

Perception on Training and Employee Innovativeness: An Evidence from Small Firms

Nor Hazana Abdullah, Lee Lee Ping, Eta Wahab, and Alina Shamsuddin
Faculty of Technology Management and Business, UTHM, Batu Pahat, Johor, Malaysia
(hazana@uthm.edu.my)

Abstract – Small firms have been recognized as the pillar of industrial development in Malaysia. However, recent report indicates that majority of small companies are non-innovating companies. One of causes cited is the lack of well-trained workers. Furthermore, there are limited studies that focus on the role of training on employee innovativeness especially among small firms. Therefore, this study aims to examine the relationship between perception on training and employee innovativeness among employees of small firms. A total of 182 employees from 36 small firms participated in this survey. Descriptive analysis and regression analysis were used to describe constructs' central tendency and variability and test the hypotheses respectively. It is found that training explained 28.8% of variance in employee innovativeness. Training is proved to be one of the significant predictors of employee innovativeness and all its dimensions (opportunity exploration, idea generation, idea promotion and idea implementation). This finding accentuates the importance of training among small firms, which should go beyond on-job training. In the face of business challenges, small firms need to promote employee innovativeness through training.

Keywords – training, employees' innovativeness, small firms

I. INTRODUCTION

The development of small and medium enterprises (SMEs) forms an integral part of Malaysian initiatives to achieve sustainable economic growth and to realize developed country status by year 2020 (Ministry of International Trade and Industry [1]). To augment these initiatives, technology and innovation are recognized as drivers for growth and competitiveness (IMP3, 2006). As SMEs are important suppliers and service providers to leading industries, they require skilled and innovative workers to realize their goals especially when they are major employers in the labour market. According to SME Census (2011), SMEs employed over 3 million workers which accounted for 65.1% of the total employment. SMEs, in essence, create more job opportunities than large businesses and are inherently labour intensive.

Despite their significant roles, majority of small and medium enterprises are reported to have low innovation. National Survey of Innovation reported that 64.25% of small companies are non-innovating (MASTIC [2]). According to Ministry of International Trade and Industry [1], shortage of innovative and resilient SMEs is due to lack of well-trained workers. Training had been somewhat

lacking among the Malaysian SMEs, with 43% of SMEs not providing training to their employees. Of those that provided training, their training programmes generally involved technical training consisting of basic and on-the-job skills only (Bank Negara Malaysia [3]). Although knowledge and skills obtained from training are shown to improve one's creativity and thus innovative behavior, such emphasis has been somehow lacking.

Moreover, there are limited empirical evidences that explain the relationship between training and employee innovativeness of SMEs in Malaysia. Therefore, this study is aimed to fill in this empirical gap.

II. LITERATURE REVIEW

A. Employee Innovativeness

Employee innovativeness or employee innovative work behaviors are defined as involvement in behaviors such as opportunity exploration, idea generation, championing and application to kick start the innovation process (J. De Jong & Hartog [4]). Employee innovativeness can effectively foster the innovation in the firm (Kesting & Ulhøi [5]) and eventually contribute to SMEs performance.

SMEs need to approach innovation in new ways, i.e by enhancing the employee innovativeness if they are to keep pace with rapidly changing market conditions. Without employees' efforts, focus and intention, SMEs would have difficulty achieving and initiating entrepreneurial and marketing activities (Huang & Wang [6]). SMEs with higher innovation activities reported to have higher job satisfaction and profits returned than SMEs with traditional innovation processes. Employee innovativeness has to be linked with more profitable, cost cutting, right sizing, stronger customer relationships and low turnover.

Figure 1 shows the Employee Innovativeness Framework advocated by De Jong and Hartog [4] which consists of two major stages namely initiation stage and implementation stage.

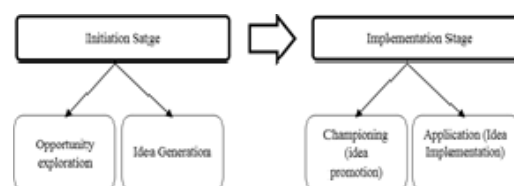


Fig. 1. Employee Innovativeness Framework

Initiation Stage – Opportunity Exploration

In this stage, the process of innovation occurs when employees get to find new opportunities (Krueger [7]). The birth of something new starts with a person identifying opportunities (Parnes et al [8]; Basadur [9]). In this study, opportunity exploration is defined as identifying new opportunities.

Initiation Stage – Idea Generation

Idea generation is all about conceptualizing improvement methods and solutions to identified problems (Zaltman et al. 1973; Van de Ven [10]; Amabile [11]). The concept of idea generation appears to start with the reorganization and combination of information and existing ideas of solving problems and/or improving performance (Rothenberg [12]).

Implementation Stage – Idea Promotion (Championing)

The implementation stage is defined as a convergent innovative work behaviour which comprises championing (idea promotion) and application (idea implementation) efforts (Mumford [13]).

Implementation Stage – Idea Implementation (Application)

Championing or idea promotion is defined as a social-political behavior that involves resource mobilization, persuasion, negotiation, and risk-taking situation which are part of the realization process of potential ideas, solutions and innovations (J. De Jong & Hartog [4]).

B. Training

It is important for SMEs in Malaysia to know the advantages of employee innovativeness in upholding their market positions. Training has certainly become one of the main contributors to cultivate employee innovativeness.

Training is one of the aspects of human resource development (HRD). It is defined as a learning and development process creating a permanent change in an individual that improves their innovative behavior, the ability to perform on the job and complete current tasks, technical knowledge and skills (Thassanabanjong et al., [14]).

The significance and value of training among SMEs has long been recognized especially in the current business climate and the exponential growth of innovation (Nzozzo [15]). According to Arthur et al. [16], the general benefits from the employee training are as follows:-

- Increased efficiencies in processes
- Increased capacity to adopt new technologies, skills, methods and processes
- Increased job satisfaction
- Improved employees behaviors

Most importantly, increased employee innovativeness which in return leads to higher profit returned and sustained economic position of SMEs in the market.

C. Training and Employee Innovativeness

The continuous employee training has a significant role in the development of firm performance. According to Amir Elnaga [17], employee training encourages creativity, employee innovativeness and shape the firm with sustainable knowledge that provides the firm with uniqueness and differentiates it from the competitors. Strategies for stimulating creativity and innovative behavior include training (Garavan & Deegan [18]).

Creativity is inseparable component of any successful enterprise (White [19]). The only way for SMEs to survive is the capacity of their employees to innovate. Since the level of employee innovativeness depends on the level of knowledge of employees, SMEs are encouraged to provide appropriate amount of training (Jelena Vemic [20]).

Furthermore, the key to SMEs success lies in developing intellectual capital with creative thinking (able to translate ideas into a novel result) through training (Roffe [21]). In designing training programs, the identification of training needs in creativity and employee innovativeness is crucial (Sarri, et al [22]). The logical sequence for the process will be training – knowledge adoption – innovation (employee innovativeness) – competitive advantage.

In fact, training promotes employee innovativeness, introduce employees to changes, encourage the development of their innovative behavior and involve them actively in the process of idea generation, idea commercialization and problem solving (J. De Jong & Hartog [4]). Summary of various studies (directly and indirectly related) are shown in Table 1:-

TABLE 1

Author	Title	Finding
Amir Elnaga, [17]	The Effect of Training on Employee Performance	The findings show the importance of training and its direct influence on employee performance (knowledge, skills, innovation)
Jelena Vemic, [20]	Employee Training and Development and the Learning Organization	The results show the organizations that utilize their resources for employee training and development usually undergo constant innovation .
Jong & Hartog, [4]	Measuring Innovative Work Behaviour	This paper highlights the importance of innovative work behavior to ensure

		organizational success.
Sarri, et al., [22]	Entrepreneur Training for Creativity and Innovation	The findings imply that entrepreneurs of SMEs in northern Greece are largely aware of the significance of training, creativity and innovation, as they believe that they are positively correlated.
Garavan & Deegan, [18]	Discontinuous Change in Organizations. Using Training and Development Interventions to Develop Creativity	The findings show creativity can be developed systematically within an organization by using the interventions of training and development.
Roffe, [21]	Innovation and Creativity in Organizations: A Review of the Implications for Training and Development	The authors concluded that training and development have their own implications in stimulating creativity and innovation.
White, [19]	Creativity and the Learning Culture	This article shows that people can learn and value the differences as to develop the creativity.

H₁: There is a significant relationship between training and employee innovativeness of small and medium enterprises (SMEs) in Malaysia.

III. METHODOLOGY

Cross-sectional survey was used in this study. Prior to data collection, pilot test on 15 respondents had been conducted to test measurement reliability and adequacy. The independent variable in this study is perception on training while the dependent variable is innovative work behavior. Figure 2 shows the theoretical framework.

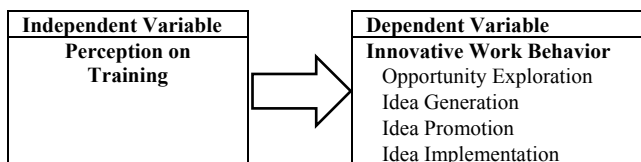


Fig. 2. Theoretical Framework

B. Population and Sampling

Purposive sampling which is one of the non-random samplings that was used for this study. The use of

purposive sampling is inevitable since the research participation among SMEs is not encouraging.

C. Measurements

A pilot test was conducted prior to actual data collection to ensure the accuracy and the suitability of items included in the questionnaires. It also to ensure the respondents had no difficulties in answering the questions which might affect its validity.

Questionnaire consisting 42 questions were used to measure the perceptions of the employees from SMEs towards training provided and their innovative work behavior. The questionnaire contained three major parts (Part A, B and C). Part A was designed to gather information on respondents' demographic background. Part B contained questions on employees' perception on innovative work behavior, adopted from P. J. de Jong & Hartog [4]. It has high reported reliability with opportunity exploration at 0.88; idea generation at 0.90; idea promotion at 0.95; and idea implementation at 0.93. Part C contained items on respondents' perceptions on training, adopted from Gavino (2005) with the reported alpha value of 0.96. However, upon using the adopted measurements, reliability test was conducted again for both pilot and actual studies. According to Uma Sekaran [29], Cronbach's Alpha is a reliability coefficient that indicates how well the items in a set are positively correlated to one another. The closer the Cronbach's Alpha is to 1, the higher the internal consistency.

The reliability coefficients for all instruments were above 0.7. For pilot study, employee innovativeness's Cronbach's Alpha value is 0.895 and training's Cronbach's Alpha value is 0.885. For the actual study, employee innovativeness's Cronbach's Alpha value is 0.915 and training's Cronbach's Alpha value is 0.945.

D. Analysis

The data collected from the questionnaires was analyzed using Statistical Package for Social Science (SPSS). Descriptive analysis was performed to describe the central tendency and variability of the variables.

Regression analyses were used to test the hypotheses. Prior of using regression analyses, testing of assumptions which include establishing linear relationship between independent and dependent variables, homoscedasticity, reliability and normality of variables would be tested. Durbin-Watson test was performed to test the independence error. The regression was performed since the assumptions were met. Initially, perceptions on training are entered into the regression equation at the same time. Next, similar step was done with different dimensions of innovative behaviors to determine which dimensions of innovative behavior are mostly affected by training perception.

IV. RESULTS

In terms of respondents' profile, 32.4% of respondents were within the age of 21 to 25 years old. Majority of them were female (67.6%). There are 35.7% of SPM holders from the respondents. 57.1% of respondents have been working for 1 to 5 years in the companies and 58.2% of them are single.

TABLE II: DESCRIPTIVE RESULTS

Variables	Mean	SD.
Training	2.7840	0.78574
Opportunity Exploration	2.3640	0.99017
Idea Generation	2.4725	1.0002
Idea Promotion	2.5948	1.02614
Idea Implementation	2.761	1.05101

Table 2 shows that perception on training (independent variable) had mean of 2.7840 (SD=1.15366). Among the dimensions of employee innovativeness (dependent variable), opportunity exploration had the lower mean (M=2.3040, SD=0.99017) followed by idea generation, idea promotion and idea implementation.

TABLE II
TYPE SIZES FOR CAMERA-READY PAPERS

Variable	R ²	Beta	Sig.
Training	0.288	0.537	0.0001
Opportunity Exploration	0.220	0.469	0.0001
Idea Generation	0.232	0.481	0.0001
Idea Promotion	0.202	0.449	0.0001
Idea Implementation	0.194	0.441	0.0001

Table 3 shows that 28.8% of variance in employee innovativeness in SMEs was significantly been explained by training. Training influenced employee innovativeness.

Among the dimensions of employee innovativeness, training influenced more on the idea generation. 23.2% of variance in idea generation was significantly explained by training followed by opportunity exploration (22%), idea promotion (20.2%) and idea implementation (19.4%).

V. DISCUSSION AND CONCLUSION

The findings of this study lend support to the role of training in fostering employee innovative behavior at work. Training is proved to be one of the significant predictors of employee innovativeness and its dimensions (opportunity exploration, idea generation, idea promotion and idea implementation).

This result also supports prior researches such as Neck

and Manz [23] who suggested that people can be trained to adapt and enhance their skills and therefore improve their work outcomes and innovative behavior.

As Malaysian SMEs being challenged to compete with large firms, it is imperative for them to ensure their manpower innovativeness (Huang & Wang [6]). Hence, Malaysian SMEs need to invest in developing employees through training to improve the overall functioning of the companies. This finding is crucial because employee innovativeness is the basic cornerstone of firm's competitiveness (Carmeli et al., [24]).

According to Becker [25], training constitutes an important part of human capital investments for the workforce. Training is proved to have impacts on developing knowledge workers in terms of innovative behavior (Zulkifli [26]). Innovation has an intricate link with training (Booth and Snower [27]). A firm fails to develop skilled employees may has the inability to take advantages from innovations or to promote innovations in the first place. Some of the Malaysian SMEs appear to facilitate employee innovativeness in their companies (Zulkifli [26]). They identify the training needs for culturing the employee innovative behavior.

Future study on training and innovation is both appropriate and necessary since the Malaysia Government is currently focusing on innovativeness and creativity among Malaysians.

Although this study has provided empirical support on the relationship between training and employee innovativeness to some extent, it does have a number of limitations.

First of all, this research is limited to the context of Malaysian SMEs. Hence, the results of this study may not applicable to other. The use of purposive sampling also indicates issue of representativeness. Moreover, measurements of both variables depended on self-reported measures. Thus, self-inflated responses might be an issue to be considered. Lastly, causality could not be inferred due to the limitation of sampling and research design.

In order to enhance representativeness, future research could address a bigger population. This would enable generalization. Despite all these limitations, this study is expected to stimulate more further, comprehensive studies in the future.

ACKNOWLEDGMENT

Authors would like to thank the Malaysian Higher Education and Universiti Tun Hussien Onn (UTHM) for the financial support under Research Acculturation Grant Scheme R005.

REFERENCES

- [1] Ministry of International Trade and Industry. (2006). Third Industrial Master Plan (pp. 1–747).
- [2] MASTIC, & MOSTI. (2011). National Survey of Innovation 2005 - 2008 (pp. 1–101).
- [3] Bank Negara Malaysia. (2005). Status and Performance of Small and Medium Enterprises (pp. 19–35).
- [4] Jong, J. De, & Hartog, D. Den. (2010). Measuring Innovative Work Behaviour. *Creativity and Innovation Management*, 19(1), 23–36.
- [5] Kesting, P., & Ulhøi, J. P. (2010). Employee-driven innovation: extending the license to foster innovation. *Management Decision*, 48(1), 65–84.
- [6] Huang, S. K., & Wang, Y.-L. (2011). Entrepreneurial orientation, learning orientation, and innovation in small and medium enterprises. *Procedia - Social and Behavioral Sciences*, 24, 563–570.
- [7] Krueger, N.F. (2000). The Cognitive Infrastructure of Opportunity Emergence. *Entrepreneurship Theory and Practice*, Spring, pp.5-23.
- [8] Parnes, S.J., R.B. Noller & A.M. Biondi (1977), *Guide to creative action*, New York: Charles Scribner’s Sons.
- [9] Basadur, M. (2004), *Leading Others to Think Innovatively Together: Creative Leadership*, *Leadership Quarterly*, 15(1), pp.103-121.
- [10] Van de Ven, A. (1986). Central Problems in the Management of Innovation. *Management Science*, 32: pp.590-607.
- [11] D Amabile, T. M. (1988). A Model of Creativity and Innovation in Organizations. In B. M. Staw & L.L. Cummings (Eds.), *Research in organizational behaviour* (vol. 10: pp.123-167. Greenwich, CT: JAI Press.
- [12] Rothenberg, A. (1996), The Janusian Process In Scientific Discovery, *Creativity Research Journal*, 9, pp.207-232.
- [13] Mumford, M.D. (2000). Managing creative people: strategies and tactics for innovation. *Human Resources Management Review*, 10(3), pp.313-51.
- [14] Thassanabanjong, K., Miller, P., & Marchant, T. (2009). Training in Thai SMEs. *Journal of Small Business and Enterprise Development*, 16(4), 678–693.
- [15] Nzonzo, J. C. (2011). Training And Development Practices In An Organisation: An Intervention To Enhance Organisational Effectiveness. *International Journal of Engineering and Management Sciences*, 2(4), 187–198.
- [16] Arthur, W. J., Bennett, W. J., Edens, P. S., & Bell, S. T. (2003). Effectiveness of training in organizations: A meta-analysis of design and evaluation features. *Journal of Applied Psychology*, 88(2), 234–245.
- [17] Amir Elnaga, A. I. (2013). The Effect of Training on Employee Performance. *European Journal of Business and Management*, 5(4), 137–147.
- [18] Garavan, T. N., & Deegan, J. (1995). Discontinuous change in organizations. Using training and development interventions to develop creativity. *Industrial and Commercial Training*, 27(11), 18–25.
- [19] White, M. G. (1994). Creativity and the Learning Culture. *The Learning Organization*, 1(1), 4–5.
- [20] Jelena Vemic. (2007). Employee Training And Development And The Learning Organization. *Journal of Economics and Organization*, 4(2), 209–216.
- [21] Roffe, I. (1999). Innovation and creativity in organisations: a review of the implications for training and development. *Journal of European Industrial Training*, 23(4), 224–241.
- [22] Sarri, K. K., Bakouros, I. L., & Petridou, E. (2010). Entrepreneur training for creativity and innovation. *Journal of European Industrial Training*, 34(3), 270–288. Retrieved from <http://www.emeraldinsight.com/10.1108/03090591011031755>
- [23] Neck, C.P. and Manz, C.C. (1996), “Thought self-leadership: the impact of mental strategies training on employee cognition, behaviour, and affect”, *Journal of Organization Behaviour*, Vol. 17 No. 5, pp. 445-67.
- [24] Carmeli, A., Meitar, R., & Weisberg, J. (2006). Self-leadership skills and innovative behavior at work. *International Journal of Manpower*, 27(1), 75–90.
- [25] Becker, G.S. (1962), “Investment in human capital: a theoretical analysis”, *The Journal of Political Economy*, 70(5), 9-49.
- [26] Zulkifli, I. (2010). Knowledge Worker Training in Malaysia
- [27] Booth, A. and Snower, D. (Eds). (1996), *Acquiring skills. Market failures, their symptoms and policy responses*. Centre for Economic Policy Research, Great Britain: Cambridge University Press.
- [28] SME Corporation. (2012). PRESS RELEASE CENSUS REPORT ON SMEs 2011 (pp. 1–3).
- [29] Uma, Sekaran, (2000). *Research Methods for Business: A Skill-building Approach*. Third Ed. New York: John Wiley & Sons, Inc.