

4th Asia Pacific Conference on Contemporary Research (APCCR- 2018), Bali, Indonesia

ISBN :978-0-6481172-9-2 Asia Pacific Institute of Advanced Research (APIAR)

www.apiar.org.au

INNOVATIVE BEHAVIOR, LEARNING ORGANIZATION, AND THE MEDIATING ROLE OF WORK ENGAGEMENT IN IT SECTOR

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Abstract

This research's purpose is to determine the influence of Learning Organization and Work Engagement to Innovative Behavior. Besides, Work Engagement was also observed as a mediating variable in the relationship between Learning Organization and Innovative Behavior. Innovative Behavior was measured using Innovative Work Behavior (IWB) items, consisting of Idea Generation, Idea Promotion, and Idea Realization. Learning Organization was measured using Dimension of Learning Organization Questionnaire (DLOQ), consisting of Continuous Learning, Dialogue & Inquiry, Team Learning, Embedded System, Empowerment, System Connection, and Provide Leadership. Work Engagement was measured using Utrecht Work Engagement Scale (UWES), consisting Vigor, Dedication, and Absorption. Data was collected through self-reported questionnaire from 97 employees of Company X, one of Indonesian IT company. The hypotheses were tested with SPSS 23 using simple and multiple linear regression. To obtain more comprehensive analysis, individual in-depth interviews were conducted with Company X's leaders as informants. The research result indicated the positive influence of Learning Organization and Work Engagement to Innovative Behavior. Furthermore, the research also found that Work Engagement mediates the relationship between Learning Organization and Innovative Behavior. The finding implies that organization and human resource practitioners need to pay more attention to engagement and consider the role of team and communities in learning system to foster innovative behavior among employees.

Keywords:Information Technology Industry Innovative Behavior, Learning Organization, Work Engagement.

1. Introduction

In the era of VUCA (volatility, uncertainty, complexity, ambiguity), information technology (IT) held an important role to help the organization achieve its agility (Saini & Khurana, 2015; Ravichandran, 2017). Besides, the IT industry itself is also exposed to a highly dynamic environment that needs the readiness of the organization to seize the challenge. Studies show that innovation is pivotal in such conditions, to improve organization's competitiveness and overall performance (Luftman & Kempaiah, 2007; Ravichandran, 2017). According to Shanker, Bhanugopan, Heijden, and Farrell (2017), organizational performance is influenced by the organization's climate of innovation and innovative behavior of its employees. However, the research on determinants that stimulate employee's innovative behavior, especially in IT sector is still incomplete.

There are several things that are considered to contribute positively to innovation and innovative behavior. Cohen and Levinthal (2000) mentioned that the accumulated learning outcomes previously managed within the organization play an important role in the innovations,

including those which are initiated by employees. In addition, Salanova and Schaufeli (2008) found that work engagement includes elements of intrinsic motivation and acts as a mediator in achieving employee's proactive behavior and initiatives in the workplace. Hakanen, Perhoniemi & Toppinen-Tanner (2008) also found that work engagement positively affects individual initiatives, and ultimately supports innovative behavior. Finally, it is also found that work engagement fully mediates the relationship between learning organization and innovative behavior (Park et al, 2014).

Based on of those previous studies, this research examined the influence of learning organization on innovative behavior and the role of work engagement as a mediator, especially in one of Indonesian IT company, namely Company X. The research was conducted through mixed-method analysis, especially a sequential explanatory one, which is started with the quantitative method and followed with the qualitative method to gain deeper explanation from the quantitative results (Creswell, 2014). Primary quantitative data were taken through questionnaire instrument for each variable, which was innovative behavior, learning organization, and work engagement. A series of statistical procedures such as the validity and reliability test, descriptive statistics, and regression are done to determine the contribution of independent variables to the dependent variable, as well as the role of the mediator variable. Meanwhile, the qualitative analysis was done through in-depth interviews with some leaders in Company X which was expected to provide a better understanding of the observed phenomenon and gain more practical implications.

2. Research Problem

Despite the result of several studies on innovative behavior, learning organization, and work engagement, only a few studies have examined the connections among these variables. Moreover, there are insufficient number of studies that observe the relationship of the variables in the specialized context of IT sector. Given the conditions, this research is conducted to answer some problems as follows: what is the positive effect of learning organization to innovative behavior, what is the positive effect of learning organization to work engagement, what is the positive effect of work engagement to innovative behavior, and last, how does work engagement mediate the relationship between learning organization and innovative behavior. This research took place in Company X, one of Indonesia's well-established IT companies which has undergone some transformations in its business to cope with the ever-changing environment. The company has concern for employee's innovation and has run learning and engagement programs, thus it was viewed as suitable case for the study.

3. Review of the Relevant Literature

3. 1 Innovative Behavior

Innovative behavior is a complex behavior consisting of activities that include exploration or introduction of new ideas, as well as their realizations. The new ideas do not have to come solely from the individual, but can be adopted or developed from the ideas of others (Yuan & Woodman, 2010). The difference between innovative behavior and creativity is that innovative behavior involves an element of idea implementation while creativity focuses on the ideaseeking process. Therefore, a successful innovation is not solely generated by creativity, but creativity is an important part of innovative behavior (Pieterse et al., 2010). As for an idea or new application is said to be innovative when it has practical benefits in the field. Janssen (2000) provides an understanding of innovative behavior as "...intentional creation, introduction, and application of new ideas within work roles, groups, or organizations, in order to benefit role performance, the group, or the organization".

Scott and Bruce (1994) identified several stages in innovative behavior, consisting the stages of introducing new or adaptation problems or solutions, seeking support for ideas and building coalitions to execute the idea, and the realization of innovative ideas and evaluation of its benefits. Based on the study, Janssen (2000) then builds the concept of innovative behavior dimensions consisting of three stages:

- Idea generation: is the activity of producing new ideas or modification of previous ideas that are useful in various fields. Problems that occur in the work, the incompatibility between expectations and reality, inconsistencies, and developing trends are some things that can encourage the creation of innovative ideas.
- Idea promotion: when a person has discovered an innovative idea, then he/she should promote and get support from colleagues and the environment that can provide the necessary resources and authority.
- Idea realization: the last stage is to create a prototype or model of innovation that can be used and perceived benefits for individuals, groups, and organizations.

Previous studies mention several factors that can strengthen the emergence of innovative behavior in the organization. For example, leadership factors and organizational climate (Scott & Bruce, 1994). Meanwhile, Agarwal et al, (2012) found a contributing leader-member exchange (LMX) and work engagement to the emergence of innovative behavior in the organization. Pieterse et al. (2010) mention that transformational leadership will provide a psychological boost to employees that spur them to take initiative and demonstrate the innovative behavior.

3. 2 Learning Organization

Senge (1990) was the first to define learning organizations as organizations that proactively create, gain, and share knowledge throughout the organization, and that changes organizational behavior through new knowledge and insights. In line with that, Slater and Narver (1995) define learning organizations as organizations that continually seek to acquire, process, and disseminate value-added knowledge for businesses.

Marsick and Watkins (2003) studied the dimensions of the learning organization and formulates the organizational concept of learning which consists of two dimensions, namely people and structures. Furthermore, they define the seven characteristics of learning organizations as follows:

- Creating opportunities for continuous learning,
- Encourage dialogue and inquiry,
- Encourage group collaboration and learning,
- Build systems for acquiring and sharing knowledge (embedded systems),
- Empowering members of the organization to a shared vision (empowerment),
- Organizational relationship with community and environment (system connection), and
- Strategic leadership for learning (provide leadership).

Park, Song, Yoon & Kim, (2014) also quoted a survey from the American Society for Training and Development (ASTD) found that learning organizations play an important role in improving employee work engagement. Hirst, Van Knippenberg & Zhou (2009) mentions a positive relationship between learning and employee creativity. Based on these results, the following hypotheses can be drawn:

- **H1.** Learning organization positively influences innovative behavior.
- **H2.** Learning organization positively influences work engagement.

3. 3 Work Engagement

According to Kahn (1990), engagement is a condition when each member of the organization performs its role by fully engaging and expressing itself physically, cognitively, and emotionally. Meanwhile, a disengagement or condition in which an employee is not engaged with the company or his work is demonstrated through withdrawal and defensive attitudes that lead to passive behavior, physical, cognitive, and emotional unreliability, and incomplete work. Schaufeli et al, (2002) defined engagement as positive and fulfilling feelings and views related to work, and possess vigor, dedication, and absorption characteristics. Employees who are engaged generally provide more business ventures in their work, have a commitment and loyalty to the organization (Sorenson, 2013). Hewitt (2012) mentioned, the behaviors shown by engaged employees are "Say, Stay, Strive": say is how employees say positive things about the company and recommend the company to its peers, stay is how the employee stays in the company, while strive is how employees play an active role in the company's success by doing far more than what its formal responsibilities.

Work engagement is important because it is a driver of performance and productivity. Employees who are engaged have the possibility of almost twice the performance better than employees who are not engaged. This then affects the company's performance, both in terms of quality and financial (Sorenson, 2013). Kompaso and Sridevi (2010) also found that work engagement is a strong predictor of positive organizational performance and a two-way relationship between employees and organizations. Hakanen, Perhoniemi & Toppinen-Tanner, (2008) found that work engagement had a positive effect on employee initiatives, which ultimately improved innovative behavior in the work unit. Park et al, (2014) mentioned in their study that learning organizations are related to innovation processes and these relationships can be reinforced by high levels of work engagement. It also found that work engagement fully mediates the relationship between learning organization and innovative behavior. Based on these results, the following hypotheses can be drawn:

- **H3.** Work engagement positively influences innovative behavior.
- **H4.** Work engagement mediates the relationship between learning organization and innovative behavior.

4. Methods

Based on the hypotheses, the research model is drawn as seen below:

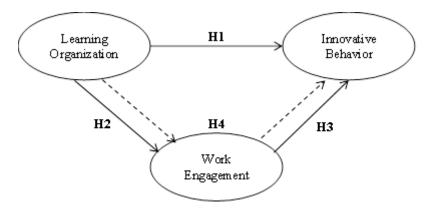


Figure 1: Reserach model

This study used mixed-method research design, particularly the sequential explanatory method which is started with quantitative research, then followed by qualitative research (Creswell, 2014). The quantitative research used the survey as a tool for data gathering and SPSS 23 for data analysis. Qualitative research used in-depth interviews to gather data and the analysis was done using three steps of ground theory coding by Corbin & Strauss (1990).

4.1 Sampling and Data Collection

A total of 97 responses were collected from Company X as the sample for quantitative data. The sample varies in demographic profile and focuses on core IT functions of Company X, which are Business Consultant, Business Development, Marketing, Technical IT, and New Products. Data were collected by self-reported online questionnaire for more authentic responses (Janssen, 2000). Those responses resulted from approximately 250 questionnaires that had been distributed. From the 97 responses that were collected, all of them were complete for further analysis. Demographically, around 73 percent of the respondents were male, while the rest are female. More than half of total respondents are millennials and have 1-5 years of service in Company X. More than 81 percent of total respondents' highest education was bachelor degree, which means they are fairly educated. Approximately 83 percent of the respondents are on the staff level which came from various functions in Company X, mainly from technical IT (around 57 percent).

Qualitative data are drawn by in-depth interviews with 3 leaders of various functions and levels in Company X. This step is conducted to get more comprehensive and complete understanding about the context of research and to get deeper explanation and analysis of the quantitative data that has been obtained before. The interviewees' title varies from operational & product manager, department head, and division head. The ages range from 28 years to 50 years, while the years of service range from 5 to 27 years.

4.2 Instruments

In accordance with research objectives, innovative behavior was observed as the dependent variable, learning organization as the independent variable, and work engagement as mediating variable. All the instruments were translated into Indonesian and passed the proof-reading test for a better face validity. The questionnaire was measured by 6-points frequency-based Likert style scale, ranging from 1 (never) to 6 (always). The even options were given to avoid central tendency.

Innovative behavior was measured using 9 items of Innovative Work Behavior (IWB) questionnaire by Janssen (2000), consisting of Idea Generation, Idea Promotion, and Idea Realization. This instrument was chosen as it has the highest validity of other innovative behavior measurement tools (De Jong & Den Hartog, 2010). In addition, this tool has also been used in several studies in the service sector, for example in Agarwal, Datta, Blake-Beard & Bhargava (2012).

The short version Dimension of Learning Organization Questionnaire (DLOQ) by Marsick and Watkins (2003) were used to measure learning organization. This version consists of 21 items that cover Continuous Learning, Dialogue & Inquiry, Team Learning, Embedded System, Empowerment, System Connection, and Provide Leadership. Yang, Watkins, and Marsick (2004) reported that this shortened version has better construct reliability and validity than older versions.

Lastly, work engagement was measured using 9 items of Utrecht Work Engagement Scale (UWES) by Schaufeli, Bakker & Salanova (2006), consisting Vigor, Dedication, and Absorption. This was the short version of the previous UWES that was reported has sufficient validity. For in-depth interviews, the questions were constructed focusing to explore

interviewees' opinions about innovative behavior, learning organizations, and work engagement at Company X, and how were the interactions between those variables.

5. Data Analysis

Quantitative data analysis was done using SPSS 23. First, we conduct descriptive statistics to determine each variable's profile. The relationship between variables observed using linear regression to test hypotheses 1-3. The value of adjusted R square and significance (.sig) are analyzed with confidence interval 10%. The value of significance (.sig) <10% indicated a significant influence of the dimension. Finally, the mediating role of work engagement was observed using 4 steps of regression by Baron and Kenny (1984). According to Corbin and Strauss (1990), the analysis of qualitative data from in-depth interviews is done by documenting interview transcripts and give specific codes or labels (open coding), followed by grouping the same keywords or topics with the help of color code (axial coding), and last, further grouping the topics and keywords that are belong to the same themes (selective coding).

5.1 Validity and Reliability Test Result

Prior to hypotheses test, we conducted pre-test to test the validity and reliability of the instruments. The pre-test sample was initially taken from all functions in Company X with the number of 30 respondents. The result of validity and reliability test is shown in the table below:

Table 1: Validity	and Reliability	Test Result

Variable	Dimensions	Mean	KMO	Cronbach's alpha
Innovative behavior	Idea Generation	4.089	0.637	0.725
	Idea Promotion	4.095	0.565	0.742
	Idea Realization	4.024	0.696	0.854
Learning	Continuous Learning	4.323	0.573	0.679
organization	Dialogue and Inquiry	4.270	0.498	0.746
	Team Learning	4.062	0.671	0.802
	EmbeddedSystem	3.591	0.738	0.884
	Empowerment	4.076	0.705	0.888
	System Connection	4.151	0.724	0.843
	Provide Leadership	4.292	0.727	0.903
Work Engagement	Vigor	4.234	0.668	0.804
	Dedication	4.392	0.723	0.889
	Absorption	4.316	0.649	0.838

Source: statistics analysis result

Hair et al. (2010) mentioned that the validity test can be done with the sampling adequacy test through Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO-MSA) greater than 0.5, while reliability is seen from the value of Cronbach's alpha, where the value of α > 0.6 is considered as an adequate limit for an item said to be reliable. The test result indicated that the questionnaire of innovative behavior, learning organizations, and work engagement are reliable, having the Cronbach's alpha score over 0.6 for all dimensions. Meanwhile, there was one dimension of learning organization (Dialogue & Inquiry) that has KMO score below 0.5 and was considered not valid. However, through a simulation of validity test on core functions (Business Consultant, Business Development, Marketing, Technical IT, and New Products), the KMOscore increased to 0.506. By this considerations and reference to some previous studies, we decided to keep using the Dialogue and Inquiry dimension during post-test with respondents from core process (minus supporting function). In addition, the procedure of addition of negation items is also done for dimensions with KMO score below 0.6, namely Idea Promotion and Continuous Learning and Dialogue and Inquiry.

5.2 Regression Test Result

A series of linear regression tests were held to test the hypotheses 1-3, which were to assess the relationship between variables (Hair et al., 2010). The result is shown in the tables below:

Table 2: The influence of learning organization to innovative behavior

Model	Coefficient B	Sig.	t	Adjusted R ²	F
(Constant)	2.584	0.000	6.939	-5%	Ÿ
Learning Organization	0.361	0.000	4.043	0.138	16.345

Note: the dependent variable is innovative behavior

Source: statistics analysis result

Table 3: The influence of learning organization to work engagement

Model	Coefficient B	Sig.	t	Adjusted R ²	F	
(Constant)	1.844	0.000	3.790	204		
Learning Organization	0.601	0.000	5.144	0.210	26.456	

Note: the dependent variable is work engagement

Source: statistics analysis result

Table 4: The influence of work engagement to innovative behavior

Model	Coefficient B	Sig.	t	Adjusted R ²	F	
(Constant)	2.144	0.000	8.173			
Work Engagement	0.446	0.000	7.484	0.364	56.008	

Note: the dependent variable is innovative behavior

Source: statistics analysis result

Tables 2, 3, and 4 showed all the relationships that are observed are proven to be positive and significant. The coefficient B values were all positive, indicated the positive relationships and the Sig. were below 0.10, indicated the significant relationship between the variables observed. However, the strength of relationships model varies among the regressions. Table 2 shows the weakest model with adjusted R-squared value = 0.138, which meantthe independent variable (learning organization) was only able to explain 13.8% of the dependent variable (innovative behavior). The coefficient B of the equation is also the smallest, indicated a flatter slope in regression curve. On the other hand, table 4 showed the highest adjusted R-squared = 0.364, which meant the independent variable (work engagement) was able to explain 36.4% of the dependent variable (innovative behavior). Overall, with the results from table 2-4, we proceed to next analysis, which was multiple regression to test the mediation effect of work engagement.

Table 5: The mediating effect of work engagement

Model	Coefficient B	Sig.	t	Adjusted R ²	F	VIF
(Constant)	1.841	0.000	5.391	0.370	29.225	
Learning Organization	0.119	0.171	1.381			1.278
Work Engagement	0.403	0.000	6.006			1.278

Note: the dependent variable is innovative behavior

Source: statistics analysis result

Table 5 shows the multiple regression with learning organization and work engagement as independent variables, and innovative behavior as the dependent variable. The result showed the significance for learning organization that was<0.10 (0.000) has now become 0.171 or not significant. This is an early indication that other variables added in the model have a mediating effect. In addition, it is known that the adjusted R-squared value of the overall model is 0.370 or 37% which rises from the adjusted R-squared value when the learning organization becomes the only predictor (described in table 2). This result showed that the significant increase in adjusted

R-squared ($\Delta R^2 = 0.232$) is due to the addition of other variables that have a mediation effect. Furthermore, the value of the coefficient B for the learning organization also decreased ($\Delta \beta = 0.242$) which showed the slope of regression curve increasingly sloping and the influence of the learning organization is mediated by other variables.

In the next row, work engagement variable, which was suspected to act as a mediator, has proved to have a significance of <0.10 (0,000) and a larger B coefficient of 0.403. This shows that work engagement is a determinant of model significance, and if this variable is controlled then the model becomes no longer significant. The multicollinearity test shows the value of Variance Inflation Factors (VIF) of 1.278 which means the two predictor variables (learning organization and work engagement) are related to each other but still at the threshold where they do not explain the same construct.

This test result is also the last step of a four-step procedure by Baron and Kenny (1986). From the above explanation, it was concluded that work engagement mediates the relationship between innovative learning and behavioral organizations. Together, all regression results supported the hypotheses 1-4.

5.3 Qualitative Data Analysis Result

We also gathered the qualitative data via in-depth interview to obtain more comprehensive and contextual information. According to the interviewees, innovative behavior in Company X is still being pursued to become a culture. The company has facilitated it by providing a competition event to collect innovative ideas of employees and reward the best results of implementation. However, it still encounters some challenges such as the daily busyness that is so time-consuming and the lack of encouragement from superiors and the environment to spur employees to innovate.

Similarly, with the learning organization, Company X has sought to build a learning organization through formal learning whose development is appreciated by resource persons, especially in terms of quality of materials and teachers. However, in order to build learning organizations, the interviewees assessed that access to learning materials, especially for employees on site needs to be improved. In addition, improvement is also required in the case of group or group involvement in learning, because during this learning in Company X still using the format of the individual or classroom. Finally, the interviewees gavean opinion that feedback and evaluation on learning should also be increased to know the extent of outcomes resulting from learning activities.

For work engagement, the role of leaders was again mentioned as one of the factors driving work engagement among employees. Characteristics of the leaders who want to communicate and open-minded to his teamwere said to have positive impacts on engagement. Furthermore, the speakers said that engaged employees will tend to stay in Company X, or in other words, work engagement will support employee retention in Company X. This finding was interesting because Company X as part of the IT industry often faces high employee turnover problem. On the other hand, as a service company, Company X is highly dependent on its human resources.

In relationships between variables, learning organization especially in the terms of community and internal sharing within a department or division is considered to be an incubator for employee innovative ideas, before the ideas go into the implementation phase. The existence of learning mechanisms and people development in Company X is then mentioned as one of the factors of engagement that make employees have a positive attitude towards the organization. Engaged employees demonstrated the willingness to do more and contribute, including through innovative behavior. Interview results also said that without engagement, although employees have been developed and facilitated by the learning organization, they will not be motivated to express their innovative ideas and make it happen.

5.4 Discussion

Innovative behavior is important in the enterprise, especially in the dynamic service sector such as IT sector that has a great need for continuous improvement. Learning organization were proven to have a positive impact on innovative behavior. However, it did not affect innovative behavior directly, but rather indirectly through the mediation of work engagement. This result supported the previous study by Park et al, (2014) which suggested the same mediated model. Through series of analysis, it was also found that several dimensions of learning organization were considered to have significant impacts, such as team learning and system connection. The findings were consistent to some previous studies that reported team dynamics and community of practice can promote work engagement and innovative behavior (Martins & Terblanche, 2003; Brown & Duguid, 2000).

One of the unique contributions of this research is providing a specific context on IT industry from the qualitative phase. Many IT companies like Company X employed generation Y and millennials and it affects their way of managing people tremendously. Most of Company X's employees were educated generation Y and millennials who only have 1-5 years of service due to the high natural turnover ratio of IT sector. In this condition, work engagement plays an important role to retain these young generations and motivate them to express their knowledge and learning result in real a act such as innovative behavior. Transformative leadership where the leaders actively give feedbacks and positive reinforcements was said as one of engagement factor in Company X, as it was confirming the study by Pieterse et al. (2010). The learning organization also has the dimension called empowerment which was described as how the employees feel liberated to take the calculated risk and manage their resources. For employees of Company X, empowerment was shown in how company trusts them to be responsible for something valuable and appreciate their contributions. Kahn (1990) in his qualitative research previously showed that work engagement was promoted in an organization that gives opportunity and support for its employees to take risks.

6. Conclusion

Current business environment demands new and customized way of doing business, which can be translated into a product, process, or other customer offerings. Thus, the innovative behavior of employees is a vital ingredient of organization competitiveness, especially in IT industry that is heavily affected by the rapid technology development. Theories and past studies indicated that learning organization and work engagement were among the determinants of innovative behavior. Drawing on the literature review, this study aimed to examine further the relationship between variables and investigate if work engagement mediates the relationship between learning organization and work engagement. The result indicated that innovative behavior is positively influenced by learning organization through work engagement. That being said, having a learning organization alone does not guarantee employee's innovative behavior, unless it is also accompanied by the energetic and positive feeling about the organization. This finding suggested organization, especially in IT industry to look beyond the technical and formal learning, and start paying more attention to the psychological state of employees. This research also specifically emphasized in some dimensions of learning organization that have significant impacts on engagement and innovative behavior, which were team learning and system connection.

6.1 Limitations

Some limitations of the study were acknowledged. First, this study focuses on individual units and has not studied innovative behavior at a more macro level, such as work-unit level (Hakanen et al, 2008) and organizations. Second, due to time constraints, interviewees in indepth interviews have not represented all the functions that exist within the organization. Last,

the study is conducted in the context of Company X in particular, and the IT industry in general, so that it can only be generalized in a limited way.

6.2 Research Implications

Although it has contributed to literature of innovation, this study only measures two predicted variables affecting innovative behavior, ie learning organization and work engagement. Other independent variables were implied from the qualitative analysis result, such as transformational leadership (Pieterse et al., 2010) and organizational culture (Martins & Terblanche, 2003) could be explored in next researches. For human resources practitioners, this study provides evidenceof the importance of work engagement in enhancing the learning organization impact to employee's innovative behavior. The findings can help the practitioners to build a relevant framework of interventions that can effectively improve innovative behavior. Besides, the findings provide insights for the organization to engage team and communities in the learning system, so that the employees feel more connected and motivated to contribute to innovation.



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References

- i. Agarwal, U.A., Datta, S., Blake-Beard, S. and Bhargava, S., 2012. Linking LMX, innovative work behaviour and turnover intentions: The mediating role of work engagement. *Career development international*, vol. 17, no. 3, pp.208-230.
- ii. Baron, R.M. and Kenny, D.A., 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, vol. 51, no. 6, p.1173.
- iii. Brown, J. and Duguid, P., 2000. Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. In *Knowledge and communities*, pp. 99-121.
- iv. Cohen, W.M. and Levinthal, D.A., 2000. Absorptive capacity: A new perspective on learning and innovation. In *Strategic Learning in a Knowledge economy*, pp. 39-67.
- v. Corbin, J.M. and Strauss, A., 1990. Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative sociology*, vol. 13, no. 1, pp.3-21.
- vi. Creswell, J.W., 2014. Research design: Qualitative, quantitative, and mixed methods approaches.S.l.: Sage publications.
- vii. De Jong, J. and Den Hartog, D., 2010. Measuring innovative work behaviour. *Creativity and Innovation Management*, vol. 19, no. 1, pp.23-36.
- viii. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R., L. 2010. *Multivariate data analysis*. *S.l.*: Pearson.
- ix. Hakanen, J.J., Perhoniemi, R. and Toppinen-Tanner, S., 2008. Positive gain spirals at work: From job resources to work engagement, personal initiative and work-unit innovativeness. *Journal of vocational behavior*, vol. 73, no. 1, pp.78-91.
- x. Hirst, G., Van Knippenberg, D. and Zhou, J., 2009. A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of management journal*, vol. 52, no. 2, pp.280-293.
- xi. Janssen, O., 2000. Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology*, vol. 73, no. 3, pp.287-302.
- xii. Kahn, W.A., 1990. Psychological conditions of personal engagement and disengagement at work. *Academy of managementjournal*, vol. 33, no. 4, pp.692-724.
- xiii. Kompaso, S.M. and Sridevi, M.S., 2010. Employee engagement: The key to improving performance. *International journal of business and management*, vol. 5, no. 12, p.89.
- xiv. Luftman, J. and Kempaiah, R.M., 2007. The IS organization of the future: The IT talent challenge. *Information Systems Management*, vol. 24, no. 2, pp.129-138.
- xv. Marsick, V.J. and Watkins, K.E., 2003. Demonstrating the value of an organization's learning culture: the dimensions of the learning organization questionnaire. *Advances in developing human resources*, vol. 5, no. 2, pp.132-151.
- xvi. Martins, E.C. and Terblanche, F., 2003. Building organisational culture that stimulates creativity and innovation. *European journal of innovation management*, vol. 6, no. 1, pp.64-74.
- xvii. Park, Y.K., Song, J.H., Yoon, S.W. and Kim, J., 2014. Learning organization and innovative behavior: The mediating effect of work engagement. *European Journal of Training and Development*, vol. 38, no. 1/2, pp.75-94.
- xviii. Pieterse, A.N., Van Knippenberg, D., Schippers, M. and Stam, D., 2010. Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of organizational behavior*, vol. 31, no. 4, pp.609-623.
- xix. Ravichandran, T., 2017. Exploring the relationships between IT competence, innovation capacity and organizational agility. *The Journal of Strategic Information Systems*.

- xx. Saini, A.K. and Khurana, V.K., 2015. Managing Organizational Transformation in the Era of VUCA. *SANJAY DIXIT*, p.69.
- xxi. Salanova, M. and Schaufeli, W.B., 2008. A cross-national study of work engagement as a mediator between job resources and proactive behaviour. *The International Journal of Human Resource Management*, vol. 19, no. 1, pp.116-131.
- xxii. Schaufeli, W.B., Bakker, A.B. and Salanova, M., 2006. The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and psychological measurement*, vol. 66, no. 4, pp.701-716.
- xxiii. Schaufeli, W.B., Salanova, M., González-Romá, V. and Bakker, A.B., 2002. The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness studies*, vol. 3, no. 1, pp.71-92.
- xxiv. Scott, S.G. and Bruce, R.A., 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of management journal*, vol 37, no. 3, pp.580-607.
- xxv. Senge, P., 1990. *The fifth discipline: The art and science of the learning organization*. New York: Currency Doubleday.
- xxvi. Shanker, R., Bhanugopan, R., Van der Heijden, B.I. and Farrell, M., 2017. Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior*, vol. 100, pp.67-77.
- xxvii. Slater, S.F. and Narver, J.C., 1995. Market Orientation and the Learning Organization (vol 59, pg 63, 1995). *Journal of Marketing*, vol. 73, no. 4, pp.141-141.
- xxviii. Sorenson, S., 2013. How employee engagement drives growth. Gallup business journal, Vol.1, pp.1-4.
- xxix. Yang, B., Watkins, K.E. and Marsick, V.J., 2004. The construct of the learning organization: Dimensions, measurement, and validation. *Human resource development quarterly*, vol. 15, no. 1, pp.31-55.
- xxx. Yuan, F. and Woodman, R.W., 2010. Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal*, vol. 53, no. 2, pp.323-342.