

The Impact of Networking on Business Performance: A Case Study of Malaysian SMEs

Ali Salman Saleh ,Swinburne University of Technology,Australia
Charles Harvie, Faculty of Commerce, University of Wollongong, Australia

ABSTRACT

Business networking, including the sharing of knowledge and exchange of information, and its impact on business performance has received significant recent attention in the literature, but there is scant literature analysing the relationship between business networking and business performance within the context of business constraints. In this paper the authors argue that the impact of business networking on business performance should, most appropriately, be examined within such a context.

Numerous measures are developed in the paper aimed at capturing the extent and nature of business networking, business performance, and business constraints in the context, specifically, of small and medium enterprises. Then, using exploratory factor analysis and multiple regression techniques, data from 150 Malaysian SMEs reveal that networking has a positive and significant impact on business performance, while other perceived business constraints are found to be negatively and significantly linked to business performance. The results presented suggest that measures adopted by policy makers aimed at enhancing business networking and reducing perceived business constraints will have significantly beneficial effects upon the business performance of SMEs.

JEL classification: M10, M13

Keywords: networking, business constraints, performance, factor analysis, regression.

INTRODUCTION

Business networking (defined to consist of the sharing of knowledge, information and resources with fellow businesses) is commonly believed to have a value adding impact on export promotion, internationalisation and business performance (defined to consist of the profitability, sales growth, exports, and return on assets) (Moller and Halinen (1999), Tsai (2001), Wincent (2005), De Klerk and Krron (2007)). Nevertheless, networking occurs within an environment where there are many business constraints. In this paper we argue that these constraints have a negative impact on business performance and mitigate the valuable aspects of business networking (see studies by APEC, (1994), Vicziany, et al. (2001), Praag (2003), World Bank (2005), and Saleh and Ndubisi, (2006) on the business constraints issues). These business constraints are classified into five factors, that include: infrastructural constraints, human capital constraints, financial constraints, government policy constraints and others.

Extensive literature (see for example studies by Johnsen and Johnsen (1999), Noller and Halinen (1999), Tsai (2001), Wincent (2005), De Klerk and Krron (2007)) in the area of business networking reveals that networking in its various forms can have a positive effect upon business performance. These studies, however, focus mainly on case studies from developed countries and on large firms, and assume that networking occurs without taking into consideration business constraints. Therefore, there is a need for further research to examine the impact of networking, in conjunction with perceived business constraints, on business performance

This study aims to identify the impact of business networking on business performance, within the context of overall business constraints, for SMEs in Malaysia. In doing so we distinguish between various networking relationship such as vertical and horizontal links with MNCs, horizontal links between SMEs and links with business association, and among others. Various constructs are developed for a survey instrument to capture and measure the extent and nature of inter-firm business networking, perceived business constraints with the objective of studying their impact on business performance. In order to develop and test our hypotheses, we utilize a sample of 150 Malaysian SMEs. To our knowledge this is the first comprehensive study to develop networking and business constraints constructs, and to examine their impact on business performance within an Asian business context (Malaysia as a case study).

The paper is organised as follows: a review of the literature regarding business networking, business constraints and business performance is examined in section 2. This section also

develops hypotheses relating networking and business constraints facing SMEs and business performance based on earlier theoretical and empirical analysis. Section 3 outlines the methodology used in this study. Data analysis and discussion of the results are reported in section 4. Major results and implications of the findings from the study will be presented in section 5. Conclusions and recommendations for further research will be highlighted in section 6.

LITERATURE REVIEW

This section conducts a review of the existing theoretical and empirical literature pertaining to networking, business constraints and their relationship with business performance. The purpose of this review is to develop new constructs and hypotheses to be used in the construction of the survey instrument.

■ *Business Constraints*

The earlier literature recognizes the existence of different measures to examine the challenges or constraints facing businesses, mainly at the theoretical level. Some of the earlier studies, focusing on constraints facing SMEs, take a somewhat broad perspective on the topic (see for example studies by APEC, 1994, Vicziany, et al. (2001), Praag (2003), World Bank (2005), and Saleh and Ndubisi, 2006). For example APEC (1994) identified key constraints with respect to a lack of appropriate coordination amongst Malaysia's SME development organizations, difficulties in obtaining loans, an inability of SMEs to contribute to conventional industrialisation, underutilization of available technological assistance and other encouragements and a lack of skilled labour. In addition, Saleh and Ndubisi (2006) recognized a number of key constraints within the Malaysian context, that includes: complexity in attaining funds from financial institutions; high levels of bureaucracy in government organizations; lack of skilled labour; intense competition; limited access to information and better technology.

At the empirical level, Praag (2003) studied the relationship between capital constraints and the performance of entrepreneurs. The author used many dimensions to capture and measure the performance of a business, such as profit, employment generation and time-span in business. Using panel data from Dutch businesses the author concluded that capital constraints negatively affect an entrepreneur's performance. Furthermore, on the dimensions of business constraints, Vicziany, et al. (2001) categorized business constraints into five categories: (1) factors related to infrastructure availability; (2) factors related to information; (3) factors related to human resources; (4) factors related to government policies; (5) factors related to cultural issues, to determine "constraints to doing business with/in Malaysia". For example, with respect to infrastructure constraints, they identified many measures such as lack of R&D, problems with infrastructure etc. With respect to human resource constraints, they identified many measures such as employing skilled labour, availability of professional people among others. Finally, the World Bank (2005) identified a number of constraints affecting the business performance of SMEs more generally in East Asia, including lack of skilled labour, access to finance, policy uncertainty, insufficient infrastructure, macroeconomic instability and many other internal and external factors, but did not categorize these into groups.

■ *Business Performance*

There is a considerable literature aimed at identifying the key dimensions of business performance (see, for example, Zahra (1993), Wincent (2005), Hudson et al. (2001), Bontis et al. (2000), Monge et al. (2006) and among others). For example, Wincent (2005) identifies four dimensions of measuring business performance: productivity, sales growth, profitability and customer satisfaction. Zahra (1993) argued that the firm's performance is commonly measured using both financial and non-financial measures (e.g. market share).

Hudson et al. (2001) identified six dimensions of business performance: quality, flexibility, time, finance, customer satisfaction and human resources. They identified many measures for capturing each one of these dimensions. For example, with respect to the time factor, they identified measures such as process time, productivity cycle time, efficiency of labour, the utilisation of labour etc. With respect to customer satisfaction the identified measures included: market share, reliability in terms of delivery etc. With respect to finance the identified measures contained cost, efficiency, profitability etc. In terms of the human resources dimension, they identified measures such as efficiency of employees, skills of employees, employees relationship (with each other or with the managers).

Empirically, Bontis et al. (2000) analysed the relationship between human capital, structural capital and business performance. Based on sample data from Malaysia, the authors

concluded that there is a positive relationship between human capital, structural capital and business performance. Bosma et al. (2004) studied the relationship between human and social capital on the performance of entrepreneurs. They identified many elements to measure a firm's performance that included profitability, employment generation among others. Based on 1100 respondents from sample Dutch firms, the authors concluded that there is a positive relationship between investment in human capital (such as level of education, experience) and firm performance.

Monge et al. (2006) discuss two dimensions of measuring business performance: the operational performance that refers to quality, cost etc. and the organizational performance that deals with measures such as market share, the image of the business, product innovation etc. Hence, it can be concluded from the literature that a relationship does exist between business constraints and business performance. Based on the existing theoretical and empirical work, we can hypothesize the following:

H1: Financial constraints are negatively related to business performance.

H2: Human capital constraints are negatively related to business performance.

H3: Infrastructure constraints are negatively linked to business performance.

H4: Competitiveness is linked positively/negatively to business performance.

H5: Government policies are linked negatively with business performance.

■ *Business Networking*

There is also a vast literature aimed at defining networking and its impact on business performance (e.g. Johnsen and Johnsen (1999), Noller and Halinen (1999), Tsai (2001), Wincent (2005), De Klerk and Krron (2007)). These studies focus on networking and its impact on export promotion, internationalisation (how defined?) and business performance. Most measure networking at different levels of relationships, i.e. based on a firm's links with other firms, outsiders, government, customers, suppliers, competitors, and vertical links with MNCs. For example, Tsai (2001) emphasises what is called "network position" and focuses on the importance of sharing knowledge and exchange information and their impact on innovation and business performance. Based on sample data from petrochemical and food manufacturing firms, Tsai (2001) finds that there are linkages between networks and business performance. Welch et al. (1997) emphasised concepts for measuring networking via firm's relationships with supplies, competitors and other associations or government agencies. They also focused on the impact that networking relationships have on business performance. Welch et al. (1997) argued that by working within groups, firms can enhance their knowledge, gain easier access to resources and this will result in an improved business performance.

De Klerk and Kroon (2007) also focused on the issue of networking in the case of South African firms; the study was based on 707 online firms. They argue that sharing knowledge, information, and strategic alliances can enhance a firm's performance (e.g. productivity of employees). They conclude that networking should be considered as an important strategy to enhance a firm's international competitiveness. Empirically, Bosma et al. (2004) studied the relationship between social capital, defined to include business networks such as business relationships, links with "fellow entrepreneurs" and among others, on entrepreneurial performance. They identified many elements to measure a firm's performance such as profitability, "cumulative employment" etc. They concluded that there was a positive relationship between investment in social capital and a firm's performance. The Malaysian Timber Council (2006) also discussed the importance of networking via inter-enterprise linkages between SMEs and other SMEs, with larger businesses, and with foreign counterparts. Their plan argued that strengthening these networking relationships would lead to a better business performance in terms of competition and entering new exports markets. Sennik et al. (2007) investigated the relationship between networking and internationalisation among Malaysian SMEs, focusing mainly on the sources of networking and its impact mainly on internationalisation. They identified key sources of networking (such as government agencies and personal relationships) that support SMEs to enter the international market. Hence, based on the above literature, we conclude that business networking through sharing knowledge, information, linkages with competitors, suppliers, government etc can enhance business innovation and performance. Therefore, we hypothesize the following:

H6: There is a positive relationship between networking and business performance. In other words, networking positively affects business performance (using various measures of business performance).

METHODOLOGY

■ *The Survey Instrument*

The earlier review of the literature provides the theoretical foundation for the development of constructs used in this study. The instruments were developed and divided into four main areas: Business performance, inter-enterprise business networking, business constraints and government policies. The development of items to be included in the survey instrument are discussed further in the following section; and a factor analysis is conducted to investigate the factor structure of the questionnaire. An item analysis and internal consistency of the derived factors are then measured via SPSS version 15.

■ *Data and Sample Characteristics*

This study is based on a survey instrument delivered to 500 randomly selected SMEs in Malaysia. The selection of the sample SMEs was not limited to firms carrying out any particular type of business. However, due to resource constraints, the sample was limited primarily to SMEs working in the state of Selangor, which has the biggest number of SME establishments in Malaysia (SMIDEC, 2006). Details of the SMEs were obtained from the Federation of Malaysian Manufacturers (FMM) Directory 2006. As shown in Table 1 the bulk of the sample SMEs were located in Shah Alam, Kuala Lumpur (KL), Petaling Jaya (PJ) and Klang.

A total of 150 companies responded to the questionnaire (a response rate of 30 per cent), answering all 5 sections of the questionnaire. A questionnaire was sent to the managing director/CEO of the sample SMEs. This is understandable on the basis that testing the level of perceived challenges and business performance is best understood by the person heading the top management team. The CEOs, however, had the prudence of appointing an alternative to respond the questionnaire. The questionnaire was accompanied by a stamped self-addressed return envelope in which the respondents were requested to return the completed questionnaire.

The cover page of the questionnaire contained information on the survey, its objectives as well as the issue of confidentiality and anonymity relating to the respondents. The questionnaire was divided into five sections – section A containing questions regarding the demographics of the SMEs. Section B constituted questions relating to business performance and business linkages with MNCs, SMEs, business associations and government. Section C contained questions regarding perceptions of business challenges. Section D consisted of questions regarding evaluation of government SME related policies. The last section, Section E, asked the respondents to rank business challenges in order of significance, where “1” was most significant and “5” was least significant..

A frequency distribution analysis was conducted for the items in Section A (demographics of the respondents) of the questionnaire. As shown in Table 1 the majority of the sample of SMEs were in the manufacturing and services sectors (130 or 86.7 per cent). The sample SMEs in the services sectors were operating in activities such as wholesale, retail, computer services and others. SMEs in the manufacturing sectors were involved in activities such as textiles, food and beverages, rubber, machinery, metals, electronics and electrical (E & E). The SMEs in the Agro-based sectors were operating in the palm oil and livestock activities. The sample SMEs in the Agro-based sectors accounted for 13.3 per cent of all respondents or 20 firms. Furthermore, as shown in Table 1, the bulk of the respondents were male (120 or 80 per cent). In terms of ownership structure, the limited liability structure accounted for 66.7 per cent of the total in comparison with 33.3 per cent of all the SMEs which had a partnership structure. On the other hand, in terms of predominant ethnicity of firm's ownership, the bulk of the sample SMEs were Malays (53.3 per cent) followed by Chinese (33.3 per cent). In terms of the level of education of the owner/CEO, Table 1 points out that the sample SMEs enjoyed a high level of education among their owners/CEOs. For example, 33.3 per cent of the owners/CEOs had a college qualification, followed by SPM/STPM qualification (equivalent to high school level) which accounted for 26.7 per cent of the total and Masters Qualification constituted 20 per cent of all managers/CEOs in the sample. In terms of the age of owner/CEO, the majority were in the 36-40 age group (70 per cent), followed by the 31-35 age group (20 per cent) and the 46-50 age group (20 per cent). Furthermore, most of the SMEs were established during the 1990s (40 per cent) and 1980s (50 per cent), and only 6.7 per cent of them were established during the 1970s.

As shown in Table 1 the bulk of the sample SMEs employed between 21-50 workers, followed by 51-150 workers. In terms of turnover the majority of SMEs produced turnover

of less than RM200,000 (53.3%) followed by 26.7 per cent of SMEs which generated an annual turnover of between RM200, 000 - RM1 million. In regard to financing options, the majority of the sample SMEs obtained their financing from commercial banks. It is interesting to also recognize that Islamic banks in Malaysia play a supporting role in the financing SMEs, as 6.7 percent of the sample SMEs obtained their financing needs from these banks. Other financial options, such as personnel funds and Micro Finance Institutions (MFIs), play an important role in financing SMEs, as 13.7 percent of the sample SMEs obtained financing from these two sources.

Table 1: Demographic profile of SMEs

1. By Sectors	Frequency	Percentage (%)
Agro-based	20	13.3
Manufacturing	70	46.7
Services	60	40.0
2. Ownership		
Partnership	50	33.3
Limited liability	100	66.7
3. Ethnicity		
Malays	80	53.3
Chinese	50	33.3
Others	20	13.3
4. Gender		
Male	120	80
Female	30	20
5. Age of Owner		
24-30	15	10
31-35	20	13.3
36-40	70	46.7
41-45	15	10
46-50	20	13.3
Above 51	10	6.7
6. Level of education of owner/CEO		
No formal education	10	6.7
SPM/STPM	40	26.7
College	50	33.3
Degree	20	13.3
Masters	30	20
7. Location of business		
Shah Alam	50	33.3
Kuala Lumpur (KL)	20	13.3
Petaling Jaya (PJ)	30	20
Klang	40	26.7
Kajang	10	6.7
8. Year of establishment		
1960s	30	20
1970s	10	6.7
1980s	50	33.3
1990s	60	40
9. Number of employees		
Less than 5	none	none
5-20	none	none
21-50	70	46.7
51-150	80	53.3
10. Turnover		
Less than RM200K	80	53.3
Between RM200K-RM1m	40	26.7

BetweenRM-RM5m	30	20
11. Source of Finance		
Commercial banks	120	80
Islamic banks	10	6.7
Personnel funds	10	6.7
MFI's	10	6.7

■ *Descriptive Statistics*

The purpose of this section is to examine the relationship between the demographic factors, such as gender, ethnicity, the level of education of owner/CEO, and the business constraints factors (such as perceptions on financial issues, human capital, business competitiveness etc).

■ *Gender and Business Constraints Variables*

As shown in Table 2 there is a significant relationship between gender and four of the business challenges variables. For example, the Table shows that perceptions on financial issues, on human capital, business performance and government policies is higher among males than females, given the value of the mean. Surprisingly, the perception on infrastructure is higher among females compared to males, and is highly significant. This result clearly indicates that gender differences have an impact on how Malaysian SMEs perceive these challenges.

Table 2: Gender and perception on business constraints

		N	Mean	t	df	Sig. (2-tailed)
Financial issues	male	120	4.37	5.79	148	.***000
	female	30	4.0	8.49	94.709	.***000
Human capital issues	male	120	3.68	1.15	148	.253
	female	30	3.60	1.79	111.69	.077
competitiveness	male	120	3.90	5.44	148	.***000
	female	30	3.60	10.91	119.00	.***000
Infrastructure	male	120	4.13	-2.79	148	.**006
	female	30	4.33	-5.09	147.85	.***000
Government policies	male	120	3.94	13.76	148	.***000
	female	30	3.60	27.58	119.000	.***000

* $P \leq .05$, ** $P \leq .01$, *** $\leq .001$

■ *Ethnicity and Perceptions on Business Constraint Variables*

As shown in Table 3 there is a significant relationship between ethnicity (“1” Malays, “2” Chinese, and “3” others) and five of the business challenges variables. For example, Table 3 illustrates that perceptions on financial issues, human capital, business performance and government policies is higher among Malays than Chinese, as given by the mean value. It can be concluded from this, that these factors are of more concern to Malays than Chinese. Surprisingly, the perception on infrastructure is higher among Chinese compared to Malays, but is not significant. Given the favourable access that Malaysia have to infrastructure services etc., this is likely to put many Chinese at a disadvantage. These results clearly indicate that ethnicity does have an impact on how Malaysian SMEs observe these business challenges. It is very apparent, in Shah Alam at least, that native Malays are treated more favourably than non Malays. Not surprising if this also happens in the conduct of business).

Table 3: Ethnicity and perception on business constraints

		N	Mean	t	df	Sig. (2-tailed)
Financial issues	Malays	80	4.48	5.59	128	.***000
	Chinese	50	4.20	5.49	98.26	.***000
	Others	20	3.80	22.78	79.00	.***000
Human capital issues	Malays	80	3.65	1.41	128	.162
	Chinese	50	3.56	1.58	127.18	.116
	Others	20	4.0	-7.61	79.00	.***000
Competitiveness	Malays	80	3.9	7.02	128	.***000
	Chinese	50	3.60	6.81	94.27	.***000
	Others	20	4.2	-11.93	79.00	.***000
Infrastructure	Malays	80	4.18	-0.63	128	.530
	Chinese	50	4.22	-0.76	105.70	.450
	Others	20	4.0	3.21	79.00	.**002
Government policies	Malays	80	3.96	12.04	128	.***000
	Chinese	50	3.68	10.97	75.49	.***000
	Others	20	4.0	-3.17	79.00	.**002

* $P \leq .05$, ** $P \leq .01$, *** $\leq .001$

■ **Level of Education and Perceptions on Business Constraint Variables**

As shown in Table 4 there is a significant relationship between the level of education and the five business constraint variables. For example, this table indicates that respondents with a lower level of education (e.g. with no formal education or high school qualification) have a higher perception of business constraints, given the higher mean for this level of education in comparison with other levels. Surprisingly, the perception on human capital constraints is higher among respondents with higher qualifications (e.g. degree and masters). This result clearly demonstrates that the level of education among the respondents has an impact on how Malaysian SMEs observe these business constraints. In other words, respondents with lower qualifications perceive business constraints at a higher level. These result indicate that business constraints are seen as more problematic for less educated SME owners.

Table 4: Level of education and perception on business constraints

		N	Mean	t	df	Sig. (2-tailed)
Financial issues	No formal education	10	4.80	6.67***	48.00	.***001
	SPM/STPM/A level	40	4.45	7.39	39.00	.***000
	College	50	4.24	12.96	68	.***000
	Degree	20	3.80	20.58	49.00	.***000
	Masters	30	4.33	-7.62	29.00	.***000
Human capital issues	No formal education	10	3.00	-7.38	48.00	.***000
	SPM/STPM/A level	40	3.85	-14.87	39.00	.***000
	College	50	3.44	-10.58	68	.***000
	Degree	20	4.0	-14.87	49	.***000
	Masters	30	3.80	-16.71	29.0	.***000
Competitiveness	No formal education	10	3.80	-1.79	48.00	.08
	SPM/STPM/A level	40	3.95	-3.61	39.00	.001
	College	50	3.84	-8.09	68	.***000
	Degree	20	4.2	-12.86	49	.***000
	Masters	30	3.47	20.94	29.00	.***000
Infrastructure	No formal education	10	4.80	4.17	48.00	.***000
	SPM/STPM/A level	40	4.10	8.41	39.00	.***000
	College	50	4.08	1.73	68	.088
	Degree	20	4.00	2.75	49	.008
	Masters	30	4.30	-5.84	29.00	.***000
Government policies	No formal education	10	4.0	---	---	---
	SPM/STPM/A level	40	4.0	---	---	---
	College	50	3.84	-3.59	68	.001
	Degree	20	4.00	-5.72	49.00	.***000
	Masters	30	3.63	26.49	29.00	.***000

* $P \leq .05$, ** $P \leq .01$, *** $\leq .001$

---: can not be computed as the standard deviations of both groups are 0.

MEASUREMENT OF VARIABLES

■ **Factor Analysis**

An exploratory factor analysis of the items is conducted using principal components extraction and varimax rotation, to establish the validity of the items. We only report factor loadings that are greater than 0.5, which is considered to be significant (Monge, et al., 2006 and Hair et al., 1995). Our study measures business performance as well as the business networking level by using a five point Likert scale, and 15 items have been constructed to measure these two variables. Some of these items were identified earlier in the literature review section. For example, Hudson et al. (2001) have identified many dimensions for business performance such as quality, time, flexibility, satisfaction of customers and human resources. Some of these items in relation to business performance, such as product quality, productivity, market share and others, have been validated by Monge et al. (2006).

The factor analysis results yield two factors, and we only report those items with a factor loading greater than 0.05 (should this be 0.5?)(see Table 5). This resulted in the exclusion of four items. Therefore, two factors have been emerged and named business

performance (BP) and networking (N). Table 5 also reports the internal reliability values for the scale (Cronbach' alpaha) which is greater than 0.5 for each factor. This indicates that the instruments are reliable measures. The Table reports that the two factors registered 65.2 percent of the total variance.

Table 5: Factor loadings – Business performance (BP) and networking (N) measures

Item	Factor	
	BP	N
Business performance		
Proportio of Market share	.936	
Profitability	.936	
Productivity in terms of output	.922	
Productivity in terms of labour	.773	
Product quality	.757	
Business costs	.766	
Business Networking		
Geographical location		.663
Vertical links with MNCs		.687
Horizontal links with MNCs		.587
Horizontal link with other SMEs		.678
Links with Business association		.992
Reliability test		
Cronbach's alpha	.937	.794
variance explained	45.96	19.23
Eigenvalue	6.89	2.88

With respect to business constraints, based on the previous literature review, we are able to develop the following constructs to measure these variables, and divide them into five constructs or classifications as follows: perception on financial issues; perception on human capital constraints; perception on business competitiveness; perception on infrastructure constraints; and perception on government policies. In regard to financial issues we measure this construct by using a five point Likert scale, and 5 items have been constructed to measure this variable. Some of these items have been identified earlier in the literature and validated in a different study by Saleh et al. (2007).

Table 6 reports the items with a factor loading greater than 0.5. This resulted in exclusion of one item, and this factor is labelled as financial constraints. Table 6 also reports the internal reliability values for the scale (Cronbach' alpaha) which is greater than 0.5. This indicates that the instruments are reliable measures. The table also reports that this factor registered 40.21 percent of the total variance.

Table 6: Factor loadings – Financial constraints (F)

Item	Factor
F	
Difficulty in obtaining finance	.807
Interest rates are quite high	.464
The process in applying for loans are complicated	.635
Less effort by financial institutions to promote services for SMEs	.582
Reliability test	
Cronbach's alpha	.50
variance explained	40.21
Eigenvalue	
1.61	

With respect to the human capital constraints, we measure this construct by again using a five point Likert scale, where 5 items have been constructed to measure this variable that includes questions relating to skills of labour, administration level of staff, labour productivity among other items. Some of these items were identified earlier in the paper (see World Bank (2005), Vicziany et al. (2001) and Saleh et al. (2007)).

Table 7 reports the items with factors loadings greater than 0.5. This resulted in exclusion of one item, and this factor is labelled as lack of access to finance. Table 7 also details the internal reliability values for the scale (Cronbach' alpaha) which is greater than 0.5. This indicates that the instruments are reliable measures. The table also reports that this factor registered 59.73 percent of the variance.

Table 7: Factor loadings – Human capital constraints (HC)

Item	Factor
HC	
Low level of managerial/administration skills	.692
Labour productivity of labour force is low	.832
Not much creativity/innovation among the SME workforce	.909
Workforce does not have sufficient experience in dealing with international counterparts/businesses	.625
Reliability test	
Cronbach's alpha	.75
variance explained	59.73
Eigenvalue	
2.39	

Based on our earlier discussion, the business competitiveness construct is developed on the basis of five items relating to the competition that SMEs face from MNCs, overseas products, global developments and others. Table 8 reports the items with factors loadings greater than 0.5. This resulted in the exclusion of two items, and this factor is labelled as business competitiveness. Table 8 also reports the internal reliability values for the scale (Cronbach' alpaha) which is just 0.5. This indicates that the instruments are quite reliable measures. The table also reports that this factor registered 56.24 percent of the variance.

Table 8: Factor loadings – Business competitiveness (BC)

Item	Factor
BC	
SMEs face a high level of competition from MNCs	.722
SMEs products face a high level of competition from overseas products	.651
High costs of business operations hinders SMEs competitiveness	.862
Reliability test	
Cronbach's alpha	.500
variance explained	56.24
Eigenvalue	
1.69	

From our earlier review of the literature, see, for example, Vicziany, et al. (2001), measures for identifying infrastructure constraints, such as lack of R&D, problems with infrastructure etc, have already been developed. In addition, the World Bank (2005) has identified a number of constraints relating to insufficient infrastructure that can affect the business performance of SMEs in East Asia, as well as many other internal and external factors.

Hence, based on this literature, our study has developed constructs to measure infrastructure as well as government policies using a five point Likert scale, where 10 items have been constructed to measure these two variables. These items include constraints in regard to property rights, information, technology, raw materials, R&D etc With respect to government policies, respondents were asked to answer a range of questions relating to government support in regard to: financial assistance, innovation, human resources, industrial programs, business networks etc.

The factor analysis results reported in Table 9 only include items that have a factor loading greater than 0.05 (should this be 0.5?). This resulted in the exclusion of three items. Therefore, two factors emerged and named business infrastructure constraints (INF) and government policies (GP), respectively. Table 9 also reveals the internal reliability values for the scale (Cronbach' alpaha) which is greater than 0.5 for each factor. This indicates that the instruments are reliable measures. The table reports that the two factors registered 59.33 percent of the total variance.

Table 9: Factor loadings – Infrastructure constraints (INF) and Government policies (GP)

Item	Factor	
	INF	GP
INF		
Not much focus on the importance of R&D infrastructure among SMEs	.883	
Difficulty in getting access to raw materials and capital	.834	
GP		
Policies in respect to delivering and promoting SMEs		.763
Policies in respect to product and process innovation		.875
Policies in respect to human resource development		.911
Policies in respect to promote product exports		.885

Policies in respect to industrial linkages programs (ILP)		.820
Policies in respect to develop SME business networks		.958
Reliability test		
Cronbach's alpha	.654	.930
variance explained	19.69	59.33
Eigenvalue	1.58	4.75

RESULTS AND IMPLICATIONS

In order to investigate the relationship between networking and business performance (BP) within the context of the four perceived business challenges factors (F, HC, BC and INF), we utilise a linear regression procedure. In doing so, we have modelled the statistical relationship between BP and another set of independent variables such as F, HC, BC, INF and N. The results of this regression model are reported in Table 10. As shown in this table, business performance has a positive and significant relationship with networking. This finding is consistent with our hypothesis and is also in line with the existing business literature. The results also satisfy the theoretical requirement. It is also found that there is a negative and significant relationship (only for INF) between infrastructure constraints (INF), human capital constraints (HC) and the business performance factor. This indicates that an increase in the perceived infrastructure and human capital constraints by SMEs, will hinder their business performance. This result suggests that reducing identified infrastructure and human capital constraints (see Table 7 and 9) will enhance business performance (e.g. profitability, productivity, market share, product quality etc). Praag (2003) found similar results and concluded that capital constraints hinder the business performance of entrepreneurs. The results also reveal that there is a positive and significant relationship between competitiveness and business performance. This is also in line with the literature, as a higher level of competition forces firms to specialise and enhance product quality to improve market share.

On the other hand, we have modelled the relationship between GP and another set of independent variables, such as F, HC, BC, and INF. The results of this regression model are also reported in Table 10. As shown in this table most of these variables are linked negatively with government policies. This suggests that improving government policies will reduce the adverse perception of business constraints. This finding is consistent with our hypothesis and is also in line with the business literature. We find that there is a negative and significant relationship (not significant for F) between infrastructure constraints (INF), business competitiveness and government policy constructs. This indicates that improving the efficiency and adequacy of government policies will reduce the perception of these identified business constraints for SMEs. However, we find that there is a positive relationship between human capital constraints and government policies. These findings are, to some extent, unexpected, but can be justified on the basis that improving the delivery of government policies is not resulting in reducing the perceptions about human capital constraints. This could reflect the fact that government policies aimed are reducing a shortage of human capital is proving to be ineffective for SMEs. Many students wish to work for government and not the private sector. Overall, it suggests that Malaysia education expenditure is not being appropriately target. Too much on theory and not enough on generating practical business skills etc.

Table 10: Estimation Results – Standardised coefficients

Dependent Variable: BP	
N: 150	
Variable	Coefficient
F	.472
HC	-.071
BC	.713***
INF	-.448***
N	.259***
R-Squared	.749

Dependent Variable: GP	Coefficient
N: 150	
F	-.127
HC	.479
BC	-.395***
INF	-.303***
R-Squared	.263

Notes: ***, significant at the 1% level.

CONCLUSION

This study investigated the relationship between networking, business constraints, and business performance. Based on the earlier empirical and theoretical literature we developed new hypotheses and constructs for a questionnaire, aimed at studying the impact of business networking on business performance in the presence of perceived business constraints. This is justifiable as business networking occurs within an environment of business constraints. The study has contributed to the existing literature in a number of ways. First, to our knowledge, this study is the first comprehensive study to examine the relationship between networking and business performance in Malaysian SMEs, within the context of business constraints. Second, this study has developed new constructs, and validated them within an Asian context, with the aim of enhancing the current literature in regard to networking, perceived business constraints and business performance. Third, we found empirical evidence to suggest that, regardless of the type of industry (whether agro-based, manufacturing, and services) in which SMEs operate, networking has a positive and significant impact on business performance, while most of the perceived business constraints are found to be negatively linked with business performance. This suggests that Malaysian SMEs should consider inter-enterprise business networking as a key strategy to enhance their business performance and competitiveness, through focusing more on business networking and particularly on vertical and horizontal links with MNCs, horizontal links with SMEs and links with business associations. Hence, measures taken by policy makers that (1) enhance SME networking and (2) reduce the perception of business constraints would be highly recommended to enhance the business performance of SMEs in Malaysia.

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