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B2B Website's Model of Satisfaction and Benefit: A Case of SME in Indonesia

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Abstract: In recent years, the development of e-commerce is rapidly increasing and competition in the world of e-Commerce becomes more intense. Because of this, companies invested a lot in e-commerce to secure competitive advantage for their business. This study examines, a number of aspects of B2B website benefit and satisfaction in Small Medium Enterprise (SME) organizations in Indonesia. A structural model for SME having benefit and satisfaction, as the main variable of interest or dependent variable was built. A quantitative approach was used to test hypotheses which are developed from the literature. Following a pilot study, SMEs with B2B websites is used to collect the data which then analyzed using Structural Equation Modeling (SEM) techniques. Findings revealed the mediating relationships between organizational drivers, security and their influence on SMEs' perceptions of benefits and stakeholder satisfaction and support the B2B website model implementation.

Key words: Small to Medium-Sized Enterprises (SME), implementation, Structural Equation Modeling (SEM), website, B2B

INTRODUCTION

According to Deloitte Access Economics, 2011 SMEs in Indonesia began using the Internet to expand their customer base, increase sales and increase supply. However, SMEs' levels of e-readiness are low. This is because companies do not see any benefit or return on investment from their B2B website (MacGregor and Vrazalic, 2005). Further insights show that SMEs do not understand the complementary nature of the organizational drivers that support strategic alignment and therefore fail to realize benefits from their websites (Lin *et al*., 2011). Despite this, support many SMEs continue to display an inability to realize and manage the benefits of the online business environment which affects their enthusiasm for further investment in IT (Lin *et al*., 2007b). This has serious consequences in the context of Business-to-Business (B2B) commerce where SMEs are often integrated into sophisticated supply chain relationships with larger organizations and where competition is often fierce and widespread (Stockdale and Standing, 2002; Hadaya, 2008).

This study responds to these calls by examining SMEs' implementation in B2B websites and the relationship between organizational drivers such as adoption readiness and constraints and security and evaluation of the investments. Researchers investigate how these drivers influence the perception of B2B website benefits and whether there is any increase in stakeholder satisfaction in the implementation arising from a better understanding of the issues. A key contribution is the development of a B2B website implementation model that determine benefit and satisfaction for SMEs that identifies the relationships between the constructs examined in this study.

Literatur review: According to MacGregor and Vrazalic (2005), security is one of the inhibitors on the readiness of IT adoption and based on their research, Chakraborty *et al*. (2003) identified that security is one factor that is often seen by consumers. Consumers feel lack of control of personal information used by companies and consumers are finding that selling information about them is not acceptable. Generally, attention to privacy are due to the lack of control, especially from the use of secondary information (Phelps *et al*., 2001; Sheehan and Hoy, 2000), lack of trusted website (Milne and Boza, 1999; Sheehan and Hoy, 2000), practical information and knowledge by company (Milne and Boza, 1999; Phelps *et al*., 2001). They focused on security issues to the transmission and storage of information transaction by the website. For the case of privacy, lack of control the

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consumer experience through the payment information provided by the website, such as growing concern over security issues with the increase in online proficiency, the possibility of greater exposure of irregularities stories on the website (Hoffman *et al*., 1999). This resulted in many websites to find out how to solve problems related to security. A step in resolving security issues, such as disclosure statements online retailer, providing online credit card security guarantees and using third-party assurance seals, such as Verisign or BBBOnLine.

Company's ability to measure the effectiveness of IT investment may affect a company to recognize the benefits of IT investments. This is an important step in the development of e-Commerce for SMEs to 3 obtain higher benefits that was more than satisfied with the activities that have nothing B2B activity (Lin *et al*., 2007a; Tsao *et al*., 2004). In the context of B2B websites, evaluation is an important step toward measures to determine the potential benefits of the website. Appreciation of the website will support a greater ability to realize the benefits of a website and move to a higher level of satisfaction with the organization's IT investments that have been done (Hong and Kim, 2004), constant assessment, management be very careful, continuous innovation and up to date (Reichheld *et al*., 2000).

Readiness to adopt the technology is very familiar with the information systems literature. Higher level of readiness and awareness of the benefits to encourage e-Commerce activities can contribute to the improvement of operating performance (Lefebvre *et al*., 2005). The initial phase of implementation is an important stage of readiness and the adoption and development of the organization requires the ability to identify and quantify the potential benefits and manage the changes needed to maximize IT investments (Burn and Ash, 2005). Previous research found that the readiness of the adoption of B2B is often associated with the adoption of IT investment evaluation (Lin *et al*., 2007b). Financial and technological factors have been identified as a factor of adoption readiness or preparedness of the organization and technical readiness are identified as one factor (Hadaya, 2008). A study of adoption in the readiness of SMEs indicate that small firms can be limited by lack of financial resources, lack of technical experts and lack of managerial experts to run their B2B website (Chircu and Kauffman, 2000). Level of satisfaction on the adoption of B2B websites is positively influenced by the ability of SMEs to realize the benefits of B2B website (Lin *et al*., 2011).

Evaluation is critical in B2B website since the effectiveness of B2B websites is often hampered by a lack of standards for representation of products and services and transactions. Indeed, the evaluation of the website is an assessment of the effectiveness of online sales in meeting the objectives of a business. This is an important step to ensure that the website meets the business needs of SMEs, as well as the needs of users of the website. This has many potential benefits that include increased stakeholder satisfaction with B2B website and identify the IT adoption and realization of benefits and costs are acceptable.

MATERIALS AND METHODS

Investment in e-Commerce management becomes critical in the organization by senior executives who have little experience of the past to manage and evaluate the potential benefits (Lin *et al*., 2007a). According to Lin *et al*. (2011), this affects the organization's readiness evaluation of the effectiveness of the website and this will affect the company's benefit and satisfaction.

This study examine the relationship between security studied by Chakraborty *et al*. (2003) combined with the model studied by Lin *et al*. (2007b, 2011) to see whether these factors affect the company's benefit and satisfaction. Evaluation study by Lin *et al*. (2007a, 2011) previously was directed to study IT investment evaluation. This study see the effectiveness of the website of the readiness factors, constraints and security. With the development of both models, the model of the proposed research.

The researchers wanted to examine the relationship between security been studied by Chakraborty *et al*. (2003) and combined with the model studied by Lin *et al*. (2007a, 2011) whether these factors affect the company's benefit and satisfaction. Evaluation study by Lin *et al*. (2007b, 2011) previously equal to IT investment evaluation. This time the researcher would like to see the effectiveness of the website of the readiness factors, constraints and security. With the development of both models, the model of the proposed research is depicted in Fig. 1.

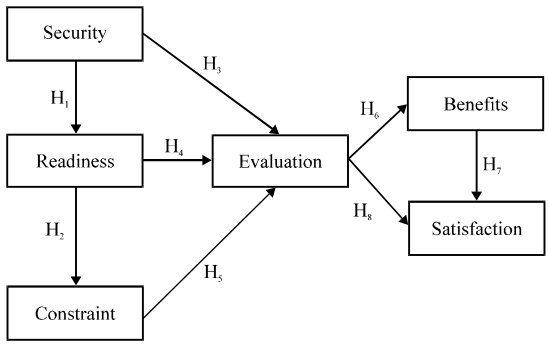

Fig. 1: The proposed research model

This research model provides a clear and complete picture of the framework of this study. From the description of the model can be seen that the evaluation of B2B website investment is influenced by the readiness, security and constraints. Satisfaction and benefits generated by the website for the company is also affected by the evaluation of the B2B website investment. Hypotheses and descriptions of the constructs shown in Fig. 1 are as follows:

H_1: Security affects the readiness of the adoption of B2B website
H_2: The readiness of adoption affects the constraint
H_3: Safety evaluation of investments affects B2B websites
H_4: The readiness of adoption affects the investment evaluation B2B website
H_5: Constraints affect investment evaluation B2B website
H_6: Evaluation of benefits investment affecting B2B websites B2B website
H_7 The benefits of B2B websites affect satisfaction of the company
H_8: Evaluation of an investment company website influencing satisfaction

Data were analyzed using Structural Equations Modeling (SEM) with Maximum Likelihood Estimation (MLE). The first step under SEM is to ensure that predetermined indicators or operational variables are indeed reliable measures of the latent variable they represent. This measurement model were implemented using Confirmatory Factor Analysis (CFA) that is to confirm the reliability of the measures and to determine the weight or contribution of each indicator to the latent variable it represent (factor loading). The following is the description of the model for latent variable "Security (WS)" (Fig. 1 and 2). Similar structure can be used for the other latent variables as well:

$$WS_1 = \lambda_1 WS + eWS_1$$
$$WS_2 = \lambda_2 WS + eWS_2$$
$$WS_3 = \lambda_3 WS + eWS_3$$

Where:

WS_1-WS_3 = Security indicators or operational variables
WS = Security
λ_1-λ_3 = Factor loadings
eWS_1-eWS_3 = Error terms

For the second step under SEM, i.e., establishing the relationship between dependent and independent latent variables, multiple regression analysis with systems of equations was used, one for each cause-effect relationship as follows:

$$R = \beta_{r0} + \beta_{r1} WS + eR \quad (1)$$

$$C = \beta_{c0} + \beta_{c1} R + eC \quad (2)$$

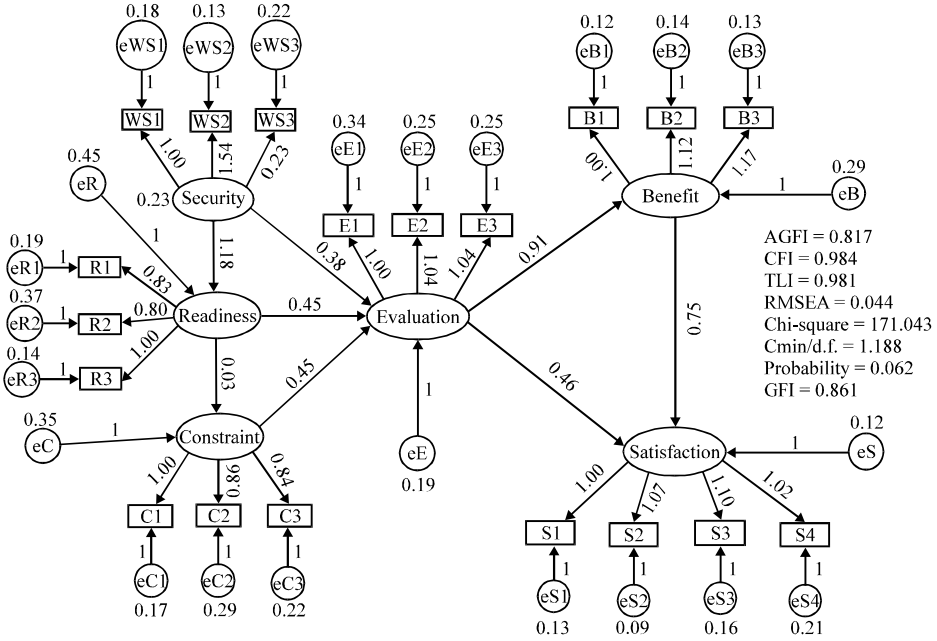

Fig. 2: Structural equation modelling result

$$E = \beta_{e0} + \beta_{e1}S + \beta_{e2}R + \beta_{e3}C + eE \quad (3)$$

$$B = \beta_{0} + \beta_{b1}E + eB \quad (4)$$

$$S = \beta_{0} + \beta_{s1}E + \beta_{s2}B + eS \quad (5)$$

Population studied in this research is a company that has a B2B website in Indonesia. Typically, the population is too large for the researcher to try to survey all its members. Sample reflects the characteristics of the population from which it was taken. The sampling technique used was simple random sampling, this was done because of time constraints and cost considering the amount of population that is too large.

A quantitative approach (survey) was selected for this research, as it can provide snapshots of practices or views at a particular point in time from which inferences may be made and unlike other more qualitative research methods such as case study and action research, it is also an effective means for the collection of a large quantity of data in a time-efficient manner (Sekaran, 2006). In this way, it can be used to describe real world situations and make appropriate generalisations. It also has the advantage of enabling the researchers to focus on problem solving and to pursue a rigorous method to identify problems, gather data, analyze the data and draw valid conclusions (Sekaran, 2006). A survey is particularly useful when a research study (such as this one) has clearly defined independent and dependent constructs and a plausible model of the expected relationships which are examined against observations of the phenomenon. Therefore, a survey was adopted for this research which examines SMEs' investment in B2B websites and the relationship between several organizational drivers.

The survey was conducted in 2012 following a pilot study of 30 Jakarta SMEs to test the questionnaire design and structure. Feedback from the pilot was positive and the questionnaire remained unaltered for the main survey which was further sent to 250 Jakarta SMEs trading in a B2B e-Commerce environment, identified through the Government of Jakarta website. Of the 131 completed and returned questionnaires, 31 were discarded as their organization did not possess a working B2B website, leaving a total of 100 valid responses.

RESULTS AND DISCUSSION

The survey was conducted to examine the relationships between the B2B website security, B2B website adoption readiness, B2B website adoption constraints, IT investment evaluation, B2B benefits and the satisfaction with B2B website adoption. Respondents were asked to indicate their agreement on a 5-point Likert regarding the constructs given in Table 1. The

Table 1: Profile of the respondents

Range	%	Range	%
Job title		**Industry**	
Analyst	4	Other	15
Other	6	Communication and IT	13
Manager IT	27	Manufacture	13
Staff IT	15	Financial and insurance services	3
Owner	14	Wholesale and retail	22
Administration	10	Construction, mining and engineering	24
Supervisor	16	Health and pharmaceutical services	10
Assisten	8	Education	0
Total	100	Total	100
Business (years)		**Gross income**	
1-2	27	<300 million	25
3-5	45	2,5 billion-50 billion	29
5-10	26	300 million-2,5 billion	46
11-20	2		
Total	100	Total	100

Table 2: Validity and reliability analysis

	Item-total statistics			
Items	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbachalpha's if item deleted
WS1	8.20	1.960	0.685	0.784
WS2	8.24	1.800	0.713	0.755
WS3	8.26	1.790	0.694	0.775
R1	7.11	2.530	0.743	0.789
R2	7.17	2.688	0.652	0.869
R3	7.12	2.107	0.807	0.724
C1	5.10	1.929	0.701	0.708
C2	5.24	2.083	0.618	0.792
C3	5.20	1.960	0.677	0.732
E1	7.03	2.959	0.785	0.852
E2	6.94	2.885	0.829	0.814
E3	7.13	2.963	0.757	0.877
B1	7.79	3.703	0.859	0.920
B2	7.70	3.465	0.872	0.907
B3	7.83	3.173	0.888	0.898
S1	11.78	9.183	0.898	0.942
S2	11.74	9.002	0.919	0.936
S3	11.68	9.088	0.874	0.949
S4	11.72	8.992	0.886	0.946

reliability analysis was conducted on these 5 constructs. Cronbach's alphas and measurement for all constructs are given in Table 2 where all are above 0.70 indicating an acceptable reliability of the measures (Sekaran, 2006). Table 2 presents the descriptive statistics and covariance for the variables used in this study.

The results showed the corrected item-total correlation does not exist under the value of 0.374. This shows that the results is valid when pretest conducted. Reliability of the measure is determined by its Cronbach's alpha. From the research indicate that the alpha value of each measure already exceeds the lower limit of 0.7. From both the results of, such testing can be said to be a measuring tool used in compliance with the requirements of validity and reliability so that the measuring instrument can be used in research.

All measures were analyzed for reliability and validity in accordance with the guidelines set out by Joreskog and Sorbom. Confirmatory Factor Analysis (CFA) was used to construct a measurement model composed of

5 antecedent constructs of satisfaction with B2B website adoption (B2B website security, B2B website adoption readiness, B2B website adoption constraints, IT investment evaluation, B2B benefits) and satisfaction with B2B website adoption using maximum likelihood in Amos 18.0. All constructs within the model were regarded as separate reflective measures. Overall, the resulting fit indexes indicated that the measurement model fitted the data well: χ^2 = 171.043 (144 degrees of freedom (d.f.), p = 0.062, Comparative Fit Index (CFI) = 0.984, Root Mean Square Error of Approximation (RSMEA) = 0.044, Goodness-of-Fit Index (GFI) = 0.861, adjusted Goodness-of-Fit Index (AGFI) = 0.817. The value of Chi-square/degree of freedom is <2 (Chin and Todd, 1995) and the CFI, GFI and AGFI values are all equal to or greater than the acceptable value of 0.900 (Hair *et al*., 2010). In addition, RMSEA values is less than the acceptable value of 0.050 (Hair *et al*., 2010). The above figures imply good model fit. Moreover, the ranges of all factor loadings and the measurement errors were acceptable and significant at α = 0.001 which provided evidence of convergent validity. The results of SEM analysis with AMOS program can be summarized in Table 3.

H_1: Security affects the readiness of the adoption of B2B website. Parameter estimation of relations between the two variables were obtained for 0.647. Tests showed significant results with a probability value of 0.000 substantially <1% significant level. Thus, hypothesis 1 is accepted.

H_2: The readiness of adoption affects the constraint. Parameter estimation of relations between the two variables were obtained for 0.051. Tests showed not significant results with a probability value of 0.667 which is above 0.05 or 5% significant level. Thus, hypothesis 2 was rejected.

H_3: Security B2B website affect the investment evaluation of B2B websites. Parameter estimation of relations between the two variables were obtained for 0.243. Tests showed significant results with a probability value of 0.037, i.e., under 0.05 or 5% significant level. Thus, hypothesis 3 is accepted.

H_4: The readiness of adoption affects the investment evaluation of B2B websites. Parameter estimation of relations between the two variables were obtained for 0.532. Tests showed significant results with a probability value of 0.000 which is way below 1% signficant level. Thus, hypothesis 4 is accepted.

Table 3: Hypothesis result

Paramerters	Estimate	SE	p
Readiness-security	0.647	0.211	***
Constraint-readiness	0.051	0.080	0.667
Evaluation-security	0.243	0.181	0.037
Evaluation-readiness	0.532	0.104	***
Evaluation-constraint	0.360	0.115	***
Benefit-evaluation	0.782	0.119	***
Satisfaction-evaluation	0.339	0.119	***
Satisfaction-benefit	0.648	0.100	***

***Exceeds significant level of 0.001

H_5: Constraints affect the investment evaluation of B2B websites. Parameter estimation of relations between the two variables were obtained at 0.36. Tests showed significant results with a probability value of 0.000, substantially <1% significant level. Thus, hypothesis 5 accepted.

H_6: Evaluation of benefits investment affecting B2B websites B2B website. Parameter estimation of relations between the two variables were obtained for 0.782. Tests showed significant results with a probability value of 0.000, <0.01. Thus, hypothesis 6 accepted.

H_7: The benefits of B2B website affect the company's satisfaction. Parameter estimation of relations between the two variables were obtained for 0.339. Tests showed significant results with a probability value of 0.00, <1% significant level. Thus, hypothesis 7 is accepted.

H_8: Evaluation of satisfaction levels of investment company website. Parameter estimation of relations between the two variables were obtained for 0.648. Tests showed significant results with a probability value of 0.00. Thus, hypothesis 8 is accepted with 1% significant level.

CONCLUSION

Based on the results and discussion, several conclusions can be drawn as follows: Security B2B website alleged positive effect on the readiness of the use of B2B websites, the research found that the hypothesis was accepted with significant value. So, with the security of B2B websites can make the company better prepared to use the B2B website.

B2B website security evaluation of suspected positive effect on B2B website, the research found that the hypothesis was accepted with significant value. So, with the security of B2B website can make a company better equipped to evaluate B2B website.

Readiness of the use of B2B websites suspected influence on B2B website evaluation, the research found that the hypothesis was accepted with significant value.

So, that the readiness of the use of B2B websites can make the company better prepared to evaluate the B2B website.

Corporate limits in the use of B2B websites suspected influence on B2B website evaluation, the research found that the hypothesis was accepted with significant value. Thus, limits the use of the company's B2B website can make a company better equipped to evaluate the B2B website.

Evaluation of suspected B2B website affect the benefits of B2B websites, the research found that the hypothesis was accepted with significant value. So with the evaluation of the B2B website, more companies can assess the benefits of their B2B website.

Evaluation of suspected influence on B2B website satisfaction in the use of B2B companies, the research found that the hypothesis was accepted with significant value. So with the evaluation of the B2B website, more companies can assess whether they are satisfied with the use of B2B websites.

Benefits of B2B websites suspected influence on satisfaction in the use of B2B companies, the research found that the hypothesis was accepted with significant value. So with the companies know the benefits of B2B website, more companies can assess whether they are satisfied with the use of B2B websites

SUGGESTIONS

From the earlier results, it can be given the following suggestions for increasing the use of B2B websites for SME companies. SME companies can take the level of security due to the importance of B2B website security in achieving the company's satisfaction in the use of B2B websites. With the B2B website security, transactions in the B2B website more secure and reliable, so it will be an important factor in improving competitive advantage.

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