Human Resource Management And The Performance Of Selected Small And Medium Manufacturing Enterprises

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Abstract - Despite many studies on human resource management can be found in the literature, until recently, studies on the moderating effects of this factor on the relationship between innovation and firm performance are hardly existent. In filling the literature gap, this study attempts to address the questions of how HRM practices and its interactions with innovation affect the performance of SMEs. Two hundred eighty-four samples were obtained from the food and beverage, textile and clothing and wood-based small and medium manufacturing enterprises in Malaysia. Using the multiple regression analysis, this study found that human resource management practices in terms of employee and employer’s training interacted with innovation and significantly affected the performance of SMEs.

Keywords: Human Resource Management, Innovation, Firm Performance, Malaysia

I. INTRODUCTION

Sources of firm performance have long received a great attention by many practitioners and scholars. With stiffer competitive and continuously changing situation, the performance and even the survival of firms depend more than ever on their ability to achieve a competitive position and on their flexibility and responsiveness to market needs. Open market mechanism is induced by increased globalisation and liberalisation 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 and competitiveness. This gives the rise to 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 [15], in which the higher the levels of industry or market concentration and a firm’s market share, the higher the profitability would be [40]. From the strategic management perspective, firm-specific factors are more important than any other factors in determining firm performance [32].

Human resource is one of the few firm-specific factors critical to any organization. This is conceded by the Resource-Based View that human resources would provide a rare and incomparable source of competitive advantage [1]. Acknowledging this, studies on Human Resource Management (HRM) in business organisations are extensive and abundant. However, HRM was hardly associated with innovation in the firm study [27]. Moreover, few studies identified HRM practices in small and medium enterprises (SMEs) and even fewer saw the relationship between HRM practices and firm performance [22][7], let alone studies on the interacting effects of HRM on the relationship between innovation and firm performance. Drawing from the literature flaw, this study addresses two research questions: (1) to what extent does HRM practices affect the performance of SMEs? and (2) to what extent do the interactions of HRM practices with innovation affect the performance of SMEs?

II. CONCEPTUAL FRAMEWORK

A. HRM and Firm Performance

Employees are at the centre stage of any organisations. Irrespective of firm size, employees support employers or entrepreneurs to materialise organisational goals set by the latter. As the employees have different motives, behaviour and attitudes, effective management of this input by an entrepreneur or a business organisation is critical. Generally, HRM involves all management activities of human resources of a firm [28]. More specifically, HRM refers to any policies, practices and systems that are able to influence the behaviour, attitudes and performance of employees [11]. The human resource policies and practices may include planning, selection and recruitment, training and development, appraisal, rewarding, recognition, compensating, labour relations, and health and safety [42][11].
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 [1]. In similar argument, a firm may gain competitive advantage if it has greater capability to manage its human resources [2]. According to the human capital theory, investments in knowledge, skills and competencies would enhance the productivity of employees [4]. Numerous empirical studies confirm a positive relationship between HRM and firm performance [48]. Participation and empowerment, promotion from within, training and skill development are among notable HRM practices having great value to an organisation [36]. 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 the firm performance. Past evidence also showed a positive relationship between entrepreneurship training and venture performance [35]. Hence the hypotheses are:

**Hypothesis 1a:** The greater the emphasis of SMEs on HRM practices in terms of employee’s training, the greater their overall performance is.

**Hypothesis 1b:** The greater the emphasis of SMEs on HRM practices in terms of employee’s recognition, the greater their overall performance is.

**Hypothesis 1c:** The greater the emphasis of SMEs on HRM practices in terms of entrepreneur’s training, the greater their overall performance is.

**B. Innovation, HRM and Firm Performance**

Since the work of Schumpeter [43], there is a growing conviction that innovation is the fundamental competitive driver of a firm. Generally, innovation is a process of turning opportunity into ideas, which in turn translating into practice [18]. 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 [9]. Process innovation is the reengineering of business process [10], i.e. the improvement of internal operations and capacities of a firm [33]. Product innovation can be defined as new or better material goods and new intangible services; and process innovation as new ways of producing goods and services [14]. Market innovation refers to the changing market mix of a firm and how this chosen market is best served, while precisely interpreting purchasing preferences [24].

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 [33]. The emergence of new competitors in the market puts more pressures to 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, 23]. Innovation is seen as a means leading to a competitive advantage and superior profitability [39]. With innovation, quality of products could be enhanced which in turn contributes to firm performance and ultimately to a firm’s competitive advantage [20][19]. 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:

**Hypothesis 2:** The greater the emphasis of SMEs on innovation, the greater their overall performance is.

Similar rate of innovation initiatives, however, does not bring about similar outcomes to the firms. As such, heterogeneity across firms is seen crucial for both sectors and countries [44]. As such, scholarly work on innovation has been increasingly devoted to micro-level analysis since firm-specific factors are regarded as determinants of competitive advantages of a business organisation. In this connection, the literature offers a number of notable enabling factors associated with innovation, among others, are strategy, organizational design, management style and HRM. Of the many dimensions, however, human resources, especially HRM, are regarded key elements of successful innovation because human element is involved in the entire process of innovation [46].

Capabilities to innovate, however, depend heavily on the quality and competency of human resources of the firm. Drawing from innovation in design, Filippetti reminds that design activity requires a highly skilled human resource, such as designers, engineers, scientists and craftsmen [17]. 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 behaviour, competence as well as cooperative and interdependent way of doing jobs [42]. 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 is needed for innovation [3][30]. Empirical studies also have confirmed a positive relationship between training provided to employees and innovation [31][13].

Other HRM practices, such as teamwork, communication and recognition may stimulate innovation. Employees feel recognised if they are allowed to be involved in business, including innovative [22][31]. 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.
Hypothesis 3a: The greater the interaction between HRM practices in terms of employee’s training and innovation orientation, the greater the overall performance of SMEs is.

Hypothesis 3b: The greater the interaction between HRM practices in terms of employee’s recognition and innovation orientation, the greater the overall performance of SMEs is.

Training does not and should not merely confine to employees, as employers need knowledge and competency enhancement, too. The ability of a firm to grow is dependent on its ability to generate new ideas [18]; and for SMEs, these ideas, must 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 entrepreneurship training in creativity and innovation are a necessity for survival, sustainable growth and business prosperity [41]. Many studies also found that entrepreneurship and innovation interact to improve organisational performance [18]. This argument leads to the following hypothesis:

Hypothesis 3c: The greater the interaction between HRM practices in terms of employer’s training and innovation orientation, the greater the overall performance of SMEs is.

C. Control Variables

Many studies forewarn the potentially strong influence of some variables, including firm age and size on various performance indicators [38][47]. Since the interest of this study is in the role of HRM on 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, innovation and control variables with the performance of SMEs; and the interacting effects of HRM on the relationship between innovation and the performance of SMEs.

![Conceptual Model of the Role of HRM on the Performance of SMEs](image)

III. RESEARCH METHODS

A. Samples

Two hundred eighty-four business organisations throughout Malaysia were involved in this study. Of this total, 42.2%, 32.3% and 25.5% were from the food and beverage, textile and clothing and wood-based manufacturing industries respectively. The largest percentage of SMEs in Malaysia was involved in this these three industries. Most of the respondents met were owner-managers, the most suitable people to provide the company data. They were requested to fill up a self-administered questionnaire containing variables on company background, HRM, innovation and firm performance indicators as spelled out below. With respect to size, 93% of the firms were small-scaled, which had less than 50 full-time employees. About 74% of the sample respondents had education up to the secondary school, 24% had tertiary education and 2% received other types of education.

B. Variables and Measures

1). Human Resource Management

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’s training, assessments were made in two items: “Our firm provides in-house training in order to enhance employee’s competency and facilitate innovation” and “Our firm sends employees for training outside in order to enhance employee’s competency and facilitate innovation”. For employee’s 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’s training, i.e. “I attended courses offered by the public sector quite often” and “I attended 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=not emphasised at all” to “7=strongly emphasised.” The Cronbach’s alpha for the first variable (employee’s training) was 0.812; and 0.819 and 0.804 for the second (employee’s recognition) and the third (entrepreneur’s training) variable, respectively. The total score for each variable was then averaged to derive a composite variable for easy interpretation of the means.

2). Innovation

Six items measured innovation on a 7-point scale ranging from “1=not emphasized at all” to “7=strongly emphasized.” 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). Firm performance

Similar perceptual measures are consistently used among researchers in their analysis of HRM and firm performance [16]. It has been argued that objective performance measures are difficult to obtain from SMEs because they do not keep proper account for their business. In this situation, self-assessment of performance by the respondents themselves is more relevant [29]. Moreover, perceived or subjective measures are found highly correlated with objective measures in past studies [29][45].

Performance indicators in this study were divided into organisation and market performances. Items for the former included returns on asset, returns on sale, employment growth, labour 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, 25]. 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 [12] 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).

IV. 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 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.

In the first model (Model 1), entrepreneur’s training, innovation and size had significant relationships with the overall firm performance. In contrast, the other three variables – employee’s training, employee’s 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 Hypothesis 1a ($\beta = 0.274, p < 0.05$), Hypothesis 3a ($\beta = 0.076, p < 0.05$) and Hypothesis 3c ($\beta = 0.033, p < 0.05$) with the expected positive signs. On the other hand, the Hypotheses 1b, 1c, 2, and 3c were not supported.

Even though the hypotheses on HRM were partially confirmed, the firms that emphasized HRM in terms of employee’s 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’s training and entrepreneur’s 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 SMEs.

The finding is consistent with the present Knowledge-based economy (K-economy), which requires consistent learning among organisations, including SMEs.

### TABLE 1: DESCRIPTIVE STATISTICS AND CORRELATIONS

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

Note: ** Correlation is significant at the 0.01 level.
Source: Based on the 284 samples survey.
Learning is the dynamic process and it has a strong connection with entrepreneurial achievement [37]. In addition, innovation is a function of individual efforts and organisational system that facilitates creativity, which in turn can be acquired and improved [5]. In this regard, the assumption of the most.

TABLE 2: MULTIPLE REGRESSION ANALYSIS – DEPENDENT, OVERALL SMES PERFORMANCE

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.095***</td>
<td>3.029***</td>
</tr>
<tr>
<td>Employee’s Training</td>
<td>-0.001</td>
<td>0.274*</td>
</tr>
<tr>
<td>Employees Recognition</td>
<td>0.046</td>
<td>-0.108</td>
</tr>
<tr>
<td>Entrepreneur’s Training</td>
<td>0.091***</td>
<td>-0.051</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.169***</td>
<td>0.197</td>
</tr>
</tbody>
</table>

Interaction Effects:
Employer’s Training*Innovation 0.076*
Employee’s Recognition*Innovation 0.046
Entrepreneur’s Training*Innovation 0.033*

Control Variables
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.

V. RECOMMENDATIONS FOR SMEs

With higher standard of living and consumer’s incomes, technologies and products become fast obsolete. As such, innovation in all management and operation aspects is inevitable. However, the study proved that HRM practices moderated the relationship between innovation and SME 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 realised that with the resource constraints, SMEs may not be capable of taking care of all HRM dimensions. However, this study provides some hopes to SMEs that at the minimum, training of both employees and entrepreneurs themselves is important for SME 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 [34]. In Malaysia, most firms perceive that it is costly to train their employees beyond the basic skills [see, 8]. 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 subsidised. Thus, SMEs should take this opportunity to send their employees or to be present themselves. Nevertheless, the training providers must carefully identify and design proper entrepreneurs’ training and employee’s development programs due to the importance of knowledge in the present economic innovative activities and systems.

VI. CONCLUSION

This study confirmed that a good HRM practice in training, both for employees and entrepreneurs would be able to improve the performance of SMEs 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, SMEs have no choice, but to invest in this critical area of HRM so that their performance could be improved, which in turn can consolidate the competitive position in the marketplaces.

From theoretical point of view, investment of SMEs in innovation alone is meaningless without proper HRM in organisations. This is especially true for SMEs 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 SME 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 study should consider enlarging the sample size, including other sub-industries and incorporating more HRM dimensions, such as planning, selection and recruitment, appraisal, labour relations, and health and safety of human resources.

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