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DETERMINANTS INFLUENCING USAGE INTENSITY OF THE B2B WEB MARKETING

D. Jayaprakash Kanagaraj *

*Research Scholar, School of Business Leadership and Management,
Karunya University, Coimbatore, Tamilnadu, India.
E-mail ID:jayaprakashkanagaraj@gmail.com*

and

J. Clement Sudhahar

*Professor, School of Business Leadership and Management,
Karunya University, Coimbatore, Tamilnadu, India
E-mail ID:clemns@gmail.com*

Abstract

This article assesses the relative influence of e-commerce website qualities on business to business website usage intensity. Through SPSS, Factor Analysis was executed for data reduction and Regression was performed to know the impact of each factor on the usage intensity. The results proved the effect of qualities like system quality, information quality, service quality and attractiveness on the b2b website usage. System quality and information quality were identified as paramount factors for b2b website success. Systematic evaluation was undertaken to study the set of b2b industries involved in manufacturing and supplying machinery parts like pumps, motors, textile machineries, wet grinders where the scenario may be different to other industrial users. Guidelines for the web designers and e-commerce managers have been suggested to design their website to be more relevant for organizations who crave for eminence presence in the web. In this paper, factors which are stated in b2c model, were taken and tested in the b2b environment.

Keywords: *Website Intensity, Industrial Marketing, Interactive Website, MSME Business Development, B2B Website.*

JEL CODE: L81, M3, O14

1. INTRODUCTION

Information technology is a burgeoning facet of this topical business transaction. For the past two decades, internet technologies are amending the business to business trading platforms electronically, especially SMEs

(Vladimir Zwass, 2000). Internet paves the way for businesses to attain consumers by providing several personalized and opportune offers with the optimum level of information potential (Reichheld et al, 2000; Voss, 2000 and Lucia et al, 2006). Therefore, small, medium and large firms co-exist in the electronic sphere (Huang et.al, 2006), putting their efforts

* Corresponding Author

to reap the internet's benefits (**Odekerken-Schoder et al, 2003**). Now-a-days, Digital channels have become the superseding medium for swaying decision making and constructing sturdy relationship between the brand and the end consumer (An oracle white paper, 2012). The prime ingredient for the business accomplishment and success is quality (**Dale, B.G., 1999; Clement et al, 2006**). Business which does not possess a quality management approach, cannot provide the expected level of service quality to gratify its customers (**Reichheld et al, 2000**). Hence business decision makers should know some modus operandi for mounting the e-commerce presence (**Cao et al, 2005**).

2.STATEMENT OF THE PROBLEM

Business to Business (B2B) SMEs' usage of internet is in amplifying state that the marketing related activities are affected by the usage intensity of website for its business development. Intensity is the set of qualities which a website should possess in favoring the business development. Hence the question is, how far the website could be exploited by using the features presented in it. On the whole, 19 characteristics were taken into consideration to ascertain the intensity level of the website. Features were assessed based on their presence in the respective websites but the quality and contents represented were not critically assessed.

3. LITERATURE REVIEW

B2B website is the access between an organization and consumers, customers and other stake holders. Many researchers have contributed to the understanding of e-commerce website qualities which contribute to the business development and organizational success, through its high information, system and service quality which influence customers to retain and broaden their relationships (**Chiung-Ju Liang et al, 2009 and Katerina D.**

Gotzamani et al, 2009). Basically, it is the understanding about the qualities which the user perceives to be important in any sort of situation (**Barnes et al, 2002**). Hassle-free performance of the website would be the prime sign in reflecting the company's reliability (**Song, et al, 2003**). **Webb and Webb (2004)** have suggested service quality and information quality to be the constructs that would directly affect the website quality.

Liu and Arnett (2000) have stated that the taxonomy of e-commerce functions implies three activities of the company such as laying efforts to attract customers, triggering the customers to purchase in online mode and taking care of handling customer grievances, providing solutions etc. Hence a resourceful website would attract customers, build trustworthiness and spawn the customer relationship. Based on the extent of literature review, following four factors were identified.

a) System Quality

The best system qualities that a website should possess are search facility, responsiveness and multimedia capability (**Mei Cao et al.2005**). The traits of a good website system quality are immediate loading, simple and consistent navigation, site maps, visible search function and interactive multimedia (**Sharad Sarin, 2010**). The success of website depends on its ability to allow the e-shoppers to navigate at ease to the needed information (**Huizingh, 2000; Kee-Sook Lim et al, 2009**). Without annoying and disappointing the customers, if the website offers capability to search and locate the pertinent and needy information, that would be the vital epitome of the best website. Keeping this in mind, firms should integrate site maps and functional navigational tools in their websites to alleviate perplexity and frustration faced by the website visitors (**Hudson et.al, 2000**).

Abels et al, 1997 have provided key features, namely, use and content. Also, they declare that some aesthetic dimensions which express the web site appearances' attributes like animations and sound effects, could improve the visual attractiveness. Navigation at ease would always be appreciated by the users and also gain maximum value to the site (Semeijn et al, 2005). Business sites should be providing the search facility which helps the user to locate the needed information instantly (Huizingh, 2000).

Aesthetic appeal, innate navigation, speedy download and ease of movement could be the tangible attributes of the web design (Lucia et.al, 2006). Website's multimedia capabilities are the features that would augment the visitor's experience by exhibiting their products and services through video and audio clips, graphics and animations whereby information seekers would get better learning experience, with needy information (Mei Cao et al, 2005).

Customers will accord importance only to the website which is responsive (Robbins et al, 2003). Contrary to the traditional business, online consumers do not have to interact with individuals and they are directly linked to the seller organization via a user interface, which facilitates them to complete the expected transactions by themselves (Semeijn et al, 2005). Hence the system response time is highly correlated with the website user satisfaction (Schleifer et al, 1989). Responsiveness could be questioned at least in two ways: load time and search time. Most of the web pages should be made, keeping in mind load time problems and small pictorial illustrations. Hence the website designers should consider all the above mentioned factors pertinent to the system quality while designing the website.

b) Information Quality

Internet acts as a tool for feeding information to their existing and potential customers (Queleh et al, 1996). Visitors of e-shopping website would prefer and patronize those websites which provide useful information (Kee-Sook et al, 2009). Hence the website content should be updated, appropriate, informative and accurate to their target market (Ducoffe, 1996). Precision, accuracy and timeliness are the prime components of information quality. If the website is not regularly updated, the information becomes obsolete and it would not perform as expected (Bitner, 1990). Organized in segments, regularly updated information, accurate information and relevant information are the prime gears to improve information quality (Sharad Sarin, 2010).

Unlike conventional shopping, internet shopping enhances the information environment of virtual shopping by lending additional product information such as product comparisons and also various alternatives for each product (Huang, 2000). A better environment comprises of image of the service purveyor because representing the source of information for consumers would create willingness to purchase and repeat purchases (Lucia et al, 2006 and Bitner, 1990). Depending upon the type of target audience, the company decides the attractive type of content to be placed on the website (Day, 1997). Information should be relevant to any type of visitor who visits the webpage. However, a website cannot afford the same type of information to the heterogenic customers (Huizingh, 2000). Therefore, intensive investigation should be made before laying information on the websites.

c) Service Quality

The degree of discrepancy between customers' normative expectations for service and their perceptions of service performance is defined as service quality (Parasuraman et al,

1985). Items like ownership, trust generating, thorough contact and feedback information and overall well-knitted website are measures of service quality (Sharad Sarin, 2010). If consumer finds their product or service on the website and if they are unable to complete the transaction, then they would cancel the purchase and herein lies the importance of website design (Odekerken-Schöder et al, 2003). Clement et al (2005) have argued that service quality is not a state of being or feeling but a cumulative response to a series of encounters, either through online or offline. Trust is what customers believe that their web site is legal, ethical and credible which also protects their privacy (Wan, 2000). Service quality determines the overall support provided to the user by the website. Website should possess the capability of providing personalized services like caring, individualized information and attention to the customers. Features should be included to provide personalized services like e-mail, chat rooms, bulletin boards and mailing lists (Mei Cao, et al, 2005). Regardless of time and distance, site users could spell out their needs and the web site should provide the expected response (Mei Cao, et al, 2005). DeLone and McLean (2003) have proposed service quality dimensions: responsiveness, trust and empathy, which make the websites effective and appealing, which ensures higher level of satisfaction. The website designers and management should carefully consider how to arrange and present the customer service opportunities (Liu and Arnett, 2000).

d) Attractiveness

The overall appeal is the key to determine the website quality. Attractiveness consists of the following substances: interesting flash animations for interactivity, legible fonts and very well laid out website with grid system (Sharad Sarin, 2010). The attributes which deal with appearances of the website are its

visual attractiveness like color combinations used, the type and size of the fonts, the animation and sound effects, the clarity and the readability of texts (Abels et.al, 1997).

A customer is satisfied not only from an extrinsic reward of purchasing products or services but also from personal and emotional reward from purchasing-derived pleasure (Liu and Arnett, 2000 and Schmidt, 1996). Utilitarian and pleasurable outcomes contribute to the website design success (Bellman et al, 1999 and Kee-Sook Lim et al, 2009). If visitor discovers the website enjoyable, the probability of returning to the website is getting enhanced (Rice, 1997). Hence the website designers should incorporate pleasure in the website design by motivating the customers to involve and proselytize and including the charming features to attract the customers and to help them enjoy the visit (Liu and Arnett, 2000) which will consequently lead to increased customer activities (Schmidt, 1996).

4. OBJECTIVES OF THE STUDY

1. To assess the factors affecting the usage intensity of the website.
2. To suggest factors to be considered in the development of industrial website.

5. HYPOTHESES OF THE STUDY

H₁1. System quality is positively related to the usage intensity of business to business website.

H₁2: Information quality is positively related to the usage intensity of business to business website.

H₁3: Service quality is positively related to the usage intensity of business to business website.

H₁4: Attractiveness is positively related to the usage intensity of business to business website.

a) Sample Selection

Samples of 351 large and medium industries from Coimbatore District of Tamilnadu were selected, using stratified random sampling method. The list of industries was acquired from the industrial association source.

b) Data Collection

An instrument was constructed, adapting website quality items such as SYQ, INQ, SEQ, ATT stated in previous research papers (**Harold W. Webb and Linda A. Webb, 2004, Mei Cao et.al, 2005 and Sharad Sarin, 2010**). Each item listed was measured on five-point Likert Scale, ranging from 'strongly disagree' to 'strongly agree'. In this study, questionnaires were collected in person by meeting large and medium scale industrial entrepreneurs and managers. Respondents were asked to give response to their manufacturing components suppliers' website. Industries having their presence in electronic sphere since one year, were also considered.

6. PERIOD OF STUDY

Study was conducted during the period of August 2012 to May 2013.

7. TOOLS USED FOR THE ANALYSIS

For analyzing the primary data, factor analysis and regression were performed.

8. LIMITATIONS

In this study, only four website qualities were taken into consideration. The research systematically evaluated industries involved in manufacturing and supplying machinery parts like pumps, motors, textile machineries, wet grinders where the scenario may be different to other industrial users. There is a chance of bias in sample as it includes respondents dealing with different product portfolios and different business styles. In view of the busy schedule, the respondents may have less motivation towards providing thoughtful responses.

9. ANALYSIS AND SUGGESTIONS

Exploratory Factor Analysis was performed. Varimax Rotation Method was carried out in order to understand items better and purify the measurement items. Bartlett's Test of Sphericity was significant (.000) and hence the hypotheses that are in the inter correlation matrix, concerning these nineteen variables in an identity matrix, were rejected. The most judicious index of factor analyzability is Kaiser-Meyer-Olkin measure of sampling adequacy. For this data set, KMO value was .915, which is very large. Thus both KMO and Bartlett's Test supported the factor analysis.

Eigen values, which were higher than 1.00, were taken for the analysis. Eigen values for the first four principal components, with values of 7.132, 2.140, 1.208 and 1.020, were retained. From the rotated component matrix, the correlation of each variable with each factor is shown in **Table-1**. Only factor loading values which were greater than 0.50, were considered as significant (Hair et al., 1995). To simplify, factor cross-loadings which were below 0.30, were not reported. Four factors were extracted from the factor analysis, in which most factor loadings were above 0.60. To evaluate reliability, Cronbach's alpha was applied. Alpha values for all the items were above 0.80, which is good for basic research (Nunnally, 1978). Hence the battery employed was reliable.

From the results, it is evident that System Quality, Information Quality and Service Quality were more important than Attractiveness though its items like legible fonts and harmonious colors recorded higher factor loadings. In B2B environment, Information Quality was preferred as the first priority, where all the items' factor loadings were higher than 0.80. Next to that, System Quality, with its factor loadings at higher than 0.69, came second in the priority in determining the usage intensity of the

website. Service Quality recorded factor loading values higher than 0.50 but still, meticulous contact and feedback systems recorded less score at 0.47 because many websites did not provide this facility. Despite possessing all the qualities, usage of legible fonts and harmonious colors scored factor loadings of 0.70 and above, enough to explain the attractiveness component.

The R square value (.909) and Adjusted R Square (.908) explain that proportion of dependent variable (website usage intensity) can be enormously explained by independent variables like SYQ, INQ, SEQ and ATT. Regression and ANOVA results are shown in **Table-2** and **3**. As the significant level is at less than 0.01, the proposed hypotheses are accepted. Hence the e-commerce managers and website designers should incorporate appropriate website qualities in their websites since this study reveals that information and system qualities are the most vital facets for a business to business website.

10. CONCLUSION

This study explains the importance of evaluating the factors which would have relative influence on b2b website usage intention and also proposes a set of factors capturing the quality of an e-commerce website, which consequently affects usage intensity. The empirical test results of the four website success factors have been reported by deploying a set of reliable instruments. The factors and instruments stated and proposed would have momentous realistic meaning for the e-commerce web designers and web managers.

11. SCOPE FOR FURTHER RESEARCH

The observations of this study were confined to pumps, motors, textile and wet grinder industries whereas it can be further applied and tested in other industrial manufacturing sectors also. The study can also be expanded to cover the entire state also.

Inclusion of other eminent business to customers' website qualities like site playfulness, site security and so on can also be done to extend this study.

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Table-1: Rotated Component Matrix

Items		Factors (Component)			
		SYQ	INQ	SEQ	ATT
SYQ1	Website Loads Immediately	.749			
SYQ2	Website is Easy to Navigate	.695			
SYQ3	Searching Facility Provided in this website is Excellent	.745			
SYQ4	Website Responding to Inquiries on Time	.744			
SYQ5	Interactive Multimedia and Animations are Useful	.762			
INQ1	Information in this Website Presented in Organized Manner		.855		
INQ2	The Website is Updated Regularly		.835		
INQ3	Information Displayed in the Website is Accurate		.838		
INQ4	The Website is Providing Relevant Information		.844		
SEQ1	This Website meets all Ethical Standards			.685	
SEQ2	I could find Detailed Information about Company and Products			.703	
SEQ3	This Website Contains Meticulous Contact and Feedback Systems			.473	
SEQ4	I Could Find Information about cases Servicing the Clients Newsletters and Testimonials			.559	
SEQ5	The Website provides the Customized Information			.615	
SEQ6	The Website is Well Maintained			.709	
ATT1	This Website is Appealing and Interactive				.397
ATT2	Fonts Used in this Website are Legible				.725
ATT3	Colors Used are Harmonious				.763
ATT4	This Website Encourages the Visitors Participation				.469

Source: Primary Data

Table-2: Regression Analysis

R	R Square	Adjusted R Square	Change Statistics			
			df1	df2	Sig.	Durbin-Watson
.953	.909	.908	4	336	0.00	1.897

Source: Primary data using SPSS

Table-3: ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	286.284	4	71.571	16.974	<0.01
	Residual	28.766	336	.086		
	Total	315.050	340			

Source: Primary data using SPSS