



# JURNAL TEKNOLOGI MAKLUMAT DAN SAINS KUANTITATIF

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## DARI MEJA KETUA PENYUNTING

Alhamdulillah, dapat kita terbitkan Jurnal Teknologi Maklumat dan Sains Kuantitatif Jilid 7, Bil.1, 2005. Saya rasa pencinta ilmu menanti-nanti terbitan kali ini.

Seperti biasa jurnal terbitan sesuatu tahun itu, hanya dapat dihantar untuk percetakan dua atau tiga bulan berikutnya. Kadangkala, penulis yang telah menghantar balik artikel yang telah diwasitkan itu tertunggu-tunggu juga adakah artikelnya diterbitkan kali ini. Sememangnya pihak penyunting mengamalkan prinsip giliran FIFO (first in first out), tetapi kadangkala ianya tidak boleh dilakukan. Ini kerana sesuatu bidang pengkhususan itu mempunyai dua atau tiga artikel sekaligus. Jadi pihak penyunting berkemungkinan akan melewatkan salah satu daripada artikel sebidang itu kemudian. Justeru itu, giliran FIFO masih dilakukan dalam bidang yang sama.

Dalam keluaran yang lepas, saya ada mengatakan bahawa minat penulis akan terhakis apabila maklumbalas tentang penerimaan sesuatu artikel untuk diterbitkan itu lambat. Saya hanya boleh memberi nasihat kepada penulis supaya bersabar, sebab ini begantung kepada pewasit yang menilai itu sibuk atau tidak, sanggup atau tidak dan sebagainya. Percayalah, kesabaran itu akan menjadi kita penulis yang berdisiplin.

Akhir kata, saya harap semua penulis-penulis semasa dan yang akan datang tetap gigih untuk menulis supaya karya kita dapat dimanfaatkan oleh para ilmuwan yang lain dalam bidang kita iaitu Teknologi Maklumat dan Sains Kuantitatif

Terima kasih.

Ketua Penyunting.

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## **E-Service Quality : Malaysian Perceptions**

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### **Abstract**

The opportunities and challenges offered by the 'electronic retail market place' are certainly generating both excitement and concern within the business community. However, Internet retailing is still very much in its infancy especially in Malaysia. One of the factors to boost the usage of electronic retail market place is the service quality. Service quality is increasingly recognized as an important aspect of electronic retail marketplace. Service quality is the key determinant for successful e-commerce. Gummesson (1979) was one of the first to suggest that the concept of service quality was strongly related to perceptions and trust. This study aims to gather information about consumer perceptions of Internet retail service quality based on selected dimensions, which represent overall quality of Internet retailing. The dimensions are reliability, access, security, efficiency, ease of use and information. Other objectives are to see whether demographic profile and Internet usage would influence the perception on the e-service quality.

*Keywords: Internet Retailing, Service Quality, Consumer Perceptions*

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### **1.0 Introduction**

The Internet is already changing the way that many companies conduct their businesses. As that influence grows, and more companies use the Internet, the possibilities for conducting business-to-business commerce on the Internet will expand greatly, and become more of a routine part of commerce than it is today. Business-to-business (B2B) covers a broad spectrum of applications that enable an enterprise to form electronic relationships with its distributors, resellers, suppliers, customers and other partners. Hence, by using B2B, organizations can structure their supply chains and partner relationship (Warkentin, 2001). However, from a marketing perspective, the major benefit of the Internet is the much greater degree of interactivity than other communications media. The most valuable web applications are those that allow companies to go

beyond communication barriers and establish dialogue directly with customers. For example, websites can contain electronic forms for customer completion and retailers can reply directly via electronic mail (e-mail). This kind of connection will improve customer relations and contribute towards the building of customer loyalty.

In order to increase demand for their offerings, online retailers, both exclusive e-retailers and traditional brick-and-mortar retailers with a presence on the Internet, need better understanding of the elements of online shopping experience that are important to the current and potential customers. Using Internet retail service quality can help to achieve higher demand because poor service quality is one of customer's complaints about e-retailers.

The opportunities and challenges offered by the 'electronic retail market place' are certainly generating both excitement and concern within the business community. However, Internet retailing is still very much in its infancy especially in Malaysia. Although there is growth in the number of Internet users, there is not a commensurate growth in people buying goods and services directly online. So, online retailers need to better understand elements of the online shopping experience that are most important to their customers.

Currently, consumer behaviour of online retailing has not yet been subject to many research projects in Malaysia. As a result, little is known about the demographics of online customers and even less about the factors influencing their decision to buy. Therefore, measuring customers perceptions on quality and studying the customer service elements provided by Internet retailers in meeting customer satisfactions are important towards a successful Internet retailing business.

## **2.0 Prior Literature on Retail Service Quality**

Research into service quality has been popular for more than two decades, but it is only recently that it has been applied to the e-commerce environment. Developed from Internet marketing and the traditional service-quality literature, the concept of service quality in Internet retail can be defined as the consumers' overall evaluation and judgment of the excellence and quality of -service offerings in the virtual marketplace. In contrast to their evaluation of traditional service offerings, customers are less likely to evaluate each sub-process in detail during a single visit to a Web site; rather they are likely to perceive the service as an overall process and outcome (van Riel et al., 2001).

The research into self-service technology conducted by Meuter et al. (2000) assessed more than 800 incidents and found that positive incidents were rare, and that dissatisfying incidents were often caused by process failure (such as lost orders). For online consumers, Internet retail service quality of a high standard is the means by which the potential benefits of the Internet are realized (Yang, 2001). Parasuraman (2000) proposed that flexibility, convenience, efficiency and enjoyment are examples of major positive themes in the online environment.

Yoo and Donthu (2001) report on a scale development effort designed to capture the perceived quality of an Internet shopping site. Their four dimensions include: ease of use, aesthetic design, processing speed and security. Szymanski and Hise (2000) look at the determinants of a related construct e-satisfaction. Their findings showed that convenience, product information, site design

and financial security have positive influence on consumer satisfaction ratings of their Internet shopping experience. Meanwhile, Dabholkar (1996) proposes that expectations of speed of delivery, ease of use, reliability, enjoyment and control will impact service quality expectations for technology-based self-service options.

Zeithaml et al. (2000) developed a framework consisting of 11 dimensions to be used in evaluating the delivery of "electronic service quality". The 11 dimensions include access, ease of navigation, efficiency, flexibility, reliability, personalization, security/privacy, responsiveness, assurance/trust, site aesthetics and price knowledge. Meanwhile, Kaynama and Black (2000) built on the traditional SERVQUAL dimensions to develop an electronic service quality measure comprised of seven dimensions: content, access, navigation, design, response, background and personalization. In response to that, Yang (2001) proposed potential factors of online service quality that align with those of the SERVQUAL instrument. The potential factors include reliability, responsiveness, access, ease of use, attentiveness, credibility and security. Liljander et al. (2002) develop four e-quality dimensions: site design and content, trust, empathy and security.

When considering this recent body of work, several common dimensions emerge that are seen to be particularly relevant for online environments. First, researchers perceive security to be an important service quality dimension, which would appear to be a dimension unique to Internet retailing contexts. Perhaps the lack of a human-to-human interaction drives consumer's heightened sensitivity to the safety of transactions. For example, sensitive financial information is being shared with a computer instead of another individual. Ease of use and navigation is another dimension that appears in many of the studies listed above. This dimension is consistent with the functional quality aspects described by Gronroos (1982) and others. A retailer having a Web site that is easy to use and facilitates the locating of merchandise is a dimension that is different and more specific than service quality dimensions previously identified for traditional retail outlets. Another dimension, product information/content, is found across several studies. The quality and quantity of information on retailer Web sites is a dimension not directly explored in traditional retailing service quality measures. In the light of this, it shows that adequate and accurate amounts of information are considered a key part of the service provided by online retailers.

Many past researchers had attempted to define the criteria for service quality (Gronroos 1982; Dabholkar 1996; Yang 2001; Kaynama and Black 2000; Zeithaml et al. 2000; Parasuraman 2000; Szymanski and Hise 2000; Yoo and Donthu 2001; Liljander et al. 2002, Santos 2003) but most researchers in the previous studies were based on the western culture and not many on the Asian culture. Asian culture is somewhat different from the western culture in terms of attitudes, values, beliefs, standards and social and also in Internet usage. Furthermore, many countries in Asia are developing countries where the national and organizational conditions are different to those in the developed world and therefore, it is often inappropriate to apply existing experiences and research from the developed nations.

### **3.0 Research Model**

The research model (Figure 1) is based on the six dimensions of e-service quality adapted from Santos (2003). Santos has proposed and discussed a conceptual model of the determinants of

e-service quality. It is proposed that e-service quality consists of six dimensions for the consumers to rate, which are:

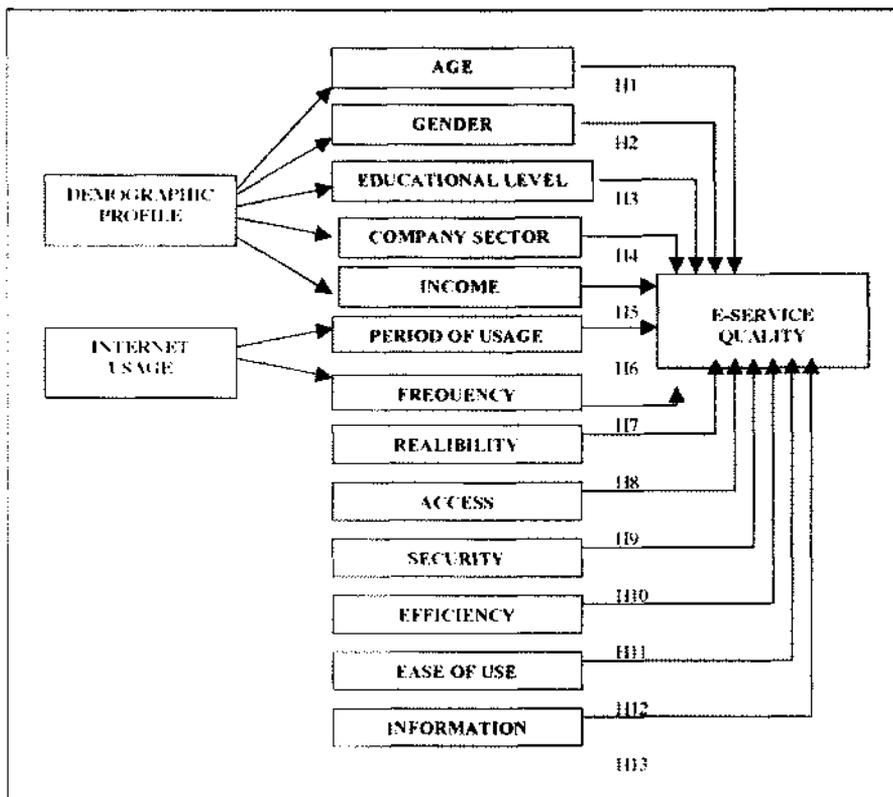


Figure 1: Research Model (adapted from Santos, 2003)

- Reliability – This included the correctness of order fulfillment, prompt delivery and billing accuracy; this definition clearly excluding an information-only site.
- Access – This included the list of the company’s street and e-mail addresses, phone and fax numbers, accessibility of service representatives, availability of chat room, bulletin boards and other communication channel.
- Security – This included security of personal information and minimal online purchase risks.
- Efficiency – This included prompt reply to enquiries, fast downloading, speedy search mechanism and fast loading of pages and images.
- Ease of use – which was related to an easy-to-remember URL address, well-organised, well-structured and easy-to-follow catalogues, site navigability and concise and understandable contents, terms and conditions.
- Information – Refers to adequate information, accurate product/service information and frequent updating of website’s information.

Those six elements identified from Santos model are the features or factors that most commonly identified by other studies as well.

Figure 1, also presents the perception among the variables in Santos's model of e-service quality, Internet usage and in the demographic profile. The variables in Internet usage and demographic profile were included in attempt to see whether the variables would influence the perception on the e-service quality.

The hypothesized relationships are proposed to see the association between e-service quality variables and demographic profile with consumer's perception. The hypotheses are as follow:

- H1: The age groups have influence on the perception level of e-service quality
- H2: The genders have influence on the perception level of e-service quality
- H3: The education levels have influence on the perception level of e-service quality
- H4: The company sectors have influence on the perception level of e-service quality
- H5: The incomes have influence on the perception level of e-service quality
- H6: The Internet periods of usage have influence on the perception level of e-service quality
- H7: The Internet usage frequency has influence on the perception level of e-service quality
- H8: The consumers perceptions of reliability on e-service quality is positive
- H9: The consumers perceptions of accesses on e-service quality is positive
- H10: The consumers perceptions of securities on e-service quality is positive
- H11: The consumers perceptions of efficiency on e-service quality is positive
- H12: The consumers perceptions of ease of use on e-service quality is positive
- H13: The consumers perceptions of information on e-service quality is positive

#### **4.0 Methodology**

The sampling method used to select the respondents is convenience sampling, which are accessible, easy to measure and cooperative. A total of 120 questionnaires were distributed to selected companies, which are RHB Bank, Maybank and AirAsia. The respondents were customers of these three companies. The main objective of the questionnaire survey was to elicit responses from target respondents consisting of people who have experience with online services to evaluate their perceptions on online retailers. The research was addressed using a survey design, which was a relatively inexpensive and effective way of obtaining information on a large number of cases. The survey was conducted about four weeks.

#### **5.0 Survey Results and Findings**

The study reports the results of a survey of Malaysian consumers in Klang Valley in selected service sectors.

##### **5.1 Respondents' Profile and Internet Usage**

Table 1 reports the results relating to the respondents participating in this study. When examining the responses to the organization profile questions, it shows that the majority of respondents who used Internet retailing are male and 76.7% of the respondents are in the age group of 20-30 years

and more than half (52.5%) hold a Bachelor's degree and working in IT and engineering sector with the income of between RM1000 and RM2500.

TABLE 1: Respondents' Profile

<b>Respondents' Age Group</b>	<b>Percent (%)</b>	<b>Number</b>
Below 20	5.0	6
20 – 30	76.7	92
31 – 40	13.3	16
41 and above	5.0	6
<b>Total</b>	<b>100.0</b>	<b>120</b>
<b>Respondents' Gender</b>		
Male	56.7	68
Female	43.3	52
<b>Total</b>	<b>100.0</b>	<b>120</b>
<b>Respondents' Level of Education</b>		
Master / PhD	3.3	4
Degree	52.5	63
Diploma	25.8	31
Certificate	5.8	7
High School	11.7	14
Others	0.8	1
<b>Total</b>	<b>100.0</b>	<b>120</b>
<b>Respondents' Occupation Sector</b>		
Computer/IT	20.0	24
Engineering	16.7	20
Business/Marketing	8.3	10
Finance	11.7	14
Accounting	3.3	4
Student / Education	11.7	14
Consultancy	5.0	6
Others	23.3	28
<b>Total</b>	<b>100.0</b>	<b>120</b>
<b>Respondents' Salary (RM)</b>		
Less 1000	17.5	21
1000 – 2500	50.0	60
>2500 – 4000	22.5	27
>4000	10.0	12
<b>Total</b>	<b>100.0</b>	<b>120</b>

Table 2 shows the information about the Internet usage of respondents such as the period, the frequency in using the Internet and the type of service(s) respondents' used on the Internet. The majority of the respondents have more than 4 years experience in using the Internet and access the

Internet everyday. The most preferred type of service is online banking with 85 out of 120 respondents, followed by airline ticket booking/purchasing. Furthermore, the results are consistent with the survey done by ACNielsen Consult (2004) where more than half or 51% respondents in Malaysia used the Internet for online banking services. The rapid rise in the popularity of online banking may suggest that the banking community has addressed the consumer needs.

Table 2: Respondents' Internet Usage

Period of Usage	Percent (%)	Number
< 1 year	1.6	2
1-2 years	6.7	8
3-4 years	24.2	29
> 4 years	67.5	81
Total	100.0	120
<b>Frequency</b>		
< 3 times a week	25.8	31
> 3 times a week	22.5	27
Everyday	51.7	62
Total	100.0	120
<b>Type of Service</b>		
Online Banking	70.8	85
Airline Ticketing	40.8	49
Redemption	24.2	29
CD	15.8	19
Books/Magazines	9.2	23
Clothes	9.2	11
Others	12.5	15

## 5.2 Results on Perception Level

Based on research model in Figure 1, the hypothesized relationships results are shown in Table 3, 4 and 5. In Table 3, by using the ANOVA test for age, educational level, occupational sector and income and T-test for gender; perceptions on e-service quality were derived. Demographic profiles in the questionnaires were tested for their perception levels on service quality. Hypotheses 1, 2, 3, and 5 were rejected. The ANOVA and t-test indicates that, in general respondents' demographic profiles such as age, gender, educational level and income do not play a vital role in determining their perceptions towards Internet retail service quality. The p-values in the greyed cells in the analysis indicated that hypothesis 4 was supported. This shows that occupational sector plays a role in determining the perceptions towards Internet retail service quality. The possible explanation for this may be the respondents from different occupational sectors may have the skills and knowledge regarding Internet retail.

Table 3: Results of Perception Level for Demographic Profile

Demographic Profile	No. of Respondent	F Value	P Value
Age (H1)	120	0.347	0.792
Gender (H2)	120	0.200	0.656
Education Level (H3)	120	0.510	0.768
Occupation Sector (H4)	120	2.293	0.026
Income (H5)	120	0.689	0.560

*Legend of the table: Greyed entries denote that the entries have significant influence (significant at 0.05 levels)*

In Table 4, the results of perception level for Internet usage are showed. The result shows that hypothesis 6 is supported meanwhile hypothesis 7 is rejected. This indicates that generally the frequency of usage has no influence on the perception level but the period of use has influence on the perception level. This may be explained by that many veterans Internet usage have the knowledge and skills need to know what is needed and useful for Internet retail businesses.

Table 4: Result of Perception Level for Internet Usage

Variable	No. of Respondent	F Value	P Value
Period of Use (H6)	120	4.251	0.017
Frequency (H7)	120	0.635	0.532

*Legend of the table: Greyed entries denote that the entries have significant influence (significant at 0.05 levels)*

The correlations coefficient test, which was done to determine the relationship between consumers' perceptions with reliability, access, security, efficiency, ease of use and information shows that there is a positive relationship between consumers' perceptions with all six dimensions as shown in Table 5. The results show that hypotheses 8, 9, 10, 11, 12, and 13 are accepted. The survey results also confirmed the results from the past literature where e-service qualities that are reliability, access, security, efficiency, ease of use and information influenced the level of consumers' perception.

However the results indicate that the ease of use is the most important determinant of e-service quality. There is a very high demand for a Web site that is easy to find, use and navigate within. Some Web sites offer the option of internal search, which allows customers to search within the site by product, feature or keyword. This attribute was highly rated – a finding that has also been noted by other researchers. The second most important dimension is efficiency, which refers to the speed of downloading, search and navigation. Although service providers often blame the specifications of the hardware in the consumers' possession for inefficiency, providers can increase efficiency, even if consumers have low-speed PCs, by reducing the number of complicated graphics and by using interlacing. Information came in third place followed by security, access and lastly reliability. Parasuraman et al. (1988) finding stated that reliability as the

most important dimension in all services however, the respondents in Malaysia did not think so. Most probably respondents in Malaysian are not into online shopping as yet, but prefer more on online services.

Table 5: Results of Perception Level for e-Quality Services

Variable	No. of Respondent	F Value Coefficient	P Value
Reliability (H8)	120	0.515	0.01
Access (H9)	120	0.591	0.01
Security (H10)	120	0.697	0.01
Efficiency (H11)	120	0.742	0.01
Ease of Use (H12)	120	0.784	0.01
Information (H13)	120	0.732	0.01

Legend of the table: Greyed entries denote that the entries have significant association (significant at 0.05 levels)

## 6.0 Conclusions

The objectives of the present study are to gather information about consumer perceptions of Internet retail service quality based on selected dimensions and to see whether demographic profile and Internet usage would influence the perception on the e-service quality.

The results in this study provide insight into the current usage and perceptions on Internet Retail Services. Most of the Internet Retail usages are young (about 76.7 % between the ages of 20 – 30 years) and well educated (52.5% had a bachelor's degree). Another important findings is that about 70.8% of the respondents have experienced using online banking, which shows that respondents especially the surveyed bank customers are confident to use this service. This suggests that banking community has addressed the consumer needs. This also might be because of the rapid rise in the popularity of online banking. Results also show that occupation sector and period of usage play a role in determining the perceptions towards Internet retail service quality.

It is also interesting to note that the ease of use is the most important determinant of e-service quality compared to the literature finding where it stated that reliability as the most important dimension in all services. This is because of the advanced usage of information and communication technologies in the developed countries and it has a relatively long history of exploiting computing application hence ease of use was not rated too highly compared to Malaysia consumers.

However, it is clear that Internet technology and consumer savviness continue to evolve and develop together. By examining the six dimensions, online retailers can develop a better understanding of their customers' needs. As such, developing measures of Internet retailer service quality must be considered a dynamic process. This study not only provides timely implications and suggestions for online retailers but also contributes to the ongoing task of developing an effective measure for assessing customer response to online retailing.

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