

DETERMINANTS AFFECTING THE DEVELOPMENT OF NORTH AMERICAN MULTINATIONAL CORPORATIONS IN VIETNAM

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ABSTRACT

To acquire greater achievements in international investment, multinational corporations (MNCs) have tried their best to successfully operate their subsidiary network at the global scale, Vietnam included. Vietnam is considered as one of the most ideal destinations for MNCs to invest in compared to other Asian markets, hence analyzing the determinants that possibly affect MNCs' operation and development in the host countries is essential. In particular, it is important to investigate factors that impact the economic development of North American subsidiaries in Vietnam. We, thus, extract the information from 40 North American subsidiaries to examine such factors by means of the OLS analysis. The findings revealed that debt management capacity, size of the firms, and the number of employees represent positive correlations to the economic development of such subsidiaries. Besides, it is revealed that other factors, such as international experience, managers' characteristics, and cultural distance, showed statistical insignificance to the firm's economic development. Managerial implications for improving the subsidiaries' growth in Vietnam would be proposed.

Keywords: North American Multinationals; Operation Performance; Debt Management; Scale; Cultural Distance.

1. INTRODUCTION

The Americas, especially North America, is one of the areas which own the biggest economies in the world. It is also an important strategic economic partner with Vietnam. The development of the Vietnamese economy closely associated with such countries as the United States, Canada, Mexico, etc. is also thanks to the aids as well as contribution of North American multinational corporations in Vietnam, such as Coca-Cola (in Vietnam since 1994), PepsiCo (in Vietnam since 1994), Unilever (in Vietnam since 1995), etc. However, one of the limits of North American

small and medium-sized enterprises (SME) is the lack of experience in foreign markets, as well as finite world cultural studies on business strategies. In fact, some multinational companies have acquired success thanks to their profound knowledge of Vietnamese culture. For instance, Unilever products, particularly locust Sun Silk, P/S with salt, P/S with green tea and so on, were successfully launched in Vietnam, despite its initial tremendous struggle due to cultural differences.

There have been many scientific studies which successfully applied cultural concepts and distance to explain the connection and internationalization of multinational companies, considering cultural values as a variable to shed light on the MNCs' efficiency and extent of the international business. This ascertains that the impacts of cultural values in business, especially in the local context of such increasingly integrated countries as Vietnam, is particularly vital. Based on that reality, the research study on "Determinants affecting the development of North American multinational corporations in Vietnam" featuring factors of cultural distance was conducted.

2. literature review

Investors from the Americas have invested in 17 of 21 sectors in the Vietnam Standard Industrial Classification. Among them, most of the investments focused on accommodation and food and drinks with 17 projects whose registered capital is approximately 4.68 billion USD (accounting for 42.3% of the total registered capital of the United States in Vietnam). The sector of processing and manufacturing industries have taken the lead in terms of the number of investments with more than 323 projects, the second largest amount of registered capital is 2.24 billion USD (accounting for 20.3% of the total registered capital of the United States in Vietnam).



(Source: Vietnam Foreign Investment Department, 2018)

The development of enterprises is one of the most common topics to be analyzed in academic economics. As Storey (1994) suggests, there are interactions among 3 groups of factors which impact the development of enterprises, namely (i) businesspeople's capacity, (ii) enterprises (iii) and their strategies. Regarding (i), Storey articulates that there may be influences from some factors, for example, experience, age and motivations. Concerning (ii), the characteristics of an enterprise, which affect its development, include an enterprise's experience, its size and its position in the business world. In terms of (iii), the development of an enterprise may be influenced by strategies related to technology or export. Besides, Storey also points out some obstacles hindering the development of an enterprise, i.e. the availability of financial extension, the development in terms of demands, competition or skills of marketing, sales, management or even those of workers, etc.

Moreover, other studies (Mata, 1994; Hall, 1987, Dunne et al., 1989) also find out that it is the size and age of an enterprise that influences its development. Indeed, these authors suggest that new and small companies are more likely to grow than the well-established and sizable ones. Almus and Nerlinger (2000), Davidsson et al. (2002), Glancey (1998), Wijewardena and Tibbits (1999) figure out the same inverse proportionality between the development of a firm and its age.

Hall (1987), Harhoff (1998), Yasuda (2005) also point out that R&D activities also have certain influences on the development of a company. As shown in the results, R&D increases the development proportion of a firm. In addition, Storey (1994) mentions some financial limitations as one of the main barriers which inhibit the firm development.

The researchers like Storey (1994), Davidsson et al. (2002), Henrekson and Johansson (2008) share the same view that the size of a firm is one of the most critical factors to indicate the development of this firm. Bigsten and Gebreyesus (2007) discover that the size of the firm is conversely proportional to its development. You (1995) reaches a similar conclusion in his separate research.

Most of the studies about development focus on the impacts of R&D factors. Del Monte and Papagni (2003) point out that the development of an enterprise correlates with the size of its research. Adamou and Sasidharan (2007) also suggest that the R&D activities are also a key factor to indicate the development of an enterprise. A case in point is Brouwer, Kleinknecht and Reijnen (1993), proving that the R&D expenses are not significant in their studies regarding the development of an enterprise. Corsino and Gabriele (2011) also make a similar conclusion.

3. RESEARCH MODEL

Based on the literature on factors affecting the development of North Americans multinational companies (henceforth referred to as NA MNCs), the author has constructed hypotheses for studying those which impact the development of NA MNCs in Vietnam. The reason for choosing the MNCs from North Americas to be the focus of this study is that according to the Vietnamese Ministry of Planning and Investment (MPI) (2017), more than 80% of the MNCs which invested and are investing in Vietnam originated from North American countries, such as the US, Canada, and some others as indicated by the following variables.

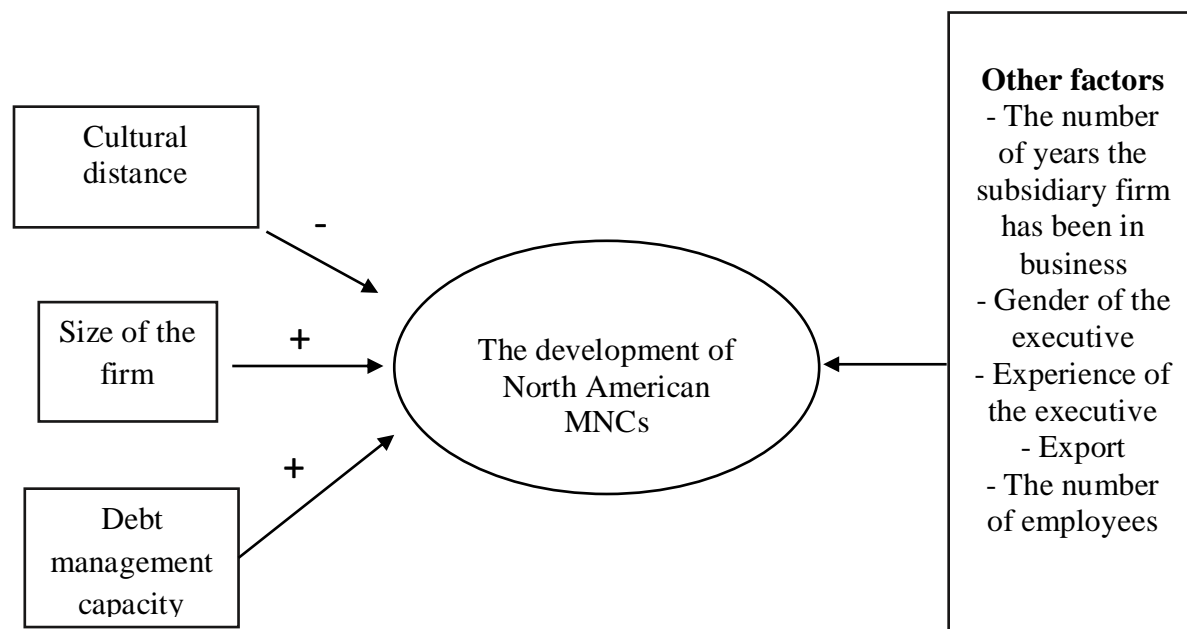


Figure 2. Suggested Research Model

3.1 Research Hypotheses

Hypothesis 1: *The larger the cultural distance between Vietnam (i.e. the host country) and home countries is, the less the subsidiary companies develop.* In a context of increasingly close integration, with the host culture becoming more diverse and harmonious at a global scale, one of the most enormous obstacles for the companies which are eager to penetrate a foreign market is the cultural and institutional barrier.

Hypothesis 2: *Large subsidiary companies will be more developed than the small ones.* As the author supposes, the larger a firm is, the more resourceful it is in terms of human and finance

resources. This is the foundation for development; hence, companies should gain this advantage to acquire more development opportunities.

Hypothesis 3: The better the subsidiary companies manage their debts, the more they develop.

Financial resources are of extreme importance for an organization. In fact, it helps them invest in new equipment, develop their products, and establish their growing reputation in new markets. One of many pivotal indexes reflecting a firm's financial resource is the one creditor-related ones. Debts have always been a double-edged sword. Should a firm have a low debt ratio, it implies that its risk of bankruptcy is minimal. In contrast, should a firm want to mobilize from creditors, the first thing it should consider is its paying capacity. In this study, the author utilizes the debt ratio as a reflector of a firm's debt management capacity. If this ratio is low, the firm manages its debt very well. In contrast, the higher this ratio becomes, the more debts the firm gets, the more likely it will go bankrupt.

3.2 Variables measuring methods

The dependent variable is the firm development (Y), which is indicated by two variables: rev (revenue) and prof (profit). The greater profit and revenue are, the more a firm develops. The higher the values are, the larger the firm's revenue from export is. These values are collected from annual financial reports of 40 MNCs on each of their official websites from 2014 to 2018.

Independent variables: Their characteristics are shown as followed table.

Cultural distance variable (CD): Based on the method suggested by Kogut and Singh (1988), the author is able to calculate the distance between Vietnamese cultures and those of other countries. The cultural distance index is indicated by the formula as follows:

$$CD_j = \sum_{i=1}^6 \{(I_{ij} - I_{iu})^2 / V_i\} / 6 \quad (1)$$

In which:

CD_j: Cultural distance between country j and country u.

I_{ij}: Index of the ith dimension of the jth home country.

V_i: Variance of the index of the ith dimension of culture.

The higher this value is, the larger the cultural distance between Vietnam and North American countries becomes.

Table 1. Interpretations, measuring methods and expectations of variables in the model

Variable	Symbol	Measuring method	Expectation
Dependent variable			
Revenue (Y ₁)	Rev	Arithmetic average of a subsidiary firm's revenue from 2014 to 2018	
Profit ((Y ₂)	Prof	Arithmetic average of a subsidiary firm's profit from 2014 to 2018	
Independent variables			
Cultural distance	CD	Using Hofstede's 6 cultural dimensions and Kogut and Singh's (1988) formula	-
Firm size	Size	Arithmetic average of the total assets of a subsidiary firm from 2014 to 2018	+
Debt management capacity	DA	Arithmetic average of the ratios of debts on the total assets (D/A) of an MNC from 2014 to 2018	-
Controlling variables			
The number of years in business	Age	The number of years a firm has been running until 2018	+
Gender of the manager	Gender	Dummy variable: 1 for male, 0 for female	+
Managing experience	Exp	The number of years the manager has been involved in managerial work in the current field of the firm until 2018	+
Export	Ex	Dummy variable: 1 if the firm exports, 0 if not.	+
The number of employees	Empl	Arithmetic average of the number of employees at the subsidiary firm from 2014 to 2018	+

(Source: Data analyzed using STATA, 2018)

3.3 Model estimating method

This research employs the linear regression model featuring ordinary least squares (OLS) to estimate the factors affecting the revenue and profit of subsidiary companies.

The estimating equation is as follows.

$$Y = \beta_0 + \beta_1cd + \beta_2size + \beta_3DA + \beta_4empl + \beta_5age + \beta_6gender + \beta_7exp + \beta_8ex + \varepsilon$$

In which:

- Y: Dependent variable (revenue and profit of the subsidiary firm)
- β_0 : y-Intercept of the model (the value of Y when all values of X equal 0)
- β_{1-4} : Estimated coefficients of cultural distance, size, and debt management capacity, respectively
- β_{5-8} : Estimated coefficients of controlling variables of the number of employees, years in business, gender of the executive, the executive's experience, and export, respectively
- ε : Error of the regression model

4. RESULTS

4.1 Statistical description and correlating matrix

In this study, the author employs spatial data, which means the data correlation test would be skipped. The author uses White's method to test the heteroscedasticity. As reflected in the results, both of the models accept the H_0 hypothesis: there is no heteroscedasticity in the models ($P_{revenue}=0.4135$; $P_{profit}= 0.4110$) (Appendix Tables 2a and 2b).

4.2 Results and discussions

Based on the regression results of Table 2 regarding the improvement of R^2 from 0.5112 (model 1) to 0.7047 (model 5), it is clear that model 5 is capable of explaining that 70.47% of the factors affecting the development of Americas MNCs in Vietnam is through revenue. This is also the best and the most complete one of the 5 estimating models. Model 5 takes into account all effects of 8 variables, including 3 independent variables, namely cultural distance (CD), ratio of debts on assets (DA), firm size (size), and 5 controlling variables, namely gender of the manager (GENDER), firm's years in business (AGE), manager's experience (EXP), export (EX) and number of employees (EMPL).

The estimated results of model 5 (Table 3) are reformulated in the regression model and analyzed as follows.

$$\text{Lnrev (Y}_1\text{)} = 23.213 - 0.776\text{DA} + 0.000004\text{Size} + 0.425\text{lnempl} + \varepsilon$$

According to the estimated results of the model:

The ratio of debts on assets (DA): The variable of ratio of debts on the total assets and the one of revenue is reversely proportional to the statistical significance of 5% ($\beta_{\text{DA}} = -0,776$; $p = 0,023 < 0.05$). This means that if the ratio of debts on the total assets increases by one unit, the revenue of the North Americas MNCs will decrease by 0.776%. In other words, companies with higher debt ratio have to spend more on interest rates, not to mention other factors such as inflation within and out of the countries as well as governments' policies. If those companies borrow money from a foreign bank, exchange rates may also cause to increase a firm's cost for lending. This finding concurs with the H₃ hypothesis that the author suggested, i.e. the better a firm's debt management capacity is, the more developed that firm becomes. This is considered practical evidence supporting such authors as Jensen (1986), Stulz (1990), and Hart and Moore (1995) on the impact of debts on a firm's development.

The firm size (Size): The variable of the firm size is directly proportional to the dependent variables with the significance of 1% ($\beta_{\text{size}} = 0.000004$; $p = 0.001 < 0.1$). Looking at the estimating coefficient, one could see that even though the variable of the firm size is significant, its influence on the independent variables is otherwise. If the size or the assets of the firm increase by a thousand USD, the revenue will rise by 0.000004%. The larger the size of a firm is, the stronger its financial capacity is. It would be easier for the firm to make investment decisions to enhance the efficiency of both machines and workers so that more and more products would be produced and the revenue would grow tremendously. This result is in line with hypothesis 2, which suggests the larger a firm size is, the more that firm develops. There have been many researchers using the variable signifying the size of a firm to examine its development such as Vijayakumar and Tamizhselvan (2010), Lee (2009), and most of them suggest similar direct proportional results despite their varying subject companies' sizes and measuring methods. Therefore, hypothesis 2 is *The number of employees (lnempl):* The variable of the number of employees has a directly proportional effect on the variable of the revenue of Americas MNCs with the significance of 1% ($\beta_{\text{lnempl}} = 0,425$; $p = 0,004$). In other words, if the number of employees in a firm increase by one person, the revenue will rise by 0.425 thousand USD. This could be explained that when the Americas MNCs possess a sizable workforce, more workers will participate in the production process, which leads to higher productivity and, certainly, higher revenue. In addition, with abundant human resources, there would be more accepted both theoretically and practically.

Table 2. The estimated OLS regression results for factors affecting the development of multinational companies based on their revenue (Y_1)

Variables	Expectation	M1	M2	M3	M4	M5
Independent variables						
CD	-		-6.776			-7.127
DA	-			-0.754***		-0.776**
Size	+				0.000003*	0.000004*
Controlling variables						
Age	+	0.003	0.011	0.009	0.013	0.027
Gender	+	-0.425	-0.555	-0.373	-0.096	-0.167
Exp.	+	-0.063	-0.095	-0.040	-0.051	-0.060
Ex	+	0.523	0.405	0.475	0.475	0.300
Empl.	+	0.599*	0.557*	0.554*	0.521*	0.425*
Constants		6.396*	21.907***	7.085*	6.198*	23.213**
R²		0.511	0.533	0.562	0.625	0.705

(Source: Data analyzed using STATA, 2018)

*, **, *** respectively indicate the significances of 10%, 5% và 1%

“grey matter.” Companies would benefit from that creativity to gain revenue.

Table 3 shows the estimated OLS regression results, regarding the factors impacting the development of the Americas MNCs in Vietnam based on profit. Accordingly, there is an improvement of R^2 from 0.4455 (model 1-M1) to 0.6716 (model 5-M5). This proves that model 5 is capable of explaining 67.16% of the factors affecting the development of the Americas MNCs in Vietnam through profit, and is also the best and the most complete one among 5 estimating models.

Table 3. The estimated OLS regression results of the factors impacting the development of multinational companies through profit (Y_2)

Variables	M1	M2	M3	M4	M5
Independent variables					
CD		-3.144			-3.524
DA			-1.184*		-1.211*
Size				0.000004**	0.000004*
Controlling variables					
Age	0.017	0.020	0.024	0.026	0.037
Gender	-0.980***	-1.038***	0.887***	-0.663	-0.621
Exp.	-0.013	-0.028	0.020	-0.001	0.017
Ex.	-0.201	0.147	0.129	0.154	0.018
Empl.	0.582*	0.560*	0.490*	0.507*	0.395**
Constants	4.308*	11.521	5.479*	4.097*	13.37
R²	0.445	0.449	0.560	0.5451	0.671

(Source: Data analyzed using STATA, 2018)

*, **, *** respectively indicate the significances of 10%, 5% và 1%

The ratio of debt on the total assets (DA): The variation of debt on the total assets is reversely proportional to the revenue of the Americas MNCs with the significance of 1% ($\beta_{DA}=-1.211$; $p = 0.002 < 0.01$). This means if the ratio of debt on the total assets rises by 1 unit, the NA MNCs' revenue will decrease by 1.211%. This matter has been explained in the previous model, where companies which successfully manage their debts would not have to pay much for debt-related expenses, which affect the companies' profit. In addition, they would gain an advantage in raising funds, attracting many creditors or investors. Hence, the income of the companies would be enhanced and the companies themselves would be more developed.

The size of the firm (size): The variation of the size of the firm has a directly proportional impact on the profit of the MNCs with the significance of 1% ($\beta_{size}=0.000004$; $P = 0.004 < 0.1$). It means if the size or the assets of a firm increases by a thousand USD, its profit would go up by 0.000004%, which is just a modest rise.

The number of employees (lnempl): This has a directly proportional impact on the variable of the firm's profit with the significance of 5% ($\beta_{\lnempl}=0.395$; $p = 0.017 < 0.05$). It can be briefly explained by the fact that when the Americas MNCs own a larger workforce, more workers will be involved in the production process, more products will be produced, the productivity will be enhanced, and so will the firm's profit.

Through this study, the author has introduced factors influencing the development of the North Americas MNCs in Vietnam. As analyzed earlier, such factors as the size of the firm and its capacity to manage debts have produced results which meet the author's expectations. Among the controlling variables, only the one concerning the number of employees is significant and has a directly proportional impact on the dependent variables, meeting the author's expectations. In addition, the variables of cultural distance, the age of the firm, the gender of the manager, his or her experience and export are not statistically significant in this study.

The study reveals that the more efficiently an NA MNCs manages debts, the more developed it becomes, and companies with bigger size tend to be more well-developed. In addition, the MNCs with a larger number of workers are more ahead in the race than those whose workforce is modest. These results imply that in order to be successful and developed in an invested developing country, the MNCs should concentrate on financial capacity, especially debt management. Furthermore, factors concerning the workforce and the size of the firm are vitally important.

Any firms which could acquire those three advantages are more likely to develop sustainably.

5. CONCLUSION

Factors impacting the development have been a research subject that captures the attention of several scholars. However, it could be seen that the trend of studying the MNCs in Vietnam in recent years is still limited. Therefore, the results of this research would initiate further studies or help domestic and foreign enterprises have a better insight into the Vietnamese market in the future.

Besides, other factors, such as the number of years in business, characteristics of the executive, export, cultural distance between the host and home country are also considered although they are not statistically significant in this research. Hence, upcoming studies may dig into and focus on these facets to offer a more comprehensive and profound insight into the factors affecting the development of MNCs so that more investment would be attracted, helping Vietnam become an ideal place for the MNCs, towards a more internationally integrated Vietnam.

REFERENCES

- AAdamou, A., & Sasidharan, S. (2007). The impact of R&D and FDI on firm growth in emerging-developing countries: Evidence from Indian manufacturing industries.
- Almus, M. (2000). Testing "Gibrat's Law" for young firms—empirical results for West Germany. *Small Business Economics*, 15(1), 1-12.
- Anastas, P. T., & Kirchhoff, M. M. (2002). Origins, current status, and future challenges of green chemistry. *Accounts of chemical research*, 35(9), 686-694.
- Bigsten, A., & Gebreyesus, M. (2007). The small, the young, and the productive: Determinants of manufacturing firm growth in Ethiopia. *Economic Development and Cultural Change*, 55(4), 813-840.
- Brouwer, E., Kleinknecht, A., & Reijnen, J. O. (1993). Employment growth and innovation at the firm level. *Journal of Evolutionary Economics*, 3(2), 153-159.
- Davidsson, P., & Henrekson, M. (2002). Determinants of the prevalence of start-ups and high-growth firms. *Small business economics*, 19(2), 81-104.
- Del Monte, A., & Papagni, E. (2003). R&D and the growth of firms: empirical analysis of a panel of Italian firms. *Research policy*, 32(6), 1003-1014.
- Gabriele, R., & Corsino, M. (2011). Product Innovation and Firm Growth: Evidence from the Integrated Circuit Industry.
- Gabriele, R., Zaninotto, E., & Corsino, M. (2011). Organizational Capabilities and Industry Dynamics: A Computational Model.
- Glancey, K. (1998). Determinants of growth and profitability in small entrepreneurial firms. *International Journal of Entrepreneurial Behavior & Research*, 4(1), 18-27.
- Hall, E. T., & Hall, M. R. (1987). *Understanding cultural differences: [Germans, French and Americans]* (Vol. 9). Yarmouth, ME: Intercultural press.
- Harhoff, D. (1998). R&D and productivity in German manufacturing firms. *Economics of Innovation and New Technology*, 6(1), 29-50.
- Hart, O., Aghion, P., & Moore, J. (1995). Insolvency reform in the UK: a revised proposal. *Insolvency law and practice*, 11.

Henrekson, M., & Johansson, D. (2008). Competencies and institutions fostering high-growth firms. *Foundations and Trends® in Entrepreneurship*, 5(1), 1-80.

Hofstede, G. (2006). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2.

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2(1), 8.

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, 76(2), 323-329.

Kogut, B., & Singh, H. (1988). The effect of national culture on the choice of entry mode. *Journal of international business studies*, 19(3), 411-432.

Lee, J. (2009). Does size matter in firm performance? Evidence from US public firms. *international Journal of the economics of Business*, 16(2), 189-203.

Storey, D. (1994). *Understanding the Small Business Sector* - Routledge, London

Storey, D. J. (2016). *Understanding the small business sector*. Routledge.

Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of financial Economics*, 26(1), 3-27.

Vijayakumar, A., & Tamizhselvan, P. (2010). Corporate size and profitability-an empirical analysis. *Journal for Bloomers of Research*, 3(1), 44-53.

Vijayakumar, R. V., & Tamizhselvan, R. (2010). The Effect of Firm Size on Profitability of Firms in Nigeria. *Academic Journal*, 38(3), 412-443.

Wijewardena, H., & Tibbits, G. E. (1999). Factors contributing to the growth of small manufacturing firms: data from Australia. *Journal of Small Business Management*, 37(2), 88.

Yasuda, T. (2005). Firm growth, size, age and behaviour in Japanese manufacturing. *Small Business Economics*, 24(1), 1-15.

APPENDICES

Table 2a: Correlating matrix between variables and revenue

	VIF	1	2	3	4	5	6	7	8	9
1 Revenue		1								
2 Cultural distance	1.21	-0.223	1							
3 Firm size	1.18	0.520	-0.010	1						
4 Debt management capacity	1.10	-0.399	0.028	-0.061	1					
5 Years in business	1.41	0.222	0.091	-0.087	0.005	1				
6 CEO's gender	1.61	-0.244	0.036	-0.326	0.092	0.274	1			
7 CEO's experience	1.40	-0.216	-0.249	-0.007	0.181	-0.204	-0.296	1		
8 Export	1.41	0.447	-0.205	0.21	-0.164	0.069	-0.330	-0.062	1	
9 Number of employees	1.75	0.685	-0.148	0.245	-0.225	0.367	-0.190	-0.228	0.440	1

(Source: Data analyzed using STATA, 2018)

Table 2b: Correlating matrix between variables and profit

	VIF	1	2	3	4	5	6	7	8	9
1 Profit		1								
2 Cultural distance	1.23	-0.156	1							
3 Firm size	1.17	0.503	-0.015	1						
4 Debt management	1.11	-0.495	0.024	-0.069	1					
5 Years in business	1.39	0.170	0.084	-0.101	-0.007	1				
6 CEO's gender	1.59	-0.356	0.042	-0.320	0.102	0.294	1			
7 CEO's experience	1.41	-0.086	-0.252	-0.011	0.177	-0.213	-0.293	1		
8 Export	1.39	0.370	-0.212	0.203	-0.173	0.056	-0.323	-0.067	1	
9 Number of employees	1.73	0.612	-0.165	0.232	-0.253	0.347	-0.171	-0.246	0.431	1

(Source: Data analyzed using STATA, 2018)