

# THE MODERATING EFFECT OF BUSINESS SIZE BETWEEN SME'S NETWORKING AND EXPORT PERFORMANCE: A DIFFERENT POINT OF VIEW OF MODEPROBE-SPSS AND SMARTPLS

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## Abstract

*Firm's networking is very crucial and networks are limited by their closure, moreover the global competition challenges them to open their boundaries. After all the basic resources firms required towards business and export success, is their efficient, durable and sustainable networking in the long-run. This study investigates the direct relationship between firm's networking capabilities and export performance and the effect of business size in moderating the relationship between firms's networking capabilities and export performance of 124 manufacturing firms in northern region of Malaysia. The findings revealed from the analysis using Smart PLS 2 software to check the direct relationship and MODEPROBE for moderation effect found that there is no significant relationship between firm' networking capabilities and export performance but there is moderation effect of business size between firm' networking capabilities and export performance. The findings in this study highlighted that some of the characteristics of firms have a strong, statistically non-significant relationship with involvement in networking. Meaning that SMEs substantial support in term of networking is missing and in particular present networking platforms do not help them to appreciate their exporting.*

**Keywords:** Networking Capabilities, Export Performance, Malaysian Manufacturing Firms.

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## Introduction

The local firms with their innovation and networking and technological resources will break through in regional and then in international markets with respect to uncertainty avoidance and economic consideration but they can only survive, when they have a competitive advantage over products and services with specific networking skills (Che Senik, Scott-Ladd, Entrekin, & Adham, 2011; Ciravegna, Majano, & Zhan, 2014).

Westhead et al., (2001), have noted that “SMEs promoting to sell their services and goods into foreign markets are not well understood and elaborated.” They added that firm’s ability to involve in exporting activities is encouraged to be a necessary factor to ensure the growth and survival of SMEs (D’Souza and McDougall 1989). However, firms needed some expertise in term of utilization of resources. These resources can enable their internationalization, but the lack of entrepreneurial (networking) skills and managerial know-how of information-technology (IT) usage is also one of the important problems in attracting the foreign buyers.

In addition literature have ponder on various theoretical aspects. For instance the network approach started during the late 1980s based on organizational sociology researcher such as Håkansson (1987) and Johanson and Mattson (1988). When a firm has a permanent competitive advantage, its resources and capabilities are long-lasting, difficult to recognize and realize, imperfect tense, transferable and hard to copy. Although the network theory has a valuable approach towards the role of networking in internationalization, it does not explain the effect of environmental ingredient (Aspelund, Madsen, & Moen, 2007). Furthermore, the theory of internationalization process which supports stage theory and the networking aspect of this research is supported by Uppsalla model and Born Global. However, researchers have argued that networking required extra resources (quality, customization, price, productivity etc.) (Che Senik et al., 2011; Mitrega, Ramos, Forkman, & Henneberg, 2011) and that networking well comes opportunities for venture capital process (Torres & Murray, 2003). Furthermore, the theory of resource base view is supported by various authors such as Rahman, (2013) who informed that firm resources are important for improving their productivity and performance. Moreover, Rehman, (2010), have evidenced that networks can create valued reimbursements for SMEs only when they choose the right (appropriate) network to obtain the necessary resources for their business performance. On the similar note, Barney and Mackey (2005), have noted that firms’ rich in resources have the potential to create economic value for the firms, if and only when firms realize and use the resources to create and implement strategic decisions. This study has identified that there are very few studies which examine the relationship between firm networking capability moderated by business size to influence firm’s exporting performance of Malaysian manufacturing and exporting SMEs.

## Research Objective

Specifically for this research paper following are the research objectives

1. To examine the relationship between networking capabilities and export performance of Malaysian manufacturing firms.

2. To examine the moderating role of business size between the relationships of Malaysian manufacturing firms networking capabilities and export performance.

## **Methodology**

Purposive sampling was utilized in this study. In this study, the population of 6743 SMEs in manufacturing industry was separated based on five industries (Textiles and Wearing Apparel, Food and Beverages Products, Furniture, Rubber & Plastics Products, Chemicals and Chemical Products) was selected. The term manufacturing is explained as an economic sector that is involved in activities such as (1) processing, (2) assembling and (3) producing finished product for the local and for export markets. The research purposively select only those manufacturers who are actively involved in exporting. Based on these criteria, total of 300 SMEs were selected from the total of 6743 SMEs there for required sample size according to Sekaran (2006) population and sampling frame chart is only 361 SMEs. Researcher intentionally distributed more questionnaire 450 because of low response rate by Malaysian Manufacturing and Exporting SMEs as noted by previous researchers. But only 124 fully completed and usable questionnaire were received.

## **Literature Review**

Axelsson and Easton (1992), the term network is defined as the "sets of two or more connected exchange relationships" (Coviello & Munro, 1997). In the context of internationalization of SMEs, Coviello & Munro, (1997), have informed that during the internationalization process small firms utilize the stage model to accelerate and facilitate and inhibit by a usual nature of the network, which are formal and informal. This networking exercises influence firm's mode of entry and their market selection as well as their market diversification and product development activities.

Literature has discussed the significance of the firms' networks towards expanding their circle of internationalization process (Coviello and Munro, 1997; Senik, 2010; Ciravegna, Lopez, & Kundu, 2013). Currently, networking is directing SMEs to compete at cross-border market level. Networking can be an important aim for acquiring experience, learning about international opportunities, knowledge and this can encourage, build SME confidence and motivate SME's to internationalize (Che Senik, Scott-Ladd, Entekin, & Adham, 2011; Anderson and Buvik 2002; Sharma and Johanson, 1987). There are various methods how firm practice their networking among different clusters of industries, agencies, government, and other firms which have directed the internationalization stages. Likewise Rickne, (2006) and Westerlund et al. (2008) found that network point of view is easy by defining "How" and "Why" firm internationalize (Johanson and Mattsson, 1988; Senik, Isa, Scott-Ladd, & Entekin, 2010). Firm networking plays an important role towards internationalization. Networks encourage firms to penetrate in the global markets with the help of supplier and client relationship. Furthermore, personal contracts also enable a firm to avail chance in the international markets and build new networks (Ciravegna, Lopez, & Kundu, 2013).

In addition, Chetty & Holm, (2000), investigated how SMEs utilize the business networks efficiently while internationalization. The study has used four manufacturing firms in New Zealand. The study has used social exchange theory to demonstrate how SMEs in New Zealand develop their networks to penetrate in the international market. The findings have suggested that network partners do interact, penetrate and integrate to an extent in their frame of the international market. It is one of the reasons to avail new opportunities via networking. In addition to that knowledge, experiences and synergic benefits influence the firm resources towards internationalization. On the same note, Bakan and Dogan, (2012), have indicated that Japanese network relationship enables a competitive position with their supplier, when firms send their employees to fulfil customize, specific needs and demands of customers. They even willing to invest in fixed assets like buying property or installing a factory. This has enabled Japanese automobile sector to be productive by maintaining inventory and lowering transportation costs. Toyota is a good example which has benefited from their networking capabilities and penetrates in profitable geographical locations such as Middle East, Asia, Africa, US and Europe by closer relationship via networks with their suppliers. In addition, McDougall et al. (1994) and Bell (1995), investigated the network relationships with internationalization patterns and process. They highlighted the potential impact of network relationships on SMEs internationalization. More particularly, Covello and Munro (1995) found that SMEs during the international marketing activities influenced by larger partners within the network. The authors have further added that their sector is same as investigated by Bell (1995) and Coviello and Munro (1995), which provided the combination of traditional manufacturing organization and their internationalization process (Coviello & Munro, 1997). Similarly, Coviello and Munro, (1997) measured network influence on internationalization of SMEs found that it depends on formal and informal network based approach how SMEs integrate during internationalization process. In addition, these relationships also based on the selection of a foreign market, entry mode, and product development and market diversification activities.

Likewise, Ciravegna et al., (2013), have conducted a qualitative cross-examination of high-technology SMEs and recommended that networks encourage to find opportunities in the foreign markets. They further added that these relationships are based on customer and supplier long-term connection, their reputation and personal contacts, the chance of availing an opportunity and strategies set for building their networks (Ciravegna et al., 2013). On the basis of above literature this research has come up with the following research hypothesis:

*Hypothesis # 1: Networking capabilities positively impact the export performance of Malaysian manufacturing firms.*

*Hypothesis # 2: Business size moderate between the relationships with networking capabilities export performance of Malaysian manufacturing firms.*

### Results of MODPROBE-SPSS

This study have found that while using MODPROBE for SPSS it is concluded that business size had significant moderation between firms’ networking capabilities and export performance (Interaction: 1.8273; R-Square: 0.1180; F-Ratio: 5.3054). This section below presents and discusses the moderating influence of business size between firms’ networking capabilities with firm’s export performance moderated by business size.

Table 1

*The moderating effect of business size between networking capabilities and export performance*

| Dependent Variable                                 | Export Performance                   | Beta    | t-Value        |
|--|--------------------------------------|---------|----------------|
| Focal Predictor Variable<br>(Independent Variable) | Firms’<br>Networking<br>Capabilities | -0.0765 | -1.7881        |
| Business Size                                      |                                      | -0.0553 | <b>-1.9369</b> |
| Interaction  |                                      | 0.0231  | <b>2.3026*</b> |
| R-Square   |                                      |         | 0.1889         |
| F Ratio  |                                      |         | 8.6939         |

Note: \*p<0.05

From table 1, the data analysis have indicated that SME’s business size does moderates the relationship between networking capabilities and SME’s export performance (b= -0.8794, t= 1.8273, p<0.05). According to Hayes & Matthes, (2009) that interaction value above 1.8787 is statistically significant and positive. In the above case because the value in 1.8273 is close to 1.8787 therefore the research accept the hypothesis. Given below figure 1 shows the graphical representation of interaction of business size between networking capabilities and export performance.

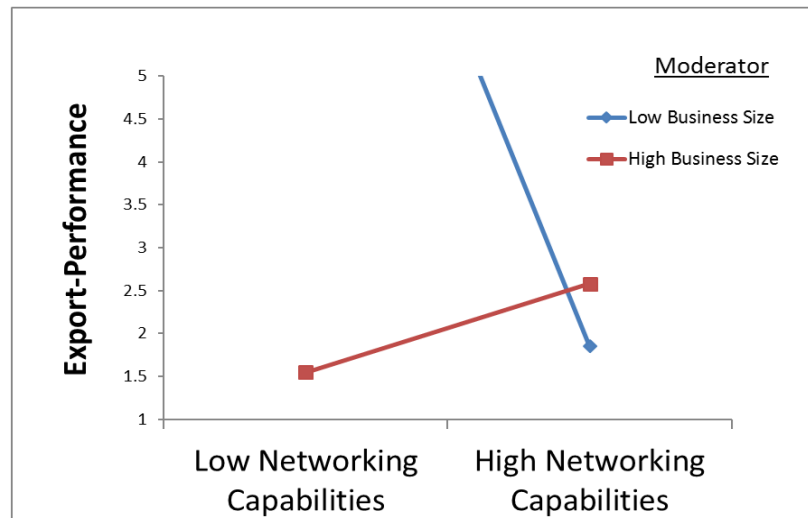


Figure 1 Interaction graph of Business Size between Networking Capabilities and Export Performance.

### Results of SMART-PLS

On the other hand, the same relationship was tested while using SMART-PLS 2 it is concluded that business size do not moderate between firms' networking capabilities and export performance (Refer to figure 5). Given below figures 2, 3 and 4 is showing the direct relationship of firm's networking capabilities and export performance. Figure 2 is showing measurement model with actual items. Figure 3 is showing measurement model after deleting all those items which were below 0.5. Moreover, Figure 4 is showing structural model which has shown a non-significant relationship between firm's networking capabilities and exporting performance (t-value: 0.891), which is below 1.96.

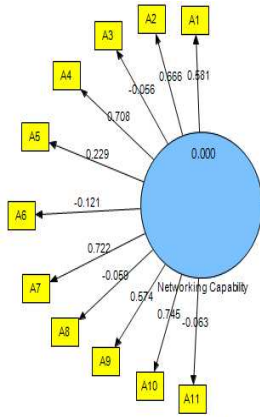


Figure 2  
 Measurement Model with Actual Items

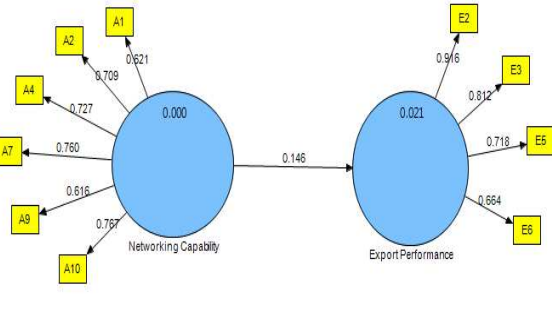


Figure 3  
 Measurement Model After Deleting AVE below 0.5

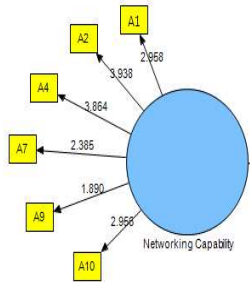


Figure 4  
 Structural Model

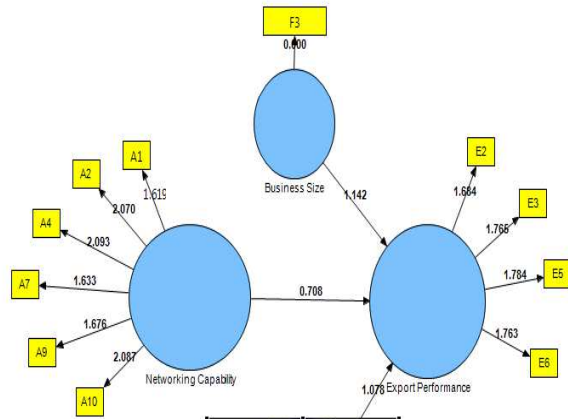
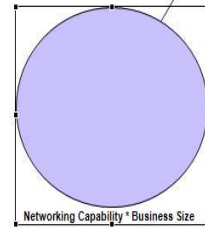


Figure 5  
 Business Size As Moderator Between  
 Networking Capabilities and Business  
 Performance



**Argument and Difference Point of Opinion between MODPROE and SMART PLS**

|   | <b>MODPROE</b>   | <b>SMART PLS</b>   |
|---|--|--|
| 1 | Linear combination of the predictors that reduces the totality of the squared differences  | It ponder each item as separate construct to check the interaction.  |
| 2 | This SPSS and SAS macro is used for probing single degree of freedom interactions in linear and logistic regression models.  | Constructs are unobservable (Sharma, 1996).  |
| 3 | It implements the ‘pick-a-point’ approach for approximating properties of a focal predictor at stated values of the moderator as well as the Johnson-Neyman technique for calculating regions of significance.   | SEM provides the opportunity to assess the reliability and validity of the construct individually through Uni-dimensionality (Ahmed, 2015).  |
| 4 | It also generates estimated values of the outcome from the model, which is useful for generating visual plots of the interaction. You might also check out a paper of mine that describes the dangers of not knowing how to properly interpret the coefficients in a regression model with interactions. | SEM is beneficial in testing the generally model fit and individual constraint estimate tests concurrently (Hair, Anderson, Tatham, & Black, 1998).  |
| 5 | MODROBE is used in inquiring the moderating effect through graphical illustrations in SPSS (Ahmed, 2015).  | Smart PLS or Partial Least Square is a statistical software with the equivalent goal with lisrel and AMOS, to observe the relationship between variables, good fellow latent variables and indicator variables (Kwong & Wong, 2013).   |
| 6 | The MODPROBE generates the conditional effects or simple slopes (Ahmed, 2015)..  | Smart PLS is used when we have limited number of samples while the model is built complex. This cannot be done when we use both the software above. They require the adequacy of the sample.   |
| 7 | MODROBE application is useful in order to mitigate and verify the effects of continuous variables (Ahmed, 2015)..  | Another advantage of Smart PLS is its ability to process data both for the model SEM formative or reflective model. Formative SEM models have characteristics which are latent variables or constructs built by the indicator variable where the arrow head of variables to construct an indicator variable. Reflective SEM Model is a model |



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|   |  |
|---|--|
|   | where the variable SEM constructs a reflection of indicator variables, so that the arrow leading from the indicator variables to latent variables. Statistically, the consequence is that there will be no error in the value of the indicator variable. |
| 8 | The disadvantage of SmartPLS is it only to process data in small size, it is not suitable for research with large sample.  |

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### Finding of Current Study

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|--|--|
| There is a significant moderation of business size between firms networking capabilities and export performance. | No moderation of business size is found between firms networking capabilities and export performance |
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### Discussion

Our findings suggested that firm's networking capabilities had no significant influence on export performance (T-statistic: 0.003). The above findings are supported by Lavoro, Petruzzellis, and Gurrieri, (2008), found that there is no significant relationship between internationalization process and networking resources such as institution role. This might be due to lack of social and institutional proximity. These type of non-significance is very common as most of the time those firms which are in their start-up stage they fail to potentially do their networking as there is a missing element institutions, government and export mediators to bridge local agents towards export. These type of bridging is quite helpful in overcoming uncertainty and other risk factors. However these findings are different from the previous pattern of researchers as Tooksoon and Mohamad, (2010), consider to investigate firm's networking resources in five sub-dimensions, namely government agencies; financial institution; trade association; knowledge institution and business associates. the findings have concluded that financial institution and business associates of networking resources has a significant, while government agencies have the negative significant and trade association and knowledge institution, has no significant influence on the EP of Thai manufacturing exporting firms in the agro-based sector. However, in a study by Faroque, (2014), who investigate the influence of NC (exploitation and exploration) on EP (network, strategic and financial), found a significant influence of NC and EP, except sub-dimension of exploration and strategic was found no significant relationship with each other. Zain and Ng, (2006), also revealed that networking plays an important role in the internationalization process.

There is a general assertion that SMEs have been relatively successful in identifying entrepreneurial opportunities, but less effective or high failure at developing NC (Faroque, 2014). It is a great challenge for small and medium enterprises towards their business and

export success because these firms sustainability not just depends on their upgraded skills, but they needed to enhance their NC by exploiting opportunities. The thing what is missing is their ability to recognize and according react to opportunities that can be exploited with their resources and resulting capabilities (Ireland, Hitt, and Sirmon 2003). The conceptualization of networking capability proposed by researcher extends existing knowledge on network competences / capabilities. Network resource combinations that fail to show any significant impact on international performance suggest that not all network resources produce significant performance outcomes (Kenny and Fahy 2011).

SMEs are unable to foresee the importance of international networking for their businesses. As majority of SMEs are getting the assistance from the government such as business matching forums, overseas promotional events and technical advices on exporting. But unfortunately they lack of their own initiative in building their own international business network. Foreign language proficiency is another constraint in international business network building. Since exporting activities involve various countries, it is crucial for them to master at least three major languages such as English, mandarin and Arabic, depending on the country they concentrate on. In addition to this, they also lacking in term of cultural competency such as negotiation skills, and building business relationships. The business owners and top managerial level of SMEs must consider taking cultural and foreign languages courses.

### **Limitation and Recommendations**

This empirical research has some limitations, such as this research is based on 124 manufacturing SMEs only and the owner's perspective was only considered. As such, it is recommended that future research should examine the wider aspects and implications of firm's networking capabilities and export performance. For instance, whether manufacturing SMEs can start-up, survive and grow in international market might depends on how immaculately or how easily they expand their business networks. Future studies should investigate the influence of these networking connections on the success of SMEs. It is recommended to explore more avenues by conducting comparative studies between firms from other regional countries, which might be helpful in understanding the importance of business networks. In term of methodology in this paper we have used MODPROBE for "probing single-degree-of-freedom interactions in linear and logistic regression models." (Hayes & Matthes, 2009). But the finding were different from Smart PLS, because PLS does not assume a particular distribution and bootstrapping was used to determine statistical significance of the path coefficients and on the basis of T-statistics we either accept or reject the hypothesis. Therefore, this study recommends future research to more critically look into more appropriate moderation software to be used for analysis.

### **Conclusion**

The main purpose of this research was to contribute to a better understanding of the relationship between firms's networking capabilities moderated by business size influencing export performance. The results concluded that size of the firm and the availability of resources plays a significant role in most internationalization attributes. But there is no fix or

uniform rule, method or strategy which guarantee the internationalization success. It depends on firm how they tune their networking capabilities, local success and learning curves to avail the internationalization success. On the other hand, the global market patterns keep on changing with the change in global economic parameters. Each firm should, therefore, follow its own customize exporting strategy based on available resources, supported by the government, foreign buyers, global exporting platforms, and maximize their chances to be competitive in global market.

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