

Effectiveness of E-Procurement in Malaysia

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Abstract

Previous studies on E-Procurement in Malaysia were focused on the implementation of this system within the industrial sector and studies on the impact of internally developed system are lacking. Since there is not many studies E-Procurement system that is developed internally by Malaysian organizations, the initiative taken by TM Berhad to develop its own E-Procurement system internally, is considered a wise step. As such, this study aimed to identify several issues effect the Efficiency in E-Procurement system in Malaysia. Knowing and understanding the E-Procurement system are the first steps to motivate companies to implement the system. Thus, it is important that this study carried out to investigate the practice and performance of the E-Procurement systems that are developed internally by organizations and identify the difficulties faced. This study is also appropriate to understand the problems faced throughout the implementation of the E-Procurement system. The survey results suggest that e-procurement technologies will become an important part of supply chain management and that the rate of adoption will accelerate as aggressive adopters share their experiences and perceptions of low risk. The research prove that the factors affecting the success of e-procurement system sharing between supply chain integration, information sharing and partner relationships. Based on the understanding those factors the research provides suggestions on how to improve e-procurement system in TM Berhad.

Keywords: Interviews, Management of supply chain, Performance of Supply chain, Integration of Supply chain, E-procurement, Survey, Group Procurement TM Berhad.

Introduction

E-procurement system had been identified one of the medium in business process in the process of supply chain [1]. Based on previous researchers, e-procurement system basically are the IT based purchase online system and well known at the input process of the supply chain management at any organization [3]. In other words, information infrastructures like E-procurement are growth well in previous years and come together with others technology or infrastructure. This will ensure the success of business activities in the organization are

growth well [4]. E-procurement need to growth in line with the changes it IT embedded in the system [2, 3]. Organizations that implement the e-procurement systems are able to generate value because it utilizes information technology resources on supply chain process [14]. The benefits of e-procurement system will ensure the effectiveness in the supply chain process in the organizations.

To ensure success TM Berhad business, e-procurement system needs further analysis and improvement. With E-procurement it will ensure the procurement manager meet the achievement of competency by really understanding the information technology impact in the business management process [8]. This research will examine the integration of supply chain, relationships of partners and sharing in information through e-procurement to ensure the effectiveness of supply chain. E-procurement system will improve supply chain management for TM and its partners

Definition of E-procurement

E-procurement is an electronic procurement system or online system that has information technology capabilities, and it also can be called e-business. It has the ability to improve the effectiveness of operation schedule or process in supply chain [4]. Performance for supply chain process refers to the evaluation of supply chain management that includes tangible and intangible factors [11, 12]. Activities of business through information technology can be called e-procurement. Value creation is an important factor in determining the effectiveness of supply chain to the organization [2]. Practical features of E-procurement systems will ensure organizations improve their efficiency based on supply chain value creation. Basically e-procurement has 4 characteristics of functions that are electronic design, electronic evaluation, electronic sourcing and electronic negotiation [3, 4, 6].

With e-procurement, it will be able to produce a useful function for management of supply chain and able to improve the supply chain performance [1, 10, 12]. Integration of Supply chain, relationships partner and information are processes that connect between performance of supply chain and E-procurement systems.

Research Framework

Table 1 represents the research framework that will be used for this study. The DV's are performance of supply chain and integration of supply chain while the IV's is information sharing, partner relationship and e-procurement. E-procurement has divided into 4 dimensions namely electronic design, electronic sourcing, electronic negotiation and electronic sourcing. Partner relationship is divided into 2 dimensions namely reciprocity and bonding. Information sharing is divided into 2 dimensions namely information flow and information quality. Supply chain integration is divided into 2 dimensions namely coordination and integration activity. And lastly supply chain performance is divided into 2 dimensions namely tangible dimension and intangible dimension.

Table 1: Definition of Operational for IV

Variable	Definition of operational
Relationship of Partner	A relationship among partners and enterprise
E-Procurement	Consists of 4 functions as below: Electronic design Electronic sourcing Electronic negotiation Electronic evaluation
Sharing of Information	Consists of 2 functions as below: Information Flow Information Quality
Performance of Supply Chain	Assessment in management of supply chain includes intangible and tangible factors
Integration of Supply Chain	Involves of 2 functions as below: Activity integration Coordination

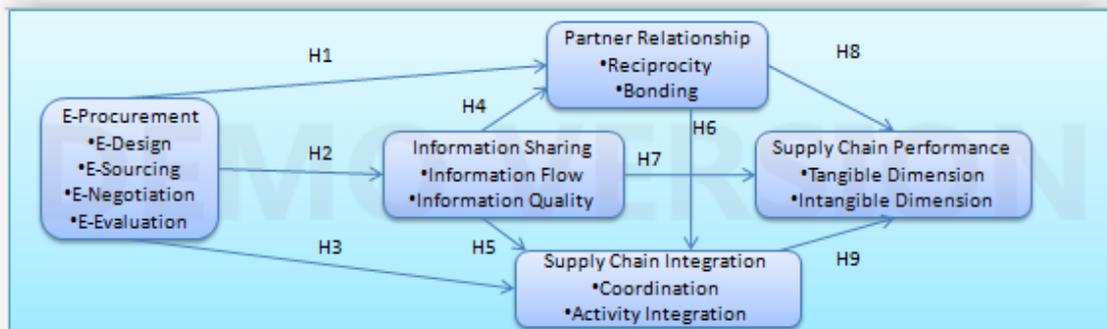


Figure 1: Research Framework

Research Methodology

This study used survey research method with questionnaire as the instrument for data collections. The questionnaire is based on previous studies using scale 1 for “Disagree” and 5 for “Agree”. The respondents should respond based on their level of understanding and experience.

For the consistency of analysis it showed that the Cronbach Alpha for all variables is well above 0.7, symbolizing that the size used is acceptable.

Table 2: Reliability Analysis

Factor	Variable & Item	Cronbach's Value	Alpha
1	Relationships of Partner and E-Procurement	.702	
2	E-Procurement and Sharing of Information	.712	
3	Integration of Supply Chain and E-Procurement	.709	
4	Sharing of Information and Relationships of Partner	.790	
5	Sharing of Information and Integration of Supply Chain	.722	
6	Relationships of Partner and Integration of Supply Chain	.809	
7	Sharing of Information and Performance of Supply Chain	.924	
8	Relationships of Partner and Performance of Supply Chain	.765	
9	Integration of Supply Chain and Performance of Supply Chain	.763	

Findings

Out of 200 suppliers, 180 suppliers returned the questionnaire. All suppliers were directly involved doing business with TM Berhad. For table 3, the highest percentage was 1st tier for large supplier 36.6% and SME 19.7%. Therefore, the total for 1st tier was about 56.3% out of 100%. For 2nd tier suppliers, larger enterprise suppliers were about 2.8% and SME suppliers were about 16.9%. Therefore, the totals for 2nd tier was about (19.7%) out of 100%. For dual tier suppliers, larger enterprise suppliers were about (12.7%) and SME suppliers were about 11.3%. Therefore, the total dual tiers suppliers were 23.9%. For the total amount of 180 suppliers involved for the study, it was considered on 100% completed

Table 3: Demographic Profile of Respondents

Supplier tier	Company size		Total
	SME	Large Enterprise	
1st tier	24 (19.7%)	26 (36.6%)	50 (56.3%)
2nd tier	11 (16.9%)	2 (2.8%)	13 (19.7%)
1st and 2nd tier (dual tiers)	8 (11.3%)	9 (12.7%)	17 (23.9%)
Total	43 (47.8%)	37 (52.11%)	80 (100%)

Table 4: Cross tabulation between company size and year the business was incorporated

Company Size	Year business was incorporated				Total
	1971-1980	1981-1990	1991-2000	1971-1980	
SME	0 (0%)	3 (4.2%)	SME	0 (0%)	3 (4.2%)
Large enterprise	4 (5.6%)	8 (11.3%)	Large enterprise	4 (5.6%)	8 (11.3%)
Total	4 (5.6%)	11 (15.5%)	Total	4 (5.6%)	11 (15.5%)

The results of the descriptive analysis for supply chain performance and e-procurement and dimensions are shown in table 6. The mean value for e-procurement is well above 3.50 (where 5 = max and 1 = min), and the standard deviation is less than 1.00. The values suggest that, generally suppliers are aware that e-procurement consists of e-evaluation, e-negotiation, e-design, and e-sourcing,

Table 6: Descriptive analysis of research variables

Variable	Standard Deviation	Mean
E-procurement	0.336	3.6021
Relationships of Partner	0.240	3.3825
Sharing of Information	0.251	3.3320
Integration of Supply chain	0.343	3.4417
Performance of Supply Chain	0.385	3.3785

Table 7 show the result of the multiple regression analysis between the DV's and IV's. The results clearly display that out of the 5 independents variables, 3 variables (supply chain integration, information sharing and e-procurement) are found to affect the supply chain performance in Group Procurement, TM Berhad.

Table 7 : Coefficients of Regression Analysis

	Un Coefficients	standardized Coefficients	Standard Coefficients	t	Sig.
(Constant)	1.369	.624		2.195	.031
Sharing Information	.290	.111	.303	2.622	.000
Integration of Supply Chain	.036	.075	.051	.475	.002
Eprocurement	.216	.077	.302	2.793	.007
Performance of Supply Chain	.044	.071	.070	.617	.539
Relationships of Partner	.437	.156	.312	2.793	.007

Conclusion

This research show how E-procurement benefited has the performance of supply chain in Group Procurement, TM Berhad. E-procurement system is the high tech elements that have of the procurement system containing 4 aspects; that is electronic evaluation, electronic sourcing, electronic design, and electronic negotiation. These 3 intermediate variables play an important role to ensure the success of e-procurement and supply chain management.

This is possibly to capture basic strategies roles and the same to represent the basics of the effect of E-procurement performance in supply chain management. The findings above, shows that these factors are all essential and suitable as linkages between supply chain performance and e-procurement . Based on data analysis, supply chain integration and information sharing are 2 important factors to ensure the effectiveness of e-procurement. Hence, e-procurement system be ensure the flow of information and movement are synchronized between partners in supply chain.

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