

Stimulating Innovative Work Behavior among Academics in Private Higher Educational Institutions

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Studies on the determinants of innovative work behaviour have been well researched. However, studies particularly investigated the mediator role of self-efficacy on the relationship between self-leadership and innovative work behaviour remain scarce. Thus, to fill the gap the mediating effect of self-efficacy on self-leadership and innovative work behavior is examined. In addition this study also identifying the relationship among self-efficacy, self-leadership and innovative work behaviour besides forming a predictive model of linkage between self-efficacy, self-leadership and innovative work behaviour. Three hundred fifty data were collected from academics and analysed by using SPSS and AMOS. Correlation analysis and structured equation modelling were used to answer the research objectives. Results showed that there were significant values derived from the relationship between self-efficacy and self-leadership ($r=.621$, $p=.000$), the relationship between self-efficacy and innovative work behaviour ($r=.606$, $p=.000$), and the relationship between self-leadership and innovative work behaviour ($r=.668$, $p=.000$). The predictive model achieved a good fit value of $RMSEA=.056$, $GFI=.928$, $CFI=.966$, $TLI=.957$ and $Chisq/df=2.052$. While the bootstrapping result for mediating test showed that self-efficacy as a partial mediator in a relationship between self-leadership with innovative work behaviour. The findings would assist educational institutions in cultivating innovative behaviours among academics through self-leadership and self-efficacy. Meanwhile, the predictive model can be used as primary source guidelines in elevating the

innovative work behaviour at a higher level, especially for the next researches.

Key words: *Self-leadership, Self-efficacy, Innovative Work Behavior, Academics.*

Introduction

With the growing global market, organisations need to direct their attention to innovation to bring new ideas and knowledge in dealing with both the turbulent internal and external environment. Through innovation, organisations can foster long-term survival and achieving sustainable competitive advantage and economic consequences. (Eidizadeh, Salehzadeh, & Chitsaz, 2017; Gërguri, Ramadani, Abazi, Dana, & Ratten, 2017).

It is undeniable a significant role of universities in facilitating innovation performance. It has been viewed as an essential factor of innovation to stimulate economic growth (Salem, 2014). Besides, competing in the global economy, developing countries need to ensure that the higher education system assists in creating a skilled workforce to respond to the changing needs of the new knowledge-based economy. Indeed, education plays an essential role as a knowledge source in the process of developing human abilities and attitudes (Mohd, Aspah, Mohmud, Abdullah & Ebrahimi, 2018) to build knowledge workers. As such, the contribution of academicians is substantial in the conception and creation of new knowledge, theories, models, practices, systems, technologies, tools, and methods. These development are achieved only through innovative work behaviour.

Hence, study innovative work behaviour on academics is paramount to increase universities' performance for new knowledge generation. (Yean, Johari & Yahya, 2016). Moreover, past studies on determinants of innovative work behaviour were more focused in western countries (Zhou & Velamuri, 2018), and less effort was given in service industries (Lai, Lui & Tsang, 2015; Javed, Raza, Arjoon, & Tayyeb, 2017). With this regard, this research is proposed and tested a theoretical framework examined the determinants of innovative work behaviour in a different context, which focuses on self-leadership and self-efficacy in Malaysia Private Higher Educational Institutions (PHEIs).

This study was conducted to identify the interrelationship between self-leadership, self-efficacy and innovative work behaviour and the mediating effect of self-efficacy among the academics. Thus, the following research objectives is developed for this study:

- 1) To identify the relationship between self- efficacy, self- leadership and innovative work behaviour
- 2) To form a predictive model of the relationship between self-efficacy, self-leadership and innovative work behaviour

- 3) To investigate the mediator role of self-efficacy on the relationship of self-leadership and innovative work behaviour.

Hence, this study aims to test the following hypothesis:-

- H1:** There is a positive and significant relationship between self-leadership and innovative work behaviour among academics in PHEIs.
- H2:** There is a positive and significant relationship between self-leadership 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 self-leadership and innovative work behaviour among the academics in PHEIs.

Literature Review

Self-Leadership

Self-leadership approach suggests that individuals can influence their behaviour and lead themselves in whatever way they want to, provided they have the skills and use the strategies to do so. (Manz & Neck, 2004). Self-leadership consists of three types of strategy: First, Behavior-focused strategy is an approach of ineffective replacement behaviours with an effective one through oneself observation, goal setting, reward, correcting feedback, and cueing (Neck & Houghton, 2006). Second, natural compensation can be accomplished by focusing on rewarding intrinsic tasks and trying to reevaluate unpleasant tasks as pleasant to enhance self-competence, self-control, and objective. (Furtner, Baldegger & Rauthman, 2013). Third, constructive thought pattern focuses on developing positive as well as desirable ways of thinking while reducing dysfunctional thought patterns, which have a positive influence on performance. In short, self-leadership enables individuals influencing themselves to control and lead to accomplish self-direction and self-motivation in performing tasks. (Manz & Neck, 2004)

Innovative Work behaviour

Innovative work behaviour refers to actions that intentionally for generating, promoting and realising novel within a work role, group or organisation for improving the performance of a function, group or organisation. (Jansen, 2000). It consists of three sets of actions: First, idea generation is creating novel and useful ideas in any area or domain (Jansen, 2000). Second, idea promotion refers to seeking to support the plans and tries to mobilise a coalition of allies for it (Scott & Bruce, 1994). Third, idea realisation refers to translating innovative ideas into valuable and real results. (Jansen, 2000)

Self-Efficacy

Self-efficacy as persons' beliefs about their "capabilities to deliver designated levels of achievement through influencing over events that affect their lives. (Bandura, 1997). Bandura believes that how an individual cognitively processes information to obtain the desired results, which are influenced by environmental factors. Self-efficacy beliefs form the core of these cognitive processes. Thus, self-efficacy is the cognitive process by which individuals evaluate their capability to perform tasks. (Bandura (1997).

Hypothesis Development

Self-Leadership and Innovative Work Behaviour

Self-leaders motivate positive behaviours and curtail negative behaviours that affect the achievement of work (Manz, 1986). Leaders who practice self-leadership can achieve long-term success, while those that lack self-leadership can face self-destruct and never reach their early potential.

Several studies have shown that self-leadership is significantly correlated with high achievement, success and enhanced performance. Specifically, self-leadership has proven to enhance innovative work behaviour in past studies. For example, Taştan, (2013) explored how self-leadership influence innovative behaviour towards the employees of SME in Turkey. The result revealed that self-leadership positively affects innovative behaviour.

Meanwhile, Park, Moon, & Hyun, (2014) in their study, examined the linkage of self-leadership, job satisfaction and innovative behaviour toward sport educators from business firms in South Korea. The finding found that there was a high correlation among self-leadership, job satisfaction and innovative behaviour. Similarly, Kalyar (2012) also found that self-leadership significantly affects individual innovation toward the employees working in manufacturing firms in Pakistan.

However, there have been inconsistent findings on past studies of self-leadership with innovative behaviour. Pratoom & Savatsomboon, (2012) found an insignificant influence between self-leadership and innovation among the employees of producer firms, Thailand. Another study conducted on engineers in Malaysia also found an insignificant effect of constructive thought pattern and natural reward of self-leadership with innovative behaviour. (Omar & Mahmud, 2014)

Despite numerous studies examined the effect of self-leadership with innovative behaviour, studies on self-leadership with innovative behaviour remain scarce (Park, Moon & Hyun, 2014) and little attention was given to the educational sector. Since it shows inconclusive

findings on past studies, therefore further clarification is needed on the linkage among of self-leadership, creativity, and innovation.(Neck & Houghton, 2006). Following hypothesis is developed

H1: There is a positive and significant relationship between self-leadership and innovative work behaviour among academics in the PHEIs

Self-Leadership with Self-Efficacy

Self-Leadership involves persistence people mobilise themselves to achieve self-motivation and self-direction as needed to behave in the desired way (Aristayudha, Sudibia & Supartha,2018). Meanwhile, self-efficacy is considered central to self-leadership (Neck & Houghton 2006). Self-leadership behaviour is action through their interaction with self-efficacy consequently will enhance self-efficacy.

A number of research papers have provided evidence aboutthe influence of self-leadership on self-efficacy. For instance, a study examined the impact of self-leadership on self-efficacy towards the student from South Western University, US. The result showed self-leadership was significantly influenced self-efficacy. (Prussia, Anderson & Manz, 1998). Moreover, Noris, (2008) cited a study that examined the linkage between general self-efficacy with self-leadership on the graduate students from Midwest University, US. The finding revealed that general self-efficacy was significantly affected by self-leadership. Moreover, the latest study investigated the linkage between self-leadership, self-efficacy, and performance in Bali, Indonesia. (Aristayudha et al. 2018). Data was collected from the entrepreneurs, and the finding revealed that self-leadership was positively related to self-efficacy which in turn enhances the entrepreneur's performance.

However, little attention was given to investigate the influence of self-leadership with self-efficacy (Mansor, Darus & Dali, 2013). This research, therefore, proposed that self-leadership would influence self-efficacy.

H2: There is a positive and significant relationship between self-leadership and self-efficacy among academic in the
PHEIs

Self-Efficacy with Innovative Work Behaviour

The social cognitive theory states that individuals who believe that self-efficacy is a significance motivational construct that is needed in self-regulation procedures for producing and promoting creative ideas and generating new knowledge. (Bandura, 1997).

Several studies have provided empirical shreds of evidence that self-efficacy enhance creativity and may influence innovative work behaviour. For example, Michael, Hou & Fan, (2011) examined the relationships of creative self-efficacy and innovative behaviour on the employees of private firms Taiwan. The result found that employees with high creative self-efficacy exhibit greater innovative behaviour at work. In addition, another study revealed that high self-efficacy teachers are more innovative in performing their work. (Hsiao, Chang, Tu & Chen, 2011). Besides that, a study explored the influence of self-efficacy with innovative behaviour toward employees working in Social Security firms, Iran. The results indicated that self-efficacy was positively related to innovative behaviour (Momeni, Ebrahimpour & Ajirloo, 2014).

However, the insignificant effect was found between self-efficacy and innovative behaviour in past study. Dwi Widyani, Sarmawa & Manuati,(2017) cited a study examined the linkage among self-efficacy, self-leadership and innovative behaviour toward employees working in SME companies, Bali. The findings revealed that self-efficacy was insignificantly influencing innovative behaviour.

Despite numerous study examined the linkage of self-efficacy with innovative behaviour, studies in this area remain inadequately explored. (Ibus, Wahab & Ismail, 2018). In addition, the inconclusive finding was found and most studies were cited beyond Malaysia educational context. Thus, triggers the researcher to clarify whether self-efficacy would affect innovative behaviour among academicians in Malaysia context.

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

Mediator Role of Self-Efficacy on Self-Leadership-Innovative Work Behaviour

Positive self-talk and mental imagery strategies of self-leadership can improve the level of self-efficacy, which enables to enhance of the performance expectation. (Aristayudha, et al. 2018). Self-efficacy will drive individuals to be more creative and innovative and, therefore, willing to take more challenges (Hsiao, Chang & Chen, 2011).

According to Baron and Kenny (1986) a variable is considered a mediator when it is positioned either as an independent or dependent variable. Past studies have proven that self-efficacy is not only a dependent and significant outcome variable of self-leadership (Prussia, Anderson & Manz, 1998; Aristayudha et al. 2018) but also an independent variable and predictor of innovative work behaviour. (Hsiao et al. 2011; Nisula & Kianto, 2015; Chen & Zhang, 2017; Momeni et al. 2014). Hence, self-efficacy is predicted to mediate the

relationship between self-leadership and innovative work behaviour. The following hypothesis is tested:-

H4: Self-Efficacy mediates the relationship between self-leadership and innovative work behaviour among academics in PHEIs.

Methodology

Research Design

This study was conducted to identify the interrelationship between self-leadership, self-efficacy and innovative work behaviour and the mediating effect of self-efficacy on self-leadership and innovative work behaviour. Quantitative method is used whereby data was collected at one point of time through questionnaires. Since a complete sampling frame is not available in a given context (Ali, Ting, Chuah & Cheah) a non-probability of convenience sampling is chosen for the current study.

Research Sample

Data was drawn from the academics from selected PHEIs located in the Central Region and Southern Region areas in Malaysia. A total of 600 surveys were sent out to the academics and the researcher received 350 completed survey. It represents the response rate of 58% which is greater than 50% and is considered appropriate in this research as the sample is large enough for SEM analysis.

Data Collection and Instrument

All participants completed the research surveys assessing their self-leadership, self-efficacy and innovative work behaviour practice in the university. The Abbreviated Self-Leadership Questionnaire (ASLQ) is adopted to measure self-leadership. It is a reliable and valid measurement for an overall measure of self-leadership (Houghton, Dawley, & Diliello, 2012). It consists of 9 items with a Cronbach reliability score of 0.75. It is above the acceptable reliability threshold. (Hair, Black & Babin, 2010). Uni-dimensional innovative behaviour will be used which is adapted from the work of Janseen (2000). The construct consists of 9 items in which reliability score was 0.89 and accepted. (Hair et al., 2010).

Self-efficacy construct with 10 items is used which adapted from the Generalized Self-Efficacy Scale from earlier work of Jerusalem & Schwarzer (1992). The similar items were adapted by Chen, Gully, & Eden (2001) who obtained a Cronbach reliability score of 0.92 which is also accepted. (Hair et al., 2010).

Reliability and Validity of the Instrument

Reliability is defined as how consistent a measuring device is. Besides, a measurement is deemed reliable or consistent when similar results can be replicated in similar circumstances. To establish the reliability of the analysis of this study, the Cronbach Alpha (CA) value should be above 0.7 (Hair et al., 2010) and around 0.80 or higher (Jackson, 2009) is considered reliable and acceptable. The reliability analyses for this research was presented in Table 1.

Table 1: Reliability Analysis of Construct

Constructs	Number of Items	Alpha Cronbach
Self Efficacy	10	0.78
Self Leaderships	9	0.85
Innovative work behaviour	9	0.89

All the dimensions were achieved the high acceptable value when alpha Cronbach value $> .60$. The dimension of self-efficacy =0.78, dimension of self-leadership =0.85, dimension of innovative work behaviour=0.89. Therefore, this instrument was achieved the reliability and validity to measure all the variables in this research.

Analysis and Findings

The data were analysed using correlation and regression analysis by the method of structural equation modelling. The correlational study was applied to test the assumption of whether there is a statistical relationship between the variables.

Correlation Analysis

Findings of correlation analysis showed that there was a significant relationship between all measured variables. Results were collated in Table 2 below;

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

	SE	SL	IWB
Self-Efficacy	1		
Self-Leaderships	.621***	1	
Innovative Work Behavior	.606***	.668***	1

Note, SE: Self Efficacy, SL: Self Leaderships, 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 self-efficacy (SE) and innovative work behaviour (IWB) ($r=.606$, $p=.000$). The direction of the relationship for both variables was positive, which means the SE among the academics had direct contact with the IWB. This gives the perception that when academics have SE, they are highly belief and confidence in their capabilities which in turn be more innovative to handle difficult problems in performing tasks. Next, self-leadership (SL) and IWB ($r=.668$, $p=.000$) showed significant and positive value. This means the higher SL value among the academics, the better outcomes of academics to work innovatively. Similarly, the relationship between SL and SE also indicated positive and significant effect, ($r= .621$, $p=.000$). This indicates that high self-leadership academics will lead to high self-efficacy because they are more self-directed and motivated to achieve their goals. These results were supported by hypotheses testing for H1, H2 and H3 and answer objective no. 1.

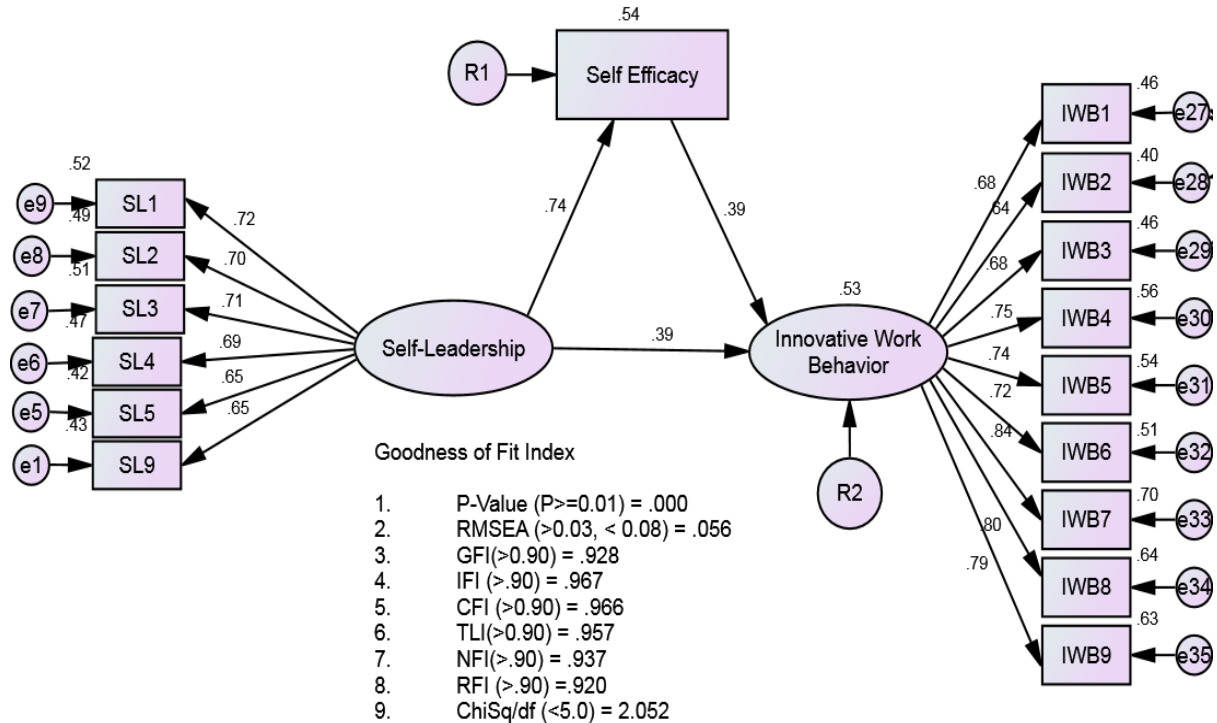
Structural Equation Modeling Analysis

Structural Equation Modeling (SEM) analysis was done to produce a predictive model for the relationship between self-efficacy, self-leadership and innovative work behaviour. While bootstrapping analysis was performed to identify the mediating effects of self-efficacy in relationships between self-leadership with innovative work behaviour.

The Predictive Model of the Relationship between Self-Efficacy, Self-Leadership and Innovative Work Behaviour

This analysis showed good compatibility value to verify the predictive model, which had been built. Results of SEM analysis showed the compatibility value which is accepted and within the recommended value (Hair et. 2010) as follows; RMSEA=.056, GFI=.928, CFI=.966, TLI=.957 and Chisq/df=2.052. It is illustrated in Figure 1.

Figure 1. The predictive model of the relationship between self-efficacy and self-leadership with innovative working behaviour.



Based on the results of SEM analysis in Figure 1, good compatibility value was achieved, and this showed that factors of self-efficacy and self-leadership had contributed towards to improve the innovative work behaviour. About 53% of the variance value had been contributed by factors of self- efficacy and innovative work behaviour. From the two dimensions that had been studied, both self-efficacy and self-leadership showed the same contribution with β value=.39 towards innovative work behaviour. Hence, self-leadership had contributed 54% in variance towards self-efficacy. From the five items measuring self-leadership, item no. SL3 which is “I work toward specific goals I have set for myself,” showed the highest contribution with β value=.71. Meanwhile, item no. SL5 “Sometimes I picture in my mind a successful performance before I actually do a task” and no. SL9 “When I have successfully completed a task, I often reward myself with something I like” only gave β value=.65. Good compatibility value had been achieved to build a predictive model for the relationship between self-efficacy and self-leadership with innovative work behaviour. Thus, these findings answered objective 2.

Self-Efficacy as a Mediator between Self-Leadership 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 standardised 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 3) that mediation occurs in a relationship between self-leadership (SL) and innovative work behaviour (IWB) through self-efficacy (SE). At this point, the results provide support for H4 indicating that SE will act as a mediator in the path from SL to IWB.

Table 3: Results of the indirect effect

Indirect Effects	Standardised Estimate	p-value	BC 95% CI	
			Lower bound	Upper bound
SL → SE → IWB	0.216	0.000	0.119	0.347

Based on Table 4, the results reveal the significant direct effect of self-leadership (SL) on innovative work behaviour (IWB) (β SL→IWB=0.605, $p<0.000$), and indirect effect of the relationship via self-efficacy (β SL→SE → IWB = 0.599, $p<0.000$). Given that, the direct and indirect effects between SL and IWB are significant, which indicates that SE acts as a partial mediator in the relationship between SL and IWB. Accordingly, H4 is supported. Overall, this path proposing the partial mediating role of SE towards IWB.

Table 4: Summary of the Hypotheses Testing Related to Mediating Effects

Path	Expected Directed	Standardized Estimate		Indirect Effect	Conclusion
		Direct Effect			
		On Mediator	On IWB		
SL → SE → IWB	+	0.599***	0.605***	0.216***	Partial Mediation

Note: SL – Self-leadership, SE – Self-efficacy, IWB = Innovative Work Behavior, *** $p < 0.001$,

Discussion

The objectives of this study was to identify the linkage among self-leadership, self-efficacy and innovative work behaviour and to identify the mediating effect of SE on SL-IWB relationship.

The findings revealed that SL was positive and significantly affected IWB ($r=.668$, $p=.000$), thus, H1 was supported. This is in line with past studies (Kalyar,2012; Tasthan, 2013; Park, Moon & Hyun, 2014; Ziyae & Hayderi, 2016; Kor, 2106; Sesen, Tabak & Arli,2017; Dwi Widayani, et al. 2017) which showed SL was significantly influenced IWB. Thus, SL has a direct effect to IWB. This implies that academics with self-leadership are self-directed and self-motivated to perform tasks which consequently encourage them to be innovative and finally achieving their goals. There were two studies, however, showed a contradict result between SL and IWB. One study conducted by Pratoom & Savatsomboon (2012) and the

other one revealed that SL was only partially significant to IWB, whereby the constructive thought pattern and natural reward of SL was insignificantly influenced IWB. (Omar & Mahmud, 2014).

The result on hypothesis testing between SE and IWB showed that SE was positively affected and a significant impact on IWB. ($r=.606$, $p=.000$). It is implied that if academics are highly SE, they have strong belief and confidence in their skills and capabilities, which in turn enable them to be more innovative in handling difficulties when performing their job. In short, SE will directly influence IWB. Therefore, H3 is supported which is consistent with past studies (Michael et al,2011; Hsiao et al,2011; Momeni,et al. 2014; Newman et.2018). However, this finding was contradicted with a past study which showed that SE was insignificantly effected IWB. (Dwi Widayani et al. 2017).

Similarly, the result also indicated that there was a positive and significant effect between SL and SE ($r=.621$, $p= .000$). Hence, H2 is supported and in line with past studies. (Aristayudha et al. 2018; Prussia et al. 1998; Noris, 2008). This result can be explained that SL will directly influence SE. Academics will be more SE if they have high SL because they have abilities in influencing their self-direction and self-motivation when performing their job.

Finally, the testing of the mediator role of SE revealed that there was a significant direct effect of SL with IWB. ($\beta =0.605$, $p<0.000$), and significant indirect effect of SL with IWB via SE. ($\beta = 0.599$, $p<0.000$). Since the direct and indirect effects of SL and IWB are significant, thus, SE is proven partially mediated on the relationship between SL and IWB. Means, SE will enhance the relationship of SL-IWB. This implies that academics with high self-efficacy can enhance their self-leadership, which in turn motivate them to be innovative.

Conclusion

Implications

This research is expected to contribute to the current body of knowledge for the future development of pieces of literature related to self-leadership, self-efficacy and innovative work behaviour. It also extends our knowledge on the factors of innovative behaviour in an educational setting. The main contribution of this paper to the literature is that it provides empirical evidence on the mediator role of self-efficacy on the relationship between self-leadership and innovative work behaviour. Although some researchers (Park & Jo, 2017; Park, Moon & Hyun, 2014) had suggested, however until to date, a study that specifically explored on the mediator role of SE on SL-IWB relationship is scarce. (Park & Jo, 2017)

Innovation in the education sector is essential for generating new knowledge and improvement. This research provides insights and directions to the educational institutions

especially PHEIS to undertake necessary actions for improvement through the involvement of academics in the innovation process. Hence, academics need to demonstrate innovative work behaviour in their workplace. The findings would create awareness and provide depth understanding to the educational leaders on the important role of self-leadership, knowledge sharing and self-efficacy to stimulate innovative behaviour among the academics. With this regard, educational leaders should find ways on how to increase self-efficacy level among the academics in order to promote self-leadership, which in turn cultivating innovative behaviour among academics. Subsequently, innovative academics would facilitate the Higher Educational Institutions to implement change process effectively which resulted in higher performance. Particularly, innovation in PHEIs is crucial in order to satisfy customers. Innovative service is imperative in which can only be achieved through innovation to increase customer satisfaction. (Danjuma & Rasli, 2012).

In conclusion, Higher Educational Institutions are advised to invest more in training to enhance self-efficacy level of academics in order to promote self-leadership and subsequently to stimulate innovative behaviour among academics.

Limitations and Suggestions for Future Research

There are several limitations to this study. First, this study is a cross-sectional study whereby it was conducted at one point in time and adopted a survey method for data collection. It is suggested in the future to conduct interview and observation for data collection in order to provide more in-depth information about the factors of innovative work behaviour. Moreover, future study should also consider undertaking the longitudinal studies to track and recognise the factors of innovative behaviour among academics in more detail.

On the other hand, this study was only focused collecting data from PHEIs, which is unable to make a wider generalization to the entire educational sector. Hence, future study should make comparative research through sampling from both Public and Private Higher Educational Institutions. Besides that, it is suggested that future research should also apply the current research framework in a different context to extend its generalizability.

Current research only focused on individual factors (self-leadership, self-efficacy) of innovative behaviour. Future study is therefore suggested to include other factors (e.g. empowerment, job engagement,) and other mediators to understand how such variables may affect innovative work behaviour.

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