

Applying the Principles of Blue Ocean Strategy in Supply Chain Management on Corporate Performance

Tahereh Nasrollahzadeh, Abdul Kadir Marsono, Masine Md. Tap

Abstract— This paper aims to expand the justification on role of the principles of blue ocean strategy (BOS) in supply chain management (SCM) for increasing the corporate performance of companies. The principles of blue ocean strategy is first explain in supply chain management field. Then using a structural model, the role of applying these principles on corporate performance is illustrated. In order to verify the BOS model, a study was presented and distributed among the 68 international companies. Based on the results, SCM and corporate performance are found to be mostly affected by the Overcome key organizational hurdles, reconstruct market boundaries and Focus on the big picture, not the numbers, respectively.

Index Terms— Blue ocean strategy (BOS)- supply chain management(SCM) - corporate performance – PLS path modeling

I. INTRODUCTION

This paper aims to identify how the principles of blue ocean strategy in supply chain management can affect the corporate performance. First, the principle of blue ocean strategy, is explained together with the methodology of research. In section 4, using the partial Least Square Model, the effect of using these principles in supply chain management on corporate performance is defined. The paper is concluded in section 6.

II. SUPPLY CHAIN MANAGEMENT

To compete in today's global markets, organizations will have striven to deliver their products and services in both an efficient and effective manner. A critical component in this effort is the design and coordination of the supply and distribution networks-supply chain management (Sengupta, et al., 2006). SCM is defined as the coordination of resources and the optimization of activities across the value chain to obtain competitive advantages (Gunasekaran, et al., 2008). SCM has evolved over the last decade, due to a dramatic increase in the publication of SCM theories and practices (Theeranuphattana, Tang, 2008). Along with the evolution of supply chain management practice, some large enterprise would like to strengthen collaboration level between its upper providers and lower distributors.

Manuscript Received on October 2014.

Tahereh Nasrollahzadeh, PhD Candidate, Faculty of Civil Engineering, University Teknologi Malaysia, Skudai, Johor, Malaysia.

Dr. Abdul Kadir Marsono, PhD, Assoc. Prof., Faculty of Civil Engineering, University Teknologi Malaysia, Skudai, Johor, Malaysia.

Dr. Masine Md. Tap, PhD, Assoc. Prof., Faculty of Mechanical Engineering, University Teknologi Malaysia, Skudai, Johor, Malaysia.

These important enterprises would become the information, management, control, and harmony center of the whole supply chain. Along with the continuous and improving collaborations between these enterprises, the supply chain would evolve into integrated supply chain (Wu, Song, 2005). A supply chain is an integrated process wherein raw materials are manufactured into final products, then delivered to customers (via distribution, retail, or both) and is a set of facilities, supplies, design agencies, commissioning teams and customers, products and methods of controlling inventory, purchasing, and distribution linked together via the feed forward flow of materials and products and the feedback flow of information (Evans, et al., 1999; Sabri, Beaman, 2000; Wu, Song, 2005). Integration in the context of SCM is defined as "interaction and collaboration between departments and organizations to achieve shared supply chain goals". The main goal of providing products and services of value to customers is facilitated through integration of the supply chain (Tan, Tracey, 2007).

III. BLUE OCEAN STRATEGY

Blue ocean strategy challenges companies to break out of the red ocean of bloody competition by creating uncontested market space that makes the competition irrelevant. Instead of dividing up existing - and often shrinking - demand and benchmarking competitors, blue ocean strategy is about growing demand and breaking away from the competition (Kim and Mauborgne, 2005). In this section. six principles driving the successful formulation and execution of blue ocean strategy and the risks that these principles attenuate, were highlighted:

Formulation Principles:

- Reconstruct market boundaries
- Focus on the big picture, not the numbers
- Reach beyond existing demand
- Get the strategic sequence right

Evaluation principles:

- Overcome key organizational hurdles
- Build execution into strategy

a. Corporate Performance

Performance is very essential to management as it is an outcome which has been achieved by an individual or a group of individuals in an organization related to its authority and responsibility in achieving the goal legally, not against law, and conforming to the morale and ethic (Iswati and Anshori, 2007). Performance is the function of the ability of an organization to gain and manage the resources in several different ways to

develop competitive advantage. There are two kinds of performance, financial performance and non-financial performance (Hansen and Mowen, 2005).

b. Partial Least Square Method

Partial least square method, which is among conceptual approaches, is one of the multivariate statistical techniques using which, despite some limitations such as unknown response variable distribution, low number of observations and existence of serious correlation between independent variables, one can model one to several dependent variables simultaneously using several independent variables (Chatelin, 2002). This method determines coefficients in such a way that the resulting model enjoys maximum interpretation and explanation power. In addition, PLS technique assesses all the mutual effects among latent variables and the weight of all measurable indices related to latent variables per case (Samimi and Mohammadi, 2011).

IV. METHODOLOGY

The research method is a structured survey and open interview. In addition, the research is an applied research as far as goal is concerned. To achieve the objectives of this study, a non-structured questionnaire was used. The questionnaire included 32 question in which the respondents were asked to comment on each expression by selecting a score between 1 to 5 (1 means "I completely disagree" and 5 means "I completely agree"). In this questionnaire, SCM and business performance were measured by 6, and 4 question, respectively (Appendix 1) and for evaluation of each principles of blue ocean strategy, 3 question were applied.

THE MODEL OF THE RESEARCH WERE PRESENTED IN THE FIGURE 1:

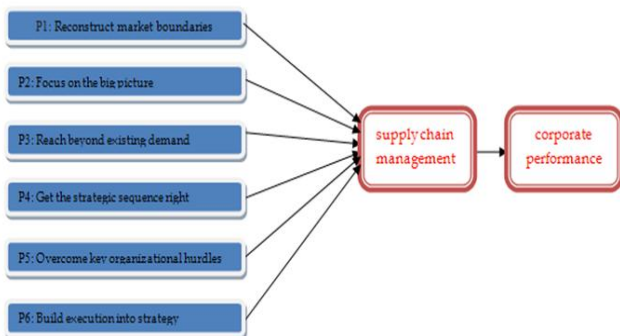


Figure 1- Model of the Research

According to the presented model, 7 hypotheses is defined as follow:

- Applying the principles of blue ocean strategy in supply chain management has a significant effect on corporate performance
- "Reconstruct market boundaries" has a significant effect on supply chain management.
- "Focus on the big picture, not the numbers" has a significant effect on supply chain management.
- "Reach beyond existing demand" has a significant effect on supply chain management.
- "Get the strategic sequence right" has a significant effect on supply chain management.

- "Overcome key organizational hurdles" has a significant effect on supply chain management.
- "Build execution into strategy" has a significant effect on supply chain management.

Relations among Latent Variables: The causality model described in figure 1 leads to linear equations relating the latent variables (structural equation modeling):

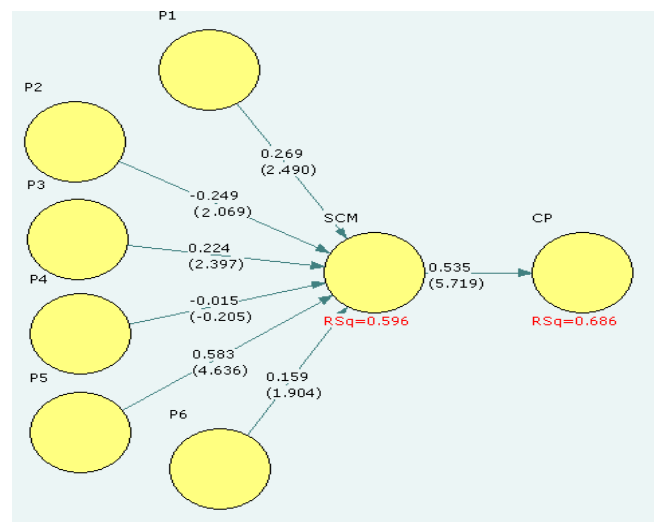
$$Z_j = \beta_{j0} + \sum_i \beta_{ji} Z_i + \varepsilon_j$$

Considering the above formula, the linear equation among latent variables of the model will be as follows:

$$SCM = \alpha_1 + \beta_{11} \cdot P_1 + \beta_{12} \cdot P_2 + \beta_{13} \cdot P_3 + \beta_{14} \cdot P_4 + \beta_{15} \cdot P_5 + \beta_{16} \cdot P_6$$

$$CP = \alpha_2 + \beta_{21} \cdot SCM$$

After specifying the relationship between the variables, all the coefficients and parameters of the models were estimated using Visual PLS software.



V. RESEARCH RESULT

We know that a PLS path model consists of a structural model and a measurement model. Then, the validation of a PLS path model requires the analysis and interpretation of both the structural and the measurement model. This validation can be considered as a two-stage process: the assessment of the measurement model, and the assessment of the structural model (Henseler, J; Ringle, C.M; Sinkovics, R.R., 2009).

5-1- Assessing the Structural Model

R² is used to assessing the Structural Model and indicates the variance of Endogenous latent variables. In this model, average of R²=0.64 is acceptable because in a model with Endogenous and exogenous latent variables, R² values between 0.33 – 0.67 is acceptable ((Trujillo, 2009).

5-2- Assessing Measurement Models

In order to Assessing Measurement Model, "Unidimensionality of the indicators," "Checking that indicators are well explained by its latent variable" and "Assessing the degree to which a given construct is different from other constructs", Should be investigated:

5-2-1- Unidimensionality of the indicators

Cronbach's alpha was used in this section in order to assessing Unidimensionality of the indicators. According to Hensler et al (2009) reliability of the model is acceptable. Although Cronbach's alpha coefficient for P3 and P6 is less than 0.6, but the average of Cronbach's α coefficients of the model is more than 0.7.

5-2-2- Check that indicators are well explained by its latent variable

In order to Checking that indicators are well explained by its latent variable, three tools (including Commuality, Composite Reliability and Average Variance Extracted) was used:

(a) Commuality

Commuality is calculated with the purpose to check that indicators in a block are well explained by its latent variable (Trujillo, 2009) .In this research, The mean commuality of the model, was estimated 0.5181 which is the average of all the block commualities.

(b) CR

In PLS Path Modeling, reliability is investigated by Composite Reliability (CR). In this model, average of CR is 0.798 (more than 0.6) which illustrates the acceptable reliability of the model.

(c)AVE

Average Variance Extracted (AVE) attempts to measure the amount of variance that an Latent Variable captures from its indicators in relation to the amount of variance due to measurement error. Average Variance Extracted of the model is 0.66 which is more than 0.5. This means than Model's convergent validity is confirmed.

Table 1- Cronbach Alpha, Reliability and AVE

Construct	Composite Reliability	AVE	Cranach Alpha
P1	0.83	0.56	0.76
P2	0.75	0.44	0.61
P3	0.81	0.6	0.67
P3	0.72	0.69	0.50
P5	0.82	0.54	0.71
P6	0.78	0.64	0.44
SCM	0.85	0.53	0.81
CP	0.83	0.59	0.78
Average	0.798	0.574	0.660

5-2-3- Difference in constructs

This matter is done by verifying that the shared variance between a construct and its indicators is larger than the shared variance with other constructs (Henseler, J; Ringle, C.M; Sinkovics, R.R., 2009). According to the result of VPLS software, all constructs is different from the others.

VI. CONCLUSION

The present research provides valuable insights into the association between Applying the principles of blue ocean strategy in supply chain management and corporate performance. Based on our results, at confidence level of

95%, "Reconstruct market boundaries", "Focus on the big picture, not the numbers", "Reach beyond existing demand" and "Overcome key organizational hurdles" have a significant effect on Supply chain management of the compnies and also relationship between Supply chain management and corporate performance of the companies are confirmed. Results indicate that SCM and finally corporate performance has been mostly affected by the Overcome key organizational hurdles (0.583), Reconstruct market boundaries (0.269) and Focus on the big picture, not the numbers (0.249), respectively.

Table 2- Structural Model

Relationship	T-Statistic
P1 -----> SCM	2.490
P2 -----> SCM	2.069
P3 -----> SCM	2.397
P4 -----> SCM	-0.205
P5 -----> SCM	4.636
P6 -----> SCM	1.904
SCM -----> CP	5.719

According to the result, Applying the principles of blue ocean strategy in supply chain management's impact on corporate performance is the first step towards improving the dialogue between the finance function and supply chain managers. The frameworks and tools introduced here are essential analytics that can be applied to allow companies to break from the competition and open up blue oceans of uncontested market space.

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AUTHOR PROFILE

Tahereh Nasrollahzadeh, Received her Bachelor of business management for Management University in 2004, first Master of project management 2006 in the discipline of project management information system in project based organization. Second master of e-commerce management in 2009. Currently she is PhD candidates. She carry out research in seven essential process for industrialized building system implementation based on lean construction management.

Abdul Kadir Marsono, Received his Bachelor of Engineering (civil) from Universiti Teknologi Malaysia in 1985, Master of Philosophy for Heriot University in 1989 in the decipline of structural engineering of tall building and PhD in Structural Engineering shear wall structure from Dundee University in the year of 2000. Currently he is an associate professor in structural engineering, taught Information technology and tall building system analysis and design. He carry out research in non-linear analysis of reinforced concrete of tall buildings and industrialized building system (IBS) as well as sustainable product design for civil engineering. He is a principal patent inventor for four Industrial Building System (IBS) product at national and international level.

Masine Md. Tap, Received her Bachelor's Degree in Mechanical Engineering from Universiti Teknologi Malaysia in 1986, MPhil in Computer Aided Engineering from Herriot-Watt University, United Kingdom in 1989 and PhD. from Dundee University, United kingdom in 1999. She is now an associate professor in the Faculty of Mechanical Engineering, Universiti Teknologi Malaysia. Her areas of interest are industrial engineering, work design and operations research. She is a co-inventor for Industrial Building System (IBS) product at national and international level.