

The Effect of Social Network on Business Performance in Established Manufacturing Small and Medium Enterprises (SMEs) in Malaysia

Ehsan Fansuree Surin^{1 +} and Ismail Ab. Wahab²

¹ Faculty of Business Management, Universiti Teknologi MARA, Selangor, Malaysia

² Malaysian Academy of SME & Entrepreneurship Development, Universiti Teknologi MARA, Selangor, Malaysia

Abstract. The purpose of this study is to investigate the impact of social network on business performance in the Malaysian established manufacturing SMEs. The research data were collected through mail questionnaire sent to owner-manager in manufacturing industry around Malaysia. A stratified random sampling was used which elicited 226 useable responses to be used for data analysis. The outcomes of hierarchical multiple regression revealed two important findings: firstly, network centrality has positively and significantly effect business performance. Secondly, family members networking and network density have positively but not significantly effect business performance. In addition, the discussions on results, the contribution to the body of knowledge as well as limitations of this study are discussed.

Keywords: Social Network, Business Performance, Small and Medium Enterprises, Malaysia

1. Introduction

The social network is defined as the interrelationship between the entrepreneurs (ego) and their contacts (alter/s) for business purposes[1]. The terms social network and informal network discussed in entrepreneurship researches are often used interchangeably [2]. This concept of network and its focus lies on the person who has the relationship with ego and thus, social network research utilises the relationship either directly or indirectly between the ego and their alter(s). Alters comprise family members, friends, relatives and business contacts [3]. With the vulnerability of the business environment today, the social network is considered as a weapon to secure important resources for SME firms [4].

The richness of the literature on social network researches are concerned with the new born businesses [5] and there is a dearth of studies that examine the social network for established firms [6],[7]. Therefore, the main objective of this paper is to report the research findings that determine the impact of social network on business performance in established SMEs in Malaysia. Specifically, this paper attempts to examine;

- the impact of network activity on business performance in established SME firms in Malaysia
- the impact of network density on business performance in established SME firms in Malaysia
- the impact of network centrality on business performance in established SME firms in Malaysia

The study has important implications, particularly with respect to the theoretical aspect of social network. The study could help the regulatory authorities in strengthening the business platform by promoting the SMEs social network particularly among the large firms.

2. Literature Review

2.1. Social Network

The social network theory was popularised in the middle of the 1980s and sought to explain the capability of the network to help the entrepreneur access resources. Social network literature adopted the structuralist perspective when operationalising and measuring networks [8]. Structuralist perspectives explain the configuration of network ties in the social network. The perspectives included in this paper are network activity, network density and network centrality.

2.1.1. Network Activity

⁺ Corresponding author. Tel.: + 060355444767.
E-mail address: efansuree@salam.uitm.edu.my.

Most social network researches seek to explain the length of time spent by entrepreneurs to communicate with their alters [9],[10]. With a large network the time spent with each alter is less if compared to a smaller network where an entrepreneur has more time for discussion with the alters. There may be a higher chance of picking up useful information by spending smaller amounts of time with a bigger group of people. Scholars have suggested that it is not only important for young firms to develop their networks but it is also imperative that established firms maintain their social network for firm's survival and business growth [11],[12]. Therefore, the following hypothesis is proposed;

H₁ There is a significant positive impact between network activity with business performance

2.1.2. Network Density

Network density can be defined as alters that are connected and know each other in the network of the ego [13]. The density of a network forms part of the network characteristic and also identifies the number of ties that link the ego to the alters [14]. It is recognised that a dense network signifies strong connections between the entrepreneurs' alters [15]. Scholar claimed that network density should increase resource accessibility due to the willingness of the actors to share information [16]. Another research also noted that higher density networks resulted in the faster acquisition of resources if compared to less dense networks [17]. Prior research discovered that the homophily in social networks foster strong ties which are important for the entrepreneur to obtain information and financial resources [18]. On the other hand, it was revealed that network density may contribute to the firm's profitability [19]. Hence the hypothesis is;

H₂ There is a significant positive impact between network density with business performance

2.1.3 Network Centrality

Network centrality refers to the position of the ego in the group from which the flow of information is spread [20]. 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 effect of network centrality on business performance has been empirically proven in previous studies. For example, [21] indicated that a central position in the social network is likely to increase the individual's performance as well as improve business performance. It was also found that network centrality allowed the transfer of technological knowledge from the alters to the entrepreneur and this led to more innovative success [22]. Similarly, [23] provided evidence that network centrality permitted the transfer of knowledge from the alters. Thus, it is clear that network centrality is crucial to shorten the distance in network relations and further allows the transfer of resources with minimal costs. Due to the importance of network centrality, the hypothesis proposed is;

H₃ There is a significant positive impact between network centrality with 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. The list was then analysed and a new list was compiled to only include manufacturing companies. All the 5576 companies were then categorised according to their geographical zones (North, South, East, Central and West) and stratified random sampling was used to select the sample (n=368) [24]. The data were collected through mailing surveys to the owner-managers listed in the sample directory. Overall, 226 (61.4%) completed questionnaires were received within six months.

For the operationalisation of the variables under study, entrepreneurs were required to answer a questionnaire regarding the frequency of interactions with their alters to determine their network activity. The 5-point Likert-type scale: 1 (very seldom) to 5 (very often) was used to assess the frequency of interactions with the four categories of alters previously mentioned. In order to determine network density and network centrality, the entrepreneurs were asked to list down five names of alters they had been in contact with over the last month. In general, respondents are usually required to name five important alters

that they interact with whilst running the business [25]. Based on the name listed by entrepreneurs, they are then asked to rate how familiar each alter is with other members in the network through three items for network density and six items for network centrality. The items were adopted and modified from Frazier (2000) by using a 5-point Likert-type scale: 1 (strongly disagreed) to 5 (strongly agreed). In terms of business performance, the items were adopted from [26] and [27] by using the subjective (self reported) financial measure: sales growth, net profit growth, market share growth and cash flow growth. Each item was measured using the 5-point Likert-type scale: 1 (decreasing) to 5 (increasing significantly). Since business performance can be impacted by many factors, firm's size and age as well as parental business history were included as control variables.

Factor analysis (principal axis factoring is used to determine the number of eigenvalues for each variable and Varimax rotation is used for convergent validity) and Cronbach's reliability were used to select and assess the final items that would be used for hypothesis testing. The first hypothesis has been renamed post factor analysis. The new hypothesis statement is as follows;

H₁ There is a significant positive impact between family members networking with business performance

Therefore, the new objective is formulated; to examine the impact of family members networking on business performance in established firms in Malaysia.

Hierarchical multiple regression was used to analyse the direct impact between the family members networking, network density and network centrality with business performance. The study applied the 2-step hierarchical multiple regression [28]. 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 [29].

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), Central region (42) and Eastern region (11).

4.2. Direct Relationship Between Social Network and Business Performance

In the first step, the model shows the $R^2 = .030$, R^2 change = .030, 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. Control variables were examined and parental history was included in the model as it achieved a valid significance level in both the first ($\beta = .174$, $p < .05$) and second step ($\beta = .199$, $p < .01$). It suggested that SMEs entrepreneurs with self-employed parents were more successful in business, a finding that is consistent with previous research [30].

The regression analysis revealed that family members networking ($\beta = .066$) and network density ($\beta = .009$) were positively related with business performance but did not achieve a valid significance level ($p < .05$). Network centrality however was found to be positively and significantly related to business performance in SMEs in Malaysia ($\beta = .187$, $p < .01$). Therefore, hypotheses 1 and 2 are not supported; whereas hypothesis 3 is supported.

5. Discussion and Conclusions

This paper examined the established SME firms in Malaysia with emphasis on the social network of these firms. The paper empirically tested several social network variables; family members networking, network density and network centrality on business performance. It was found network centrality was positively and significantly related to business performance. The finding lends support to the social network theory, indicating that the more central the entrepreneur is in the network, the more it will affect his/her business performance [31]. Several factors may account for the insignificant impact of the social network variables; family members networking and network density. First, the insignificant impact is due to the different contexts. The majority of prior studies investigated the social network for new firms whereas the current study investigated the social network for established firms. The importance of network size and family members networking for a new firm has been highlighted in previous research [32]. Second, the insignificant findings might be explained by the research setting. The majority of social network studies have been implemented in the Western context. This study, however attempts to bring the researchers' attention to the social network theme in Malaysia which is considered to be in the infant stage still.

The current study contributes to the existing body of knowledge on social network for the established firms. Further, this study enriched literature on social network for manufacturing industry especially in Malaysia. However, it should be noted that this study has several limitations. First, the 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 [33]. Second, the limitation in terms of the respondents' composition races whereby more than 80 percent consisted of Malay ethnic. Even though efforts were made to increase the participation from other races, the participation was still minimal.

The present study provides further understanding on the intricate interactions between social network and business performance for the established manufacturing industry 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

- [1] C. J. Fombrun. Strategies for network research in organizations. *Academy of Management Review*. 1982, **7** (2): 280-291.
- [2] T. K. Das, and B. S. Teng. Time and entrepreneurial risk behavior. *Entrepreneurship: Theory & Practice*. 1997, **22**(2): 69-88.
- [3] S. Birley. The role of networks in the entrepreneurial process. *Journal of Business Venturing*. 1985, **1**(1): 107-117.
- [4] M. C. D. Garcia, and S. Cater. Resource mobilization through business owner's network: Is gender an issue?. *International Journal of Gender and Entrepreneurship*. 2009, **1**(3): 226-252.
- [5] X. Quan, and Y. Motoyama. Empirical disaggregation of social networks: A study of ethnic professional associations and entrepreneurship in Silicon Valley. *Journal of Small Business and Entrepreneurship*. 2010, **23**(4): 509-526.
- [6] H. Hoang, and B. Antoncic. Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing*. 2003, **18**(2): 165-187.
- [7] J. Watson. Modeling the relationship between networking and firm performance. *Journal of Business Venturing*. 2007, **22**(6): 852-874.
- [8] S. P. Borgatti, and P. C. Foster. The network paradigm in organizational research: A review and typology. *Journal of Management*. 2003, **29**(6): 991-1013.
- [9] W. J. Woodward. *A social network theory of entrepreneurship: An empirical study*. Doctoral Dissertation, The University of North Carolina, 1988.
- [10] H. Hoang, and B. Antoncic. Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing*. 2003, **18**(2): 165-187.
- [11] J. Watson. Modeling the relationship between networking and firm performance. *Journal of Business Venturing*. 2007, **22**(6): 852-874.

- [12] E. L. Hansen. Entrepreneurial networks and new organization growth. *Entrepreneurship: Theory & Practice*.1995, **19**(4): 7-19.
- [13] B. J. Frazier. *The influence of network characteristics on information access, marketing competence and perceptions of performance in small rural businesses*. Doctoral Dissertation, Michigan State University, 2000.
- [14] E. L. Hansen. Entrepreneurial networks and new organization growth. *Entrepreneurship: Theory & Practice*.1995, **19**(4): 7-19.
- [15] A. Greve. Networks and entrepreneurship - An analysis of social relations, occupational background, and use of contacts during the establishment process. *Scandinavian Journal of Management*.1995, **11** (1): 1-24.
- [16] W. J. Woodward. *A social network theory of entrepreneurship: An empirical study*. Doctoral Dissertation, The University of North Carolina, 1988.
- [17] B. Ren, K. Y. Au, and T. A. Birtch. China's business network structure during institutional transitions. *Asia Pacific Journal of Management*. 2009, **26** (2): 219-240.
- [18] J. I. Jenssen and H. F. Koenig. The effect of social networks on resource access and business start-ups. *European Planning Studies*, 2002, **10**(8): 1039-1046.
- [19] P. R. Reese. *Entrepreneurial networks and resource acquisition: Does gender make a difference?*. Doctoral Dissertation, The University of North Carolina, 1992.
- [20] B. J. Frazier. *The influence of network characteristics on information access, marketing competence and perceptions of performance in small rural businesses*. Doctoral Dissertation, Michigan State University, 2000.
- [21] R. T. Sparrowe, R. C. Liden, S. J. Wayne, and M. L. Kraimer. Social networks and the performance of individual and groups. *Academy of Management Journal*. 2001, **44**(2): 316-325.
- [22] U. Cantner, and K. Joel. Network position, absorptive capacity and firm success. *IUP Journal of Knowledge Management*. 2011, **9**(1): 57-83.
- [23] W. Tsai. Knowledge transfer in intraorganizational networks: Effects of network position and absorptive capacity on business unit innovation and performance. *The Academy of Management Journal*. 2001, **44**(5): 996-1004.
- [24] N. Ismail, N. A. Ishak, N. A. Karim, and N. Ismail. Redefining critical capabilities for business performance of Malaysia manufacturing SMEs. *Journal of Business and Entrepreneurship*. 2010, **15**(2): 57-74.
- [25] A. Greve. Networks and entrepreneurship - An analysis of social relations, occupational background, and use of contacts during the establishment process. *Scandinavian Journal of Management*.1995, **11** (1): 1-24.
- [26] G. N. Chandler, and S. H. Hanks. Measuring the performance of emerging businesses: A validation study. *Journal of Business Venturing*. 1993, **8** (5): 391-408.
- [27] G. G. Dess, and R. B. Robinson. Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*. 1984, **5**(3): 265-273.
- [28] J. Pallant. *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows*. McGraw-Hill:Berkshire, 2007.
- [29] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson. *Multivariate data analysis: A global perspective*. Pearson Education Inc.: New Jersey, 2010.
- [30] R. Che Rose, N. Kumar, and L. L. Yen. Entrepreneurs success factors and escalation of small and medium-sized enterprises in Malaysia. *Journal of Social Sciences*. 2006, **2**(3): 74-80.
- [31] U. Cantner, and K. Joel. Network position, absorptive capacity and firm success. *IUP Journal of Knowledge Management*. 2011, **9**(1): 57-83.
- [32] S. S. Thrikawala. Impact of strategic networks for the success of SMEs in Sri Lanka. *World Journal of Social Sciences*. 2011, **1**(2): 108 - 119.
- [33] N. H. Ahmad (2007). *A cross cultural study on entrepreneurial competencies and entrepreneurial success in SMEs in Australia and Malaysia*. Doctoral Dissertation, University of Adelaide, 2007.