Exploratory Factor Analysis for the SMEs' Exporting Activities in Southern Area of Vietnam

Dr. Phan Thanh Tam[1] and B.A Nguyen Thi Bich Thuy[2]

[1,2] Lecturer of Lac Hong University (LHU)

Abstract: Vietnam has been joined into Word Trade Organization since 2007 and therefore the country needs to take into account a lot of international trading framework but it also brings higher opportunities to explore other markets. Since Vietnamese Small and Medium enterprises (SMEs) are leading industry in term of exports, SMEs have to focus on strengthening their knowledge in term of trading performances. However, there are not so many studies that have been conducted to investigate how export activity responding to its antecedents in Vietnam. This study showed that there were 200 managers of SMEs related to Southern Area of Vietnam who interviewed and answered about 21 questions but 188 managers of SMEs processed. Data collected from 8/2016 to 11/2017 for the managers of SMEs of Southern Area of Vietnam. The paper had been analyzed KMO test, Cronbach's Alpha and the result of KMO analysis which used for multiple regression analysis. Managers of SMEs' responses measured through an adapted questionnaire on a 5-point Likert scale (Conventions: 1: Completely disagree, 2: Disagree, 3: Normal; 4: Agree; 5: completely agree). Hard copy and online questionnaire distributed among 10.000 the SMEs of Southern Area of Vietnam. In addition, the exploratory factor analysis (EFA) results showed that there were five factors affecting the SMEs' exporting activities of Southern Area of Vietnam with significance level 5 percent. The research results processed from SPSS 20.0 software.

*Keywords:*Exporting, activities, SMEs and LHU

INTRODUCTION

Nowadays, Vietnam as the international division of labor is taking place; international trade has become an indispensable and indispensable rule for the economic development of all. In fact, no country can survive without saying anything to develop if it isolated itself not related to the world economy. International trade becomes a matter of survival because it allows for a change in the composition of the economy and enhances the well-being of the population of a country. International trade is the purchase and sale of goods and services between nations. It is a form of social interaction and reflects the interdependence of the economy between the commodity producers.

Besides, the role of export business in the national economy: Exporting is to create capital for import, serving the industrialization of the country to implement the direction of industrialization and modernization of the country, we must first import a large number of modern machinery and equipment from outside to equip the production base. Capital for importation is often based on sources such as borrowing, aid, foreign investment and exports. Loans are also available, and foreign aid and investment are limited, and these are more often dependent on foreign sources, so the most important source of capital is exports. In fact, any country that has increased its exports, then imports accordingly. On the contrary, if more imports are made, the trade deficit will be too great to negatively affect the national economy.

In addition, exports contribute to the economic restructuring, boosting production: The structure of production and consumption in the world has changed dramatically. This is the result of modern scientific and technological revolution. The economic restructuring in the process of industrialization in line with the development trend of the world economy is inevitable for our country. Exporting plays a role in stimulating the renewal of equipment and production technology. Export activities are activities directed to the world market, a market that is increasingly competitive. The existence and development of export goods depends very much on quality and price, so it depends greatly on the technology of producing them. This motivates domestic enterprises to constantly innovate and improve the quality of production technology. On the other hand, exports in a competitive economy also require businesses to innovate and improve their production quality and business management, which requires the improvement of these factors. Facing this situation, the researchers had chosen topic "*Exploratory factor analysis for the SMEs' exporting activities in Southern Area of Vietnam*" as a paper. This paper helps policy makers who apply them for improving policy on the management of the SMEs' exporting activities in Southern Area of Vietnam.

LITERATURE REVIEW

Firm management characteristics: It is defined as a combination of business and organization of the firms which includes how the management style, the leadership style, corporate culture, etc. In addition, firm management characteristics is related to the influence of management board in order to guide all people to reach a common goals (Heskey, 1984).

Language and customs: Language as Oxford Dictionary defined as "the method of human communication, either spoken or written, consisting of the use of words in a structured and conventional way." This dictionary also defined customs as "a traditional and widely accepted way of behaving or doing something that is specific to a particular society, place, or time."

Exchange rate: Kesriyeli (1997) said it is defined as the nomination factor to translate one foreign currency to local currency. This concept refers to the power purchasing parity of goods in economic theory. He denotes that power purchasing parity is reflected through the adjustment of prices to the currency of the country when this product is exported into by the exporters. The theory of exchange rate is also related to tradable and non-tradable goods. He noted that the prices of tradable and non-tradable goods is equal everywhere of the world thorough foreign exchange rate. This means that when one consumers buy goods in one country, he/she can buy this good in another country with prices translated from a rate, namely foreign exchange rate.

Tariffs: It is defined as restriction of government towards imported products. The concept of tariffs is referred to a level of tax imposed by the government in order to protect local firms. According to Salvatore (2005), there are several types of tariffs, including (1) specific tariff, (2) ad valorem tariff, and (3) compound tariff. Specific tariff is known as the fixed amount of tax on imported goods. Ad valorem tariff is known as fixed percentage of tax toward commodity products. Compound tariff is denoted as a combination between specific tariff and ad valorem tariff and it is quoted by percentage. **By Hill, Charles W.L. (2015).**

Globalization: It is defined as economic trend whether a country's firms want to participate into international market and selling its products to other countries in order to gain more economic benefits. On the other hand, globalization is understood as process of which it fosters economic integration and cooperation, the transfers of knowledge, joint-cultural, and beneficial improvement. BY **Joshi, Rakesh Mohan, (2005).**

The term export: it means sending of goods or services produced in one country to another country. The seller of such goods and services is referred to as an exporter; the foreign buyer is referred to as an importer. Export of goods often requires involvement of customs authorities. An export's counterpart is an import. BY **Joshi, Rakesh Mohan, (2005).**
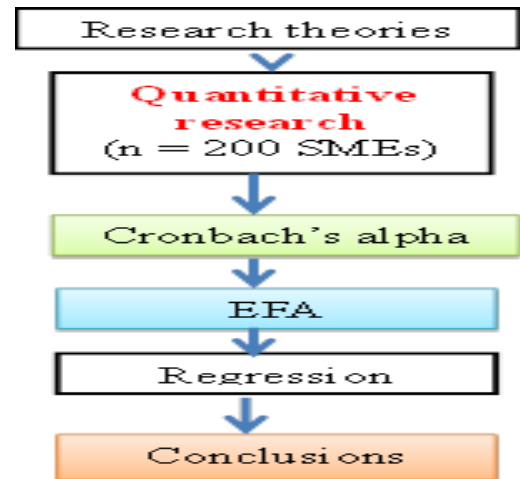
METHODS OF RESEARCH

− Study subjects: the SMEs' exporting activities.
− Scope of the Study: the SMEs' exporting activities in Southern Area of Vietnam and the factors affecting the SMEs' exporting activities.

This research conducted at the SMEs' exporting activities. The period was from 8/2016 to 11/2017 for the SMEs of Southern Area of Vietnam. The process of research consists two steps: a preliminary study and formal research. The study used qualitative methods through in-depth interviews

with 30 exporters to examine the content and meaning of the sentences used in the scale. Formal research used quantitative methods through surveying about the SMEs' exporting activities in Southern Area of Vietnam.
+ Qualitative research: Pick up form and questionnaire.
- Analysis of data;
- Quantitative research:
+ Reliability Statistic: Cronbach's Alpha coefficient
- Exploring factor analysis (EFA).
- Determine the regression equation.
- Testing

Figure 1: Research process for factors affecting the SMEs' exporting activities in Southern Area of Vietnam

Statistical Treatment: After the data collected
Statistical Treatment: After the data collected, the researcher turns to the task of analyzing them. The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation and then drawing statistical inferences.

The unwieldy data condensed into a few manageable groups and tables for further analysis. Thus, researcher should classify the raw data into some purposeful and usable categories. (1) Codingoperation done at the stage through which the categories of data transformed into symbols that tabulated and counted. (2) Editingis the procedure that improves the quality of the data for coding. With coding, the stage is ready for tabulation. (3) Tabulation is a part of the technical procedure wherein the classified data put in the form of tables. The mechanical devices made use of the juncture. Computers not only save time but also make it possible to study large number of variables affecting a problem simultaneously.

Analysis work after tabulation is generally to base on the computation of various percentages, coefficients, etc., by applying various defined statistical formulae. In the process of analysis, relationships or differences supporting or conflicting with original or new hypothesis subjected to tests of significance to determine with what validity data to indicate any conclusion(s).After collecting data, we use Statistical Package for Social Scientists (SPSS) software version 20.0.SPSS for analyzing data and extracting output. There are four tests applied, the order and purpose is described as following:**Descriptive statistic:** it presents the

frequency, data means, standard deviation, measures of central tendency and dispersion by converting the raw data after collecting to results of factor, which express in single situation.

Data analysis: In my research, I used SPSS software version 20.0 in order to analyze the collected data. My data analysis procedure has 4 steps: first step is descriptive statistics; second step is reliability testing; third step is exploratory factor analysis; and the final step is regression analysis.

Descriptive Statistics: Descriptive Statistics is a numerical summary of a dataset. Through descriptive statistics, the quantitative descriptions presented in a manageable form; the characteristics of the sample in the method section then described. Descriptive statistics in my research present the minimum value, maximum value, standard deviation, and the mean of all variables.

Reliability Statistic: Reliability Statistics indicate how well the items in a set are positively correlated to one another.

Exploratory Factor Analysis: EFA used to test against this problem, and method is widely accepted to inspect the value of a scale. The method for conducting an EFA is the "Principal Component Method" and "Varimax Rotation". The statistics parameters in EFA include: (1) Consider the accordance with EFA: KMO coefficient (Kaiser-Meyer-Olkin), is a criteria for evaluating the accordance of the data for EFA. The EFA is appropriate when $0.5 \leq KMO \leq 1$. (2) The criteria to determine the number of factors to be extracted: all extraction factors must have Eigen value > 1. This standard is widely accepted as the basis for adding or removing any factor. (3) We consider the hypothesis of Bartlett's Test of Sphericity (H_0) where variables that do not have correlation with the overall (overall matrix is homogeneous). When sig. ≤ 0.05, the hypothesis of correlation between observed variables is zero in the overall. This data is appropriate when the hypothesis H_0 rejected. (4) The cumulative coefficient of variance explained criteria ≥ 0.5. After EFA, those factors and variables that are unvalued rejected or combined with other factors to establish a new factor. Regression Analysis for factors affecting the employee exporting activities: There is testing the relationship between the independent variables and the dependent variable, multiple linear regression used in my research.

RESEARCH RESULTS

Table 1: Cronbach's Alpha test for factors of the SMEs' exporting activities of Southern Area of Vietnam

1. Exchange rate and economic index (ERE)	**Cronbach's Alpha**
ERE1: Vietnam exchange rate is very suitable for SMEs export and the volatility in the exchange rate market has been impacted to the export activity	0.941
ERE2: Vietnam administrative procedures is changing quickly and very helpful for SMEs export and the volatility in the exchange rate market has been impacted to the export activity	
ERE3: Vietnam exchange rate policy is now very useful for SMEs export activity	
ERE4: Vietnam economic is growing each year and high rate impacted to the export activity	
ERE5: Vietnam inflation rate is low and bank interest impacted to the export activity	
2. Tariffs and political policy (TPP)	**Cronbach's Alpha**
TPP1: The Vietnam Tariffs officials have tactful attitude, civilized and courteous when communicating, behavior	0.925
TPP2: The Vietnam Tariffs officials understand about master policy or tax professional and Quantitative restrictions and similar limitations create the barriers to SMEs export activities	
TPP3: The tax officers are proficient processes and task-solving skills and Specific tariffs create the barriers to SMEs export activities	
TPP4: Vietnam government supports SMEs export activities of Vietnamese firms and Vietnam political situation is very good for SMEs export activity	
3. Globalization (G)	*Cronbach's Alpha*
G1: The globalization helps SMEs export SMEs many countries and the changes of adopting innovative technology supports SMEs export activities	0.929
G2: The globalization helps SMEs improve the exporting and Globalization brings more diversification and sophistication in export mechanism in the way of supporting SMEs export activities	
G3: The globalization helps SMEs to find new export SMEs market and the changes of adopting innovative technology supports SMEs export activities	

Table 1: continued

4. *Firm management characteristics (FMC)*	Cronbach's Alpha
FMC1: The Vietnam firm management is very good for SMEs exporting and The filtered view of individual decision makers in the firm supports SMEs export activities	0.875
FMC2: The Vietnam firm managers are very reactive for SMEs exporting and Management experience towards international trade supports SMEs export activities	
FMC3: The Vietnam firm management characteristics are very suitable for SMEs exporting and the knowledge of competitors, industry structure, payment mechanism, money transfer and available assistance for export supports SMEs export activities	
5. *Language and customs (LC)*	Cronbach's Alpha
LC1: The website of the Language is regularly updated and provides full documentation, guidelines for customers and different language in different exported zones reduces SMEs export activities	0.759
LC2: The customs offices applied online tax return filing has helped SMEs convenient and save time, costs more than the previous tax forms	
LC3: The customs is responsive to online tax declarations of SMEs and different customs in different exported zones reduces SMEs export activities	
6. **The SMEs export activities (SEA)**	Cronbach's Alpha
SEA1: The enterprise completely satisfied with the tariff policy, globalization, and exchange rate.	0.685
SEA2: The SMEs' share is developing in the world market	
SEA3**:** In general, SMEs' profit is increasing in the world market	

(Source: The researchers' collecting data and SPSS)

Table 1 showed that Cronbach's Alpha test for factors affecting the SMEs' exporting activities of Southern Area of Vietnam include: Five of variables surveyed Corrected Item-Total Correlation greater than 0.3 and Cronbach's Alpha if Item deleted greater than 0.6 and Cronbach's Alpha is very reliability.

Table 2: KMO and Bartlett's Test for factors of the SMEs' exporting activities of Southern Area of Vietnam

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.763
Bartlett's Test of Sphericity	Approx. Chi-Square	2802.006
	df	153
	Sig.	.000

Total Variance Explained							
Com.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.980	27.668	27.668	4.980	27.668	27.668	4.532
2	3.883	21.575	49.243	3.883	21.575	49.243	3.927
3	2.320	12.887	62.130	2.320	12.887	62.130	2.895
4	2.037	11.318	73.447	2.037	11.318	73.447	2.742
5	1.507	8.375	81.822	1.507	8.375	81.822	2.492
6	.593	3.296	85.118				
…	…	…	…				
18	.073	.407	100.000				

(Source: The researchers' collecting data and SPSS)

Table 2 showed that KMO and Bartlett's Test for factors of the SMEs' exporting activities of Southern Area of Vietnam such as the results showed that KMO coefficient had: $0.5 \leq$ KMO ≤ 1 (KMO: Kaiser-Meyer-Olkin). KMO is an index used to examine the appropriateness of factor analysis. KMO value significantly larger factor analysis is appropriate. KMO coefficient is 0.763 and the level of significance (Sig) is 0.000.

Exploratory Factor Analysis (EFA) is consistent with survey data of 200 the managers of SMEs of of Southern Area of Vietnam but 188 managers of SMEs processed by SPSS 20.0. Table 2 showed that Extraction Sums of Squared Loadings is 81.822 %. There are 18 items for factors affecting the SMEs' exporting activities of Southern Area of Vietnam.

Table 3: Structure Matrix for factors affecting the SMEs' exporting activities of Southern Area of Vietnam

Code	Component				
	1	2	3	4	5
ERE3	.929				
ERE4	.910				
ERE1	.899				
ERE2	.887				
ERE5	.873				
TPP1		.982			
TPP4		.930			
TPP2		.884			
TPP3		.830			
G3			.963		
G1			.958		
G2			.885		
FMC3				.910	
FMC1				.902	
FMC2				.873	
LC1					.859
LC2					.846
LC3					.755

(Source: The researchers' collecting data and SPSS)

Table 3 showed that structure Matrix for factors affecting the SMEs' exporting activities of Southern Area of Vietnam such as there are five factors: X1. Exchange rate and economic index (ERE); X2. Tariffs and political policy (TPP); X3. Globalization (G); X4. Firm management characteristics (FMC); X5. Language and customs (LC).

Table 4: KMO and Bartlett's Test for the SMEs' exporting activities

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.669
Bartlett's Test of Sphericity	Approx. Chi-Square	91.824
	df	3
	Sig.	.000

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.852	61.731	61.731	1.852	61.731	61.731
2	.600	19.990	81.721			
3	.548	18.279	100.000			

Component Matrix[a]	
Code	Component
	1
SEA3	.794
SEA2	.793
SEA1	.769

(Source: The researchers' collecting data and SPSS)

Table 4 showed that KMO and Bartlett's Test for the SMEs' exporting activities such as the results showed that KMO coefficient had: KMO = 0.669 (KMO: Kaiser-Meyer-Olkin). KMO is an index used to examine the appropriateness of factor analysis. KMO value significantly larger factor analysis is appropriate. KMO coefficient of the SMEs' exporting activitiesis 0.669 and the level of significance (Sig) is 0.000. Y: the SMEs' exporting activities.

Table 5: Factors affecting the SMEs' exporting activities

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.756[a]	.571	.559	.34533	1.601
a. Predictors: (Constant), X5, X3, X2, X4, X1					

b. Dependent Variable: Y								
ANOVA[a]								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	28.870	5	5.774	48.418	.000[b]		
	Residual	21.704	182	.119				
	Total	50.574	187					
a. Dependent Variable: Y								
b. Predictors: (Constant), X5, X3, X2, X4, X1								

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.945	.170		5.564	.000		
	X1	.284	.030	.503	9.353	.000	.816	1.226
	X2	.158	.026	.321	6.007	.000	.825	1.213
	X3	.082	.031	.131	2.602	.010	.928	1.078
	X4	.112	.024	.239	4.716	.000	.917	1.091
	X5	.107	.023	.244	4.677	.000	.869	1.150
a. Dependent Variable: Y								

(Source: The researchers' collecting data and SPSS)

Table 5 showed that five factors affecting the SMEs' exporting activitiessuch as the value of column t > 2, smaller significance level 0.05 and statistically significant data to explain the variation of the SMEs' exporting activities, Adjusted R Square is 0.559 or 59.9 %. Besides, the regression coefficient is positive. This means that the impact of the independent variables in the same direction with the SMEs' exporting activities. Moreover, the regression results showed the Durbin - Watson stat = 1.601 said no autocorrelation phenomena. Variance Inflation Factor (VIF) is exaggerated coefficient variance, when VIF value exceeding 10.0 is shown signs of multicollinearity phenomenon. While table 05results can assert no correlation between the independent variables in the equation. Meaning no multicollinearity phenomenon by VIF values less than 10.

CONCLUSIONSAND RECOMMENDATIONS

The study results showed that there were 200 SMEs interviewed and answered about 21 questions but 188 managers of SMEs processed lack of 12 samples. The paper had been analyzed KMO test, Cronbach's Alpha and the result of KMO analysis which used for multiple regression analysis. Five factors: X1. Exchange rate and economic index (ERE); X2. Tariffs and political policy (TPP); X3. Globalization (G); X4. Firm management characteristics (FMC); X5. Language and customs (LC) that affecting the SMEs' exporting activities of Southern Area of Vietnam with significance level 5 percent. The research results processed from SPSS 20.0 software. We have recommendations for the managers continued improving the SMEs' exporting activities of Southern Area of Vietnam.

RECOMMENDATIONS

International economic integration in a globalized world, fluctuations in the market countries will impact strongly on the domestic market. This requires us to have a proper macroeconomic policy capable of forecasting and analyzing the situation, and the management mechanism must provide the basis for the economy to respond positively and positively. There are many the negative impact of the fluctuations in the world market. From this point on we cannot continue to ignore the events of the world. Even very small fluctuations, if we do not actively analyze, find out the cause, forecast the trend continues and take measures to prevent our impact is very large.

SMEs should apply recommendations in order to boost exports; enterprises must first identify the export strategy and the right market strategy. On the basis of selecting markets and identifying key export items are important. SMEs need to choose the mode of renewing production technologies and management technologies. Export items must meet the standards required by the importing country. SMEs need developing the market, creating the identity for the enterprise to build a solid brand to confirm the position of enterprises on the international arena. It is necessary to strengthen the vertical and horizontal cooperation to ensure the supply of raw materials and to always recognize the importance of competition and cooperation. Small and medium enterprises, which need little to strengthen cooperation, links to help each other. The management mechanism must be improved; to train and promote the leadership capacity of the corporate executives. It is important for exporters to be aware of the important role of trade associations and to closely link them with these organizations so that they can truly bridge the gap between business and government agencies. SMEs need actively conduct trade promotion activities.

REFERENCES

[1]. Anderson, T., & Kanuka, H. (2003). E-research: Methods, strategies, and issues.Boston: Allyn & Bacon.

[2]. Beverland, Michael, and Adam Lindgreen (2002).Using Country of Origin in Strategy: TheImportance of Context and Strategic Action. Cambridge University Press.

[3]. Chen, S., Hall, G. J., & Johns, M. D. (2003).Online social research: Methods, issues & ethics. New York: Peter Lang.

[4]. Churchill, G.A. and J. Brown, Tom (2004). Basic Marketing Research. Thomson Corporation, USA.

[5]. Dillman, D.A (2000). Mail and Internet Surveys. The Tailored Design Method, New York, Wiley.

[6]. Dochartaigh, N. O. (2002). The Internet Research Handbook: A Practical Guide for customers and Researchers in The Social Sciences. London, Sage.

[7]. F. T. Rothaermel and S. Sugiyamanb (2001). Virtual Internet Communities and Commercial Success: Individual and Community-Level Theory Grounded in the Atypical Case of Timezone.com. London: Sage Publications.

[8]. Fink, A. (2003). How to Ask Survey Questions? Thousand Oaks, CA, Sage.

[9]. Freedman, D.A. (2005).Statistical Models: Theory and Practice. Cambridge University Press.

[10]. Gossett, O., H. Martin, R. Carol Newman and S. Tashoya, (2008). Strategies for Income Generation at the University of Technology.University Associates, Inc., San Diego, CA.

[11]. Greene, William H. (1999).Econometric Analysis. Prentice Hall.

[12]. Hand, D. J. (2004). Measurement theory and practice: The world through quantification. London, UK: Arnold.

[13]. Hayashi, Fumio (2000).Econometrics. Princeton University Press.

[14]. Hewson, C., Yule, P., Laurent, D., & Vogel, C. (2003). Internet research methods: Apractical guide for the social and behavioral sciences. Thousand Oaks, CA: Sage.

[15]. Hill, Charles W.L. (2015). International Business: competing in the global marketplace (15th ed.). New York: McGraw Hill.

[16]. Howell, K. E. (2013). Introduction to the Philosophy of Methodology. London: Sage Publications.

[17]. Jarzabkowski, P. and D.C. Wilson, (2006).Actionable Strategy Knowledge: A Practice Perspective.H. Emel Hempstead: Prentice-Hall.

[18]. Joshi, Rakesh Mohan, (2005).International Marketing. Oxford University Press, New Delhi and New York. ISBN.

[19]. Kerin, Hartley and Rudelius. (2001). Marketing, the Core. McGraw Hill Publishing.

[20]. Koichi Shimizu (2009). Advertising Theory and Strategies. Souseisha Book Company, Japanese.

[21]. Kotler, P. and Keller, K. (2006). Marketing and Management. Pearson Prentice Hall, Upper Saddle River, NJ, USA.

[22]. Kotler, Philip (2012). Marketing Management. Pearson Education.

[23]. May, G., (2010).Strategy planning. Business Expert Press.

[24]. Muniz and T. C. O'Guinn (2001). Brand community. New York: Holt, Rinehart and Winston.

[25]. Pearl, Judea (2000). Causality: Model, Reasoning, and Inference. Cambridge University Press.

[26]. Quester, P., A.L. Lim (2003). Product involvement /brand loyalty: is there is a link?. United Kingdom: Prentice Hall.

[27]. Saunders, M., Lewis, P. & Thornhill, A. (2007). Research Methods for Business Students. United Kingdom: Prentice Hall.

[28]. Seitel, Fraser P. (2007).The Practice of Public Relations. Upper Saddle River, NJ: Pearson Prentice Hall.

[29]. Stuart Elliot (2012).Public Relations Defined, After an Energetic Public Discussion. New York Times.

[30]. Thiele, S.R. and M.M. Mackay (2001). Assessing the performance of brand loyalty measures. United Kingdom: Prentice Hall.

[31]. Vranesevic, T., Stan and E.C.R. Caron (2003). The effect of the brand on perceived quality of foodproducts. Cambridge University Press.