Consumers' behaviour towards Internet technology and Internet marketing tools

Noor R. Ab Hamid

Abstract— The accessibility of the Internet and lower costs of doing transactions have given rise in customers bargaining power and intense global competition. Although the Internet has great potential for consumer value reports indicate that consumers vary in their levels of Internet adoption. Among the factors causing consumers lack of adoption is perceived risk associated with online transactions. This study explores the roles of perceived risk and user's experience level in determining consumers' adoption level. In addition, the effect of consumers' level of experience on perceived risk is examined. Meanwhile, customers' behaviours vary depending on several factors such as demographics, technology literacy and experience level and so forth which will then influence their assessment of service quality entailing brand loyalty. Based on the belief that marketing to well-defined segments of customers would improve the quality of services offered affording higher retention rates and at the same time increase firms' profitability in the long run many companies have opted to implement customer relationship management (CRM) programs. Hence, this study also aims to understand the relationships between consumer' behaviour and internet marketing programs. Findings from this study indicate that perceived risk does not influence the types of activities conducted on the Internet. In contrary, users' experience level plays an important role in users' level of Internet adoption. In addition, our findings also revealed that customers differ in their relationship decisions based on age, education and experience level. We discuss the implications to managers and future directions of research.

Keywords—Customer relationship marketing, consumer behaviour, Internet adoption, retention.

I. INTRODUCTION

INFORMATION technology has significant roles to play not only in businesses but also in daily activities of individuals. User-friendly technology, for example the Internet has changed the way people communicate, work and perform commercial activities. The emergence of Internet technology, particularly the World Wide Web, as an electronic medium of commerce offers new opportunities to industries to adopt the Internet as their alternative marketing tools (or as the only marketing channel).

Internet based services continue to grow in importance in 'business-to-consumer' and 'business-to-business' environments. For firms the increased importance of Internet channels can be seen in its contribution to disseminating information, enhancing consumer value, improving consumer satisfaction, loyalty and retention as well as consumer perception [1] which in turn leads to better profitability and expanded market share. From the consumers' perspective, Internet-based services can significantly reduce the costs for searching, widen the selection of vendors, deliver lower priced products/services, and increase convenience, allowing greater control over products/service offered. This reduction in cost has encouraged companies to expand electronic information services and new competitors to enter existing market. It is vital for companies to understand consumer adoption behavior, as their investment decisions in technology infrastructure should be driven by consumer acceptance (adoption) and long-term profitability.

At an individual level, one's decision to use information technology such as the Internet involves several considerations. Clearly, the Internet, alongside its advantages as an electronic marketing channel has its potential drawbacks. For example, lack of sound security measures at service providers transaction systems have caused many consumers hesitant to perform online activities which involved the disclosure of financial information. In other words, the extent to which consumers perceive risk associated with the use of Internet would determine their levels of adoption. Drawing from Technology Acceptance Model (TAM) theory, this study therefore, aims to investigate the effect of consumer levels of perceived risk and experience on their usage of the Internet.

Clearly, with changing consumer expectations in the Internet environment firms need to rethink ways to improve online customer relationships and generate better profits. One of the imperatives is consumer retention strategies, such as those to establish marketing programs that increase consumer satisfaction, leading to the establishment of long term consumer relationships – customer loyalty. It is generally well known that it is cheaper to retain customers than to target new ones where studies have shown that winning new customers can be up to five times more expensive than maintaining existing customers [2][3]. Therefore, maintaining a good customer relationship is important for the companies to seek growth and profit in today's global and competitive market. Customer relationship management (CRM) programs are believed to be able to assist companies produce a better connection between businesses. However, to many companies the 'promise' that CRM programs should deliver has failed to materialize. Despite firm's heavy investment in CRM programs, consumers who appeared to be 'satisfied and loyal' (judging from repeat visits) still appeared to eventually switch for lower prices or higher perceived value. This situation could mean that companies need to refine their understanding of consumer retention behavior so as to unveil consumers

varying preferences and expectations toward services and firms relationship marketing campaigns.

Hence, this study also seeks to determine the extent to which consumers' demographics, experience level and perceived risk influence consumers' assessment of E-CRM activities.

A. Users' Behavior and Internet Technology Adoption

The Internet has been available for public access for more than 10 years, and to many, it is no longer a 'new' technology. When users become more familiar with a technology, in this case the Internet, they tend to have higher expectations towards the technology [4]. As business usage of the Internet increases, Internet technology serves as a primary marketing channel. This study aims to examine adoption levels of experienced users as well. It is imperative that firms understand the service expectation level of users with varying level of Internet experience. Firms, whose target markets are experienced users, may need to design their online services according to the expectations of this group of savvy users and failing to do so may cause dissatisfaction. In particular, as today there are more educated and experienced users than before, firms need to fully comprehend the level of expectations of this group since, the more experienced users are with a technology, the higher the expectations of service [5].

The types of activities conducted on the Internet may reflect users' level of risk tolerance. Users, who are merely information seekers deal with less risk compared to users who purchase products/services online. Users' readiness and willingness to be involved in riskier activities on the Internet may indicate their comprehension of the degree of risk and that the usefulness or value of interactions online far exceeds any fear. According to Salisbury et al. [6], consumers' associated with the interaction with an innovation, such as the Internet where the outcome is not known, perceived risks far outweighs the value of interaction in determining adoption behaviors. Therefore, when firms are able to identify consumers' varying risk levels they can better decide on the extent of use of the Internet as a marketing tool: as an information distribution site or transactional site as well as offer their services according to these are varying groups expectations.

B. Internet Usage and E-commerce in Malaysia

Although the Internet is gaining popularity, Malaysian consumers have yet to embrace electronic commerce. A study conducted by TNS Interactive revealed lack of trust in the online payment system as a major factor in hindering consumers to shop online [7]. This finding is parallel to that of Yee [8] and Suki et al.'s [9] study. The survey shows that 38 per cent from the respondents felt that online shopping was not safe and 36 per cent others were reluctant to reveal their credit card details. Unable to inspect a product prior to purchase was also cited as one of the factors hampering e-commerce adoption. The consumers who shopped online were mainly those who have conducted online transactions before and consumers who are technology literate. However, first time buyers would prefer to 'feel and test' the physical products prior to making purchases [10].

Nevertheless, there seems to be a positive outlook for the adoption of e-commerce in Malaysia particularly in the forthcoming years. Between 2002 and 2003 there has been a 60 per cent growth in the number of Internet users and in 2004 there were 8.6 million users nationwide – 35 per cent of the entire population [11]. This growth can be primarily attributed by the government's increased campaigns and incentives as well as the telecommunication companies offer to reduce the cost of Internet access [12]. With this phenomenon, IDC projects a compound annual growth rate of 19.9 per cent from 2002 and 2007 in Internet market [13] and a 93 per cent increase in e-commerce market which includes business-to-business and business-to-consumer for 2004 [14].

II. THEORETICAL FRAMEWORK

For the first objective, this study is premised on the belief that user adoption of information technology (Internet) depends on his/her perception and attitude towards a particular technology. Therefore, this study adapts the Technology Acceptance Model (TAM) theory that underpins the understanding of user acceptance behaviors.

A. Internet Technology Adoption

Past studies have examined the factors affecting technology adoption. In end-user computing in particular, some researchers have investigated the features of computer systems such as format, timelines, accuracy, content and ease of use as important factors in end-user satisfaction assessment toward a technology [15]. When users are satisfied with a technology the technology adoption is likely to be higher. In addition, Technology Acceptance Model (TAM) asserts that users' decision to use a technology depends on two factors: perceived ease of use and perceived usefulness.

TAM, first introduced by Davis [16] is concerned with the determinants of computer acceptance. That is, "in general, TAM is capable of explaining user behavior across a broad range of end-user computing technologies and user populations" [17]. In adaptation to an earlier Theory of Reasoned Action (TRA) which accentuates that an individual behaviour is an outcome of attitudes that is formed by perceptions or norms [18], TAM proposes that attitude towards using a system is influenced by perceived usefulness and ease of use. Specifically, TAM argues that the use of IT is determined by individual's intention to use the technology and that one's intention is determined by the person's attitude as well as perceived usefulness and ease of use [19].

However, Thomson et al. [20] suggest excluding the intention to use variable in studies that are interested to measure actual behaviour, that is, Internet usage. Since the purpose of this study is to examine consumer perception and its effect on the use of Internet technology as a marketing channel, we then follow Thomson et al.'s suggestions. Consumers' actual behaviours are measured by their usage of various types of Internet applications (email, chat rooms, personalized pages, shopping and so on) while perceived risks and experience level represent varying groups of consumers

entailing differences in risk tolerant and technology literacy levels.

B. Perceived Risk

As users interact with a new technology, they will learn the usefulness as well as the risks associated with the technology. Technology Acceptance Model (TAM) proposes that an increase in perceived usefulness leads to a greater intention to use [21]. This study extends this proposition to infer that perceived risk influences the actual usage of the Internet. While there are other factors affecting consumers' adoption behavior on the Internet, perceived risk is an impediment to the repatronage and purchase on the Internet [22]. In brief, perceived risk may influence the attitude and behavior of consumers towards the Internet services [23].

Perceived risk is defined as an assessment of uncertainties or lack of knowledge about the distribution of potential outcomes [24] and the uncontrollability of outcome attainment [25]. In the case of purchasing on the Internet, it is possible that consumers may perceive disclosing their credit card information as risky, and they have no control over this [26]. Chellappa and Pavlou [27] describe information security as the subjective probability with which consumers believe that their personal information will not be viewed, stored or manipulated during transit or storage by inappropriate parties, in a manner consistent with their expectations.

Indeed, uncertainties about how their financial information is treated by merchants will increase perceived risk associated with online transactions. This study adapts the notion proposed by TRA and TAM and suggests that the higher the perceived risk (perception) the lower the adoption level. Given the likelihood that perceived risk is associated with transactional information [28], this study measures consumers' perceived risk by their behaviour towards transactional activities such as online banking and online reservations.

Perceived high-risk activity includes online banking where consumers assume greater risk transferring funds from their bank accounts to third party accounts, pay their utility bills or make inter-bank loan repayments and so forth. A medium-risk activity includes online reservation, which involves the disclosure of consumers' financial account or credit card information, but no transaction will take effect unless one appears physically before the service provider in order to confirm a purchase. On the other hand, information searching is considered as low risk activity since it does not involve any disclosure of financial related information. Hence, consumers who adopt high-risk activities (for example, online banking) can be considered as having higher risk tolerance than those who use the Internet for online reservation and information search. Therefore, the first hypothesis is proposed:

H1: The higher the risk tolerance the higher adoption level towards high-risk Internet activities.

C. Experience Level

When users gain more experience using the Internet they tend to learn the usefulness as well as the disadvantages of the technology [29]. For example, experienced users may find the process of information search becomes much easier the next time they use a search engine. As a result, information searching becomes common and users tend to explore other capabilities of the Internet.

Relevant to TAM is the consumers' attitude towards a particular adoption and extending on this notion, is the usage of Internet technology.   According to Danaher and Haddrell [30], attitude is an outcome of cognitive evaluation, which is based on consumers' expectations and experience.   Thus, consumers' *level of experience* with Internet activities will have an impact on perceived risk, which in turn influences the adoption level.   When users gain more knowledge about Internet transaction they tend to be aware of sound security features leading to reduce uncertainties. Hence, the level of perceived risk would be lower resulting in higher adoption level. For example, consumers are willing to use the Internet to perform online transactions when they are 'educated' on the security features adopted by a company: their knowledge on encryption standards and third party verification seal. Therefore, our second and third hypotheses follow:

H2: Consumer's level of experience with the Internet reduces perceived risk thus affecting his/her adoption of Internet technology.

H3: Consumer's level of experience with the Internet influences his/her adoption of Internet technology.

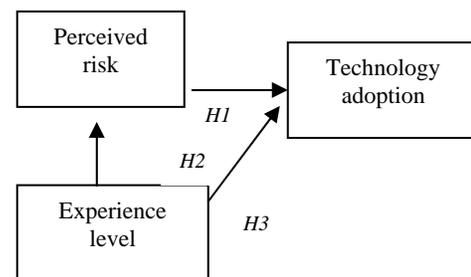Fig. 1 displays the proposed hypotheses for this study.

Fig. 1: Summary of research hypotheses

D. CRM Features and Consumer Segment

For the purposes of this paper:

- Electronic Customer Relationship Management (E-CRM) refers to a comprehensive business and marketing strategy that involves integration of technology, process and all business activities around the consumers offered on companies Web sites.
- Consumer satisfaction on the Internet is when a consumer finds pleasure in his experience of using the services, which is the result of the fulfillment of his/her needs and expectations.
- Loyalty is consumer's commitment to purchase/consume services from an online provider, resulting from perceived value and is impervious to other online competitors' influences.
- Consumer retention on the Internet refers to consumes' favorable behavior toward a Web site resulting in willingness to revisit (or repurchase).
- E-tailing is the use of Internet as a firm's marketing channel.

As mentioned earlier, the second objective of this study is to investigate the relationships between demographics and user's level of experience and features of E-CRM. Now, let us consider Internet consumers profiling. As competition is just a click away and consumers are gaining more bargaining powers, segmenting, targeting and positioning seem imperative in the development of relationship marketing strategy on the Internet [5]. Segmentation refers to the grouping of consumers with similar needs and buying behaviour into segments, each of which entails different marketing. Consequently, these group segments will help marketers to target the most profitable consumers as well as tailor distinct promotional campaigns to the right groups – which is also known as positioning strategy. Past studies [5][36][37] suggest that careful analysis of consumers' data will lead to a fairly homogeneous segment, which in turn improves the economy of serving each segment. In other words, to draw an effective marketing strategy online, a connection between consumer behaviour, segmentation and perceived value is essential.

Online consumers tend to behave differently from those using traditional channels, that is, online consumers are demanding different relationships from the service providers [31]. Online customers may be more concerned with the quality received, in return for the price paid [32], demand for high quality experiences and evaluate the high quality services as most valuable attributes [33]. Hence, studies that investigate service features which are preferred and highly sought by customers leading to enhanced customer relationships are worthwhile.

E-CRM is concerned with delivering an effective relationship marketing program on the Internet. The Internet channel lacks physical contact, where in most instances companies offerings are usually information and service-based. In such environments, consumers' judgment of the performance of an online retailer is very much based on the quality of services delivered via the Internet technology. Hence, it seems reasonable that in this study the technology-based service quality framework proposed by Zeithaml et al.[34] is adapted. The framework comprises 11 features of technology-based service quality: access, assurance/trust, ease of navigation, efficiency, flexibility, personalization, reliability, responsiveness, security/privacy, site aesthetics and price knowledge.

E. Users' Demographics

Past researchers' postulate that *demographics* characteristics of customers such as age, gender, education, income, marital status, social class and so forth, to certain extent influence their consumption behavior which help marketers in segmentation. These characteristics can be associated with needs, wants, preferences, usage rates and purchasing habits [38]. For example, consumers who differ in income level may differ in terms of their expectations of services intentions and behavior towards usage of technology [34] and propensity to buy on the Internet [38]. As such, to understand the relationships between varying online consumers' profile and E-CRM features seems appropriate [39]. Moreover, age can be more constant and contented for consumer behavior [39]. Hence, a fourth proposition follows:
H4: Demographics affect consumers' assessment of E-CRM features.

F. Users' Level of Experience and E-CRM features

It is believed that a well managed CRM may lead to increased profits and that profitability correlates to choosing the right consumers. That is, better understanding of users' expectations and perceived value is indeed crucial. In essence, as users assimilate a new technology, they tend to have a higher level of expectations of that particular technology. For example, as users are more experienced in information searching, the process becomes much easier the next time. As a result, information searching becomes common and users tend to look for other new added-value services from a search engine. In other words, the higher the expectations, the higher the satisfaction judgments of a service. Ward and Lee [40] found that more experienced Internet users tend to be more successful in information searching and are less-brand reliant, hence less loyal. Hence, this study proposes a fifth hypothesis:
H5: Consumers' level of experience with the Internet affects consumers' assessment of E-CRM features.

III. METHODOLOGY

A. Data Collection

To investigate the relationships between the variables under study, data were collected from Internet users in Malaysia. The target population for this study was defined as individuals who owned individual email accounts because they represented most of the Internet users in Malaysia [11]. The main source of the individual users' list came from various education, government and corporate institutions. Due to the nature of work that people do in these institutions, which requires the use of the Internet, most users can be found in these institutions in Malaysia. Letters seeking permission to access the institution's list of users' database were sent out to 15 universities and colleges, 10 government and 50 corporate institutions. For reasons of confidentiality, neither the names of individuals nor the organizations they work for were included in the questions.

All the education institutions, 8 government and 45 corporate institutions were willing to cooperate and allowed us access to their directory of users (individuals with email accounts). The rest did not respond to our letters or turned down our request. From a list of 300,000 email account owners and contact details which was obtained from participating institutions' Web sites, 1000 respondents were systematically selected: every 300th of individual from the list was selected until the required sample size was reached. Respondents were then selected using a systematic random sampling technique. A personally (face-to-face) administered survey was employed in this study so as to obtain a higher response rate.

B. Design of Survey Instrument

The questionnaire consisted of three parts. The first part consisted of demographic information such as a respondent's age group and income level. The second section consisted of general information about a respondent's Internet activities. These questions included respondent's access location, number of years using the Internet, types of Internet activities and time spent in a week on the Internet. The third part was designed to assess the attributes affecting respondent's perception on Internet service quality and loyalty on the Internet respectively. All constructs were measured on 5-point Likert scales, ranging from 1 = strongly disagree to 5 = strongly agree. The respondents were asked to indicate their opinions on the various dimensions of the variables being studied

IV. ANALYSES AND RESULTS

A. Manova

The aim of this study is to examine the association between demographics, and level of experience and E-CRM features. Hence, Multivariate analysis of variance (MANOVA) was used to test the research propositions. MANOVA is useful to assess the group differences of effects of categorical variables (for example, age, education, experience, type of activities) on multiple interval dependent variables [41]. MANOVA is also useful to assess group differences of effects of independent variables on multiple dependent variables. Hence MANOVA was used to test the hypotheses of this study. In this research, the general linear model (GLM) of SPSS was used to run the MANOVA tests following the procedures synthesized from Hair et al. [42]. For model estimation, Wilks' Lambda was chosen for model estimation from a number of test statistics, available (for example, Hotelling's Trace, Pillai's Trace, Roy's greatest characteristic root). Wilks' Lambda is resistant to violations of the assumption of multivariate normality in a moderately sized sample in each group [41]. For this reason, Wilks' Lambda was employed in this research.

When there is a significant difference in the mean reported, further post hoc test is performed to further investigate which particular dependent variable is affected. To do this, a unvaried F-test is used to identify the effect on each of the dependent variables. An adjusted, higher alpha value is normally used to reduce the possibility of Type 1 error [41]. For this analysis, the formula suggested by [41] was used and a new alpha value of 0.04 was applied. Further comparisons using Tukey HSD method was performed to assess any significant similarities or differences within a group. However, no comparison could be performed on Internet activities variables (registration, reservation and banking) due to the limited number of groups (less than three) for these variables.

B. Results

Respondent Profile

A total of 626 (62.6%) responses were collected, however due to invalid and missing responses only 547 (54.7%) were usable for analysis. Respondents were almost evenly split by gender (50.1% were male and 49.9% female). Most of the respondents were 21 to 30 years of age (51.4%), followed by the age groups of 31 to 40 and below 20 years at 28.5% and 10.2%, respectively. 48.6% of the respondents had spent at least 15 years in education. Most of the respondents were executives (47.5%) and more than half (51.0%) of them earn between USD3200 to USD9500 (RM12,000 to RM36, 000) per annum. As to the Internet usage profile, majority of the respondents spent less than 30 hours per week (56.9%) while 26.9% of the respondents spent more than 40 hours per week on the Internet. Most of the respondents were experienced users who have been using the internet for more than 5 years (55.4%).

Perceived risk and Internet technology adoption

This first hypothesis proposes that consumers who are engaged in higher risk activities have higher acceptance towards the technology. In this instance, technology adoption variables, which measure the actual usage of Internet technology in communication and transactions, are the dependent variables which consist of 11 items. Table 1 displays the 11 items used while the results of the first hypothesis are shown in Table 2.

The results indicate that consumers who use the Internet for information searching, online reservation and online banking are not significantly different in their perceptions towards Internet activities. Ironically, although consumers who perform online banking are actively using the Internet to transfer money and make online bill payments they tend to be less willing to purchase product/service. Hence, H1 cannot be safely accepted.

Table 1: Summary of items used for Internet activities adoption

Items/Activities	Cronbach Alpha
Communication tool	0.84
Email	
Customer service helpdesk	
Online chat room	
Bulletin board	
Check product/service availability	
Web form	
Transactional tool	0.79
Use of shopping cart	
Create 'My Account'	
Make online payment	
Purchase product/service online	
One-stop shopping	

Table 2: Results of hypothesis 1 test

Effect	Wilks Lambda	F	p-value	Power[a]
Main Effects				
Info search	0.858	0.948	0.137	0.999
Reservation	0.849	1.095	0.944	0.999
Banking	0.931	1.167	0.083	0.940

Perceived risks and users level of experience

Table 3 illustrates the results of H2 testing. In this hypothesis, Internet activities (information search, online reservation and online banking) are the dependent variables while the numbers of years using the Internet (ranges from 6 months to more than 5 years) are the independent variables. From the table, online banking consumers are significantly (p-value <0.05) different from other groups of users. Hence, it is evident that as consumer gains more experience using a technology, his knowledge about the technology capabilities and potential harm arising from its usage helps to reduce ambiguity and removes unnecessary fear. Hence, H2 is supported.

Table 3: Results from H2 testing

Effect	*Wilks Lambda*	F	p-value	Power[a]
Main Effects				
Info search	0.858	0.889	0.618	0.988
Reservation	0.849	1.053	0.270	0.998
Banking	0.931	1.701	**0.011**	0.999

Users' experience level and Internet technology adoption

Hypothesis 3 proposes that Internet users' experience level directly influence their usage behaviors. In this hypothesis, the 11 items of Internet activities are the dependent variables while a range of number of years using the Internet are the independent variables. Table 4 depicts the outcome of our third hypothesis test. The results show that groups of consumers who have more than 3 years of experience are significantly different (p-value = <0.05) from that of less experienced users (who have less than 3 years of experience). Hence, the findings provide support to H3.

Indeed as users interact more frequently with a technology they learn the features and capabilities of the technology. When consumers receive higher value from their adoption, such as convenience, security assurance and a wider selection of products/services they would develop confidence and trust in the technology (and/or the service provider) leading to continuous and increase adoption of the technology.

Table 4: Results from H3 testing

Effect	*Wilks Lambda*	F	p-value	Power[a]
Main Effects				
<6months	0.858	1.189	0.3.10	0.897
Between 6mth-1yr	0.849	1.358	0.264	0.998
Between 1-3yrs	0.888	2.501	0.193	0.988
Between 3-5yrs	0.944	3.860	**0.042**	0.995
>5yrs	0.951	4.255	**0.021**	0.998

Demographics Effect on E-CRM Features

Drawn upon Ziethaml's technology-based service quality model, the dependent variables (E-CRM features) for this study have been operationalized by 12 items. Table 5 displays the measurement items used for E-CRM features.

Table 5: Dependent Variable Measurement Items

Statements	Cronbach Alpha
E-CRM items	
OS1 The information is always updated	0.79
OS2 Prices of products/services are always lower compared to other companies	
OS5 Customer service responds to any enquiry quickly	
OR1 More attractive rewards	
OR2 Complaints are handled more efficiently and effectively	
OR3 Receive personalized services from the company Web site	
OR4 Products/services can be accessed via both channels	
OR5 Obtain useful information about products/services from online members	
OL3 Sense of appreciation	
OL5 Reliable services	
OL6 Secured Web site	
OL7 Recommend this site	

Table 6 summarizes the results by gender: F= 0.89, *p*= 0.15. There is no significant effect of gender on the three constructs. Moreover, none of the two-way and three way interactions between the independent variables are found significant.

Table 6 indicates that age has a significant effect on the dependent variables: F = 1.70, *p*<0.01. From the post hoc Tukey test, the significant differences are in several items: "Receive personalized services from the company Web site" (OR3), F= 3.71, *p*<0.01; "Complaints are handled more efficiently and effectively" (OR2), F= 3.39 *p*<0.01; "Products/services can be accessed via both channels" (OR4), F= 2.88 *p*<0.01; and "Reliable services" (OL5), F= 3.25, *p*<0.05. An inspection of the mean scores reveals that respondents from the age group of 41-50 years old give the highest score, followed by 31-40 age group. From the mean scores it can be concluded that younger Internet users are more tolerant towards Internet service quality, than are older users – older users have higher expectations of services.

There is a significant difference in education on the dependent variables: F= 1.45, p<0.05. From the post hoc Tukey test the only significant difference is in an item: "Reliable services" (OL5), F=2.39, p<0.05. Report from the estimated mean indicates that PhD holders have the highest score, followed by Masters Degree holders. This indicates that the higher the education level of consumers a provider is attracting, the more competitive and effective the services should be.

A test on two-way interaction between *age* and *education* factors indicates that there is a significant two-way interaction between age and education: F=1.42, p<0.05. That is, the age effect on consumer assessment of service quality is modified by consumer level of education. The post hoc results indicate that an item, "More attractive rewards" (OR1), F=1.88, p<0.05 is significantly different. An inspection of the

estimated means show that older consumer with lower level of education would be more likely attracted to reward programs.

Overall, the findings from Table 6 suggested that only age and education have significant effects for some measures of ECRM. Hence, H4 is partially supported.

Table 6: MANOVA of Demographics and E-CRM features

Effect	Wilks Lambda	F	p-value	Power[a]
Main Effects				
Age	0.858	1.701	0.003	0.999
Education (Edu)	0.849	1.453	0.017	0.999
Gender (Gen)	0.931	0.889	0.137	0.940
Two-way Interaction				
Age*Edu	0.842	1.423	0.004	1.000
Age*Gen	0.861	1.095	0.270	0.995
Edu*Gen	0.651	1.167	0.082	1.000
Three-way Interaction				
Age*Edu* Gen	0.817	0.948	0.618	0.988

Experience level effect on E-CRM features.

As illustrated in Table 7, there is a significant difference in the level of Internet experience on the combined dependent variables, $F= 1.56$, $p<0.05$. The post hoc univariate F tests indicate that several items are significant: "The information is always updated" (OS1), $F=2.72$, $p<0.01$; "Prices of products/services are always lower compared to other companies" (OS2), $F= 3.20$, $p<0.01$; "More attractive rewards" (OR1), $F= 2.97$, $p<0.05$; "Complaints are handled more efficiently and effectively"(OR2), $F= 4.53$, $p< 0.01$; "Reliable services" (OL5), $F= 6.01$, $p<0.01$; "Sense of appreciation" (OL3), $F= 4.04$, $p<0.01$; and "Secured Web site" (OL6), $F= 5.69$, $p<0.01$.

Specifically, more experienced users look for updated information ($F= 2.72$, $p<0.05$) and lower prices ($F= 3.20$, $p< 0.05$) in order to be satisfied. Rewards ($F= 2.97$, $p<0.05$) and efficient customer service ($F= 4.53$, $p<0.01$) are the elements that can influence their repeat visit behaviour, while reliability ($F= 6.00$, $p<0.01$), feel appreciated ($F= 4.04$, $p<0.01$) and perceived security ($F= 5.69$, $p<0.01$) are important features leading to loyalty. In addition, efficient customer service ($F=6.23$, $p<0.01$), personalized services ($F=5.80$, $p<0.05$) and online community ($F= 5.23$, $p<0.05$) are the elements affording repeat visits. This study provides the required empirical evident about the relationship between perceived risk and the effect on loyalty and retention on the Internet.

Any relationship building effort entails exhaustive analysis, which in turn helps marketers in planning a more effective program. An analysis of consumer behaviour is essential in order to obtain a comprehensive understanding of how consumers perceive service quality leading to increased satisfaction and loyalty. The assessments of satisfaction and loyalty vary among groups of consumers. Demographics, experience level and perceived risk may influence consumers' assessment of service

Given this, firms are well advised to focus their relationship marketing effort on uncovering the differences in their consumers. Hence, firms marketing plans require careful segmentation of consumers, and targeting the right relationship marketing tools to the right group of consumers, or even individuals. The attractiveness of relationship building lies in retaining consumers leading to profitability. With a comprehensive understanding of consumer preferences entailing thoughtful marketing strategies the notion of managing consumer relationship to increase profits may be realized.

Table 7: MANOVA of Internet Experience and E-CRM features

| Effect	Wilks ambda	F	p-value	Power[a]
Main Effects				
Internet experience	0.872	1.562	0.011	0.999

V. DISCUSSION AND CONCLUSION

Managers are advised to draw out a CRM strategy unique to the online environment. Online firms should take advantage of the interactive feature of the Internet technology to deliver value added services and in turn enhance consumer relationships.

Primarily, database technology plays a critical role in enabling firms to store and analyze consumers' surfing or purchasing behaviour. An in-depth analysis of consumers' details database helps managers to better understand consumers' varying needs as well as each consumer value to the business. This analysis should be well interpreted into *knowledge about consumers*, allowing firms to understand the classification of consumers according to their value to the business. Combined with firms' business strategy, marketing campaigns can be well targeted to meet different needs of consumers. In addition, loyalty programs can be more cost effectively aimed at maintaining valuable accounts. This would lead to *product/service differentiation that* is where products/services offered are differentiated across categories of consumers, leaving the notion of "one-product-serves-all" irrelevant. Certainly, the Internet technology serves as an enabling tool for "one-product/service-to-one-consumer" marketing strategy. By doing so, consumer value could be enhanced. In turn, firms would benefit from enduring consumer relationships.

Firms should continuously evaluate their marketing strategy. Since competitors are just a click away, rethinking of value offerings and understanding consumers' current and anticipating their future needs are among the critical criteria to

stay competitive in the electronic market.   In brief, E-CRM process requires synchronization between the use of technology and business strategy which outlines processes directed to forging long-term relationships with consumers. In other words, E-CRM is not about technology alone but rather the strategic use of technology to achieve a well defined business goal - consumer focus. Fig. 2 illustrates the E-CRM process discussed above.
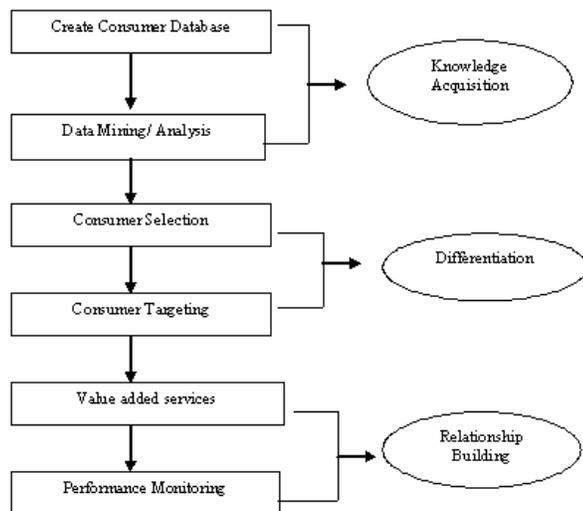
Source: Adapted from Winer (2001) and Moon (2000)
Fig. 2: E-CRM Process

In summary, the mean scores indicate that more experienced users desire a higher quality of services in to re-visit a site and/or become loyal. The results show that respondents who use the Internet more than 5 years score the highest in all the 12 items. Specifically, the Tukey tests report significant mean differences among the Internet experience group (with less experienced users scoring lower): between 1-3 years and more than 5 years on dependent variables items OR2 and OL3; between 1-3 years, 3-5 years and more than 5 years on OL6 and OL5, thus providing evidence that more experienced users demand for more efficient services, sense of appreciation, delivery of promises and upholding consumers privacy.

The notion of building enduring consumer relationships would result in firms' sustainable profitability underpins E-CRM implementation. As promising as it may seem, more companies have reported failures in their CRM projects than successful ones, as indicated by Forrester Research: only 40 per cent of CRM implementation were successful. Although CRM may seem to be concerned with improving service quality at the consumer contact point (customer service), coordination from and changes in other interrelated departments within the business supply chain are essential. For example, it would be meaningless to increase customer service efficiency in taking orders if the product/service itself failed to be delivered as per ordered.   In this instance, a change in business processes is almost mandatory and without top management support promoting dynamic *organizational culture* in adapting to changes, a firm's CRM initiatives would be a waste of efforts.

Companies often tend to employ CRM strategies with the use of enabling tool such as information technology (IT) which includes, among others the Internet.   The use of IT, as many believe would result in increased efficiency, which in turn improves consumer satisfaction as well as companies' margins.   However, unrealistic projections and expectations resulted in many CRM projects failures. These include a management team's too high expectations of return on investment, inadequate project timeline, insufficient resource allocation as well as failure to anticipate problems arising from IT adoption.   Hence, as in any other investment-oriented projects prudent *project management* is vital for successful E-CRM implementation.

Although this study indicated that E-CRM activities influence consumers' behaviour which may lead to loyalty, the 'real' benefits of E-CRM implementation may only be harvested by larger companies.   Obviously, the implementation of E-CRM requires hefty investment in Internet technology infrastructure, leaving the *smaller businesses* at a disadvantage.   In order to allow consumers perform online transactions and track orders, for example, firms should invest heavily in transaction enabling technologies such as transaction servers and database technology.   However, since E-CRM activities range from customer support (communicational tool) to tracking orders (transactional tool), firms may prioritize their investments in E-CRM according to the most critical relationship building activities for their businesses.   For example, this study suggests that customer support is vital in building relationships where consumers use the Internet mainly to lodge complaints or post enquiries.   Thus, companies may take full advantage of email, which is an affordable yet efficient mean of communication on the Internet.   Moving from cheaper technology such as email to more costly technology may even be unnecessary. That is, if consumers tend to prefer to use an alternative physical channel to purchase a product/service and mainly use the Internet to obtain information instead of performing transactions, then investment in 'transactional' technology is unjustified and should not be pursued. Therefore, smaller firms' investment decision should account for the effective use of the technology in serving *their* consumers.

To fully utilize the Internet capabilities in enhancing consumer relationships firms are striving for delivering value added products/services to consumers.   These include personalization of services, online transactions and tracking history of activities and so forth. Apparently, enabling these activities require consumers to disclose their personal and financial information to service providers.   In situations where perceived risk is higher, lack of sound *legal framework* to provide protection for both consumer and service provider may impede the implementation of E-CRM. For example, in countries where the enforcement of consumer protection is lacking, the development in E-CRM is deemed to grow at a slower pace.

This research shows the effect of demographics on E-CRM features. Previous studies have empirically examined the effect of demographics on consumers' propensity to make online purchases [38] and found that income level affects

online purchase decisions, while Akinci, Aksoy and Atilgan [42] used demographics to categorize online banking consumers into three segments: speed seekers, cautious users and exposed users. This study attempts to understand the effects of demographics on the attributes of online relationship marketing features (E-CRM) which is lacking. The findings indicate that consumer age and education level influence consumers' long-term relationship decisions. Older and more educated consumers tend to seek for more superior quality services than do younger and less educated users. That is, consumer age and education level influence his/her judgment of service quality, which in turn affects retention. Particularly, these consumer groups prefer personalized services, efficient customer service and integrated marketing channel. To gain consumer loyalty, providers must offer reliable services. These results provide the empirical evidence about the effects of demographics on the studied variables.

Past researchers suggested that more experienced users are less likely to be satisfied with services that are not differentiated and are fewer brands reliant, and hence are less loyal [43]. The suggestion that experience level influences assessment of service quality finds support in this study. The results show that more experienced users are less tolerant towards incompetent service and that providers have to offer higher quality of services in order to build long term relationships. Specifically, more experienced users look for updated information, lower prices, rewards and efficient customer service. In addition firms' reliability, sense of appreciation, perceived security, personalized services and online community are important features leading to loyalty. This study provides the required empirical evidence about the relationship between perceived risk and the effect on consumers' retention on the Internet.

Generally, the Internet has been in the market for so many years and consumers at large are quite familiar with the technology. The respondents of this study were mainly those who have more than five years experience using the Internet technology. Users who are more familiar with a technology tend to have more accumulated knowledge of technology standards currently available in the market. Comparing the levels of service quality may be easier for this consumer group. However, if a site can assure that the firm's services are highly reliable and consumer data is strictly protected, then the site may have an edge to win loyalty.

Our study emphasizes that firms striving for retaining their online consumers should understand well the dimensions that will help them build and maintain consumer relationships on the Internet. Although basic traditional marketing principles apply to the Internet environment as well, the differences in consumer behaviors that emerge as a result of interaction with "new" technology should be recognized. Nonetheless, superior service quality, perceived value and trust will influence his/her intention to revisit and/or to remain loyal. It is reveals the important roles of consumer perception in relation to IT adoption such as the Internet. Extending on TAM theory we conclude that perceived risk determines consumer level of technology adoption. Technology usage experience is imperative in shaping and to some extent reduces perceived risk. Certainly, as consumers interact with

the Internet over time, knowledge about the advantages as well as disadvantages of the technology accumulates and 'educates' the consumer about the quality of Internet service. This creates awareness particularly of the performance criteria and what the technology can and/or should do: if Internet technology is adopted as a marketing channel then the technology should be reliable and safe to support commercial uses.

Interestingly, this study reveals that consumers who are engaged in high-risk activities such as online banking are not necessarily willing to purchase product/service on the Internet. Most online banking firms are companies who established their brand names in the offline market prior to venturing into the electronic market. For example, in Malaysia all online banking service providers are those who have been in the physical market for more than 15 years. In this instance, consumers who have some prior knowledge about the company's reputation may readily "switch' to the online channel. On the contrary, most online purchases are offered by pure dotcoms whom their presences are relatively 'new' and may use only the Internet platform as their marketing medium. Lack of trust and buyer-seller physical interaction prior to a purchase may reduce consumers' willingness to perform online purchases. Therefore, branding and trust may be other critical factors affecting consumers' technology adoption.

In brief, firms offering higher risk activities, which involve the disclosure of consumers' financial information, should focus on earning consumers' trust and confidence by improving the security measures as well as fulfillment quality.

VI. GENERALISABILITY AND FUTURE STUDIES

This study is subject to several limitations. In this survey, respondents were asked to fill out a paper-based survey and try to recollect their past experiences on the features that influence their repeat visits behaviors. This study could be improved if a Web-based survey was conducted to concurrently assess respondents' reactions to a particular site features while they interact with the site. This research could be applied more widely to verify to what extent the results can be transposed to other regions of the world where consumers' behavior may differ depending on culture, beliefs and technology acceptance level. Another potential area of study is to investigate other factors of E-CRM not mentioned in this study.

Firstly, the respondents were mainly well educated and above 30 years of age. Further research is needed to generalize the results across demographics of Internet users. Trust may play an important role in perceived risk and consumer experience as illustrated in the finding of H1 above. Hence, further research is required to examine the relationships between trust and perceived risk as well as technology adoption level. Perceived value may be another moderating factor which influences consumer perceived risk and merits further investigation.

REFERENCES

[1] Andrews, Lynda, Kiel, Geoffrey, Drennan, Judy, Boyle, Maree V., & Weerawardadena, Jay , "Gender perceptions of experimental value in

using web-based retail channels", *European Journal of Marketing*, Vol. 41 No. 5/6, 2007, pp. 640-658.

[2] Reichheld, F.F., & Schefter, P. , "Eloyalty: Your secret weapon on the Web", *Harvard Business Review*,vol. 78, 2000,pp. 105–113.

[3] Harrison-Walker, L. Jean, & Neeley, Sue E. , "Customer relationship building on the Internet in B2B marketing: A proposed typology", *Journal of Marketing Theory and Practice*, Winter, Vol. 12 No. 1, 2004,pp.19-35.

[4] Kalakota, R & Whinston, A, *Frontiers of electronic commerce*, Addison Wesley, New Jersey, 1997.

[5] Geissler, GL , "Building customer relationships online: the Web site designers' perspective", *Journal of Consumer Marketing*, vol. 18, no. 6, 2001,pp. 488-502.

[6] Salisbury, W.D, Pearson, R.A, Pearson, A.W, & Miller, D.W, 'Perceived security and World Wide Web purchase intention', *Industrial Management & Data Systems*, Vol. 101, No. 4, 2001, pp. 165-177.

[7] *Global E-commerce Report 2002*, The TNS Interactive, available at http://www.tnsofres.com/ger2002/home.cfm, 2002.

[8] Yee M. C, *The potential of electronic commerce via Internet: A case study at Universiti Malaysia Sarawak*, A Baccalaureate Degree Project Paper, Department of Communication, UKM. (Unpublished), 1998.

[9] Suki. N, Ahmad. I, & Thyagarajan. V, 'Motivation and concern factors for internet shopping: A Malaysian perspective', *The Electronic Journal for E-commerce Tools and Applications*, Vol. 1, , 2002, pp. 1-18.

[10] Pardas. A, 'Towards getting more locals to shop online', *New Straits Times*,p.22,12 September 2002.

[11] Sharif, R. (2004), "*Malaysian surfers:Online banking is hot, shopping soso*", The Star Online, 7th April, viewed http://thestar.com.my 4th December 2007

[12] Sharif. R, 'Online banking getting more popular', *The Star Online*, available at http://.thestar.com.my, 30 August 2004.

[13] Sharif. R, 'Online banking getting more popular', *The Star Online*, available at http://.thestar.com.my, 30 August2004.

[14] Sani. R, 'Boosting online shopping', *New Straits Times*, p.1, 23 August 2004

[15] Torkzadeh, G. & Dhillon, G, 'Measuring factors that influence the success of Internet commerce', *Information Systems Research*, Vol. 12, 2002,pp. 187-204.

[16] Davis, F.D, *A technology acceptance model for empirically testing new end-user information systems: Theory and results*, Doctoral Dissertation, Sloan School of Management, Massachusetts Institute of Technology, 1986.

[17] Davis, F.D, 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *Management Information Systems Quarterly*, Vol. 13, No. 3,, 1989,pp. 319-339.

[18] Ajzen, I & Fishbein, M, *Understanding attitudes and predicting social behavior*, Prentice-Hall, Englewood Cliffs, NJ, 1980.

[19] Al-Gahtani. SS, & King. M, 'Attitudes, satisfaction and usage: Factors contributing to each in the acceptance of information technology', *Behaviour Information Technology*, Vol. 18, No. 4, pp. 277-297, 1999.

[20] Thompson. R.L, Higgins. C.A, & Howell. J. M, "Personal computing: Toward a conceptual model of conceptualization, *MIS Quarterly*, Vol. 15, No.1, 1991,pp. 125-143.

[21] Davis, F.D, *A technology acceptance model for empirically testing new end-user information systems: Theory and Results*, Doctoral Dissertation, Sloan School of Management, Massachusetts Institute of Technology, 1986.

[22] De Ruyter, K, Wetzels, M & Kleijnen, M, 'Customer adoption of e-service: an experimental study', *International Journal of Service Industry Management*, Vol. 12, No. 2, 2001, pp. 184-207.

[23] Salisbury, W.D, Pearson, R.A, Pearson, A.W, & Miller, D.W, 'Perceived security and World Wide Web purchase intention', *Industrial Management & Data Systems*, Vol. 101, No. 4, pp. 165-177,.

[24] Torkzadeh, G. & Dhillon, G, 'Measuring factors that influence the success of Internet commerce', *Information Systems Research*, Vol. 12, 2001, pp. 187-204, 2002.

[25] March, J.G, 'Bounded rationality, ambiguity, and the engineering of choice', *Bell Journal of Economics*, Vol. 9, 1978, pp. 587-608.

[26] Abhamid, NR. & Khatibi, A., "Consumer Behaviour on Internet technology Adoption", *WSEAS 4th International Conference on Multimedia, Internet and Video Technologies*, September 22-24, 2006, Lisbon, Portugal, pp. 512-517.

[27] Chellappa, R. K. & Pavlou, P. A, "Perceived information security, financial liability and consumer Ttust in electronic commerce transactions", *Journal of Logistics Information Management*, Vol. 15, No. 5/6, 2002, pp. 358-368.

[28] Anderson, R.E, & Srinivasan, S.S, 'E-satisfaction and e-loyalty: A contingency framework', *Psychology & Marketing*, Vol. 20, 2003, pp. 123-138.

[29] Kalakota, R & Whinston, A, *Frontiers of electronic commerce*, Addison Wesley, New Jersey, 1997.

[30] Danaher, P.J, & Haddrell, V, 'A comparison of question scales used for measuring customer satisfaction', *International Journal of Service Industry Management*, vol. 7,no. 4, 1996, pp. 4-26.

[31] Abhamid, NR., McGrath, GM. & Khatibi, A. "Retaining Online Consumers: Evidence from South East Asia", *WSEAS Transactions on Systems*, Vol. 6(3), pp. 541-548, 2007

[32] Anderson, R.E, & Srinivasan, S.S, 'E-satisfaction and e-loyalty: A contingency framework', *Psychology & Marketing*, Vol. 20, 2003, pp. 123-138.

[33] Abhamid, NR. & McGrath, GM. "The Diffusion of Internet's Interactivity on E-tail Web Sites: A Customer Relationship Model", *Communications of the International Information Management Association,* Vol.2, 2005, pp: 45-70.

[34] Vrechopoulos, AP, Siomkos, GJ &Doukidis, GI, "Internet shopping adoption by Greek consumers", *European Journal of Innovation Management*, Vol. 4, No. 3, 2001, pp. 142-152.

[35] Zeithaml, VA, Parasuraman, A & Malhotra, A., "Service quality delivery through Web sites: A critical review of extant knowledge", *Journal of the Academic of Marketing Science*, Vol. 30, 2002, pp. 362–375,.

[36] Winer, RS, *Customer relationship management: A framework, research directions and the future*, Haas School of Business, University of California, Berkeley,2001

[37] Reichheld, FF , "Loyalty-based management", *Harvard Business Review*, Vol. 74, March-April, pp. 56-691993

[38] Lee-Kelley. L., Gilbert, D., & Manniconm, R., "How e-CRM can enhance customer loyalty", Marketing *Intelligence Planning,* vol. 21, 2003, pp. 239-248.

[39] Abhamid, NR. & Khatibi, A., "How Effective are Firms' E-Marketing Tools?", *WSEAS 5th International Conference on E-Activities*, Venice, Italy, November 20-22, 2006, pp. 483-448

[40] Akinci, S., Aksoy, S. & Atilgan, E. "Adoption of Internet banking among sophisticated consumer segments in an advanced developing country", *The International Journal of Bank Marketing*, Vol. 22 No. 3, 2004,pp. 212-232.

[41] Tabachnick, B.G., & Fidell, L.S. , *Using multivariate statistics*, 4th edn, Allyn & Bacon, Boston,2001

[42] Hair, JF, Bush, RP & Ortinau, DJ, *Marketing research: Within a changing information environment*, 2nd edn. McGraw-Hill/ Irwin, New York,2003.

[43] Ward, MR & Lee, MJ, 'Internet shopping, consumer search and product branding', *Journal of Product and Brand Management*, Vol. 9 No. 1, 2000, pp. 6-12.