

# Social Network Structure, Human Capital and Business Performance of Malaysian SMEs

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**Abstract.** The purpose of this study is to investigate the moderating impact of human capital on the relationship between social network and business performance in the Malaysian manufacturing Small and Medium Enterprises (SMEs). The research data were collected through mail and self-administered questionnaire sent to owner-manager around Malaysia. A stratified random sampling was used which elicited 226 useable responses to be used for data analysis. The hierarchical moderated regression was used to analyse the moderator effect. Results have shown that (1) age of entrepreneur as a moderator on the relationship between network centrality and non-financial business performance but not to financial business performance, (2) gender as a moderator on the relationship between network size and financial business performance but not to non-financial business performance (3) no moderating effect of age of entrepreneur on the relationship between network size and financial and non-financial business performance and (4) no moderating effect of gender on the relationship between network centrality and financial and non-financial business performance. The discussions on results, the contribution as well as limitations are also presented.

**Keywords:** Social Network, Human Capital, Business Performance, Smes, Malaysia.

## 1. Introduction

The social network is defined as the interrelationship between the entrepreneurs (ego) and their contacts (alter/s) for business purposes [1]. This kind of network utilises the relationship either directly or indirectly between the ego and their alter/s. Alters comprise family members, friends, relatives and business contacts [2]. Social network is important to the entrepreneurs to gather the important resources from the alter/s [3].

Over the past three decades, research on social network includes the direct effect of social network on business performance [4], [5], [6], [7]. However, there is little serious effort to research the moderating impact of human capital on the relationship between social network and business performance by using structuralist perspectives. Past researches have also shown that human capital constitutes one of the important contingency factors [8]. We argue that the ego who embeds in social network will give a significant effect to the business performance when they have greater human capital. Therefore, the main objective of this paper is to report the research findings that determine the moderating impact of human capital on the relationship between social network and business performance in SMEs in Malaysia. Specifically, this paper attempts to examine:

The moderating impact of the age of entrepreneur on the relationship between network size and financial and non-financial business performance in SME firms in Malaysia

The moderating impact of the age of entrepreneur on the relationship between network centrality and financial and non-financial business performance in SME firms in Malaysia

The moderating impact of gender on the relationship between network size and financial and non-financial business performance in SME firms in Malaysia

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The moderating impact of gender on the relationship between network centrality and financial and non-financial business performance in SME firms in Malaysia

The study has important implications, particularly with respect to the theoretical and context of social network. It provides the theoretical view and explanation of why the performance of businesses vary and how human capital influence business performance.

## **2. Literature Review**

### **2.1. Structuralist Perspectives**

The commonly used approach to study the social network is structuralist perspectives [9]. Structuralist perspectives explain the configuration of network ties in the social network. The perspectives included in this paper are network size and network centrality.

The network size is a determinant in procuring resources and benefits. The larger the network size, the more resources are made available to the entrepreneur [10]. Having diverse networks offers the entrepreneurs information channels which would have been previously inaccessible to them. Scholar also stressed that embeddedness in social network may lower the cost of transactions when obtaining financing [11]. Therefore, the size of network can be hailed as a prominent variable in influencing entrepreneurial outcomes especially to business performance.

Network centrality refers to the closeness and position of the ego in the group [12]. In business, an ego that is central to communication will have early access to information and thus control the spread of information to the alters. The ego that is positioned centrally in the network may enjoy accessing information and gain advantages by reaching all actors belonging to the network. Thus the centrality of the ego may serve to shorten the distance between the ego and the alters when networking. The heterogeneity of the alters will also be advantageous as they will provide variety in information.

### **2.2. Human Capital as Moderator**

Resource-based view theory [13] suggests that a firm's resources should be a valuable, rare, imperfectly imitable and non-substitutable (VRIS) to generate sustained competitive advantage. The core of resource-based view theory lies in the capability of the firm to leverage its internal resources to achieve a competitive advantage against their rivals. Embed into social network alone does not guarantee for superior business performance. It is much depends on the firm's capability to exploit the opportunities in the market. To some extent, this capability rests with the human capital [8]. This leads to the question as to why do some people and not others discover business opportunities [14]. Through the lens of resource-based view theory, the greater the human capital of entrepreneurs, the more likely the business will prosper [15]. In this paper, we introduced two properties of human capital; age of entrepreneurs and gender. Hence the hypotheses presented are:

- H1: The age of the entrepreneur moderates the relationship between network size and financial business performance
- H2: The age of the entrepreneur moderates the relationship between network size and non-financial business performance
- H3: The age of the entrepreneur moderates the relationship between network centrality and financial business performance
- H4: The age of the entrepreneur moderates the relationship between network centrality and non-financial business performance
- H5: Gender moderates the relationship between network size and financial business performance
- H6: Gender moderates the relationship between network size and non-financial business performance
- H7: Gender moderates the relationship between network centrality and financial business performance
- H8: Gender moderates the relationship between network centrality and non-financial business performance

### 3. Methodology

The sample of manufacturing companies was compiled through the following sources; SME Corporation Malaysia, Federation of Malaysian Manufacturers (FFM) and Malaysia External Trade Development Corporation. Stratified random sampling was used to select the sample (n=368)[16]. The data (226 responses) were collected through mailing and self-administered questionnaire to the owner-managers within six months with two strategies. First, the respondents were rewarded with financial planning software if they successfully completed and returned the questionnaires. This incentive was mentioned in the cover letter. Second, questionnaires sent out to food and beverage entrepreneurs were attached with official receipts and packaging of the entrepreneurs' brands to demonstrate our support.

For the operationalisation of the network size, entrepreneurs were required to indicate the number of contacts of each respondent within prior month they interact with. Entrepreneurs need to recall on four types of alters; family members, relatives, friends and business contacts. This method was adopted by previous researcher [17]. In order to determine network centrality, the entrepreneurs were asked to rate their position in the network by using three items borrowed from Frazier (2000) with a 5-point Likert-type scale: 1 (strongly disagreed) to 5 (strongly agreed). In terms of business performance, the items were adopted from Chandler and Hanks (1993) and Dess and Robinson (1984) by using the subjective (self reported) financial measure: sales growth, net profit growth, market share growth and cash flow growth by using the 5-point Likert-type scale: 1 (decreasing) to 5 (increasing significantly). For non-financial business performance, we borrowed six items from Lee and Lee (2007) by using a 5-point Likert-type scale: 1 (strongly disagreed) to 5 (strongly agreed). Three control variables were included in the study; firm's size, firm's age and parental business history.

Hierarchical moderated regression was used to analyse all hypotheses. We ran separately the analyses for financial (model 1) and non-financial business performance (model 2). The study applied the 3-step hierarchical moderated regression [18] and also the stepwise procedure. To establish the assumptions for multivariate data analysis (measurement scales, ratio of cases to independent variables, sample size requirements, outliers, homoscedasticity, multicollinearity and linearity), the study followed the recommendations provided by Hair, Black, Babin and Anderson (2010).

## 4. Findings

### 4.1. Descriptive Analysis

In terms of business profile, the majority of businesses (137) came from the food and beverage sector, wood-based product (36), textiles, apparel and leather (21), rubber-based products (6), plastic-based products (5), electric and electronics products (4), paper and printing (1) and approximately 16 of the respondents indicated their firms were in other sectors, representing a combination of businesses in wood, iron and metal-based sector. Half of the firms had been in operation for 6 to 8 years, 41.6 percent (more than 11 years) whereas 8.4 percent (9 to 11 years). As regards business types, private limited firms accounted for 41.6 percent of enterprises and 38.5 percent of enterprises reported sole-proprietorship while another 19.9 percent of enterprises were partnership firms. In terms of firm location, most of the firms operated in Western region (71), followed by Southern region (57), Northern region (45), Klang Valley (42) and East Coast region (11).

### 4.2. Moderating Effect of Human Capital on the Relationship between Social Network and Business Performance

The first model shows the  $R^2 = .03$ ,  $R^2$  change = .03, F value = 6.230 and a significant F change of .013 which indicated that the model is significant. For the second step, the model was improved with  $R^2 = .065$ ,  $R^2$  change = .034, F value = 6.856 and a significant F change = .008 which means that the model is also significant. In the third step, the model shows the  $R^2 = 0.093$ ,  $R^2$  change = 0.28, F value = 6.720 and a significant F change of .014 which indicated that the model is significant. Upon examining the control variables, the results show that parental history was included into the model as it achieved a valid significant level ( $\beta = .174$ ,  $p < .05$ ) in the first, ( $\beta = .200$ ,  $p < .01$ ) in the second and ( $\beta = .197$ ,  $p < .01$ ) in the third step. It was also found that network centrality contributed significantly to the model ( $\beta = .187$ ,  $p < .01$ ) in the first and ( $\beta = .156$ ,  $p < .05$ ) in the second step. The hierarchical moderated regression revealed that only gender

significantly moderated the relationship between network size and the financial aspect of financial business performance ( $\beta = .170$ ,  $p < .05$ ).

For the second model, the analyses show the  $R^2 = .058$ ,  $R^2$  change = .058, F value = 12.168 and a significant F change of .001 which indicated that the model is significant. For the second step, the model was improved with  $R^2 = .078$ ,  $R^2$  change = .02, F value = 8.374 and a significant F change = .038 which means that the model is also significant. The results also show that none of the control variables were included in the model due to insignificant level ( $p > .05$ ). It was also found that network centrality contributed significantly to the model ( $\beta = .240$ ,  $p < .01$ ) in the first and ( $\beta = .300$ ,  $p < .01$ ) in the second step. The hierarchical moderated regression revealed that only age of entrepreneur significantly moderated the relationship between network centrality and the non-financial aspect of financial business performance ( $\beta = -.155$ ,  $p < .05$ ). Therefore, only hypotheses  $H_4$  and  $H_5$  are supported; whereas hypothesis  $H_1$ ,  $H_2$ ,  $H_3$ ,  $H_6$ ,  $H_7$  and  $H_8$  are not supported.

## 5. Discussion and Conclusions

This paper examined the moderating effect of human capital on the relationship between social network and business performance. The paper empirically tested the moderating effect of human capital variables; age of entrepreneur and gender on the relationship between social network variables (network size and network centrality) on both aspects of business performance (financial and non-financial). It was found that age of entrepreneur moderates the relationship between network centrality and non-financial business performance. Another finding revealed that gender moderates the relationship between network size and financial business performance.

Several factors may explain the unsupported hypotheses. Firstly, the effect of the human capital itself on the business performance may provide an explanation. A review of the literature shows that up to now, there is still inconsistency regarding the influence of human capital on business performance. Some research stressed that human capital effect the business performance [19], while other has claimed that there is no such effect between the variables [20]. Secondly, the insignificant findings might be explained by the research setting and context. This research focuses on established firms that have been operating for more than 5 years. Prior researches on the social network have concentrated on the new firms in the industry [2,4]. Thus, due to the differences have led to a lack of consensus between prior research and the current study

The current study contributes to the existing body of knowledge on social network especially in the Malaysian context. Further, the incorporation of both business performance measures (financial and non-financial) provides a holistic view of business performance usage. However, it should be noted that this study has several limitations. First, the financial business performance was measured by using subjective as opposed to the objective measure method due the SMEs are not prepared to publish their accounts especially in Malaysia [21]. Second, this research was also conducted at the time when Malaysia was experiencing a slow development rate [22] and this factor could affect the respondents' perceptions as a whole and could distort their view towards the business progress.

The present study provides further understanding on the moderating effect of human capital on the relationship between social network and human capital for manufacturing SME in Malaysia. The findings can be used by the entrepreneurs in shaping their strategic decision for better business achievement. It is hoped that, this study will grab the attention among academicians to make a research into the social network theme especially in a developing country like Malaysia.

## 6. References

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