavior.

*H3: Transformational leadership has a significant positive effect on innovative work behavior*

### **4) The relationship between employees' commitment and knowledge sharing**

Research that shows the relationship between organizational commitment and knowledge sharing has been carried out by Demirel and Goc (2013) who found that employees' commitment, especially affective commitment has a strong contribution to the behavior of knowledge sharing in the organization. Furthermore, based on the results of these studies, the organization is expected to use internal resources more effectively, improve and protect intellectual capital in the organization and bring the knowledge of each into the organization. Based on these findings, the following hypotheses were formulated.

*H4: Employees' commitment has a significant positive effect on knowledge sharing*

### **5) Relationship between employees' commitment and innovative work behavior**

According to Muhammad Ali and Puah (2017), committed employees are needed in organizations to foster innovative behavior. Another study, Bawuro, Danjuma, and Wajiga (2018) found that organizational commitment had a positive impact in creating important conditions to encourage teachers to show innovative behavior in secondary schools in Northeast Nigeria.

*H5: Employees' commitment has a significant positive effect on innovative work behavior*

## 6) The relationship between knowledge sharing and innovative work behavior

Akram and Bokhari (2011) claimed that knowledge sharing starts with motivation and willingness so that it can improve performance. Ozlen (2015) stated that knowledge sharing has a significant effect on individual performance and in organizations building knowledge sharing needs a conducive environment so that employees have a sense of belonging and a sense of responsibility for personal performance and that of colleagues. Wang and Wang (2014) argued that knowledge sharing has a positive direct relationship with innovative work behavior. Masa'deh et al. (2015) also found a positive and significant relationship between knowledge sharing and innovative work behavior. Based on these findings the following hypothesis was formulated.

*H6: Knowledge sharing has a significant positive effect on innovative work behavior.*

## 3. METHODS

### 3.1 Research Population and Samples

The population for the present study was comprised of 69 units and the sample frame consisted of 59 units of export-oriented SMEs. A total of 177 employees participated in the present study as respondents. The sampling technique used was a simple random sampling method, namely the lottery method without recovery, which means that each member of the population has the same opportunity to be sampled just once. So from 59 SMEs, each was searched for 3 respondents to be asked to fill out the research questionnaire.

Questionnaires were designed in simple language, so it is easy to understand so that the research objectives can be achieved. Before sending out the questionnaire, first, the respondents were explained the purpose of the study. The scale used was semantic differential scale 7.

## 4. RESULTS AND DISCUSSION

### 4.1 Results

To test the quality of the collected data, the outer model test was done first. Based on the concept of measurement reliability, this study used three methods of measurement, namely 1) convergent validity, 2) discriminant validity and 3) composite reliability. According to Chin (2010), convergent validity is used to measure the validity of indicators as a measure of a construct shown by the value of the outer loading factor above 0.60. The discriminant validity test measuring the validity of an indicator in a variable can be done using another method, namely by comparing the root average of variance square coefficient extracted ( $\sqrt{AVE}$ ) for each latent variable with the correlation coefficient between other latent variables in the model. The recommended AVE value is greater than 0.50.

Table 1. Values of AVE, Square Root of AVE and Coefficient between Latent Variables

Variables	AVE	$\sqrt{AVE}$	Correlation coefficient			
			TL	OC	KS	IWB
Transformational Leadership	0,692	0,832	1.000			
Employees'	0,898	0,947	0,645	1,000		

Commitment						
Knowledge Sharing	0,895	0, 947	0,693	0,740	1,000	
Innovative Work Behavior	0,880	0, 939	0,762	0,646	0,846	1,000

AVE root value for transformational leadership variable was 0.832 which was greater than the correlation coefficient between transformational leadership variable with other variables, namely 0.645, 0.693 and 0.762. AVE root value of employees' commitment variable was 0.947, which was greater than the correlation coefficient between commitment variable with other variables namely 0.740 and 0.646 while the root value AVE knowledge sharing variable was 0.947, which was greater than the correlation coefficient between knowledge sharing variable with other variables which was 0.846. This indicates that the indicators that reflect the dimensions of the variables in this study have good discriminant validity. After the discriminant validity value was fulfilled, then followed the calculation of the composite reliability between the indicators of the variable that make it up. The results of indicator testing are said to be reliable if the composite reliability and Cronbach's alpha have a value of > 0.70.

Table 2. Results of Instrument Reliability Test

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
X		1.000		
X.1	0.835	0.885	0.882	0.602
X.2	0.872	0.885	0.914	0.728
X.3	0.828	0.858	0.885	0.661
X.4	0.897	0.900	0.929	0.768
Y1		1.000		
Y1.1	0.919	0.919	0.949	0.860
Y1.2	0.927	0.934	0.953	0.872
Y1.3	0.978	0.978	0.985	0.957
Y2		1.000		
Y2.1	0.909	0.909	0.957	0.917
Y2.2	0.907	0.911	0.955	0.914
Y2.3	0.813	0.817	0.914	0.842

Y2.4	0.959	0.961	0.980	0.961
Y2.5	0.944	0.945	0.973	0.947
Y2.6	0.901	0.915	0.952	0.909
Y2.7	0.716	0.956	0.864	0.762
Y3		1.000		
Y3.1	0.710	0.740	0.872	0.773
Y3.2	0.927	0.927	0.965	0.932
Y3.3	0.827	0.838	0.920	0.852
Y3.4	0.886	0.887	0.946	0.898

The results of the calculation of composite reliability values range from 0.864 - 0.985 ( $> 0.70$ ) which reflects the variable dimensions are reliable. Likewise, the Cronbach alpha value shows values ranging from 0.710 - 0.978 ( $> 0.70$ ) suggesting that the indicators are reliable so that they can be declared free from the problem of random errors (MacKenzie et al, 2011; Singleton and Straits, 2010).

After the outer model test was fulfilled, the next step was to test the inner model. The hypothesis testing of the study was carried out with an initial evaluation of the feasibility test of the model through the results of  $R^2$  analysis. Second, the analysis was conducted holistically using the predictive relevance method of Stone Geiser (Stone, 1974 & Geiser, 1971) and Goodness of Fit (GoF). Calculations of  $Q^2$  and GoF used the R-square coefficient ( $R^2$ ).  $R^2$  shows the strength of the relationship/information generated by exogenous variables on endogenous variables, so  $R^2$  can show the strength of a research model. According to Chin (2010), the  $R^2$  value of 0.67 indicates that the model is strong, 0.33 moderate and 0.19 weak.

Table 3. Values of  $R^2$  dan Adjusted  $R^2$

Variable Latent	$R^2$	Adjusted $R^2$
Employees' Commitment (Y1)	0.778	0.776
Knowledge Sharing (Y2)	0.753	0.748
Innovative Work Behavior (Y3)	0.826	0.821
Mean	0.786	0.782

Based on the table above the  $R^2$  value of employee commitment is 0.778, knowledge sharing is 0.753 and innovative work behavior is 0.826 and the  $R^2$  value indicates that the model was strong because it is above 0.67 (Chin, 1998). The average value of 0.786 means that the model of the relationship among the constructs under study could explain 78.6 percent, while the remaining 21.4 percent was explained by other factors outside the model. The distribution of Adjusted  $R^2$  values was smaller than the distribution of  $R^2$  values, meaning that change or



expansion of research models by including other latent variables were still possible (Hair et al., 2010).

The next step was to calculate the predictive relevance square ( $Q_2$ ), showing how good the observations produced by the model are.  $Q_2$  had a range of values ranging from 0 to 1. A value is closer to 1 means that the model has better predictability (Stone, 1974; Geisser, 1971). The value of  $Q_2$  was calculated by:

$$Q_2 = 1 - [(1-R_{2y1}) (1-R_{2y2}) (1-R_{2y3})]$$

$$Q_2 = 1 - [(1-0,778) (1-0,753) (1-0,826)]$$

$$Q_2 = 1 - [(0,222) (0,247) (0,174)]$$

$$Q_2 = 1 - 0,0095$$

$$Q_2 = 0,9905 \text{ (very good } Q_2 \text{ predictive relevance)}$$

The  $Q_2$  calculation yielded a value of 0.9905 which means that the model shows very good observations, namely 99.05%, the relationship among variables can be explained by the model while the remaining 0.95% is the factor of error or other factors not included in the research model. After the model test showed a very good value, the next step was to calculate the Goodness of fit (GoF) that is used to validate the model as a whole because it is the single measure of the measurement model and structural model.

$$\begin{aligned} \text{GoF} &= \sqrt{\text{com} \times R_2} \\ &= \sqrt{0,685 \times 0,786} \\ &= 0,651 \end{aligned}$$

GoF calculation results showed a value of 0.651 which means that the predictive model was very fit, which indicates that the accuracy of the overall measurement model was very good. This is based on the criteria for the value of GoF according to Ghozali and Lathan (2015), namely 0.10 (small GoF), 0.25 (Moderate GoF) and 0.36 (GoF large) so the research model could be categorized as large GoF.

The next step was the effect size ( $f_2$ ) test which aims to provide more detailed information about the variation of values that can be explained by a group of independent variables on the dependent variable in a system of structural equation modeling (Cohen, 1998). The effect size ( $f_2$ ) criteria are as follows: 0.02-0.15 (weak impact), 0.15 - 0.35 (moderate impact) and > 0.35 (strong impact). If the value of  $f_2$  is around 0.02 then the research model is to be classified as weak; if the value of  $f_2$  in the range of 0.15 it is regarded to have a moderate effect and if the value of  $f_2$  is in the range of 0.35 or above it can be categorized as a strong effect (Chin, 2010).

Table 4. Results of Cohen Effect Size Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
X -> Y3	0.188	0.208	0.104	1.810	0.071
Y1 -> Y3	0.103	0.133	0.087	1.181	0.238
Mean	0,145				

The results of the analysis as shown in the above table with an average of 0.145 revealed that there was a moderate indication that the pattern of mediation relationships will be formed in this study. After doing the inner and outer model test, the last step was testing the hypothesis through two stages, namely testing the direct and indirect effects of exogenous variables on endogenous variables.

Table 5. The Direct Effect of Transformational Leadership, Employees' Commitment,  
Knowledge Sharing dan Innovative Work Behavior

Construct	Original Sample	Sample Mean	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Remarks
TL -> EC	0.382	0.394	0.088	4.351	0.000	Support
TL -> KS	0.876	0.906	0.067	12.975	0.000	Support
TL -> IWB	0.361	0.392	0.131	2.763	0.006	Support
EC -> KS	0.139	0.116	0.079	1.759	0.079	Not Support
EC -> IWB	0.459	0.455	0.090	5.104	0.000	Support
KS -> IWB	0.536	0.511	0.092	5.817	0.000	Support

The results of the analysis revealed that the coefficient of the relationship between transformational leadership and employees' commitment was 0.382 with a t-statistic of 4.351 > 1.96 which means that such relationship was positively significant so that hypothesis 1 was accepted, a finding which is in line with the research conducted by Allen and Meyer, 1996; Yucel et al., 2014; Yukl, 2010). The coefficient of the relationship between transformational leadership and knowledge sharing was 0.876 with a t-statistic of 12.975 > 1.96 which means that such a relationship was positive and significant so that hypothesis 2 was accepted. Such finding corroborated the finding of the studies conducted by Carmeli et al. (2011) and Bradshaw et al. (2015).

The coefficient of the relationship between transformational leadership and IWB was 0.361 with a t-statistic of 2.763 > 1.96 which means that such a relationship was positive and significant so that hypothesis 3 was accepted. This finding is in line with Pieterse et al. (2010); Afsar et al.

(2014); Pradhan, S .; Jena. (2019). Meanwhile, the coefficient of the relationship between employee commitment and knowledge sharing was 0.139 with t-statistics 1.759 > 1.96 which means that such a relationship was positive yet insignificant so hypothesis 4 was rejected. This finding contradicts the finding of the study carried out by Demirel and Goc (2013). In the context of the research subject, employees do not feel compelled to share knowledge because they feel they have no trust and hold back their knowledge due to the fear of increasing the competitiveness of colleagues.

Employees' commitment had a significant positive effect on innovative work behavior, where the path coefficient value is shown was 0.459 with t-statistics 5.104 > 1.96 which means that the relationship was significant and positive and hence hypothesis 5 was accepted. This finding supports the results of the study by Muhammad Ali and Puah (2017) and Bawuro, Danjuma, and Wajiga (2018). Knowledge sharing had a significant positive effect on innovative work behavior as indicated by the coefficient of 0.536 with t-statistics 5.817 > 1.96, therefore hypothesis 6 was accepted providing support to the results of Akram and Bokhari's study (2011), Ozlen (2015), Wang and Wang (2014) and Masa'deh et al. (2015). After testing the direct relationship, the next step was to test the role of mediation between variables.

Table 6. The Indirect Relationship between the Variables Transformational Leadership, Employees' Commitment, Knowledge Sharing, and Innovative Work Behavior

No	Model *	Path Coefficient	t-statistics	t-Tabel	Remarks
a	TL → EC	0.382	4.351	> 1,96	a significant, b insignificant dan c significant = no mediation
b	EC → KS	0.139	1.759	> 1,96	
c	TL → KS	0.876	12.975	> 1,96	
a	TL → EC	0.382	4.351	> 1,96	a significant, b significant dan c significant yet the direct coefficients c < b = partial mediation
b	EC → IWB	0.459	5.104	> 1,96	
c	TL → IWB	0.361	2.763	> 1,96	
a	TL → KS	0.876	12.975	> 1,96	a significant, b significant and c significant yet the direct coefficient c < b = partial mediation
b	KS → IWB	0.536	5.817	> 1,96	
c	TL → IWB	0.361	2.763	> 1,96	
a	EC → KS	0.139	1.759	> 1,96	an insignificant, b significant dan c significant = no mediation
b	KS → IWB	0.536	5.817	> 1,96	
c	EC → IWB	0.459	5.104	> 1,96	

In table 6 above, it can be explained that there were two mediating roles, namely the relationship between transformational leadership and commitment and innovative work behavior. In cases

where there is partial mediation, namely that in improving innovative work behavior, leaders can take two strategic paths through commitment and direct variables. The role of partial mediation also occurs in the relationship between transformational leadership, knowledge sharing, and innovative work behavior. It was evident that knowledge sharing functioned as a mediating variable, which means that transformational leadership can improve innovative work behavior through increasing knowledge sharing. This constitutes the important finding of the study.

The results of the study also answered the literature gap regarding the challenges of KS in the SME sector, where employees also had a good understanding of interpreting KS indicators and dimensions. This means that the SME sector is also required to be able to optimize the role of intellectual capital (knowledge) in improving performance at the level of individuals, organizations and sustainable competitiveness.

#### **4.2 Research Implication**

Theoretically, the results of the present study add to the body of knowledge about variable relations, in particular employees' commitment does not have a significant effect on knowledge sharing (Elkordy, 2013) because employees still consider that knowledge sharing requires trust (Arsawan et al. 2018) and they choose to be more selective in sharing (Peng, 2013) rather than feeling part of the job description, not wanting to increase competitive advantage of their colleagues and they feel the fear of the added value they have taken now is utilized by other employees. Finally, employees will have the desire to hide knowledge due to distrust, the complexity of knowledge, task interrelationships, and adaptation in social contexts (Connelly et al. 2012). The results also confirm the findings showing two partial mediations which show that the role of employees' commitment as a strategic path that leaders can choose in improving innovative work behavior and the role of knowledge sharing in mediating the relationship between commitment and innovative work behavior. These two mediating roles become serial mediations which constitutes an important finding which enriches the theory stating that transformational leadership is a trigger in fostering commitment which further stimulates employees to share knowledge to improve innovative work behavior.

From the practical side, the results of the present study provide insight on 3 managerial levels. First, at the level of the internal employees, sharing knowledge can be a way to improve self-quality by taking positive values in the form of capability, competence, skill, and trust. At the manager level, it stimulates the growth of knowledge sharing culture, becomes a role model, inspires and is responsible for the sustainability of the process and builds a systematic evaluation pattern, stimulates creativity among employees through the provision of an organizational climate and ensuring close and cohesive relationships between managers and employees. In addition, managers can promote knowledge sharing through a variety of methods, such as (1) making information available at all levels, (2) offering effective education and training programs to develop a culture of knowledge sharing in organizations, (3) creating incentives to share knowledge (4) developing a culture that supports knowledge sharing and networking, and (5) increasing awareness of the importance of sharing knowledge for organizational success. These steps will, in turn, lead to greater employee involvement in innovative behavior. Finally, at the level of organization, it is necessary to prepare qualified technology devices, create standard operating procedures, prepare award patterns and stimulate employees' willingness to share knowledge.

#### **4.3 Limitations**

First, the present study did not differentiate between tacit and explicit knowledge because it mainly focused on general knowledge. Although the model can explain both tacit and explicit knowledge, this study would contribute more if it could differentiate tacit and explicit knowledge.

Second, this study is to use self-report instruments in providing an overview of how respondents feel. Therefore, self-reports are appropriate for measuring psychological ownership. In terms of sharing knowledge, self-report may be the best method of evaluation, because usually only informants can know the sharing of knowledge but cannot be separated from the effects of bias.

In the future, behavioral research can be continued to investigate the relationship of knowledge sharing and innovative work behavior to performance both at the individual and organizational level, involving more variables and adopting the longitudinal design. Therefore, it is necessary to conduct comparative research comparing SMEs and other sectors, such as education, banking and IT.

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