

Conceptual Framework: The Mediating Effect of Self-Efficacy in the Relationships of Self-Leadership, Knowledge Sharing, and Innovative Work Behaviour

Salbeha binti Ibus

Faculty of Business Management, Southern University College, Johor Bahru, Malaysia
Prof. Madya Dr Eta binti Wahab

Dr Fadillah binti Ismail

Faculty of Technology Management & Business, UTHM, Batu Pahat, Malaysia
Corresponding E-mail: Salbeha@sc.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v8-i11/5378>

DOI:10.6007/IJARBSS/v8-i11/5378

Published Date: 11 December 2018

Abstract

There are substantial empirical evidences on the influence of self-efficacy towards organisational performance. However, the mediating effect of self-efficacy in the relationships of self-leadership and knowledge sharing with innovative work behaviour, particularly in the educational context, remains inadequately explored. Addressing that, this study attempts to contribute in-depth insights on the factors that influence innovative work behaviour in the higher education institutions based on a proposed conceptual framework to promote innovative work behaviour among Malaysian academics.

Keywords: Self-leadership, Self-efficacy, Knowledge Sharing, Innovative Work Behaviour, Malaysian Academics

Introduction

High unemployment rate among Malaysian graduates is a prevalent concern of many today, which was reportedly due to their lack of skills required by the potential employers (Grapragasem et al., 2014). According to the Department of Statistics Malaysia the unemployment rate in December 2017 recorded 3.3%, which increased to 3.4% in January 2018. (Department of Statistics, Jan. 2018). Essentially, both creativity and innovation should be incorporated in the teaching and learning process to equip students—as the future workforce—with appropriate competencies and skills (in enhancing their employability) given the significant role of education as the source of knowledge in providing innovation support. Addressing that, this study attempts to comprehensively evaluate the factors that influence

innovative work behaviour among Malaysian academics in the higher education institutions (HEIs).

The higher education system in Malaysia has demonstrated progressive growth and development over the past two decades, which has spurred intensified competition between the public higher education and the private higher education. The future workforce must be adequately responsive to the changes and demands of the existing market through innovation. In addition, innovative educational professionals are necessary to ensure the implementation of innovation in the education and development aspects with respect to the challenges of the 21st century (Van de Ven, 1986; Janssen, 2000; De Jong and Den Hartog, 2010). After all, the significance of individuals who demonstrate innovative work behaviour at the workplace is widely acknowledged for the continuous development of innovative products and services (Tang et al., 2013; Abstein et al., 2014). Substantial studies also revealed significant empirical evidences and theories on the personal factors and innovative work behaviour among employees (Janssen et al., 2004) with the agreed notion that innovative individuals assist in realizing higher organisational performance from the theoretical and practical viewpoints (Axtell et al., 2000; Smith, 2002; Unsworth and Parker, 2003).

In conclusion, innovation is increasingly significant for the organisations to achieve higher performance with respect to the changing economic environment and globalization, which has gained growing research interest (Chen, 2011; Kim and Lee, 2013; Akram et al., 2016). In view of the above, this study expects to significantly extend the existing knowledge base on innovation at the individual level, specifically innovative work behaviour, considering that studies on innovative work behaviour among employees remain rather scarce (Li and Hsu, 2016). Additionally, prior studies were more focused on the manufacturing organisations, rather than service organisations (Lee et al., 2014; Lai et al., 2016; Javed et al., 2017). Furthermore, most of these studies were performed beyond the Malaysian context. Hence, this study attempts to propose an integrated model that incorporates the effects of self-leadership, self-efficacy, and knowledge sharing towards innovative work behaviour among employees within the Malaysian educational context.

Higher Education System in Malaysia

The Private Higher Educational Institutions Act (1996:13) characterized the term “higher education” as “the direction or preparing of a course of study prompting the honour of an endorsement, certificate or degree upon the successful fulfilment thereof.” The higher education system generally includes community colleges, colleges or polytechnics, university colleges, and universities. Besides that, the higher education system in Malaysia also includes both public institutions and private institutions (MOE, 2006). In particular, there are 20 public universities, 20 university colleges, 28 private universities, 30 polytechnics, 30 international university branch campuses, 70 community colleges, and 403 private colleges (Ministry of Higher Education, 2015).

The higher education system in Malaysia, which remains under the jurisdiction of the Ministry of Education (MOE), has demonstrated tremendous growth in addressing the increasing demands of providing higher status of education. The private colleges and universities are established with the goal to provide admittance for all accomplished students to the tertiary education level. However, the HEIs, especially the private higher education institutions (hereinafter PHEIs), experience significant challenges given the intensified competition among one another and also with the public HEIs. Hence, it is significant to further evaluate

the factors that initiate and promote the development of innovative work behaviour among Malaysian academics in the PHEIs to remain highly competitive and to attain long-term profitable growth—which will be addressed in this study.

Literature Review and Development of Hypotheses

Innovative work behaviour

West and Farr (1990) defined “innovative work behaviour” as the process of generating, promoting, realizing, and operating an idea within a specific work function in a group or an organisation that benefits the job performance at the individual, group, and organisation levels. The innovative work behaviour is also viewed as the introduction and application of new technologies or work strategies to enhance the existing tasks (Yuan and Woodman, 2010). Accordingly, Janseen (2000) and De Jong and den Hartog (2010) proposed four dimensions of innovative work behaviour: (1) Opportunity exploration; (2) Idea generation; (3) Idea championing; (4) Idea application. Firstly, opportunity exploration involves the identification of opportunities to introduce innovation in terms of ideas and solutions. Secondly, idea generation is defined as a dynamic process of creating, associating, and generating different types of opportunities and representations for the idea interaction in the form of abstract, concrete, or visible (Kleysen and Street, 2001). Meanwhile, idea championing reflects ideas that are generated from highly committed individuals, which are unanimously accepted. Lastly, idea application involves a process of developing, testing, commercialising, and executing the generated idea or in other words, this is when the idea is taking its shape (De Jong et al, 2003).

Self-leadership

Neck and Manz (2010) characterized self-leadership as a process that involves the individual capacity to self-influence to perform or accomplish a specific task with respect to the personalized individual goal. Self-leadership enables individuals to identify and remove ineffective work behaviour through self-reflection and evaluation to deliver more effective work behaviour (DiLiello and Houghton, 2008; Neck and Manz, 2013). Essentially, there are three proposed strategies to achieve self-leadership, namely behavioural focused strategies, natural reward strategies, and constructive thought pattern strategy (Neck and Houghton, 2006; Neck and Manz, 2010). A behavioural focused strategy assists in managing one’s behaviour, which incorporates the process of self-attentional of self-observation, self-goal setting, self-reward, self-correcting feedback, and self-cueing. Meanwhile, a natural reward strategy focuses on being positive and enjoyment towards the tasks (Houghton, et al., 2002). As for a constructive thought pattern strategy, it is related to the individual capacity to influence and direct oneself through certain cognitive strategies (Neck and Manz, 1992; Godwin et al., 1999).

Self-efficacy

According to Bandura (1997), self-efficacy is related to a specific cognitive procedure to self-evaluate the capability to perform a specific task. This capability reflects one’s confidence in the capacity to accomplish the assigned task. Individuals who believe to have the effective capability to perform the task will take on the job (Bandura, 1997; Tenaw, 2013). High self-efficacy is related to one’s belief in possessing the specific skills to productively accomplish the job with minimal assistance from others or without the assistance of others (Hsieh et al., 2012).

Knowledge Sharing

Knowledge sharing typically reflects the transmission of knowledge between individuals within or beyond the boundary of an organisation (Yi, 2009) or the transfer and dissemination of knowledge between individuals, groups, or organisations (Lee, 2001). Pulakos et al. (2003) argued that knowledge sharing is a process of collaborating with other individuals for problem-solving, policy implementation, or idea development.

Relationship between self-leadership and innovative behaviour

It is imperative that one possesses self-leadership to independently lead the process of learning using specific behavioural and cognitive skills to deliver effective performance (D'Intino et al., 2007). Self-leaders are independently motivated to exhibit positive behaviours and remove negative behaviours to deliver high performance (Manz, 1986).

The social cognitive theory describes the interactions of cognitive factor, behavioural factor, personal factor, and environmental factor in influencing how one behaves and self-motivates (Crothers et al., 2008). Self-leadership describes how leaders with self-leadership think and the capability to demonstrate specific behaviours using certain behavioural strategies, motivation, and cognitive strategies (Kraft, 1998; Prussia et al., 1998; Yun et al., 2006). According to Carmeli & Weisberg (2006), individuals who demonstrate self-leadership are more likely to be innovative in their job. Thus, this study assumes that such individuals are highly self-directed and motivated to be more innovative in handling their work-related problems.

Although the relationship between self-leadership and innovative behaviour was extensively explored, the findings on this particular relationship remain inconclusive. There are limited empirical evidences on the significant effect of self-leadership towards innovative behaviour (Carmeli et al., 2006; Curral and Marques-Quinteiro, 2009; Kalyar, 2011, Gomes et al., 2015; Park et al. 2014). However, Pratoom, K., & Savatsomboon, (2012) found insignificant effect on the relationship and Omar, et al., (2014) found partially significant effect on the relationship. Besides that, Gomes et al. (2015) and Kor (2016) argued that the relationship between self-leadership and innovative behaviour remains in the nascent stage. Nevertheless, studies on individual innovation remain scarce with inconclusive findings on how individual factors influence individual innovation (Pratoom, K., & Savatsomboon, 2012). Adding to that, most of these studies, which focused on the non-educational sectors, were performed beyond the Malaysian context. Thus, it is imperative to explore the relationship between self-leadership and innovative behaviour within the Malaysian educational context. Neck and Houghton (2006) also put forward similar notion that addresses the need to further evaluate the relationships of self-leadership, creativity, and innovation. Hence, this study proposes the following hypothesis for testing:

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

Relationship between self-efficacy and innovative behaviour

Accordingly, individuals who possess high self-efficacy demonstrate higher tendency to creatively participate and perform challenging task (Hsiao et al., 2011). The positive relationship between self-efficacy and performance (e.g., creativity, motivation, learning transfer intention, job satisfaction, career commitment, work performance, and productivity) was substantially demonstrated in prior studies (Stajkovic and Luthans, 1998; Compeau et al., 1999; Hsu et al., 2007; Judge et al., 2007; Abele and Spurk, 2009; Liu et al., 2010; Gong et al.,

2009; Leon-Perez et al., 2011; Pan et al., 2011; Tierney and Farmer, 2011; Judeh, 2012; Cherian and Jacob, 2013). However, how self-efficacy influence innovative behaviour remains inadequately explored. There are only several studies that empirically demonstrated the significant effect of self-efficacy towards innovative behaviour (Hsu et al., 2011; Hsiao et al., 2011; Momeni et al., 2014). In contrast, Sarmawa et al. (2017) demonstrated insignificant relationship between self-efficacy and innovative behaviour. Furthermore, most of these studies were performed beyond the Malaysian context with inconclusive findings on the relationship between self-efficacy and innovative behaviour. In view of the above, this highlights the need of this study to further evaluate the effect of self-efficacy towards innovative behaviour within the Malaysian educational context.

Meanwhile, the social cognitive theory postulates the reciprocal linkages of personal factors (e.g., cognitive, affective, and biological events), external factors, and behaviour towards the human function. As previously implied, self-efficacy is related to the cognitive procedure of self-evaluation on one's capability to perform the assigned task (Bandura, 1997). Creative self-efficacy improves innovation (Tierney and Farmer, 2011), which subsequently affects innovative behaviour (Mathisen, 2011). Hence, employees with high self-efficacy are more assured in undertaking multiple innovation-based tasks because they have the capabilities to perform these tasks effectively, resulting in innovative behaviour.

Based on above arguments, this study considers the significance of assessing how innovative behaviour is influenced by self-efficacy. Thus, this study proposes the following hypothesis for testing:

H2: There is a significant relationship between self-efficacy and innovative work behaviour among Malaysian academics in the PHEIs.

Relationship of self-efficacy, self-leadership, and innovative behaviour

The mediating role of self-efficacy in various relationships (between self-leadership and performance; between self-leadership and organisational citizenship; between Big Five personality characteristics and depression; between academic climate and performance; between negative self-statement and social anxiety; between creativity and transformational leadership; between hope and peace attitude) was explored across diverse studies (Prussia et al., 1998; Moore, 2010; Abd Elmotaleb and Saha, 2013; Mansor, 2013; Wang et al., 2014; Mithal et al., 2015; Sari, 2016). Additionally, Li et al. (2017) demonstrated the mediating effect of self-efficacy in the relationship between proactive personality and innovative work behaviour among teachers. Besides that, Ma, et al. (2016) assessed the mediating effect of innovative self-efficacy in the relationship between person-organisation fit and innovative behaviour, which revealed that higher person-organisation fit increases the innovative self-efficacy and subsequently influences the employees to be more innovative in their job.

Besides that, confident individuals were revealed to have higher self-control (i.e., self-leadership skill development), which, in turn, enhances their perception on efficacy (Manz and Sims, 1996). Meanwhile, Chaijukul (2010) evaluated the relationships of self-leadership, psychological empowerment, self-efficacy, job satisfaction, and job performance among private firm employees in Bangkok. Specifically, the self-leadership was revealed to contribute direct, significant effects towards psychological empowerment, self-efficacy, and job satisfaction. The mediating effect of self-efficacy in the relationship between self-leadership and job performance was reaffirmed with the direct effect of self-leadership towards self-efficacy (Prussia et al., 1998).

With respect to the social cognitive theory, one's cognitive process influences how one behaves (Bandura, 1977). In addition, Bandura (1986) argued that self-efficacy functions as the central factor within the mechanism of self-regulatory, which regulates one's action and motivation. Self-leadership involves the internal reflective process where one is conscious and constructive moving their mind and intentions to create the expected transformation, enhancement, and innovative behaviour (Carmeli et al., 2006). Furthermore, employees are more curious through creative self-efficacy and willing to take risks and be creative thinking, consequently will increase their motivation level to engage in innovation (Gong, Huang, & Farh, 2009). In other words, such individuals have the motivation through self-leadership to perform the assigned task innovatively.

Although there are several studies on the mediating effect of self-efficacy, empirical evidences on the mediating effect of self-efficacy in the relationship between self-leadership and innovative behaviour in the Malaysian educational context remain scarce. Addressing that, this study proposes the following hypothesis:-

H3: Self-efficacy mediates the relationship between self-leadership and innovative work behaviour among Malaysian academics in the PHEIs.

Relationship between knowledge sharing and innovative behaviour

Through knowledge sharing, one can enhance creativity and critical thinking (Aulawi et al., 2009). Higher level of knowledge sharing promotes access to new knowledge, which is critical for effective problem-solving and decision-making at lower cost (Almahamid, McAdams, and Kaladeh, 2010). The social cognitive theory postulates the influence of cognitive, personal behaviour, and external factors towards one's motivation and behaviour (Crothers et al., 2008). In addition, one should continuously manage knowledge through the discussion, translation, recombination, and dissemination of tacit knowledge to exhibit innovative behaviour (Nonaka, 1994; Quintane et al., 2011). Thus, those who actively engage in knowledge sharing are motivated to exhibit innovative behaviour with the newly acquired knowledge.

There are substantial empirical evidences on the significant influence of knowledge sharing towards innovative work behaviour (Yu et al., 2013; Radaelli et al., 2014; Akhavan et al., 2015; Ologbo, et al., 2015; Jaber, 2016; Suk Bong Choi et al., 2016; Fauzia, 2017; Kim and Park, 2017; Phung et al., 2017). However, Yeşil and Hırlak (2013) and Kang et al. (2017) concluded insignificant relationship between knowledge sharing and innovative behaviour. Therefore, inconclusive findings of prior studies demonstrate the need of this study to specifically evaluate the relationship between knowledge sharing and innovative behaviour in the Malaysian educational context. Hence, this study proposes the following hypothesis:

H4: There is a significant relationship between knowledge sharing and innovative work behaviour among Malaysian academics in the PHEIs.

Relationship of knowledge sharing, self-efficacy, and innovative behaviour

Self-efficacy is the individual capability to perform a specific task (Bandura, 1997), which potentially serves as a key predictor in influencing one's decision to share knowledge (Bock and Kim, 2002; Hsu et al., 2007; Hu, 2010). In addition, it is also argued that self-efficacy can enhance innovation, in which individuals with high self-efficacy are more creative, innovative, and willing to challenge themselves (Bandura, 1995). The social cognitive theory highlights that individuals are encouraged to undertake specific task based on how they evaluate their capability (or behaviour) and their expectations on the outcomes of their actions (Bandura,

1986, 1997). Therefore, individuals with high self-efficacy possess higher capability for enhanced performance, which builds their confidence and motivation to share knowledge. Consequently, with the acquired knowledge and skills (through knowledge sharing) further promotes innovative work behaviour. Therefore, this study assumes that self-efficacy enhances the relationship between knowledge sharing and innovative behaviours.

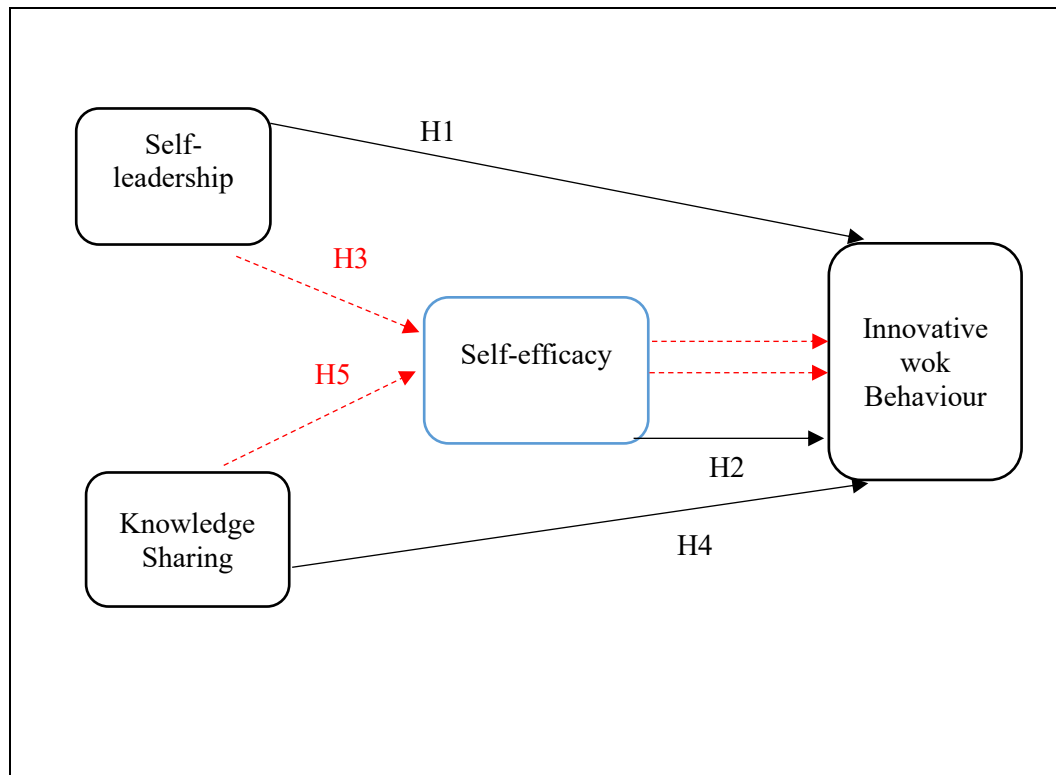
Apart from the social cognitive theory, this study also considers the Knowledge-Based View theory (KBV) given the significance of knowledge for innovation. The KBV emphasizes the application of knowledge to deliver innovative goods and services, which is typically the primary organisational goal (Grant, 1996b). The extensive knowledge and skills enable these organisations to innovate new products and processes and to enhance the existing products and processes for higher efficiency and effectiveness (Nonaka and Takeuchi, 1995). Hence, knowledge sharing is evidently crucial for innovation, which also can be applied in the educational context.

Hu, B. & Zhao, Y (2016) had examined the mediating effect of self-efficacy on the relationship between knowledge sharing and innovative behavior among the employees in non-educational firms, China. The result found out that self-efficacy mediated the relationship between knowledge sharing and innovative behavior. Hence, this study hypothesizes that the self-efficacy mediates the relationship between knowledge sharing and innovative behaviour in the Malaysian education context. The following hypothesis is proposed for testing:

H5: Self-efficacy mediates the relationship between knowledge sharing and innovative work behaviour among Malaysian academics in the PHEIs.

Research Framework

The underlying theoretical basis of this study is developed with respect to the empirical evidences and assumptions of prior related studies. These existing studies highlighted the relationships of self-leadership, self-efficacy, and knowledge sharing with innovative work behaviour. Hence, this study proposes an integrated framework to illustrate these relationships of identified variables: (1) Self-leadership (independent variable); (2) Self-efficacy (independent variable; mediator); (3) Knowledge sharing (independent variable); (4) Innovative work behaviour (dependent variable). The lines with H1, H2, and H4 show the direct relationship to innovative work behaviour, while the lines with H3 and H5 denote the indirect or mediating relationship between the variables. (Figure 3.1).



Conclusion

The proposed framework is expected to provide empirical evidences on the relationships of self-leadership, self-efficacy, knowledge sharing, and innovative work behaviour within the Malaysian educational context, specifically among Malaysian academics in the PHEIs. Besides that, this study will significantly contribute to the existing body of knowledge and addresses the gap of the inconsistent findings in prior studies. The proposed framework also becomes the starting point for future research to explore the integration of various individual, task-related, organisational factors that may influence innovative work behaviour. Last but not least, this study provides scholars and managers a new perspective to realize the importance of increasing self-leadership, knowledge sharing and self-efficacy to stimulate innovate behaviour among academics and non-academics within the education institutions.

REFERENCES

- Abd. Elmotaleb, M. & Saha, S.K. (2013). The role of academic self-efficacy as a mediator variable between perceived academic climate and academic performance. *Journal of Education and Learning*, 2(3).
- Abele, A.E. and Spurk, D. (2009): The Longitudinal Impact of Self-Efficacy and Career Goals on Objective and Subjective Career Success, *Journal of Vocational Behavior*, 74 (1), 53-62.
- Abstein, A., Heidenreich, S., & Spieth, P. (2014). Innovative work behaviour: The impact of comprehensive HR system perceptions and the role of work–life conflict. *Industry & Innovation*, 21(2), 91-116. doi:10.1080/13662716.2014.896159

Akram, T., Lei, S. and Haider, M.J. (2016), "The impact of relational leadership on employee innovative work behavior in IT industry of China", Arab Economic and Business Journal, Vol. 11 No. 2, pp. 153-161.

Akhavan, P., Hosseini, S.M., Abbasi, M. & Manteghi, M. (2015). Knowledge sharing determinants, behaviors and innovative work behaviours: An integrated theoretical view and empirical examination. *Aslib Journal of Information Management*, 67(5), 562-591.

Almahamid, S., McAdams, A.C. & Kaladeh, T. (2010). The relationships among organizational knowledge sharing practices, employees' learning commitments, employees' adaptability and employees' job satisfaction. *Interdisciplinary Journal of Information, Knowledge and Management*, 5, 327-356.

Aulawi, H., Sudirman, I., Suryadi, K., & Govindaraj, R. (2009). Literature review towards knowledge enablers which is assumed significantly influences ksbehavior. *Journal of Applied Sciences Research*, 5(12), 2262–227.

Axtell, C.M., Holman, D.J., Unsworth, K.L., & Wall, T.D. (2000). Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, 73(3), 265-285.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A. (1986). *Social foundations of thought and order: A social cognitive theory*. New York: Prentice Hall.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.

Bandura, A. (Ed.) (1995). *Self-efficacy in changing societies*. New York: Cambridge University Press.

Bock, G.W., and Kim, Y.G. 2002. "Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing," *Information Resources Management Journal* (15:2), pp 14–21.

Carmeli, A., Meitar, R. & Weisberg, J. (2006). Self-leadership and innovative behaviour at work. *International Journal of Manpower*, 27(1), 75-90.

Chaijukul, Y. (2010). An examination of self-leadership performance mechanism model in thai private organization. *The Journal of Behavioral Science*, 5(1), 15–32.

Chen, W.-J. (2011), "Innovation in hotel services: Culture and personality", *International Journal of Hospitality Management*, Vol. 30 No. 1, pp. 64-72.

Cherian, J., & Jacob, J. (2013). Impact of Self Efficacy on Motivation and Performance of Employees. *International Journal of Business and Management*, 8(14), 80–88.

Compeau, D.R., Higgins, C.A., and Huff, S. (1999): Social Cognitive Theory and Individual Reactions to Computing Technology: A Longitudinal Study, *MIS Quarterly*, 23 (2), 145-158.

Crothers, L M., Hughes, T. L., & Morine, K. A. (2008). Theory and causes in school-based consultations. A resource for school psychologists, school counselors, special educators, and mental health professionals. New York: Routledge Taylor & Francis Group.

Curral, L., & Marques-Quinteiro, P. (2009). Self-leadership and Work Role Innovation: Testing a Mediation Model with Goal Orientation and Work Motivation. *Revista de Psicología del Trabajo y de las Organizaciones*, 25 (2), 165-176.

De Jong, J. & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management*, 19, 23-36.

De Jong, J.P.J. & den Hartog, D.N. (2007). How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, 10(1), 41-64.

De Jong, J.P.J. & Kemp, R. (2003). Determinants of co-workers' innovative behaviour: An investigation into knowledge intensive services. *International Journal of Innovation Management*, 7(2), 189-212.

DiLiello, T.C. & Houghton, J.D. (2008). Does organizational level influence self-leadership in the Defence Acquisition workforce? *Defence Acquisition Review Journal*, July, 94-113.

D'Intino, R.S., Goldsby, M.G., Houghton, J.D. & Neck, C.P. (2007). Self-leadership: A process for entrepreneurial success. *Journal of Leadership and Organizational Studies*, 13(4), 105-121.

Farr, J. & Ford, C. (1990). Individual innovation. In West, M.A. & Farr, J.L. (eds). *Innovation and Creativity at Work: Psychological and Organizational Studies* (pp.63-80). Chichester: John Wiley.

Fauzia, S., Budiningsih, I., Djaelani, A., & Ahmad, M. (2017). Dominant Factors Affecting the Behavior of Innovative Employees. *Polish Journal of Management Studies*, 16(1), 32-40

Grant, Robert, M. (1996b): Toward a knowledge-based theory of the firm, *Strategic management journal*, 17 (Winter special issue): 109-122.

Grapragasem, S., Krishnan, A. & Mansor, A. N. (2014). Current trends in Malaysian higher education and the effect on education policy and practice: An overview. *International Journal of Higher Education*, 3, p85.

Godwin, J. L., Neck, C. P., & Houghton, J. D. (1999). The impact of thought self-leadership on individual goal performance: A cognitive perspective. *The Journal of Management Development*, 18(2), 153–169.

Gomes, C., Curral, L., & Caetano, A. (2015). the Mediating Effect of Work Engagement on the Relationship Between Self-Leadership and Individual Innovation. *International Journal of Innovation Management*, 19(1), 1550009.

Gomes, C., Curral, L., Caetano, A. & Quinteiro, P.M. (2015). Better off together: a cluster analysis of self-leadership and its relationship to individual innovation in hospital nurses. *Psicologia Revista da Associacao Portuguesa Psicologia*, 29(1), 45-58.

Gong, Y., Huang, J.-C., and Farh, J.-L. (2009): Employee Learning Orientation, Transformational Leadership, and Employee Creativity: The Mediating Role of Employee Creative self-Efficacy, *Academy of Management Journal*, 52 (4), 765778.

Hsieh, P.H., Sullivan, J.R., Sass, D.A. Guerra, N.S. (2012). Undergraduate engineering students' beliefs, coping strategies, and academic performance: An evaluation of theoretical models. *The Journal of Experimental Education*, 80(2), 196-218.
<http://dx.doi.org/10.1080/00220973.2011.596853>

Hsu, M. L. A., Hou, S. T., & Fan, H. L. (2011). Creative self-efficacy and innovative behavior in a service setting: Optimism as a moderator. *Journal of Creative Behavior*, 45(4), 258–272.
<https://doi.org/10.1002/j.2162-6057.2011.tb01430.x>

Houghton, J. D., & Neck, C. P. (2002). The revised self-leadership questionnaire: Testing a hierarchical factor structure for Self-Leadership. *Journal of Managerial Psychology*, 17, 672-691

Houghton, J. D., Dawley, D., DiLiello, T. C. (2012). The Abbreviated Self-Leadership Questionnaire (ASLQ): a More Concise Measure of Self-Leadership. *International Journal of Leadership Studies*, Volume 7, Issue 2, pp. 216-232.

Hsu, M.-H., Ju, T.L., and Chang, C.-M. (2007): Knowledge Sharing Behavior in Virtual Communities: The Relationship Between Trust, Self-efficacy, and Outcome Expectations, *International Journal of Human-Computer Studies*, 65 (2), 153-169

Hsiao, H., Chang, J., Tu, Y. & Chen, S. (2011). The influence of teachers' self-efficacy on innovative work behaviour. 2011 International Conference on Social science and Humanity, Singapore.

Hsu, M. L. A., Hou, S. T., & Fan, H. L. (2011). Creative self-efficacy and innovative behavior in a service setting: Optimism as a moderator. *Journal of Creative Behavior*, 45(4), 258–272.

Hsiao, H.C., Chang, J.C., Tu, Y.L. & Chen, S.C. (2011).the impact of self-efficacy on

innovative work behaviour for teachers. *International Journal of Social Sciences and Humanity*, 1(1), 31-40.

Hu, B., & Zhao, Y. (2016). Creative Self-Efficacy Mediates the Relationship Between Knowledge Sharing and Employee Innovation. *Social Behavior and Personality*, 44(1037), 815–826.

Hu, W. W. (2010). Self-efficacy and Individual Knowledge Sharing. 2010 3rd International Conference on Information Management, Innovation Management and Industrial Engineering, 2, 401–404. doi:10.1109/ICIII.2010.261

Janssen, O (2000). Job demands, perceptions of effort reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73(3), 287-302.

Janssen, O., van de Vliert, E. & West, M.A. (2004). The bright and dark sides of individual and group innovation: A special issue. *Journal of Organizational Behaviour*, 29, 391-413.

Javed, B., Naqvi, S.M.M.R., Khan, A.K., Arjoon, S. and Tayyeb, H.H. (2017), “Impact of inclusive leadership on innovative work behavior: The role of psychological safety”, *Journal of Management & Organization*, pp. 1-20.

Jaberi, E. (2016). The effect of knowledge sharing on innovative behaviour among employees of Besat hospital in city of Hamedan. *International Academic Journal of Accounting and Financial Management*, 3(4), 41-47.

Judge, T.A., Jackson, C.L., Shaw, J.C., Scott, B.A., and Rich, B.L. (2007): Self Efficacy and Work-Related Performance: The Integral Role of Individual Differences, *Journal of Applied Psychology*, 92 (1).

Judeh, M. (2012). Selected Personality Traits and Intent to Leave: A Field Study in Insurance Corporations. *International Business Research*, 5.

Kalyar MN (2011) Creativity, self-leadership and individual innovation. *Journal of Commerce* 3(3):20–2.

Kang, M., & Lee, M. J. (2017). Absorptive capacity, knowledge sharing, and innovative behaviour of R&D employees. *Technology Analysis and Strategic Management*, 29(2), 219–232.

Kim, T.T. and Lee, G. (2013), “Hospitality employee knowledge-sharing behaviors in the relationship between goal orientations and service innovative behavior”, *International Journal of Hospitality Management*, Vol. 34, pp. 324-337.

Kim, W. & Park, J. (2017). Examining structural relationships between work engagement, organizational procedural justice, knowledge sharing and innovative work

behaviour for sustainable organizations. *Sustainability*, 9, 205; Doi: 10.3390/su9020205.

Kleysen, R.F. & Street, C.T. (2001). Towards a multi-dimensional measure of individual innovative work behaviour. *Journal of Intellectual Capital*, 2(3), 284-296.

Kor, B. (2016). The mediating effects of self-leadership on perceived entrepreneurial orientation and innovative work behaviour in the banking sector. *Springer Plus*, 5 (1) 1829-1843.

Kraft, R.J. (1998). *Utilizing self-managing teams: Effective behavior of team leaders*. New York: Garland Publishing Inc.

Lai, J., Lui, S.S. and Tsang, E.W.K. (2016), "Intrafirm Knowledge Transfer and Employee Innovative Behavior: The Role of Total and Balanced Knowledge Flows", *Journal of Product Innovation Management*, Vol. 33 No. 1, pp. 90-103.

Lee, J.N. (2001). The impact of knowledge sharing, organizational capability and partnership quality on its outsourcing success. *Information and Management*, 38(5), 323-355.

Lee, W.-G., Jeon, Y.-H., Kim, J.-W. and Jung, C.-Y. (2014), "Effects of Job Security and Psychological Ownership on Turnover Intention and Innovative Behavior of Manufacturing Employees", *Journal of the Korea Safety Management and Science*, Vol. 16 No. 1, pp. 53-68.

Li, M. and Hsu, C.H. (2016), "A review of employee innovative behavior in services", *International Journal of Contemporary Hospitality Management*, Vol. 28 No. 12, pp. 2820-2841.

Leon-Perez, J. M., Medina, F. J., & Munduate, L. (2011). Effects of self-efficacy on objective and subjective outcomes in transactions and disputes. *International Journal of Conflict Management*, 22.

Liu, J., Siu, O., & Shi, K. (2010). Transformational Leadership and Employee Well-Being: The Mediating Role of Trust in the Leader and Self-Efficacy. *Applied Psychology*, 56, 454-479.

Li, M., Liu, Y., Liu, L. & Wang, Z. (2017). Proactive personality and innovative work behaviour: The mediating effects of affective states and creative self-efficacy in teachers. *Current Psychology*, 36(4) 697-706.

Mansor, A. (2013). Mediating Effect of Self-Efficacy on Self-Leadership and Teachers' Organizational Citizenship Behavior : A Conceptual Framework. *International Journal of Economics and Business and Management Studies*, 2(1), 1-11.

Ma, S., Wang, Y., & Liu, F. (2016). The mediator role of innovative self-efficacy between person-organization fit and innovative behavior. 2016 13th International Conference on Service Systems and Service Management, ICSSSM 2016.

Manz, C. & Sims, H. (1996). *Creating a Company of Heroes*. New York

Mathisen, G. E. (2011). Organizational antecedents of creative self-efficacy. *Creativity and Innovation Management*, 20, 185–195

Mittal, S., & Dhar, R. L. (2015). Transformational leadership and employee creativity. *Journal of Managerial Psychology*, Vol. 30 No, 645–658.

Momeni, M., Ebrahimpour, H., & Ajirloo, M. B. (2014). The Effect of Employees' Self-Efficacy on Innovative Work Behavior At Social Security Organization Employees in Ardabil Province. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(8), 29–32.

Moree, B. (2010). The relationship among self-efficacy, negative, self-statements, and social anxiety in children. Unpublished Master Thesis, Louisiana State University, Louisiana, US.

Neck, C.P. & Manz, C.C. (2010). *Mastering self-leadership: Empowering yourself for personal excellence* (5th Edition). New Jersey: Prentice Hall.

Neck, C.P. & Manz, C.C. (2013). *Mastering self-leadership: Empowering yourself for personal excellence* (6th Edition). New Jersey: Prentice Hall.

Neck, C. P., Houghton, J. D. (2006). Two Decades of Self-Leadership Theory and Research: Past Developments, Present Trends, and Future Possibilities. *Journal of Managerial Psychology*, Volume 21, Issue 4, pp. 270–295. 15.

Neck, C. P., Manz, C. C. (1992). Thought Self-Leadership: The Impact of Self-Talk and Mental Imagery on Performance. *Journal of Organizational Behaviour*, Volume 12, pp. 681-699.

Nonaka, Ikujiro & Takeuchi, Hirotaka (1995): *The knowledge creating company. How Japanese companies create the dynamics of innovation*, New York: Oxford University Press.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14-37.

Ologbo, A.C., MdNor, K. & Okyere-Kwakye, E. (2015). The influence of knowledge sharing on employee innovation capabilities. *International Journal of Human Resource Studies*, 5(3), 102-110.

Omar, I., & Mahmud, N. (2014). Effect of Behavioral , Cognitive and Physiological Strategies of Self-Leadership on Innovative Work Behavior, 8(23), 95–100.

Park, G.R., Moon, G.W. & Hyun, S.E. (2014). An impact of self-leadership on innovative behaviour in sports educators and understanding of advanced research, *IFBM*, 2(3), 117-122.

Pan, W., Sun, L., & Chow, I. H. (2011). The impact of supervisory mentoring on personal learning and career outcomes: The dual moderating effect of self-efficacy. *Journal of Vocational Behavior*, 78, 264-273

Pratoom, K., & Savatsomboon, G. (2012). Explaining factors affecting individual innovation: The case of producer group members in Thailand. *Asia Pacific Journal of Management*, 29(4), 1063–1087. <https://doi.org/10.1007/s10490-010-9246-0>

Prussia, G.E., Anderson, J.S. & Manz, C.C. (1998). Self-leadership and performance outcomes: The mediating influence of self-efficacy. *Journal of Organizational Behaviour*, 19, 523-538.

Pulakos, E.D., Dorsey, D.W. & Borman, W.C. (2003). Hiring for knowledge-based competition. In S.E. Jackson, A. Denisi, & M.A. Hitt (eds). *Managing knowledge for sustained competitive advantage* (pp. 155-177). San Francisco, CA: Jossey Bass.

Phung, V. D., Hawryszkiewicz, I., & Chandran, D. (2017). Knowledge Sharing and Innovative Work Behaviour : A Case Study from Vietnam, 1–11.

Quintane, E., Casselman, R.M., Reiche, B.R. and Nylund, P.A. (2011) Innovation as a Knowledge- Based Outcome. *Journal of Knowledge Management*, 15, 928–47.

Quinteiro, P. M., Passos, A., & Curral, L. (2016). Thought self-leadership and effectiveness in self-management teams. *Leadership*, 12(1), 110–126

Radaelli, G., Lettieri, E., Mura, M. & Spiller, N. (2014). Knowledge sharing and innovative work behaviour in healthcare: A micro-level investigation of direct and indirect effects. *Creativity and Innovation Management*, 23(4), 400-414.

Rumsey, M.G. (ed.). 2013. *The Oxford handbook of leadership*. Oxford: Oxford University Press

Sarmawa, I. W. G., Ayu, I. G., & Dewi, M. (2017). the Roles of Knowledge Sharing in Mediating the Effect of Self-Efficacy and Self-Leadership Toward Innovative. *Jurnal Manajemen Dan Kewirausahaan*, 19(2), 112–117

Sari, T. (2016). The mediating and moderating roles of self-efficacy in the relationship between hope and peace attitudes. *International Online Journal of Educational Studies*, 8(2), 36-48.

Shin, S. J., & Zhou, J. (2007). When is educational specialization heterogeneity related to creativity in research and development teams? Transformational leadership as a moderator. *Journal of Applied Psychology*, 92, 1709–1721

Stajkovic, A.D. and Luthans, F. (1998): Self-Efficacy and Work-Related Performance: A Meta-Analysis., *Psychological Bulletin*, 124 (2), 240-26

Smith, G.P. (2002), *The new leader: bringing creativity and innovation to the workplace*, Conyers: Chart Your Course.

Suk Bong Choi , Kiwhan Kim S. M. Ebrahim Ullah Seung-Wan Kang , (2016),"How transformational leadership facilitates innovative behavior of Korean workers: examining mediating and moderating processes", *Personnel Review*, Vol. 45 Iss 3 pp. Permanent link to this document: <http://dx.doi.org/10.1108/PR-03-2014-0058>

Tang, J., Pee, L. G., & Iijima, J. (2013). Investigating the effects of business process orientation on organizational innovation performance. *Information & Management*, 50(8), 650-660.

Tenaw, Y.A. (2013). Relationship between self-efficacy, academic achievement and gender in analytical chemistry at Debre Markos College of Teacher Education. *African Journal of Chemical Education*, 3(1), 3-28.

Tierney, P. & Farmer, S.M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology*, 96(2), 277-293.

Unsworth, K. L., & Parker, S. (2003). Proactivity and Innovation: Promoting a New Workforce for the New Workplace. In D. Holman, T. D. Wall, C. W. Clegg, P. Sparrow, & A. Howard (Eds.), *The New Workplace: A Guide to the Human Impact of Modern Working Practices* (pp. 175-196). John Wiley & Sons

Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management science*, 32(5), 590-607.

Wang, Y., Yao, L., Liu, L., Yang, X., Wu, H., Wang, J. & Wang, L. (2014). The mediating role of self-efficacy in the relationship between big 5 personality and depressive symptoms among Chinese unemployed population. *BMC Psychiatry*, 14, 61.

West, M.A. & Farr, J.L. (1990). Innovation and creativity at work: Psychological and organizational strategies: In West, M.A. & Farr, J.L. (eds). *Innovation and Creativity at Work: Psychological and Organizational Studies*. Chichester: John Wiley.

Yeşil, S., & Hırlak, B. (2013). An Empirical Investigation into the Influence of Knowledge Sharing Barriers on Knowledge Sharing and Individual Innovation Behaviour. *International Journal of Knowledge Management*, 9(2), 38–61.

Yesil, S., Buyukbese, T. & Koska, A. (2013). Exploring the link between knowledge sharing enablers, innovation capability and innovation performance. *International Journal of Innovation Management*, 17(4), 121-141.

Yi, J. (2009). A measure of knowledge sharing behaviour: Scale development and validation. *Knowledge Management Research & Practice*, 7(1), 65-81.

Yu, C., Yu, T. & Yu, C. (2013). Knowledge sharing, organizational climate and innovative behaviour: A cross-level analysis of effects. *Social Behavior and Personality: An International Journal*, 41, 143-156.

Yuan, F. & Woodman, R.W. (2010). Innovative behaviour in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal*, 53(2), 323-342.

Yun, S., Cox, J., & Sims, H.P. (2006). The forgotten follower: A contingency model of leadership and follower self-leadership. *Journal of Managerial Psychology*, 21(4), 374- 388.