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## CRITICAL SUCCESS FACTORS AFFECTING THE SUCCESS OF THE RETAIL SUPPLY CHAIN: CASE STUDY IN VIETNAM

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#### Abstract

The study of the critical success factors affecting the supply chain is concerned by many scientists today. This study conducted in Ho Chi Minh City with 201 samples at retail businesses and used Binary Logistic regression to analyze the resultsduring the period of August to October 2016. Through a review of the literature, 15 factors were found to be criticalto the success of the retail supply chain and the results showed that eight factors (Inventory, Manufacturing, Location, Transportation, Information, Strategic Supply Chain, Collaborative and Top Management Support) impacted the success of Vietnam retail supply chain. An assessment of the importance of factors was also made to give an overview of the current situation in Vietnam.

Key words: Critical, Factor, Retail, Success, Supply chain.

#### Introduction

Vietnam is a transitional market country, having geographically widespread with the eighth largest population in Asia. Therefore, Vietnam is a potential and challenging market. One of these challenges is to build a supply chain spanning more than 1,600 kilometers to serve the growth of the business. Professionalism in the distribution system of Vietnamese enterprises is still poor and localized (Phan and Nguyen 2014). Meanwhile, the success of the supply chain will bring a significant competitive advantage to businesses (Ravinder et al. 2015).

Many studies around the world seek to find the factors that drive supply chain success. This is also a concern for many businesses because the success of the business is based on the success of the supply chain (Lee 2000). Businesses that want to succeed in today's global economy need to focus on critical success factors without having to pay close attention to all of different aspects. This helps the company focus its limited resources in the right place to achieve the goals. Michael (2003) argued that for successful supply chains, *Inventory*, *Manufacturing*, *Location*, *Transportation* and *Information* need to be addressed.

Henry et al. (2012), while studying the pallet industry in the USA, argued that the critical success factors that affect the success of the supply chain are *Environmental Uncertainty*, *Information Technology*, *Supply Chain Relationships*, *Manufacturing*, *Business Management* and *Customer Satisfaction*. While researching a manufacturing business in Malaysia, Huam et al. (2011) again reaffirmed the influence of *Information Technology* on the success of the supply chain. In addition, they also found that *Performance Measurement* and *Collaborative* also had a significant impact on the success of the supply chain.

Some studies also show that *Top Management Support* (Christian and Julia 2015), *Human Resource* (Lin et al. 2013), (Pettit and Beresford 2009) and *Strategic Supply Chain* (Thakkar et al. 2013), (Pettit and Beresford 2009) have also had a great impact on the success of the supply chain.

From the above, 15 factors will be included in the study to identify the critical success factors for Vietnamese retail supply chains to help the businesses to increase their competitiveness and to survive in

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the volatile business environment. The analysis will be conducted through the Binary Logistics regression model to predict the key factors for success (De Sousa Mendes and Miller 2013) in accordance with Vietnam's conditions.

#### Methodology

#### Survey

The research was conducted based on survey and the managers in retail businesses in Vietnam were the respondents in this study, because the research subject was the retail supply chain. However, due to limited resources, research was conducted in Ho Chi Minh City between August 2016 and October 2016. The survey was completed with the help of professionals working in the supply chain and the retail sector through face-to-face interviews and via emails that sent directly to the personal email account of the respondents.

#### Measurement

Dependent variable in this study is the success or failure of the supply chain. This is the result of a qualitative study by interviewing a team of experts in the retail sector. This result is also consistent with a study published in 2008 by the WERC (Warehousing Education and Research Council). Any business that answers "no" in one of the three cases will be counted as "Failure", otherwise will be counted as "Success".

#### Data collection

A total of 240 questionnaires were received. Of these, 89 were collected through face-to-face interviews at several locations in Ho Chi Minh City. The remaining 151 were collected via e-mail. However, after sorting, only 112 questionnaires were processed in the form of email qualified. Others were rejected for lack of information. According to Tabachnick and Fidell (1996), the minimum sample size for multivariate regression analysis was 50 + 8 \* independent variables. Because there are 15 independent variables, the minimum sample size is 50 + 8 \* 15 = 170. So, 201 questionnaires responded to the sample size requirement. Among them, 90 survey questionnaires were identified as successful supply chain enterprises, accounting for about 45% of the total survey questionnaires.

In order to find out the critical success factors that affect the success of the retail supply chain in Viet Nam, this study performed statistics describing the variables in the study and then performed a Binary Logistic regression analysis to determine the model. Since the studies were presented, hypotheses can be set out as these critical success factors affect to the success of the retail supply chain and is used to study the case of Vietnam.

### Results and analysis

**Table 1:** Sample survey statistics by education level of managers and size of enterprises

Descriptions		Size			Total
		>50	>10 and <= 50	<=10	
Educational level	High school or lower	1	13	15	29
	College	30	43	49	122
	University	6	17	15	38
	Postgraduate	7	2	3	12
Total	-	44	75	82	201

Table 1 showed the statistic of the survey sample according to the criteria of Manager's education level and the size of the enterprise. Based on this finding, research will be continued by implementing a Binary Logistic regression with the Enter method to find the factors that affect the success or failure of a supply chain. The Enter method is a method of comparing variables at the same time to find the correlation of these variables to the dependent variable.

In table 2, we see that the Sig. value of the model is less than 0.05, so it can be confirmed that the model of the 15 factors studied is appropriate and there are correlations between the dependent and independent variables. For -2LL index = 174.251, it is in the good range and indicates the overall model is quite appropriate. The Nagelkerke  $R^2$  index is also quite high = 0.533, indicating that the research model can



account for 53.3% of the overall sample size. In addition, it can be seen that the model of 15 research variables can predict exactly 82.6% of cases. This ratio is quite high, indicating that the model is likely to help the company successfully develop the supply chain if it concentrates its resources on solving problems arising from the selected factors.

Table 2: Binary Logistic Regression Results

Vastalia.	Model			
Variables	β	Sig.		
Inventory	597	.038		
Manufacturing	-1.451	.004		
Location	788	.016		
Transportation	1.039	.026		
Information	-1.122	.018		
Environmental Uncertainty	.036	.927		
Information Technology	.095	.805		
Supply chain Relationship	683	.087		
Strategic Supply chain	.767	.033		
Performance Measurement	.261	.541		
Collaborative	1.318	.002		
Business Management	.478	.252		
Top Management Support	1.931	.000		
Human Resource	208	.586		
Customer Satisfaction	.828	.053		
Constant	-2.638	.170		
Model test results				
-2 Log likelihood	174.23	174.251 <sup>a</sup>		
$\chi^2$	102.1	102.196		
Sig.	0.00	0.000		
Nagelkerke R <sup>2</sup>	0.53	0.533		
Classification results				
Percentage Correct				
Success	76.79	76.7%		
Failure	87.49	87.4%		
Overall Percentage	82.69	82.6%		

Table 2 also shows us in this study, *Inventory, Manufacturing, Location, Transportation, Information, Strategic Supply Chain, Collaborative and Top Management Support* are correlated to the success or failure of the retail supply chain in Vietnam.

Other factors are excluded from the model because of lack of credibility. Table 2 further shows the factors of *Top Management Support*, *Collaborative* and *Transportation* that have a strong impact on retail supply chains. The values of  $\beta$  are 1,931, 1,318 and 1,039, respectively. Meanwhile, the role of the *Manufacturing* factor has the weakest influence. This can be explained by the fact that in the retail supply chain, especially in retail businesses, the focus is on commodity distribution and chain co-operation, *Manufacturing* are less interested because they are not directly involved in production.

#### Conclusions

This study has identified eight critical success factors that affect the success of a retail supply chain in Vietnam: *Inventory, Manufacturing, Location, Transportation, Information, Strategic Supply Chain, Collaborative* and *Top Management Support*. Managers need to pay more attention to these factors to ensure the success of the supply chain, thereby ensuring the growth of the business.

However, due to the limitations on human and financial resources, this study was conducted only in Ho Chi Minh City, the largest economic center in Vietnam. Therefore, more research is needed on this field at other locations in Vietnam to gain a better overview of critical success factors that influence the success of Retail supply chain in Vietnam. In addition, the main survey subjects of this study are retail enterprises

with 100% Vietnamese capital. More research on joint-venture businesses or on full foreign-owned businesses in Vietnam is needed to finalize the theory of supply chain development in Vietnam.

Another limitation of this study was that part of the survey sample was conducted through the email interview. This reduces the reliability of the sample. In later studies, data should be collected by other methods with higher reliability. Another issue, this study considers only 15 critical success factors believed to affect the success of the retail supply chain.

The results of the study also show that there are three factors that have the greatest impact on the success of supply chain development. Firstly, senior managers need to pay much attention and support to the activities of the supply chain, enabling subordinates to carry out their assigned tasks smoothly, As well as coping effectively with changes in the business environment (AbTalib and Abdul 2014). Second, there is a need to enhance collaboration among supply chain actors to increase productivity, increase readiness and minimize the risk of non-compliance with commitments (Stevens and Johnson 2016). In the end, increasing the capacity of transportation and circulation of goods is a vital issue for retail businesses. Businesses are always faced with the question of either sacrificing service levels or increasing transport costs (Stadtler 2015). Therefore, the ability to transport at a lower cost than the competition will help the company increase its service while maintaining the profit target.

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