

Moderating Effects of Human Resource Management Practices and Entrepreneur Training on Innovation and Small-Medium Firm Performance

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Abstract

A large number of studies on innovation can be found in the literature, yet until recently, research on the moderating effects of HRM practices and entrepreneur training on the relationship between innovation and firm performance are nonexistent. This study attempts to address the questions of how HRM practices and entrepreneur training interact with innovation, which then affect SMF performance. Two hundred eighty-four samples were obtained from SMFs in Malaysia. This study found that the employee and employer training interacted with innovation and significantly influenced SMF performance. Theoretically, greater performance of SMFs is not merely explained by how much they put their effort in innovation, but also how much they invest in employee and employer training. This also reminds the SMFs that innovation and training of both employee and entrepreneur must go hand in hand, so that their performance could be enhanced.

Keywords: innovation, human resource management practices, entrepreneur training, firm performance

1. Introduction

Sources of firm performance have long received a great attention by many practitioners and scholars. With stiffer competitive and continuously changing environment, firm performance depends more than ever on their ability to respond to the market needs. The open market mechanism induced by increased globalization and liberalization since the conclusion of the Uruguay multilateral trade agreement in 1994 has brought about greater competition in the marketplace and renewed interest in competition theory and empirical work on firm performance. This has resulted in the emergence of a huge number of theories, frameworks and empirical studies just to describe the relationship between certain explanatory variables and firm performance.

Within the Structure-Conduct-Performance (SCP) paradigm, firm performance is determined by the conduct of firms in the market, which is in turn influenced by the structure of the market (Ferguson 1993), in which the higher the levels of industry or market concentration and a firm's market share, the higher the profitability would be (Rogers 2000). From the strategic management perspective, firm-specific factors are more important than any other factors in determining firm performance (McGahan and Porter 1997).

Innovation is one of the firm-specific factors, which strongly affect firm performance. Nevertheless, its influence on firm performance was found to be mixed (Kannebley Jr., Sekkel, and Araújo 2010). It reminds us that the relationship between innovation and firm performance may or may not be straightforward. Key to innovation for any organization, including small and medium firms (SMFs) is supposed to come from human resource and the entrepreneurs themselves. This is in line with Bharadwai and Menon's (2000) argument that individual efforts and organizational system facilitate innovation and creativity of a firm. To the Resource-Based View (RBV), human resources provide a rare and incomparable source of competitive advantage (Barney 1991) and firm performance. As an SMF depends heavily on its owner, entrepreneurial skills of the owner would determine its innovation and performance, too.

Although many studies have been done on innovation, little effort is made to associate Human Resource Management (HRM) and innovation (Laursen and Foss 2003), let alone the moderating effect of HRM practices on the relationship between innovation and firm performance. This is also true for the moderating effect of entrepreneur training on the innovation-firm performance relationship. Therefore, this study attempts to address two research questions: that is (1) to what extent do HRM practices and entrepreneur training affect SMF performance?, and (2) to what extent do the interactions between HRM practices and entrepreneur training with innovation affect SMF performance?

2. Conceptual Framework

2.1 HRM, Entrepreneur Training and Firm Performance

Employees are at the centre stage of any organization. Irrespective of firm size, employees support employers or entrepreneurs to materialize organizational goals set by the latter. As the employees have different motives, behavior and attitudes, effective management of this input by an entrepreneur is critical. Generally, HRM involves all management activities of human resources of a firm (Lin, Peng, and Kao 2008). More specifically, HRM refers to any policies, practices and systems that are able to influence the behavior, attitudes and performance of employees (De Cieri, et al. 2008). The human resource policies and practices include planning, selection and recruitment, training and development, appraisal, rewarding, recognition, compensating, labour relations, and health and safety (Schuler and Jackson 1987; De Cieri, et al. 2008).

The importance of HRM to firm performance has been shown in a large number of theories and empirical evidences. The Resource-Based View, for example, argues that HRM practices have a positive relationship with firm performance (Barney 1991). In similar argument, a firm may gain competitive advantage if it has greater capability to manage its human resources (Barney and Wright 1998). According to the human capital theory, investments in knowledge, skills and competencies would enhance the productivity of employees (Becker 1964). Numerous empirical studies confirm a positive relationship between HRM and firm performance (Zheng, Morrison, and O'Neill 2006). Participation and empowerment, promotion from within, training and skill development are among notable HRM practices having great value to an organisation (Pfeffer 1994; Carlson, Upton, and Seaman 2006). Recognition may come in many forms, such as allowing employees to be involved in decision-making and rewards by the firm, which may motivate employees to work harder and hence improve firm performance. Hence the hypotheses are:

H1a: The greater the emphasis of SMFs on HRM practices in terms of employee training, the greater their overall performance is.

H1b: The greater the emphasis of SMFs on HRM practices in terms of employee recognition, the greater their overall performance is.

In today's knowledge-based economy, capability of an SMF to compete and hence to take a larger market share is dependent upon new ideas of its owner-entrepreneur in technology and product development. An entrepreneur is regarded as a creative human being, who is capable of realizing a set vision and creating an organization to pursue it (Bygrave 1994). Interestingly, creativity as part of a thought process can be acquired and improved (Bharadwaj and Menon 2000), through education, training and experience; which in turn improve firm performance. As evident in the past studies, the relationship between entrepreneur training and firm performance is positive (Petridou, Sarri, and Kyrgidou 2009). Therefore,

H1c: The greater the emphasis of SMFs on entrepreneur training, the greater their overall performance is.

2.2 Innovation, HRM, Entrepreneur Training and Firm Performance

Since the work of Schumpeter (1934), there has been a growing conviction that innovation is a fundamental competitive driver of a firm. Generally, innovation is a process of turning opportunity into ideas, which in turn translating into practice (Flynn, Doodley, and Cormican 2003). Innovation may occur in product, process, market, design or services. Product innovation involves the improvements of product mix of a firm in terms of either radically changed products or different offerings (Craig and Hart 1992). Process innovation is the reengineering of business process (Cumming 1998), that is, the improvement of internal operations and capacities of a firm (Otero-Neira, Lindman, and Fernández 2009). And market innovation refers to the changing market mix of a firm and how this chosen market is best served, while precisely interpreting purchasing preferences (Johns 1999).

Changes in consumer's taste and needs occur at an unprecedented rate in the last few decades due to the increase in the standard of living and income level. Hence, the capability of a firm to fulfill market needs is inadequate, if no effort is made to find the best way for satisfying customers with new offers (Otero-Neira, Lindman, and Fernández

2009). The emergence of new competitors in the market puts more pressures to the competing firms in offering something new against their rivals. As such, innovation is the right answer to remain competitive in the markets. Thus, unsurprisingly innovation is regarded as a strategy for the firms to enhance their flexibility, competitive advantages and performance (see, Jiménez-Jiménez and Sanz-Valle 2005). Innovation is seen as a means leading to a competitive advantage and superior profitability (Roberts and Amit 2003). With innovation, quality of products could be enhanced, which in turn contributes to firm performance and ultimately to a firm's competitive advantage (Garvin 1987; Forker, Vickery, and Droge 1996). In fact, innovation becomes the main agenda in any firms, particularly in developed countries. Given the possible positive impact of innovation on firm performance, the following hypothesis can be stated as:

H2: The greater the emphasis of SMFs on innovation, the greater their overall performance is.

Similar rate of innovation initiatives, however, does not bring about similar outcomes to different firms. Since heterogeneity across firms is seen crucial for economic sectors and countries (Srholec and Verspagen 2008), scholarly work on innovation has been increasingly devoted to micro-level analysis. A number of notable firm-specific factors associated with innovation, among others, are strategy, organizational design, management style and HRM. Of the many dimensions, however, human resources, especially HRM practices, are regarded key elements of successful innovation because human element is involved in the entire process of innovation (Vracking 1990).

Drawing from innovation in design, Filippetti (2011) reminds that design activity requires a highly skilled human resource, such as designers, engineers, scientists and craftsmen. Firms seeking for innovative actions need creative employees. These employees must have elements of flexibility and tolerance against uncertainty and ambiguity, risk and responsibility taking behavior, competence as well as cooperative and interdependent way of doing jobs (Schuler and Jackson 1987). All these elements do not come overnight, but they need consistent nurture through education and training. Many scholars argue that training is important to develop skills and knowledge of employees needed for innovation (Beatty and Schneier 1997; Mabey and Salaman 1995). Empirical studies also have confirmed a positive relationship between training provided to employees and innovation (Mark and Akhtar 2003); Ding and Akhtar 2001).

Other HRM practices, such as teamwork, communication and recognition may stimulate innovation. Employees feel recognized if they are allowed to be involved in business, including innovation (Hurley and Hult 1998; Mark and Akhtar 2003). Other form of recognition may come in outcome-based financial and non-financial rewards. All this recognition may accelerate innovation in the firm, which in turn enhances the firm performance. Judging from the preceding HRM literature on the employee side, two hypotheses are proposed as follows.

H3a: The greater the interaction between HRM practices in terms of employee training and innovation initiatives, the greater the overall performance of SMFs is.

H3b: The greater the interaction between HRM practices in terms of employee recognition and innovation initiatives, the greater the overall performance of SMFs is.

Training does not and should not merely confine to employees, as employers need knowledge and competency enhancement, too. It should be reminded that SMFs are dependent heavily on founders or owners for their management and operation. The ability of a firm to grow is dependent on its ability to generate new ideas (Flynn, Doodley, and Cormican, 2003) and, for SMFs, these ideas stem mainly from the entrepreneur himself. Thus, the entrepreneur must be aware and informed with all new ideas in the markets for him to be able to run his business efficiently and more importantly he would conduct innovation. Therefore, interventions in the entrepreneurship training in creativity and innovation are a necessity for survival, sustainable growth and business prosperity (Sarri, Bakouros, and Petridou 2010). Many studies also found that entrepreneur training and innovation interact to improve organisational performance (Flynn, Doodley, and Cormican, 2003). This argument leads to the following hypothesis:

H3c: The greater the interaction between entrepreneur training and innovation initiatives, the greater the overall performance of SMFs is.

2.3 Control Variables

Many studies forewarn the potentially strong influence of some variables, including firm age and size on various performance indicators (Randøy and Goel 2003; Wynarczyk and Watson 2005). Since the interest of this study is in the mediating role of HRM practices and entrepreneur training on innovation and firm performance, these two variables are treated as the controls in the model.

Figure 1 depicts the conceptual model of the study, which shows both the direct relationships of HRM practices, entrepreneur training, innovation and control variables with the performance of SMFs; and the interacting effects of HRM practices and entrepreneur training on the relationship between innovation and SMF performance.

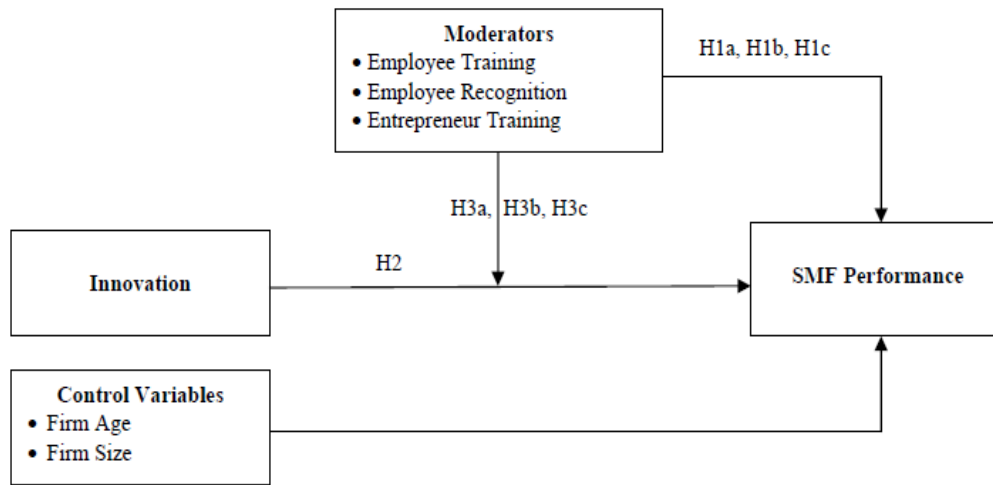


Figure 1. Conceptual model of the study

3. Research Methods

3.1 Samples

To be qualified for potential respondents, SMFs were selected when they met the following criteria: the firm must have not more than 150 full-time employees; the firm must be in operation for at least three years; the respondent must be the owner or manager of the firm; the major activity of the firm must be in the three industries, that is, food and beverage, textiles and clothing, and wood-based products. The largest percentage of SMFs in Malaysia was involved in these three industries. The respondents were requested to fill up a self-administered questionnaire containing variables on company background, HRM practices and entrepreneur training, innovation and firm performance indicators.

Two hundred eighty-four business organizations throughout Malaysia participated in the study. Of this total, 42.2 percent, 32.3 percent and 25.5 percent were from the food and beverage, textile and clothing and wood-based manufacturing industries respectively. With respect to size, 93 percent of the firms were small-scaled, which had less than 50 full-time employees. About 74 percent of the sample respondents had education up to the secondary school, 24 percent had tertiary education and 2 percent received other types of education.

3.2 Measures

3.2.1 Human Resource Management and Entrepreneur Training

As identified in the literature, HRM encompasses various policies, practices and systems. This study, however, confines HRM to the practices in human capital development (training) and recognition. Regarding employee training, assessments were made in two items: “Our firm provides in-house training in order to enhance employee competency and facilitate innovation” and “Our firm sends employees for training outside in order to enhance employee competency and facilitate innovation”. For employee recognition, two assessment items made were: “Our firm allows workers to participate actively in firm activities, including innovation” and “Our firm has outcome-based recognition system for innovative and productive employees”.

Finally, two items were assessed to measure entrepreneur training, that is, “I attended innovation-related courses offered by the public sector quite often” and “I attended innovation-related courses offered by the private sector quite often”. For this purpose, the respondents were asked to indicate their agreements on the 7-point scale ranging from “1=strongly disagree” to “7=strongly agree.” The Cronbach’s alpha for the first variable (employee training) was 0.812; and 0.819 and 0.804 for the second variable (employee recognition) and the third variable (entrepreneur training), respectively. The total score for each variable was then averaged to derive a composite variable for easy interpretation of the means.

3.2.2 Innovation

Six items measured innovation on a 7-point scale, ranging from “1=strongly disagree” to “7=strongly agree.” The six items were the introduction of new products, the adoption of the latest technology in production process, the adoption of the latest technology in products, the application of the Internet in business transaction, the outsourcing of materials from new sources or suppliers and the use of new combination of materials in production. The Cronbach’s alpha for this variable was 0.875. The total score for innovation was then averaged to derive a composite variable for easy interpretation of the means.

3.2.3 Firm Performance

Similar perceptual measures are consistently used among researchers in their analysis of HRM and firm performance (Ferguson and Reio Jr 2010). It has been argued that objective performance measures are difficult to obtain from SMFs because they do not keep proper account for their business. In this situation, self-assessment of performance by the respondents themselves is more relevant (Love, Priem, and Lumpkin 2002). Moreover, perceived or subjective measures are found highly correlated with objective measures in past studies (Love, Priem, and Lumpkin 2002; Venkatraman and Ramanujam 1987).

Performance indicators in this study were divided into organization and market performances. Items for the former included returns on asset, returns on sale, employment growth, labor productivity; whilst the latter comprised the items on growth in sale revenue, profitability, market share, customer satisfaction, and customer loyalty. This multitude of performance measures is relevant, especially when objective performance measures are unreachable (see, Kellermanns et al. 2010). For each item, the respondents were asked to compare their performance against their competitors in the same industry for the last three years on a 7-point scale ranging from “1=very low” to “7=very high”. Such assessment method is regarded reliable benchmarks (Delaney and Huselid 1996) and taken care of for possible influence of the industry factor. Both performance measures were summed up and then averaged to obtain a performance index (mean and standard deviation are shown in Table 1).

4. Results and Discussion

Table 1 shows the means, standard deviation and correlations among the independent variables and between the dependent and independent variables. The means of the independent variables indicate moderate emphasis of the respondents on HRM practices, entrepreneur training, and innovation. This leads to moderate performance of their firms. On average the firms are small in size (mean full-time employees=11.7) and rather long in business (mean age=12.82). In order to test the seven hypotheses, multiple regression analysis was employed with the results presented in Table 2.

Table 1. Descriptive statistics and correlations

Variables	Mean	SD	1.	2.	3.	4.	5.	6.
1. Employee Training	4.68	1.522						
2. Employee Recognition	4.56	1.580	0.443**					
3. Entrepreneur Training	3.90	1.787	0.453**	0.460**				
4. Innovation	4.06	1.355	0.380**	0.509**	0.330**			
5. Age	12.82	9.529	0.017	-0.010	-0.081	-0.023		
6. Size	11.70	20.434	-0.029	-0.011	-0.081	0.052	0.046	
Overall Performance	4.37	0.767	0.372**	0.403**	0.393**	0.448**	-0.038	0.116

Note: ** Correlation is significant at the 0.01 level.

Source: Based on the 284 samples survey.

In the first model (Model 1), entrepreneur training, innovation and size had significant relationships with the overall firm performance. In contrast, the other three variables – employee training, employee recognition and age had no significant influences on the firm performance. In the second model (Model 2), the three interaction effects were included in the statistical estimation. The results confirmed H1a ($\beta = 0.274, p < 0.05$), H3a ($\beta = 0.076, p < 0.05$) and H3c ($\beta = 0.033, p < 0.05$) with the expected positive signs. On the other hand, the H1b, H1c, H2, and H3c were not supported.

Even though the hypotheses on HRM were partially confirmed, the firms that emphasized HRM in terms of employee training demonstrated positive performance in their firms. When interaction effect was taken into account, innovation had no direct impact on the overall firm performance. The impact of innovation on the firm performance became stronger only when this variable was interacted with HRM, especially employee training, and entrepreneur training. This reminds us that training or human resource development is crucial in firm performance without which innovation may also fail to improve firm performance, especially among SMFs.

The finding is consistent with the present Knowledge-based economy (K-economy), which requires consistent learning among organizations, including SMFs. Learning is the dynamic process and it has a strong connection with entrepreneurial achievement (Rae and Carswell 2000). In addition, innovation is a function of individual efforts and organizational system that facilitates creativity, which in turn can be acquired and improved (Bharadwai and Menon 2000). Entrepreneurs admitted the need for creativity and innovation training as well as creativity and innovation tools, for themselves and for their organizations; but their scarcity in financial resources and time hindered their participation in training program (Sarri, Bakouros, and Petridou 2010). Therefore, the assumption of the most entrepreneurship literature that the “trainability” of the entrepreneur is given (see, Kuratko and Hodgetts 1998) should be accepted with some cautions because the present study found that the entrepreneur training is significant for firm performance.

Table 2. Multiple regression analysis – dependent, overall SMF performance

	Model 1	Model 2
Constant	3.095***	3.029***
Employee Training	-0.001	0.274*
Employee Recognition	0.046	-0.108
Entrepreneur Training	0.091***	-0.051
Innovation	0.169***	0.197
<i>Interaction Effects:</i>		
Employee Training*Innovation		0.076*
Employee Recognition*Innovation		0.046
Entrepreneur Training*Innovation		0.033*
<i>Control Variables:</i>		
Age	-0.002	-0.003
Size	0.004**	0.005*
R^2	0.268	0.283
Adjusted R^2	0.252	0.259
F	16.740***	11.886***

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: Based on the 284 samples survey.

Training is, however, rather costly and risky. Training for employees involves explicit and implicit costs. Entrepreneurs have to bear direct costs, especially when they send their employees off the operation sites. They also have to bear forgone output with the absence of their employees at workplaces. There also is a possibility that their employees leave for another firm when the latter get a better offer. For their own training, besides the financial costs, they have to shoulder the opportunity cost with their absence at their premise. This is especially true for the owner-manager entrepreneurs of SMFs as their absence would provide ‘opportunities’ for their employees to work below capacity. Whatever the case, SMFs have to realize that the inflow of foreign investment into the local market has changed HRM practices in this region (Butler and Lee 2003). Thus, the local SMFs have to find ways to manage human resources more efficiently and effectively in order to remain competitive in the globalized market.

5. Recommendations for SMFs

It was evident that HRM practices and entrepreneur training are critical for SMF performance. However, moderate emphasis of the SMFs on some HRM practices and entrepreneur training as found in this study is disappointing. The

SMFs should be reminded that the present competition is totally different from the old one. In the latter, competition among firms was confined to local players. It was possible because heavy protection in terms tariff and non-tariff barriers provided by the government of the day saved the local SMFs from the influx of foreign firms and products. Quite the opposite, with greater globalization, protections in all economic sectors are about to vanish. Foreign firms and foreign products from all over the world are now almost free to enter the country. Competition has been much greater with the participation of China, India, and some other new economies in the World Trade Organization (WTO), the world body of a free trade. China and India with a huge number of cheap labor forces have turned out to be the cheapest production house on the earth. This is the reason for China's products being flooded into Malaysia in the recent period.

With higher standard of living and consumer's income, the knowledge, technology and product become fast obsolete. As such, innovation in all management and operation aspects is inevitable. However, the study proved that the HRM practice in employee training and entrepreneur training moderated the relationship between innovation and SMF performance. This is true given the fact that in the present knowledge-based and digital economy, knowledge and competencies of both employees and entrepreneurs are new sources of firm competitiveness and performance. Those who are reluctant to continually learn and enhance their knowledge and competencies in every aspect of business are considered fail in the open market competition. It is realized that with the resource constraints, SMFs may not be capable of taking care of all HRM dimensions. However, this study provides some hopes to SMFs that at the minimum, training of both employees and entrepreneurs is important for SMF performance.

Indeed, the importance of HRM as a source of competitive advantage has long been aware in the West, but otherwise in Southeast Asian countries (Othman and Teh 2003). In Malaysia, most firms perceive that it is costly to train their employees beyond the basic skills (see, Chew 2005). Therefore, the Malaysian government has to provide training and human resource development through its industrial training institutes at all skill levels for job entry. The government also set up the 1993 Human Resource Development Fund (HRDF), based on a levy/grant system that provides training for participating employers. Many government and private agencies also provide training for existing and potential entrepreneurs. Training courses offered by government agencies are cheaper because they are substantially subsidized. Thus, SMFs should take this opportunity to send their employees or to be present themselves. Nevertheless, the training providers must carefully identify and design proper entrepreneur training and employee development programs due to the importance of knowledge in the present economic innovative activities and systems.

6. Conclusion

This study confirmed that a good HRM practice and entrepreneur training would be able to improve SMF performance in the food and beverage, textile and clothing and wood-based manufacturing industries. Although this study does not examine all dimensions of HRM, the results have provided clear evidence that training of both employees and entrepreneurs had a strong interaction with innovation, which in turn positively impact firm performance. Although training involves high costs and risks, SMFs have no choice, but to invest in this critical area of human and entrepreneurial capital, so that their performance could be improved, which in turn would consolidate their competitive position in the marketplaces.

From theoretical point of view, investment of SMFs in innovation alone is meaningless without a proper HRM practice in organizations. This is especially true for SMFs because unlike large firms that are able to engage a good number of high skill employees, the former with limited resources have limited access to such human assets. The majority of the SMF entrepreneurs in this study themselves had education up to the secondary school only. Therefore, training for entrepreneurs is also important for innovation to be carried out more effectively. Given the limitation of this study in terms of sample size, sub-industries and HRM dimensions, future studies should consider to enlarge the sample size, by incorporating other sub-industries and HRM dimensions, such as planning, selection and recruitment, appraisal, labor relations, as well as health and safety of human resources.

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