

# How to Promote Innovative Work Behavior among Academics

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**Abstract**---Knowledge sharing has been proven to contribute potential benefits to organizations. Nevertheless, studies on the impact of knowledge sharing on innovative work behavior were inadequately explored. This study attempts to identify the influence of knowledge sharing on innovative work behavior and the mediator role of self-efficacy. Three hundred fifty samples were collected from the academics and analyzed through correlation and structured equation modeling techniques. The findings showed that knowledge sharing was significantly affected by innovative work behavior ( $\beta = 0.34$ ,  $p < .000$ ) with Self-Efficacy. Whereas Knowledge Sharing ( $\beta = 0.55$ ,  $p = .000$ ) has a significant relationship with Self-Efficacy. While self-efficacy showed a significant relationship ( $\beta = .049$ ,  $p = .000$ ) towards Innovative Work Behavior. It is also indicated for the same situation where it was explaining 49.2 % of the variance for innovative work behavior. The model was achieved the goodness of fit indices with value,  $\chi^2/df = 1.927$ ,  $GFI = 0.924$ ,  $CFI = 0.967$ ,  $TLI = 0.959$ ,  $RFI = 0.934$ , and  $IFI = 0.919$  and  $RMSEA = 0.054$ . Self-efficacy was mediated on knowledge sharing with innovative work behavior. Results could provide higher education institutions an in-depth understanding of the importance of knowledge sharing and self-efficacy in stimulating innovative work behaviour among the academics which is valuable to extend the development of related works of literature.

**Keywords**---Knowledge sharing, Self-efficacy, Innovative Work Behavior, Academics

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## I. Introduction

Innovation has received considerable attention for the past few decades due to its significant impact on organizational performance. Innovation is essential for organizations to achieve competitiveness and facing changing economic change, globalization, and demands for long term survival. (Kim & Lee, 2013; Akram et al. 2016; Osman & Kamis, 2019).

It is imperative to improve internal activities for developing long term customer relationships in all organizations including higher education institutions (HEIs). In a competitive education market, HEIs must strive to continuously improve the services they deliver to the students to meet their expectations and demands. HEIs should keep on adding value to all processes to enhance quality service (Al Hosaini & Sofian, 2015) because service quality is particularly essential in creating the right image (Ali et al. 2016). Consequently, innovative service would enhance customer satisfaction, which is only can be facilitated through innovation. (Danjuma & Rasli, 2012).

Through innovation, competitive excellence can be achieved in HEIs (Hamid, Abdullah, Mustafa & Abidin, 2015). This is hugely important for Private Higher Educational Institutions (PHEIs), which are facing intense

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competition due to the emerging growth of the educational sector in Malaysia. Besides, students are the primary customers (Sadeh & Garkaz, 2015) and the primary source of funding for PHEIs to survive in business. Since innovative employees are an essential foundation for high-performance achievement (Hülshager et al. 2009; Korzilius et al. 2017), PHEIs should direct their efforts in cultivating innovation culture at the individual level. Hence, this study aims to provide insights factors of innovative work behavior among the academics in PHEIs.

Drawing on Social Cognitive Theory (SCT), this study provides an explanation how personal and behavioral factors are interrelated with each other. SCT theory suggests that human functioning is caused by the interaction of personal, behavioral, and environmental determinants.(Bandura, 1986). Besides, SCT indicates that individuals who are highly self-efficacy have abilities in producing novel ideas and are more likely to engage in innovative behavior. (Bandura, 1997). Concerning this study, there would be an interaction between the personal factor (self-efficacy) and behavioral factor (knowledge sharing, innovative work behavior), which determines how the employees should behave in the workplace. Thus, this study assumed that employees who possess self-efficacy would encourage knowledge-sharing practice among each other and consequently be more innovative in performing their jobs.

Substantial studies have been conducted identifying antecedents of innovative behavior. Such as supervisory behavior (Mumford, Scott, Gaddis & Strange , 2002), job challenge (De Jong & Kemp, 2003), autonomy (Ramamoorthy, Slaterry& Sardesai, 2005); role performance and image outcome (Yuan & Woodman, 2010); transformational and transaction leader (Pieterse, Van, Schippers& Stam (2010); personality traits (Woods, Mustafa & Benjamin 2017); person organisation fit (Afsar, Cheema &Saeed, 2018) and trust in supervisor (Afsar & Masood, 2017).Knowledge sharing has been recognized contributes positive outcomes to employees' performance. Nonetheless, past studies related to the effect of knowledge sharing toward individuals are inadequately explored.(Lee, 2018). In particular, scholars showed less focus on the impact of knowledge sharing with innovative work behavior (Radaelli, Lettieri & Mura, 2014. Phung, Hawryszkiewicz & Chandran, 2017), especially in Malaysia educational context. Hence, this study aims to investigate how knowledge sharing may influence innovative work behavior according to the following research objectives:-

- 1) To determine the relationship between knowledge sharing, self-efficacy, and innovative work behavior
- 2) To identify the effect of knowledge sharing and self-efficacy on innovative work behavior among lecturers.
- 3) To investigate the mediator role of self-efficacy on the relationship of knowledge sharing and innovative work behavior.

Therefore, this study aims to test the hypothesis as follow:-

- H1: There is a positive and significant relationship between knowledge sharing and innovative work behavior among academics in PHEIs.
- H2: There is a positive and significant relationship between knowledge sharing and self-efficacy among the academics in PHEIs.
- H3: There is a positive and significant relationship between self-efficacy and innovative work behavior among academics in PHEIs.

H4: Self-Efficacy mediates the relationship between knowledge sharing and innovative work behavior among the academics in PHEIs.

## **II. Literature Review**

### ***Knowledge Sharing***

Knowledge sharing is defined as a source of information, ideas, know-how which assisting employees in delivering their assigned tasks. (Wang, Wang & Liang, 2014). Knowledge gained in knowledge sharing can be categorized into tacit and explicit knowledge. Explicit knowledge is technical or academic information or data which can be expressed formally using some system of symbols or formal systematic language. Tacit knowledge cannot be obtained easily as it requires face to face interaction through the social process. (Nonaka, 2002).

### ***Innovative work behavior***

Innovative work behavior is a behavior demonstrated by employees for product and services improvement. Janse (2000) Describes innovative work as the result of a comprehensive set of practices which leads to performance enhancement. It consists of three games of behaviour. First, idea generation is the creation of novel and useful ideas in any

area or domain. Idea promotion refers to process promoting ideas to others to get support before the designs are implemented. The final stage is an ideal realization, in which thoughts become a reality by turning it into application to produce the actual outcome.

### ***Self-efficacy***

Self-efficacy is a cognitive process in which individuals evaluate their capabilities to perform specific tasks. (Bandura, 1997). The capacity refers to the confidence individuals have in their roles for achievement in a given job. If they can do effectively, then that job will be attempted (Bandura (1997). Employees with high self-efficacy will set more top objectives to be achieved and will be inclined towards giving up and discouragement.

## **2.1 Hypothesis Development**

### ***Knowledge sharing and Innovative Work Behavior***

Knowledge sharing is a predictor of innovation through the exchange of knowledge among the members in organizations. (Usman & Mat, 2017). Knowledge sharing enables individuals to think critically, subsequently turning ideas into innovation outcomes.

Past researched studies have affirmed that knowledge sharing acts in strengthening innovation (Liebowitz, 2002; Lin 2007; Liao, Fei, and Chen 2007). Numerous studies provided empirical evidence on the significant impact of knowledge sharing with innovative work behavior. For example, Radaelli, Lettieri, Mura, & Spiller (2014), in their study, explored the linkage between knowledge sharing with innovative behavior in Healthcare organizations, Italy. Result found that knowledge sharing is significantly related to innovative behavior. Similarly, (Akhavan, Hosseini, Abasi, & Manteghi, 2015) examined whether knowledge sharing leads to superior employees' innovative work

behavior towards the employees in high-tech companies in Iran. Findings indicated that employee's knowledge sharing behavior significantly influenced their innovative work behavior. Jaber (2016) examined the effect of knowledge sharing on innovative behavior among employees in the hospital, Iran and found that employees are more creative when they shared knowledge with others. Another study cited in Private Firms, Jakarta, examined the linkage of knowledge sharing with innovative behavior, and the result revealed that through knowledge sharing, employees are more likely to be innovative. (Fauzia, Budiningsih, Djaelani & Ahmad (2017).

Nevertheless, inconclusive findings were found in which two studies concluded that knowledge sharing was an insignificant impact on innovative behavior. (Yeşil & Hırlak 2013; Kang & Lee, 2017). On the other hand, little attention was given in Malaysia educational sector. (Ibus, Wahab & Ismail, 2018). Thus based on these arguments, this study attempts to clarify the linkage between knowledge sharing and innovative behavior, especially in Malaysia educational context. The following hypothesis is proposed:-

H1: There is a positive and significant relationship between knowledge sharing and innovative work behavior among the academics in PHEIs

*Knowledge sharing and Self-efficacy*

Through knowledge sharing, individuals will gain a more considerable amount of experience, consequently will enhance their self-efficacy level. Empirical pieces of evidence have proved that knowledge sharing is related to self-efficacy. For example, a study cited by Yang & Cheng (2009) found a positive relationship between information technology knowledge with creative self-efficacy towards the employees in Software Firms, Taiwan. Knowledge management inclusive knowledge sharing was proven in predicting self-efficacy of faculty members in a study conducted by Shahidi & Baezat, (2015). Similarly, Hu & Zhao (2016) in their research, explored the relationship between creative self-efficacy, knowledge sharing and employee innovation on the employees working in high technology firms in China. The result found out that knowledge sharing was significantly affected by creative self-efficacy. Hence, we proposed the following hypothesis for testing:-

H2: There is a positive and significant relationship between knowledge sharing and self-efficacy among the academics in PHEIs

*Self-efficacy and innovative work behavior*

Employees with high self-efficacy have strong beliefs on their capabilities, which will increase their perseverance and constant attempts to deliver specific tasks. Consequently, they are more likely to embark on challenging tasks and demonstrate innovative behavior. (Hsiao, Tu, Chang & Chen, 2011). Past studies revealed that self-efficacy was positively related to innovative work behavior. For example, Michael, Hou & Fan (2011) examined the linkage of creative self-efficacy and innovative behavior toward employees in private firms, Taiwan. The finding found that employees with high creative self-efficacy work more innovatively in the workplace. Hsiao et al. (2011) in their study, concluded that teachers' self-efficacy was positively affected by innovative work behavior from public and private schools in Taiwan. Besides that Momeni, Ebrahimpour, & Ajirloo, (2014) in their study also concluded a positive effect of self-efficacy on innovative work behavior.

Recently, Newman et al. (2018) examined the linkage between creative self-efficacy and innovative behavior on the employees working in multinational firms, China. The finding revealed that creative self-efficacy was significantly affected by innovative responses. However, results on the relationship of self-efficacy and innovative behavior were found inconsistent as self-efficacy was insignificantly influenced by innovative behaviour. Dwi Widyani, Sarmawa & Manuati (2017) conducted a study on SME employees in Bali, and the result revealed that self-efficacy was found an insignificant effect on innovative behavior.

Despite growing interest in studies of self-efficacy and innovative behavior, studies in this area still understudied, especially in the Malaysia educational context. (Ibus, Wahab & Ismail, 2018). Hence, it triggers the researcher to investigate the linkage of self-efficacy on innovative work behavior toward academics in the Malaysia context. Following hypothesis is tested:-

H3: There is a positive and significant relationship between self-efficacy and innovative work behavior among the academics in PHEIs

#### *Knowledge sharing, self-efficacy, and innovative work behavior*

Through knowledge sharing, individuals acquire more knowledge, which enhances their self-efficacy level. Consequently, individuals with high self-efficacy will increase their self-belief and confidence level about their capabilities and skills for generating and implementing ideas at work, which in turn, be innovative. (Bandura, 1997). Past studies have empirically proven the significant effect of knowledge sharing, self-efficacy, and innovative behavior. (Momeni et al. 2014; Newman et al. 2018, Shahidi & Baezat, 2015; Akhavan et al. 2015; Fauzia et al. 2017). Therefore, this study assumed that self-efficacy is mediated the relationship between knowledge sharing and innovative work behavior. Following hypothesis is proposed:-

H4: Self-Efficacy mediates the relationship between knowledge sharing and innovative work behavior among the academics in PHEIs

### **III. Methodology**

A quantitative research approach using a questionnaire-based survey is used for the data collection in the present study to identify the interrelationship between knowledge sharing, self-efficacy, and innovative work behavior and mediator role of self-efficacy. The survey method is widely used in social science research as it is the appropriate and best approach for studying and describing a large population quickly and at a comparatively lower cost (Newman, 2011). A convenient sampling method is recommended for this study due to the unavailability of the comprehensive sampling frame. (Ali, Ting, Chuah & Cheah, 2017).

#### **3.1 Research Sample**

The sampling for this study was academics working in PHEIs from Central Region and Southern Region, Malaysia. Surveys were sent out through email with several reminders to achieve a sufficient response rate. A total of 350 completed questionnaires were returned from the respondents which represent a 58% response rate, which is adequate to proceed with SEM analysis.

### 3.3 Data Collection and Instrument

The study was completed by the respondents to evaluate the knowledge sharing practice, innovative work behavior and their perception of self-efficacy. Uni-dimensional innovative behavior instrument with 9 items was used to measure innovative work behavior developed by Janseen (2000) with a reliability score of 0.89. Meanwhile, self-efficacy is measured using the Generalized Self-Efficacy Scale instrument with 10 items adapted from the work of Jerusalem & Schwarzer (1992) with a Cronbach reliability score of 0.92. The measurement scales with 7 items for knowledge sharing construct were adapted from the previous work of Lee (2001) who reported a Cronbach reliability score of 0.901. All the Cronbach's reliability scores for the constructs are within the recommended value (Hair, Black & Anderson, 2010).

### 3.4 Reliability and Validity of the Instrument

The reliability and consistency of instruments are proven when the replication of the same results can be made in the same circumstances. To achieve the reliability of analysis in this study, the positive and acceptable value of Cronbach's alpha should be above 0.7 (Hair et al. 2010). The reliability analyses for this research were presented in Table 1.

Table 1: Reliability Analysis of Construct

Constructs	Number of Items	Alpha Cronbach
Self-Efficacy	10	0.78
Knowledge sharing	7	0.90
Innovative work behavior	9	0.89

## IV. Analysis and Findings

### 4.1 Objective 1: To determine the relationship between knowledge sharing, self-efficacy, and innovative work behavior

This study employed the Structural Equation Modelling (SEM) with Amos 25.0 software to examine the research model. The main reason to use of the SEM approach is that SEM among the most advanced statistical analysis techniques that emerged in recent decades (Hair et al., 2013). SEM also is a class of multivariate techniques that combine aspects of factor analysis and regression, enabling the researchers to simultaneously examine relationships among latent constructs. Considering the importance of analyzing latent constructs such as Knowledge Sharing, Self-Efficacy and their influence on Innovative Work Behavior, SEM is one of the most prominent statistical analysis techniques today (Hair et al., 2013). A hierarchical component model approach was used (Ringle et al. 2012). The reliability, validity, and assessment of the measurement model indicators were examined in the first stage, while testing of structural model was established in the second stage. Table 2 presents the correlations among all three variables. Bivariate correlation analysis yielded some interesting statistically significant correlations. All correlations are significant at  $\alpha = 0.001$ .

Table 2: Correlation Analysis of Knowledge Sharing, Self-Efficacy and Innovative Working Behavior

	KS	SE	IWB
Knowledge Sharing	1		
Self-Efficacy	.513***	1	
Innovative Working Behavior	.540***	.673***	1

Note, KS: Knowledge Sharing; SE: Self Efficacy, SL: IWB: Innovative Working Behavior; N=360;  
\*\*\*Significant at,  $p=.000$

Based on Table 2, the correlation analysis showed that there was a significant relationship between knowledge sharing and individual working behavior ( $r=.540$ ,  $p=.000$ ). The direction of relationship for both variables was positive, which means the knowledge sharing among the staff had direct contact with the individual working behavior. This gave the perception that the team at HEI do have sharing an information with their colleague like work report, experiences, good or bad story and even expertise obtained from their education or training with other team members. These sharing were bring an implication towards the increase of innovative working behavior among them. Next, self-efficacy and individual working behavior ( $r=.673$ ,  $p=.000$ ) showed significant and positive value which means the higher self-efficacy value among the staff, the better outcomes of staff working behavior. These results were accepted hypotheses testing for H1, H2 and H3 and answer objective no. 1.

#### 4.2 To identify the effect of knowledge sharing and self-efficacy on innovative work behavior among lecturers

The findings of confirmatory factor analysis (CFA) confirm that all the item loadings and communalities value exceed the recommendation cut-off value of 0.5 item load and 0.3 communalities value, hence statistically significant (Hair, et. al., 2010). The Composite Reliabilities (CRs) for each construct were also exceeding the minimum cut-off value of 0.7 (Hair, et. al, 2010). On other hand, the Average Variance Extracted (AVEs) of this model was exceeding the minimum cut-off 0.5 as suggested by Hair, et. al. (2010) and Tabachnick & Fidell, (2007). The internal consistency reliability to test unidimensional was assessed by Cronbach's Alpha test. The acceptable threshold of this analysis was 0.70 suggested by Nunnally and Bernstein (1994) and the two structures pass the minimum requirement of this test. Accordingly, Table 3 below shows the result of model fit for this study.

Table 3:Result of Model Fit Indices for Direct Effect of Knowledge Sharing and Self-Efficacy on Innovative Work Behavior

Fit index	X <sup>2</sup> / df	AGFI	CFI	TLI	RFI	IFI	RMSEA
Model	1.927	0.924	0.967	0.959	0.934	0.919	0.054

Based on Table 3 above, the observed normed for structural model was 1.927 which is less than 5 indicating the model was fit. On other hand, other fit indexes showed a good fit for this measurement model. The AGFI index was 0.924, which exceeds the recommended cut-off level of 0.90. The CFI (0.967), TLI (0.959), RFI (0.934), and IFI (0.919). The RMSEA was 0.054 and this index was below the cut-off level 0.08. The combination of these results

suggests that the demonstrated structured of the proposed model fits the data well. Meanwhile, Fig. 1 below shows the actual result of path analysis model.

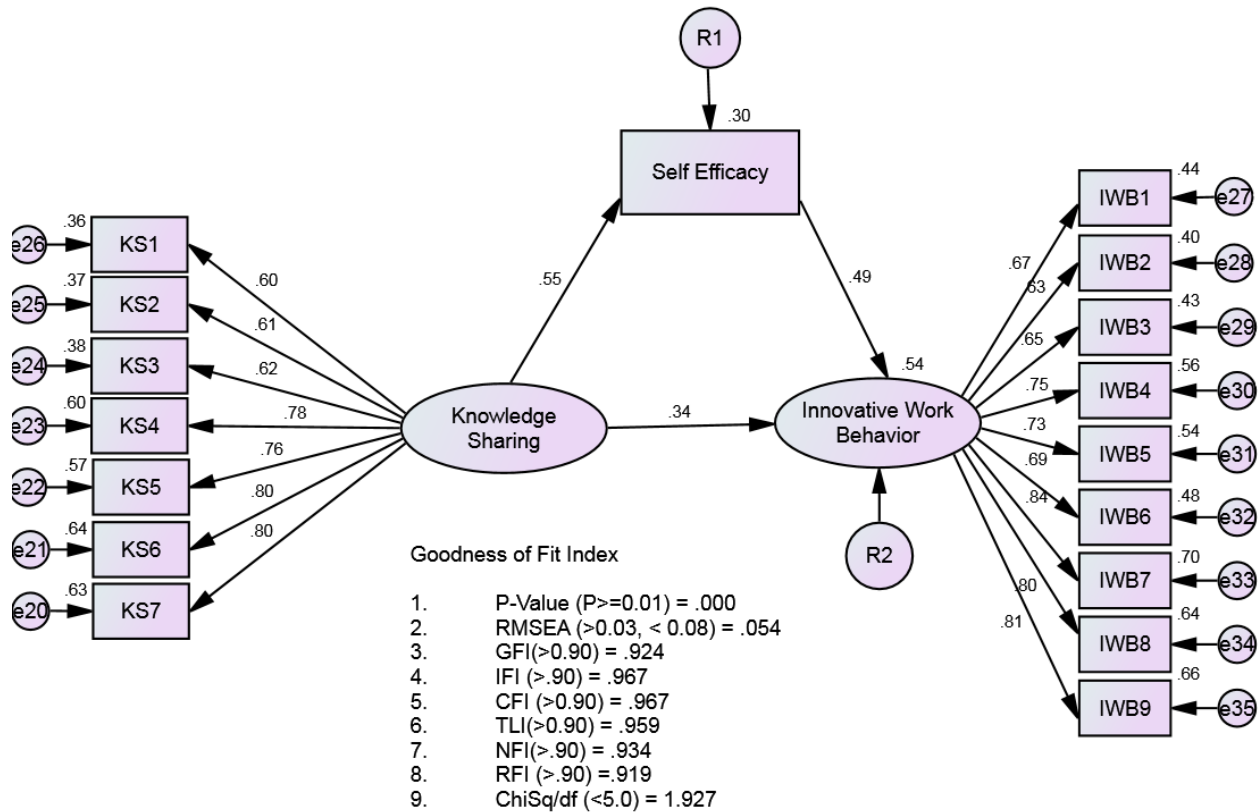


Figure 1: Result of Path Analysis Model with Completely Standardized Path Estimated (\* \*p < .001) for the Direct Effect of Knowledge Sharing and Self-Efficacy on Innovative Work Behavior

Based on Fig. 1 above, the result of the structural model indicated that Knowledge Sharing ( $\beta = 0.551$ ,  $p < .000$ ) explaining 30.3% of variance explained ( $R^2 = 0.823$ ) towards Self-Efficacy. Whereas the Knowledge Sharing ( $\beta = 0.34$ ,  $p = .000$ ) and Self-Efficacy ( $\beta = .0492$ ,  $p = .000$ ) significantly correlated towards Innovative Work Behavior. It is also indicated for the same situation where it was explaining 54.2 % of variance explained ( $R^2 = 0.542$ ), by Knowledge Sharing and Self-Efficacy. These results showed a good compatibility value was achieved, and that factors of knowledge and self-efficacy had contributed towards to improve the innovative working behavior.

Table 4: Factor Loadings for Knowledge Sharing and Innovative Work Behavior

Construct	Item		Factor Loadings
Knowledge Sharing	KS 1	I share work reports and documents with members of my team	0.60
	KS 2	I share report, templates, models and designing methodologies with members of my team	0.61



	KS 3	I share success and failure stories about my work in documents with members of my team	0.62
	KS 4	I share related knowledge obtained from other media	0.78
	KS 5	I share my experience of know-how from work with other team members	0.76
	KS 6	I share my knowledge about know-where or know-whom at the request of other team members	0.80
	KS 7	I share my expertise obtained from my education or training with other team members.	0.80
Innovative Work Behavior	IW B1	I can always manage to solve difficult problems if I try hard enough	0.67
	IW B2	If someone opposes me, I can find the means and ways to get what I want	0.63
	IW B3	It is easy for me to stick to my aims and accomplish my goals	0.85
	IW B4	I am confident that I could deal efficiently with unexpected events	0.75
	IW B5	Thanks to my resourcefulness, I know how to handle unforeseen situations	0.73
	IW B6	I can solve most problems if I invest the necessary effort	0.69
	IW B7	I can remain calm when facing difficulties because I can rely on my coping abilities	0.84
	IW B8	If I am confronted with a problem, I can usually find several solutions	0.80
	IW B9	If I am in trouble, I can usually think of a solution	0.81

In comparison which item was influenced the most for Innovative Work Behavior, independence variable for Knowledge Sharing were showed the list of factor loadings involved. Self-efficacy is a mediator between Knowledge Sharing Innovative Work Behavior. From the table 4, there are seven items measuring Knowledge Sharing, item no.KS6 which is “*I share my knowledge about know-where or know-whom at the request of other team members*” showed the highest contribution with  $\beta$  value=.80. It means that most of the respondents are willing to share what they know when they were asked to share. This is a good sign which reflects that the respondents were helping each other in the organization. It truly showed that it could lead to become more innovative workers in the

future. Therefore, item no. IWB3 “*It is easy for me to stick to my aims and accomplish my goals*” and no. IWB7 “*I can remain calm when facing difficulties because I can rely on my coping abilities*” only gave  $\beta$  value=0.85 and 0.84. Both two items were most influenced by the independence variables in measuring Innovative Work Behavior. It means that, most of the respondents were have their own goals, what they want to achieve in the organization. They would working for that and have a very stable emotion to calm down the situation when they were faced with any problems. Good compatibility value that had been achieved was built a predictive model for the relationship of self-efficacy and self-leadership with innovative work behavior. These findings answered objective 2.

#### 4.3 Self-Efficacy as a Mediator between Knowledge Sharing and Innovative Work Behavior

The mediating effect of self-efficacy in forming innovative work behavior was examined using the bootstrapping method. In determining the occurrence of the mediation, the estimated standardized indirect effect must not include zero. The results show that based on the bias-corrected 95 percent confidence level, the indirect effects expected from the bootstrap procedure do not include zero. Accordingly, the result indicates (Table 5) that mediation occurs in a relationship between self-leadership (SL) and innovative working behavior through self-efficacy (SE). At this point, the results indicating that self-efficacy will act as a mediator in the path from Knowledge Sharing (KS) to innovative work behavior (IWB). This results was support hypothesis 4.

Table 5: Results of the indirect effect

Indirect Effects	Standardized Estimate	p-value	BC 95% CI	
			Lower bound	Upper bound
KS → SE → IWB	0.061	0.000	0.006	0.135

Having confirmed on the existence of mediator in the relationships, the direct and indirect effects of self-leadership and knowledge sharing on innovative work behavior were examined. As a guideline, full mediation is observed when the direct effect is insignificant, but the indirect effect is significant; partial mediation is observed when both direct and indirect paths are significant, and no mediation is observed when the indirect effect is insignificant (Shaheen et al., 2017).

Table 6: Summary of the Hypotheses Testing Related to Mediating Effects

Path	Expected	Standardized Estimate		Indirect Effect	Conclusion
	Directed	Direct Effect			
		On Mediator	On IWB		
KS → SE → IWB	+	0.166***	0.170***	0.061** *	Partial Mediation

Note: KS – Knowledge Sharing, SE – Self-efficacy, IWB = Innovative Work Behavior, \*\*\*  $p < 0.001$ ,

Based on Table 6, the results reveal the significant direct effect of Knowledge Sharing (KS) on Innovative Work Behavior (IWB) ( $\beta$  KSL→IWB=0.170,  $p < 0.000$ ), and indirect effect of the relationship via knowledge sharing ( $\beta$  KS→ SE → IWB = 0.166,  $p < 0.000$ ). Given that, the direct and indirect effects between knowledge sharing (KS) and

innovative work behavior (IWB) are significant, and the results show that self-efficacy (SE) acts as a partial mediator in the relationship between SL and IWB. Accordingly, objective 3 was accepted. Overall, this path proposing the partial mediating role of self-efficacy towards innovative work behavior.

## V. Discussion

The purpose of this study is to evaluate the impact of knowledge sharing and self-efficacy on innovative work behavior beside examining the mediator role of self-efficacy. The finding of this study revealed that knowledge sharing was positive and significantly impact on innovative behavior ( $\beta = 0.34$ ,  $p = .000$ ). Thus, hypothesis 1 was supported which is in agreement with findings on past studies. (Radaelli et al. 2014; Akhavan et al. 2015, Jaber, 2016; Fauzia et al. 2017). This gives implication that knowledge sharing is directly impact and predicting innovative behavior. In order for individuals to generate novel ideas, they need to gain knowledge or expertise (Ma, Cheng, Ribbens, & Zhou, 2013). The more knowledge is shared among the academics, the more they are likely to be creative and innovative which enables them to handle challenges and difficulties on work-related problems. Nevertheless, this finding was inconsistent with past studies (Yeşil & Hırlak 2013; Kang et al. 2017), which indicated that knowledge sharing was not positively impacted innovative work behavior. These findings would, therefore, provide empirical evidence and clarify the relationship between knowledge sharing and innovative behavior.

The hypothesis on knowledge sharing and self-efficacy was also tested which revealed a positive and significant effect between knowledge sharing and self-efficacy ( $\beta = 0.34$ ,  $p = .000$ ). Therefore, hypothesis 2 was supported. This finding also supported past studies with similar results. (Yang & Cheng, 2009; Shahidi & Baezat, 2015; Hu & Zhao, 2016). It gives the implication that knowledge sharing is critical in enhancing self-efficacy. Through knowledge sharing, academics exchange and acquire knowledge, which subsequently will enhance their self-belief and confidence about their skills and capabilities to perform tasks, which resulted in higher performance.

As expected, self-efficacy was proven to affect innovative behavior ( $\beta = .0492$ ,  $p = .000$ ) significantly. Hence, hypothesis 3 was supported. It was consistent with the finding of past studies (Michael et al., (2011; Hsiao et al. 2011; Momeni et al. 2014; Newman et al. 2018; Hsiao et al. 2011). This implies that when academics possess self-efficacy, they are firmly believe that they are capable of doing the task, which in turn, be innovative for generating and implementing ideas. However, this finding provides contradictory results with the past study which concluded that self-efficacy was not significantly affected innovative behavior. (Dwi Widayani et al. 2017)

To clarify the insignificant impact between knowledge sharing and innovative behavior, this study investigates if there is an indirect effect of knowledge sharing with innovative behavior through a mediator. The finding found out that self-efficacy was mediated by knowledge sharing with innovative behavior) with value of direct effect, ( $\beta$  KSL  $\rightarrow$  IWB = 0.170,  $p < 0.000$ ), and indirect effect of the relationship via knowledge sharing ( $\beta$  KS  $\rightarrow$  SE  $\rightarrow$  IWB = 0.166,  $p < 0.000$ ). Thus hypothesis 4 was supported. This implies that self-efficacy played a mediator role in enhancing the relationship between knowledge sharing and innovative work behavior. When academics have high self-efficacy, they are more willing to share knowledge with others, which in turn demonstrates innovative behavior. Individuals with high self-efficacy are feeling more confident about their knowledge and skills, thus willing to share knowledge with others. Consequently, they are more likely to engage in innovative behavior. (Jiang & Gu, 2017)

## VI. Conclusion

### Implication

This study explores how knowledge sharing and self-efficacy may influence innovative work behavior. Therefore, it provides an in-depth analysis regarding innovative work behavior antecedents, which is valuable to extend the development of related kinds of literature inclusive innovation and knowledge management. Besides, the findings would extend the literature on Social Cognitive Theory on the mediator role of self-efficacy between knowledge sharing and innovative work behavior. The result has also extended past study which proposed to include a mediator impact to provide clarification on the effect of knowledge sharing on innovative behavior. (Yesil & Hirlak, 2013).

This study not only facilitates PHEIs in particular but also other HEIs in providing an in-depth understanding of the antecedents of innovative work behavior in the educational settings. Besides that, it gives awareness of the importance of knowledge sharing and self-efficacy to enhance innovative work behavior. Moreover, knowledge sharing is an essential element in knowledge management and was adopted in this study. Hence, it verifies the significance of knowledge management practice in organizations for innovation enhancement. Also, the finding validated the critical role of knowledge sharing as additional antecedents of innovation at the individual level. Knowledge sharing is imperative for generating new ideas, products or improving the process which is crucial in the innovation process. (Wang, et al. 2017). Besides, explicit knowledge is believed can directly affect innovation speed while tacit knowledge affects innovation quality (Hassan, Waqar & Khalid, Abbas, 2018). As a result, it facilitates to enhance the quality and productivity which contributes to the success of organizations in general and higher educational institutes in particular. (Fauzi et al. 2019).

### Limitations and suggestion

Data for this study were collected from limited areas in Southern and Central Region. Thus, it is suggested that the size of sampling should be enlarged which covers all regions nationwide to make a better generalization. This study also recommended being conducted in a different context other than the educational sector to prove its applicability in different organizational cultures. Since the current study only focused examined the mediator effect of self-efficacy, future research should also include moderator variables (e.g., job engagement, intrinsic motivation, organizational justice) to have a more holistic view of innovative work behavior.

In conclusion, PHEIs are suggested to implement appropriate strategies on how to teach innovative work behavior among academics to enable changes to take place for improvement. Knowledge sharing was proven to affect innovative work behavior directly. Hence they should identify the factors which may influence knowledge sharing. Besides that, PHEIs are advised to take necessary actions to enhance the self-efficacy level of academics for strengthening the linkage between knowledge sharing and innovative work behavior.

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