THE SATISFACTION OF THE USAGE OF ELECTRONIC COMMERCE APPLICATIONS AMONG COMPANIES IN JOHOR BHARU

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ABSTRACT

This study examines the level of satisfaction of the usage of e-commerce applications among companies in Johor Bahru. To explore the issue, a set of questionnaires was distributed among the companies that have already implemented e-commerce. The finding shows that the majority of the companies are satisfied with the e-commerce applications. Almost all of the companies mentioned that e-commerce has the empathy, tangibility, responsiveness, reliability and assurance criteria with the last two criteria being the most profound. This significant finding will encourage other companies to use e-commerce applications in their business transactions.

1.   INTRODUCTION

A majority of big companies today have moved from a product and sales philosophy to a new marketing philosophy. Customer-centered companies have emphasized a better understanding of customers' needs and wants and then translated them into the capability of providing the customers what they really seek for. For this purpose, a lot of marketing research has been done to analyze customers' behavior. Indeed, identifying customers' satisfaction has become increasingly important in the last two decades and the satisfaction construct has gained an important role in the marketing literature.

The new glamour field in research studies today is electronic commerce (e-commerce). E-commerce can be defined as 'the conduct of business among e-enterprises and consumers' where e-business means 'a business enterprise with the capability to exchange value (money, goods, services and information) electronically' (Anderson Consulting, 1999).

Service quality is used as a tool in measuring customers' satisfaction towards the usage of e-commerce. It is an elusive and abstract construct that is difficult to explain and measure (Cronin and Taylor, 1992, cited in Gwo, G.L. and Hsiu, F.L., 2005). The SERVQUAL model, first developed by Parasuraman et al. (1988) has been widely tested as a means of measuring customers' perceptions of service quality. The SERVQUAL model contains five dimensions, namely tangibility, reliability, responsiveness, assurance and empathy.

This study is different because it attempts to determine the level of satisfaction of the usage of e-commerce from companies' perspective. To prove the usefulness of the research model, data were collected from 40 companies around Johor Bharu. The test results provide a valuable reference for managers of online companies, as well as for researchers interested in Internet marketing.

The research questions for the study include: 1. Do the companies involved in e-commerce offer accurate processes of records and provide a dependable information to customers? 2. Do e-commerce applications give personal attention to and understand the customers' needs? 3. Do e-commerce applications have good physical facilities, equipment and communication materials? 4. Does e-commerce

provide a prompt service to the customers and is able to help them in special ways? 5. Do e-commerce applications have the ability in knowing what the consumers' want and can inspire trust and confidence to the customers?

This paper is presented in five parts. The first part is the introduction, which contains an overview and background of the study. The second part is the Literature review. The next part is the research methodology where a description on the design of the survey instrument, sampling design, data collection methods, and data analysis are discussed. The fourth part is the result of the study. The final part is the conclusion of the study.

2. LITERATURE REVIEW: CUSTOMERS SATISFACTION AND E-COMMERCE

Satisfaction is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance in relation to his or her expectations (Kotler, 2000). If the performance does not measure up to the expectations, the consumer is dissatisfied. If the performance matches the expectations, the consumer is satisfied. If the performance exceeds expectations, the consumer is highly satisfied or delighted.

According to Oliver, R.L. (1997), satisfaction is a judgement of a pleasurable level of consumption-related fulfillment, including levels of under fulfillment or over fulfillment. In the case of utilizing e-commerce, customers will be satisfied if they are given high quality services. Perceived service quality has been defined as a global judgment or attitude relating to the superiority of a given service (Parasuraman et al., 1988). In recent decades, a number of researchers have attempted to identify the global attributes that have contributed significantly to consumers' service quality assessment. An exploratory study by Parasuraman et al. (1985) elicited ten dimensions. They were: tangibility; reliability; responsiveness; communication; credibility; security; competence; courtesy; understanding the consumers; and access. Parasuraman et al. (1988) further reduced these ten dimensions to five: tangibility; reliability; responsiveness; assurance; and empathy. Based on the five service quality attributes, Parasuraman et al. (1988) developed a global measurement for service quality (SERVQUAL). Since that time, SERVQUAL has been applied to numerous service industries.

Dina, R. et al (2004) had empirically investigated the roles of service quality, satisfaction and trust in an e-commerce context. In the study, e-service quality dimension of assurance influenced loyalty via e-trust and e-satisfaction. Other e-quality dimensions such as ease of use, e-scope, responsiveness and customization influence e-loyalty and satisfaction.

Based on six focus group interviews, Zeithaml et al. (2001) had identified 13 e-service quality dimensions. These are reliability, responsibility, access, flexibility, ease of navigation, efficiency, assurance/trust, security, price knowledge, site aesthetics and customization/personalization.

Gwo, G.L. and Hsiu, F.L. (2005) found that the dimensions of web site design, reliability, responsiveness and trust affect overall service quality and customer satisfaction. Moreover, the latter in turn are significantly related to customer purchase intentions. However, the personalization dimension is not significantly related to overall service quality and customer satisfaction.

A content analysis of customer evaluations of Internet pharmacy services conducted by Yang et al. (2001) had revealed 19 quality dimensions which were sorted into three categories: product cost and availability; customer service; and online information systems.

Mittal et al. (1998) had discovered that the positive performance of a service quality attribute has less impact on overall consumer satisfaction than negative performance of that same attribute. This asymmetric effect suggests that it is useful to carefully investigate service quality attributes having both negative and positive contributions, and to grant more attention to those salient negatively-performed attributes. This process can permit a service provider to determine strategies for improving those service quality attributes to increase customer satisfaction and loyalty.

For this study, we used the five dimensions of service quality (SERVQUAL) to measure the satisfaction of using e-commerce among companies in Johor Bharu. This was due to the facts that SERVQUAL is the most commonly accepted dimensions by many marketing scholars and it will limit the scope of the study, so that we can stress more on the factors studied. And below are the hypotheses that are tested in the study:

H1: Companies in Johor Bharu are satisfied with the reliability of e-commerce applications.
H2: Companies in Johor Bharu are satisfied with the empathy of e-commerce applications.
H3: Companies in Johor Bharu are satisfied with the tangibility of e-commerce applications.
H4: Companies in Johor Bharu are satisfied with the responsiveness of e-commerce applications.
H5: Companies in Johor Bharu are satisfied with the assurance of e-commerce applications.

3. RESEARCH METHODOLOGY

A set of questionnaires was given to 40 companies in Johor Bharu that have already implemented the electronic commerce. The questionnaire consists of 28 questions which are divided into 2 parts: Part 1 consists of questions on the profile of the companies and Part 2 on the dependent and independent factors.

Ranking scale was used for the questions in Part 2. Non-parametric statistical test (chi square-test) was used to analyze the data.

For the sampling technique, non-probability sampling was used. Under non-probability techniques, judgmental sampling was used where it is a form of convenient sampling in which the population elements are selected based on the judgment of the researcher. The samples were selected because they were regarded as representative of the population of interest.

Moreover, e-commerce is still new in the market or business, thus this type of sampling is suitable because it is often used for market testing purposes in order to determine the potential of a new product or service. Besides that, judgmental sampling is low in cost, convenient and quick.

4. THE RESULTS

4.1 Descriptive Statistics

Table 1: Summary of the Profile of the Companies

SUBJECT	FREQUENCY	PERCENTAGE (%)
1. Sector		
Insurance	3	7.5
Construction	1	2.5
Retail	8	20.0
Manufacturing	5	12.5
Transport	1	2.5
Finance / banking	9	22.5
Tourism	2	5.0
Information technology	6	15.0
Telecommunication	5	12.5
2. Year established		
Before 1990	27	67.5
1991 - 1995	9	22.5
1996 – 2000	4	10.0
2001 – 2005	0	0.0
3. Total employees		
Less than 100	4	10.0
100 – 200	11	27.5
200 – 300	3	7.5
More than 300	22	55.0
4. Paid up capital		
Less than RM500,000	3	7.5
RM500,000 – RM2.5 mil	1	2.5
Above RM2.5 mil	36	90.0

5. IT Investment		
Less than RM250,000	3	7.5
RM250,000 – RM500,000	2	5.0
More than RM500,000	35	87.5
6. E-commerce training		
Yes	40	100.0
No	0	0.0
7. Satisfaction of using e-commerce		
Not satisfied	7	17.5
Satisfied	30	75.0
Highly satisfied	3	7.5

Table 1, row 1 and row 2, summarizes the profile of the companies. Finance and banking sectors constituted the highest percentage (22.5%) among the companies. This is closely followed by 8 companies from retail sector (20%), 6 companies from information technology sector (15%), 5 companies from telecommunication sector (12.5%) and the rest is less than 10 percent. The majority of the companies (67.5%) were established before the year 1990. Table 1 row 3 shows that 55% of the companies observed have more than 300 numbers of workers. Table 1 row 4 illustrated that 36 companies (90%) have paid up a capital above RM2,500,000 and this indicates that most of the companies have a high paid-up capital.

According to table 1, row 5 and row 6, all of the 40 companies gave e-commerce training to their workers and 87.5% of them have invested more than RM500,000 in IT. Lastly, table 1 row 7 indicates that 30 companies (75%) are satisfied with the use of e-commerce and 3 companies (7.5%) are highly satisfied. But out of 40 companies, there are still 7 companies (17.5%) which are not satisfied.

4.2 Inferential statistics

Table 2: Results of Chi-square tests on reliability.

Reliability	Chi-square	p value	df
1. Is dependable	30.6	0.000	2
2. Responsible in handling consumers' complaints	18.2	0.000	3
3. Deliver service accurately the first time.	35.0	0.000	4
4. Maintains accuracy in records.	13.0	0.005	3

Note: α= 0.05

From table 2, the p-values for all variables under reliability are 0.000 to 0.005, which are significant. Thus, hypothesis H1 is accepted which means that the companies in Johor Bharu are satisfied with the reliability of the e-commerce applications.

Table 3: Results of Chi-square tests on empathy.

Empathy	Chi-square	p value	df
1. Give consumers personal attention.	23.0	0.000	3
2. Has convenient service hours.	16.4	0.001	3
3. Can understand consumers' needs.	4.5	0.103	2
4. Care towards consumers' needs.	18.6	0.000	3

Note: α= 0.05

From the chi-square test, the p-values for all variables under empathy except 'can understand consumer needs' are below than 0.05, which are significant. But for 'can understand consumer needs' variable, the p-value is 0.103 which is insignificant. In this case, hypothesis H2 can still be accepted since there is only one variable that is insignificant. This means that the companies in Johor Bharu are satisfied with the empathy of e-commerce applications.

Table 4: Results of Chi-square tests on tangibles.

Tangibles	Chi-square	p value	df
1. Physical facilities are visually appealing.	11.2	0.004	2
2. Professional image on web site.	6.4	0.042	2
3. Physical storefronts and fancy materials.	7.6	0.023	2
4. Appearance of facilities unlimited.	27.7	0.000	2

Note: α= 0.05

From table 4, the p-values for all variables under tangibility are below 0.05, which is significant. Therefore, hypothesis H3 is accepted which means that the companies in Johor Bharu are satisfied with the tangibility of the e-commerce applications.

Table 5: Results of Chi-square tests on responsiveness.

Responsiveness	Chi-square	p value	df
1. E-commerce gives prompt service.	33.2	0.000	3
2. Transaction is quicker and easier.	13.0	0.005	3
3. Always responds to consumers' requests.	0.05	0.975	2
4. Has a direct contact with the suppliers to give better service.	12.6	0.006	3

Note: α= 0.05

Table 5 indicates that the p-values for the three variables under responsiveness are below 0.05, which is significant except for 'always respond to consumers' requests', which is insignificant. In this case, hypothesis H4 is still accepted since there is only one variable being insignificant. This means the companies in Johor Bharu are satisfied with the responsiveness of the e-commerce applications.

Table 6: Results of Chi-square tests on assurance.

Assurance	Chi-square	p value	df
1. Confident with the security of transactions.	50.0	0.000	3
2. Good technical support.	2.4	0.294	2
3. Consumers are confident with the actual transaction process.	30.6	0.000	3
4. Consumers are sure of the inner workings of the system.	23.0	0.000	3

Note: α= 0.05

From the chi-square test (as illustrated in table 6) the p-values for the three variables under assurance are 0.000, which are significant. But for 'good technical support', the p-value is 0.294 which is insignificant. In this case only one variable is insignificant but the other three are significant. This means hypothesis H5 can

be accepted and the companies in Johor Bharu are satisfied with the aspect of assurance of e-commerce applications.

Table 7: Priorities variables to companies

Variable	Not important	Important	Highly important	%
1. Reliability		12.5	87.5	100
2. Empathy	2.5	22.5	75.0	100
3. Tangibility	2.5	27.5	70.0	100
4. Responsiveness		17.5	82.5	100
5. Assurance		15.0	85.0	100

Table 7 shows that companies in Johor Bharu choose reliability as the most important variable (87.5%), followed by assurance (85%), responsiveness (82.5%), empathy (75%) and tangibility (70%).

5.   CONCLUSION

The study clearly shows that generally the companies in Johor Bharu are satisfied with the electronic commerce applications. This is due to the finding which indicated that 75% of the companies are satisfied and another 7.5% of them are highly satisfied Almost all of the companies evaluated that e-commerce have the reliability, empathy, tangibility, responsiveness and assurance criteria with the reliability and assurance criteria being the most profound. This concludes that reliability and assurance are the most important variables as far as the companies in Johor Bharu are concerned. Failure to fulfill the expectations on both variables will dissatisfy them. Overall, the study shows that e-commerce have the credibility to be used, thus it should be applied by companies from all sectors. This is in line with our vision 2020 which stresses on a wider application of IT for Business and Commerce.

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