

## The Relative Importance of Trust and Usable Website Design in Building E-Loyalty Intention on Internet Banking

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### Abstract

*The high cost of attracting new customers on the Internet and the relative difficulty in retaining them make customers' loyalty an essential asset for many banks. Since online transactions involve many uncertainties for the customer and most of the Internet banking offers the same product as the other competitor, it is crucial for banks to recognize the key factor that can tie their existing customer become a loyal customer and change the web surfers into purchaser. Despite of increasing usage of Internet banking in Malaysia, the literature only portray little effort of empirical research has addressed the role of quality Internet websites design and customer online trust in forming consumers' intentions to revisits or repurchase particular products or at particular banks within the context of customer relationship management. This empirical study was performed to measure relative importance of two different factor that is most cited as a critical success factor for e-commerce environment; usable website design and trust elements on the website. The study specifically focuses on Internet banking users and sample for the study was drawn among academican, post-graduate and out campus students of three different faculties in University of Mara Technology Shah Alam. The results of the empirical analysis confirmed that the trust of the user increases when the user perceived that the website was usable and that there was a consequent increase in the degree of website loyalty.*

### 1. Background

Customer loyalty has a direct impact on the revenue and profitability of a company. The website interface plays an imperative role in customer e-loyalty. An interactive and content full website creates added value and highly motivate customer repeated visits [79]. The increasing popularity of the Internet has created great challenges for companies in various business sectors to promote and sell their products and services using this new distribution channel. One very responsive business sector to this change is the banking sector. Internet banking services have been operational in Malaysia since 1<sup>st</sup> June 2000 [2]. Presently, only banking institutions licensed under the Banking and Financial Institution Act 1989 (BAFIA) and Islamic Banking Act 1983 are allowed to offer Internet banking services. There are 12 commercial banks (inclusive of Islamic banks) out of a total of 25 in Malaysia currently offering Internet banking services [87].

With the potential of Internet to reach millions of customers and the opportunities to save transaction costs, banks in Malaysia are now urged to provide online banking services and to develop online relationships with potential customers in order to remain competitiveness in a turbulent market. According to the 11th Malaysia Internet Survey conducted by ACNielsen [1], Internet banking is one of the most popular services utilized by Malaysian surfers. As end of December 2005, total number of user was estimated at 10.4 million people—with 67 % (6,968,000) using it for banking purposes. The amount is estimated to reach 11.4 by the end of 2006. Although Internet banking is expanding positively in most Asean countries and elsewhere [27], sector analysts have observed that only a very small minority of web site visitors (1.3–3.2 percent) return to make purchases [67]. In Malaysia, commercial banks have been quick to realize the importance of e-loyalty factor to competitive advantage. Although millions of dollars have been spent on building Internet banking systems in Malaysia, reports have shown that potential users may not use the systems or leave the systems after certain period of time [69].

A bad first experience on website can kill the millions they spent on e-loyalty [71]. This research pointed out the need for research to identify the factors that determine loyalty among Internet banking users. There are several reasons why this study has to be drawn up:-

- Research concerning the antecedents of Internet banking loyalty is scarce and focused on more general issues [51]. Nevertheless, a number of mostly practitioner-oriented studies examine how Internet companies can retain their customer's stickiness, but if stickiness does not involve a relationship, it does not mean e-loyalty [71].
- Banks struggle mightily with customer loyalty. Indeed, there is little agreement among bankers as to what behaviors constitute customer loyalty and how best to encourage these behaviors [35]
- Most bank product developments are easy to duplicate [9].
- 83% of respondents would move their business to a bank that rewards loyalty [81].
- 50% of customers are satisfied with their banks, only 10% consider themselves to be loyal [81]. Banks need therefore to maximize the impact and effectiveness of their online offering to not only retain existing customers but grow share of wallet [44].

As a website loyalty seems to depend on consumer skills in managing and controlling the website and cognitive lock-in [30], suppose that the consumer's convenient and positive prior experience when using the website, lessens the likelihood of the consumer changing to another website [30]. But there is little empirical evidence to support the importance of usability factors on Internet banks websites. Most of the scholars only address the importance of trust as the main barrier of consumer participation in e-commerce [7], [29], [39], [56]. This study is designed to contribute insights into these issues in three main ways;

- i) To determine what are the major website design factors that drive customer loyalty in cyberspace
- ii) To measure the association between trust and usable website design factor with customer's e-loyalty
- iii) To measure the relative importance between trust and usable website design factor in building e-loyalty in Internet banking environment

## 2. E-Loyalty

The concept of e-loyalty enlarges the traditional concept of loyal to online consumer behavior. Even though the core theoretical foundations of traditional loyalty and the newly classified concept of e-loyalty are generally similar; there are distinctive aspects of it in the area of Internet based marketing and buyer behavior [21]. More specific definition is provided by Anderson and Srinivasan [3], who define e-loyalty as "the customer's favorable attitude toward an electronic business, resulting in repeat purchasing behavior". E-loyalty has several parallels to the brand loyalty and e-store loyalty concept [10], [21]. For example, by recommending products based on customers' previous purchases an e-store (e.g., Amazon.com) is likely to increase customer loyalty, as it would when providing facilities that allow the user to select the elements of their personal interface with a website. Schultz [64] describes customer or brand loyalty in cyberspace as an evolution from the traditional product driven, marketer controlled concept towards a distribution driven, consumer controlled, and technology-facilitated concept. Sohn and Lee [72] noted "e-loyalty indicates customers' behavior to visit and revisit the specific website and make transactions comfortably". There are different determinants identified by the scholars that can generate e-loyalty. Table 1.0 summarized the determinants.

### *Usable Website Design and E-loyalty*

Since the Internet Banking represents the online presence of the bank, a low-usability website reflects a poor image of the company, eventually resulting in a lower customer's intention to return to the website [46].

Table 1.0: Determinants of e-loyalty

Determinants	Author
Trust Net perceived value Value Costs Emotional elements (confidence, integrity, pride and passion)	[55]
Website Quality Service Quality Trust	[17]
Customization Contact interactivity Cultivation Care Community Choice Character	[73]
Website Technology Value Proposition Trust and Security Customer Service Brand Building	[21]
Quality customer support, On-time delivery, Compelling product presentations, Convenient Reasonably priced shipping and handling, Trustworthy privacy policies.	[59]

Findings from a recent large-scale study suggest that consumers use "surface" elements, such as web site design [18] in judging security and trust. Schlosser et al. [63] found that investments in web site design can boost trusting beliefs and online purchase intentions. Other web site design elements can aid in relationship building. Thus creating websites with high usability features that encourage planned purchasing and repeat visits is an important objective for e-commerce websites [56]. According to Rourke, C. [60], typical online banking usability problems are:-

- Inconsistent navigation and page layouts
- On-site search engines that don not find, even when it is available
- Bank-oriented jargon that is not explained
- Poor feedback using interactive tools and forms
- Inability to save an application and complete it later
- Too many steps in transactions and no visibility of progress
- Unhelpful error messages
- Pages that are inaccessible to customers who are blind or disabled

### *Theoretical Considerations*

The theoretical framework of this research was developed based on various theories have been explicitly or implicitly applied in research on consumers' e-shopping behavior, including the

Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). Besides that, this research grounded in well-known reformulated information system success model DeLone and McLean [12], for mapping with usability attributes while commitment-trust of relationship marketing theory [43] is a grounded theory for online relationship banking.

In order to provide a parsimonious and unified view on usability, Kuan et al. [37] has adopted the most prominent IS success model by DeLone and McLean's [12]. As a web storefront is essentially the information system for the user's online purchase needs, Kuan et al. [37] argue that the intention to purchase corresponds to IS success and website usability attributes can be classified according to three quality dimensions in DeLone and McLean's model. Quality dimensions are occasionally considered to be causing e-loyalty directly [73], a majority of studies view them as antecedents of e-satisfaction [77], i.e. satisfaction is conceptualized as a mediator of the relationship between quality and loyalty.

System quality can include the characteristics of an e-commerce system such as ease of navigation and download delay. Information quality captures the content provided by the website. Service quality is the overall support provided by the website for users and customers. Kuan et al. [37] research mapped usability attributes experienced by users of websites from past research to the usability dimensions obtained from DeLone and McLean's reformulated model of IS success. As DeLone and McLean argue that the system quality, information quality and service quality will affect the intention of IS use, this study examines the impact of these usability dimensions on the intention of planned and future purchase in the context of Internet banking.

The modeling of loyalty has a long tradition in academic literature research. The majority of early studies define loyalty as the repeat purchasing of a particular service or product [28]. This approach has been long criticized by numerous scholars for the missing differentiation between true and spurious loyalty [17]. In order to avoid the pitfall of equating repeat purchasing with loyalty, the combination of attitudinal and behavioral attributes is recommended [23]. This paper therefore applies a two-dimensional conceptualization of loyalty consisting of both attitudinal and behavioral elements proposed by [52]. Oliver [52] forwards a detailed framework of loyalty that presents loyalty as comprising four distinct, sequential phases. First, *cognitive loyalty* refers to the existence of beliefs that (typically) a brand is preferable to others. Second, *affective loyalty* reflects a favorable attitude or liking based on satisfied usage. Third, *conative loyalty* constitutes the development of behavioral intentions characterized by a deeper

level of commitment [86]. Finally, *action loyalty* relates to the conversion of intentions to action, accompanied by a willingness to overcome impediments to such action.

### 3. Research Methods

The aim of this research is to test hypotheses compromise the elements of trust and usability of website design that are theoretically derived customer loyalty in cyberspace (e-loyalty), the research approach is quantitative. Whether the hypotheses are supported or refuted, the researcher reports the result objectively [6].

In this study, single case was chosen due to the fact that this research attempted to collect detailed information and knowledge about customer loyalty in online banking. Due to shortage time and convenience factor, Maybank2u.com which has been awarded as the most comprehensive and advanced Internet Banking systems in Malaysia was selected as the sample for this study. Maybank is doing online business and along with the traditional business. This research only touched its personal online banking rather than other Internet banking option offered through Maybank2u.com.

#### *Research Framework and Hypotheses*

Utilizing the reorganized usability dimensions based on DeLone and McLean's [12] reformulated Model of IS success, Morgan and Hunt [43] precursor of trust model and Oliver [52] brand loyalty model for constructing proposed research model of e-loyalty, the differing impact of usability and trust factor on customer e-loyalty was analyzed. E-loyalty is a surrogate measure of customer retention and likewise defined as the likelihood an online customer will repatronize and repurchase from the same website in the future [21].

The backbone of the models is the relationships between usability and precursors of trust with the customer's retention rate and intention of repeat purchase which are consistent with the classical behavioral intention theories [37]. Therefore, based upon the above review of studies, four alternative hypotheses were built which will lead to increased customer online loyalty (H1, H2, H3 and H4 respectively) in Internet Banking. Figure 1.0 depicts the research framework to be compared in this study. The figure shows the research model for 'Usability of website', 'Trust' and 'E-Loyalty' with causal linkages indicated by the arrows.

The model assumes that 'Trust' is determined by shared value, communication and opportunistic behavior control adapted from Morgan and Hunt [43] model while 'Usability of website' is determined by System Quality, Information Quality and Service Quality adapted from D&M reformulated model [12]. 'E-Loyalty' was determined by Action Loyalty, Affective Loyalty, Cognition Loyalty and Conative

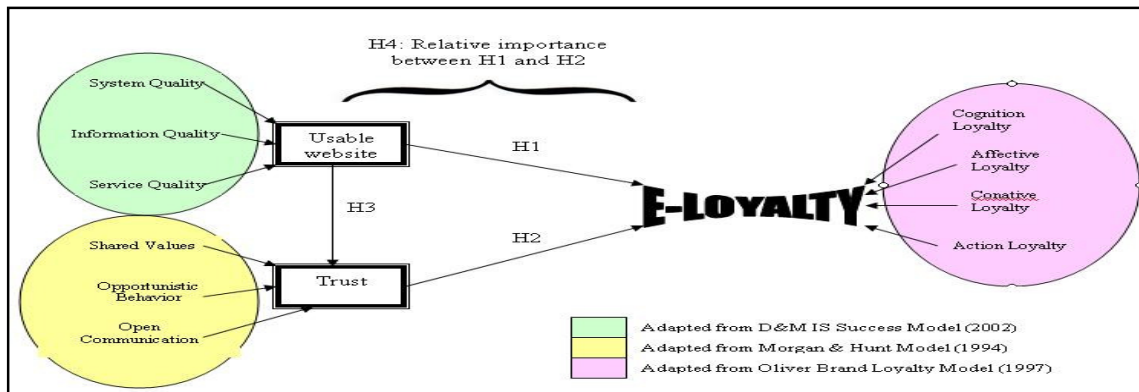


Figure 1.0: Proposed research Model and Hypotheses

Loyalty adapted from Oliver [52] brand loyalty model.

The potential influences of usable website design towards customer trust are also included in the model. The hypotheses are as follows:-

- Hypotheses 1** :Usability of website is significantly associated with customer online loyalty (e-loyalty)
- Hypothesis 2** :Trust is significantly associated with customer online loyalty (e-loyalty)
- Hypothesis 3** :Usability of website significantly associated with customer trust
- Hypothesis 4** :Usability of website is relatively more important than customer trust in building customer online loyalty (e-loyalty)

#### Measurements and Constructs

Existing literature were utilized and existing instruments were adapted to measure the variables of this study to support the specification of a set of potentially strong metrics. Respondents were asked to rate their opinion using 5-point Likert scale (1 = very important, 2 = important, 3 = neutral, 4 = unimportant, 5 = very unimportant) on most of the questions. Nevertheless, questions measuring online loyalty (e-loyalty) used a 5-point Likert scale, rating the performance by (1 = excellent, 2 = very good, 3 = good, 4 = fair, 5 = poor), multiple selection and close nominal measurement (1 = Yes, 2 = No).

#### Sampling Technique

The unit of analysis for this study is individuals selected through convenience sampling among the selected academicians, administrative staffs, undergraduate (out-campus) and post-graduate students in various faculties in University of Mara Technology (UiTM) since the user of Maybank2u.com among the academicians and administrative staff in Information Technology and Science Quantitative Faculty itself is limited. The justification of using this sampling method is two pronged, one it is impossible to get a list of banking customers from the banks since it is against the Banking and Financial Institution Act [78] to obtain a list of cardholders' contact numbers and addresses from financial institutions. Respondents comprise of individuals from Shah Alam area. The number of questionnaire distributed was 337. The method of distributing the questionnaire was through personal administration.

The reason for choosing various faculties in UiTM is to consider different knowledge domain instead of only looking at non-technical and technical education background since the gap of Internet usage among non-technical and technical background become slim because the nature of working environment itself where knowledge in information technology is a must. Another condition was that the user of the online banking services must be sophisticated or novice user in order to have an experience users for evaluating the existing services provided by the Maybank2u.com.

#### 4. Data Analysis

The results are presented and discussed and conclusions are drawn using the following sequence: (a) return rate for the survey; (b) reliability of measurement; (c) normality test; (d) demographic profile of the respondents and Internet banking usage; (e) data analysis of measured variables; and (f) results and discussion of the hypothesis testing.

#### Return Rate for the Survey

A self-administered questionnaire was distributed to three faculties in UiTM, Shah Alam. The questionnaire was sent conveniently among the students, academic staff and administrative staff from

those faculties. The chosen faculties are Faculty of Science Quantitative and Information Technology, Faculty of Architecture, Planning and Surveying and Faculty of Business Management. Since the research focuses on Maybank2u.com users only, those who did not meet the sample criteria, and those who completed it incorrectly will be eliminated. After eliminating, 151 responses were retained for the study, yielding an overall response rate of 45 percent of total distributed questionnaire.

#### *Reliability and Validity of Measurement*

The reliability of an instrument is most often measured by the Cronbach-alpha  $\alpha$  statistic while factor analysis was used to ensure the construct validity [33]. The Cronbach alpha value for trust constructs is 0.903 while usability constructs is 0.921. Construct validity was evaluated by convergent and discriminant validity. Convergent validity can be assessed by factor loading and the average variance extracted. Factor loading greater than 0.70 was considered significant and as evidence of convergent validity.

#### *Sampling Adequacy*

Sampling adequacy was measured using Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity. KMO statistics varies from 0 to 1. A value of 0 indicates that the sum of partial correlation is large relative to the sum of correlations, indicating the diffusion in the pattern of correlation (hence, factor analysis is likely to be inappropriate). According to Hair et al. [25] and Guadagnoli et al. [24], a value of 0.50 or more from the Kaiser-Meyer-Olkin (KMO) test indicates that the data are adequate for exploratory factor analysis (EFA). Furthermore, values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values over 0.9 are superb. Since sampling adequacy for this study was 0.875; falls in to the range of great, factor analysis was appropriate for this data.

#### *Normality Test*

Both Kolmogorov and Shapiro Test was used in this research to determine the whether the sample mean is approximately normal. From the analysis, the data was distributed evenly for all constructs used in the study with a significant value less than 0.005.

#### *Demographic Profile of Respondent*

Frequency distribution analysis is used to examine and describe the demographic profile of current users of online shopping with the intention of providing a preliminary assessment of current Internet banking users in Malaysia. The results of the demographic profile analysis are shown in Table 2.0. Among 151 respondents, 40.4% were female while 59.6% were male. The respondents in this study were relatively adolescents or young adults, with 45.7% between 20 and 29, 37.7% between 30 to 39 years of age, 14.6% between 40

to 49 years of age and only 2.0% from older adult age between 50 and 59. In behaviors on the Internet in particular, age has been found to be strongly related to adoption and use [15]. This finding consistent with Haque and Khatibi [26] research, which found that most Internet users in Malaysia are youths (15-20 years old; 50 percent) and young adults (20 - 29 years old; 39 percent). According to Venkatesh, Morris and Davis [84], younger consumers are more socialized with technology. Likewise, older customers to be typically more thoughtful and deliberate in their evaluation process and therefore, assign higher weight on online risk and quality.

For monthly income, 11 of respondents earned less than RM 1000, 4.3% earned between RM 1000 and RM 3000, 42.4% earned between RM 3000 and RM 5000, 14.6% earned between RM 5000 and RM 8000 and 3.3% earned between RM 8000 and RM 10,000 while monthly income above RM 10000 only constitute 2.0%. This is also consistent with the survey done by Suganthi et al. [74] and IDC Malaysia research centre, that the majority of Internet banking users in Malaysia (more than 80 percent) are young adults (age 19 to 35 years) and Internet-savvy professionals with a mean monthly income of RM 3633.

Table 2.0: Respondent's Demographic Profile

	Frequency	Percent	Cumulative Percent
<b>Respondent's Sex</b>			
Male	90	59.6	59.6
Female	61	40.4	100.0
Total	151	100.0	
<b>Respondent's Age</b>			
Under 20	None	None	None
20 – 29	69	45.7	45.7
30 – 39	57	37.7	83.4
40 – 49	22	14.6	98.0
50 – 59	3	2.0	100.0
Total	151	100.0	
<b>Respondent's Monthly Income</b>			
Less than RM 1000	11	7.3	7.3
RM1000 – RM 3000	64	42.4	49.7
RM 3000 – RM 5000	46	30.5	80.1
RM 5000 – RM 8000	22	14.6	94.7
RM 8000 – RM 10000	5	3.3	98.0
RM 10000 and above	3	2.0	100.0
Total	151	100.0	

### *Genders vs customer of other banks and internet banking*

There were significant differences between gender in the usage of other banks with the significant value 0.268 ( $p>0.05$ ). Among the users, 49.7% of 90 male respondents are the customers of other bank besides Maybank while 9.9% of them are not users of other banks; whereas 31.1% out of 61 female respondents are the users of other banks besides Maybank and only 9.63% are not using any bank besides Maybank. From the analysis it shows that male respondents prone to switch other banks compared to female respondents.

Table 3.0 depicts the usage pattern of other Internet banking service providers among different gender where the significant value is 0.415 ( $p>0.05$ ). Male respondents indicates higher percentage compared to male respondents with 29.8% are using other Internet banking while 29.8% of male respondents used other Internet banking services. This result shows an equal percentage between using and not using other Internet banking service providers among male respondents. Female respondent's shows lower percentage compared to male. This is because from the statistics reported by prior research done by the scholars, most worlds those not using Internet are disproportionately female. The Internet is apparently a predominantly male domain (ACNielsen NetWatch). Males are the dominant Internet user with 28 percent of the total Malaysian population while 21 percent were females [47], [69]. From this results shows that respondents are preferred not to use as many Internet banking compared to traditional banking activities. This is because, most of Malaysian Internet banking users are still concern about security and privacy [48] aspect and their main motivation factors of making decision to browse, revisits and purchase through Internet influenced by the accessibility to the latest information, attractive visual on website and ease of use [47]. If the Internet banking service providers do not equip their website with all the above aspect, the probability of users to use the system is low.

Table 3.0: Independent Samples T-Test Analysis (Internet Banking usage)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Used of other Internet Banking	Equal variances assumed	1.915	.169	-.810	148	.415	-.068	.083	-.233	.096
	Equal variances not assumed			-.819	129.780	.414	-.068	.083	-.233	.096

### *Respondent's Internet banking usage Frequency*

From a crosstabulation analysis shows that most respondents in any demographic category used

Maybank2u.com service a few times a month with the highest percentage remarks by male respondents; 29.8% and female respondents were 23.2%. The results also indicate that 23.8% of respondents used Internet banking about once a month followed by 12.6% of them used Internet banking a few times a week.

Usage frequency is one of the indicators of loyal consumer behavior. Loyal customer usually visits a website more frequently [80]. Again, adult users (at the age of 30 and 39) indicate the highest frequent of using Internet banking followed by young users with 22.5% and 19.9% respectively. A respondent with range income between RM 1000 and RM 3000 indicates 21.2% with frequency of usage a few times a month followed by respondents with monthly income of RM 3000 and RM 5000 with 17.2%. Only respondents with monthly income of RM 1000 and above RM 10000 indicate low frequency pattern with percentage below 2.0.

### *Respondent's Repatronize or Reused Behavior*

Customer repeat revisit and repatronize Maybank2u.com website was measured using Likert scale. The result indicates that more than 60% of respondents were "very likely" to continue using Maybank2u.com services or products and this percentage represent both gender. Male indicate the highest percent with 36.4 compared to female; 23.8%. This result verify earlier findings that indicate men are more likely to intend to used products or services on the web [70]. According to Slyke et al. [70], men were more likely than female participants to purchase products or services via website. This is because men's perceptions of the characteristics of web-based shopping are more favorable than women's.

There is small percentage among the respondents that are 'not very likely' to continue using Maybank2u.com while none of them are "not at all likely" to use Maybank2u.com. Young and adults users shows a positive repeat behavior with 51 percent of them are still likely to continue using Maybank2u.com compared to other age level. Respondents with monthly income of RM 1000 and RM 5000 are the highest percentage that is likely to continue using Maybank2u.com and less than 2.0% of them not very likely to continue Maybank2u.com services. Overall, the results show a positive Internet banking behavior among Maybank2u.com users since repeat buying behavior in an important indicator of customer retention

Another measurement that is usually used in measuring customer loyalty is customer's positive word-mouth. This behavior indirectly markets the products without a cost since the satisfied customer will volunteer to promote the brand or the products to their peer or relatives. Positive word-mouth is most cited behavior measurement of customer's loyalty besides repeat purchasing, frequency of using the products and likelihood to use the same products or



use other products that in under the same brand or companies [52], [59], [71]. The results show that 78.8% of the users will recommend Maybank2u.com services to their peers as “very good” and “good” while none of the respondents will rate Maybank2u.com services as “poor”. From this percentage, male respondents show a high percentage of positive recommendation to their relatives or friends compared to female. The results show that Maybank2u.com has served their customer moderately well. It also indicates that the longer the customer sign up with Maybank2u.com, the more positive feedback or recommendation they will give towards Maybank2u.com services or products ( $p$  value = 0.723). This result will also support the prior research on customer loyalty. A loyal customer gave a positive word-mouth to their colleagues, relatives or families. It is important for Internet banking providers identify the major determinants of online customer retention and satisfaction since loyal customer can indirectly act like marketing agents to their products.

#### *Products or services used by respondents*

From the results, it shows that 55% of respondent used two products or services provided by Maybank2u.com. Male comprise the highest percentage of using online product or services with 59.6% than female; 40.4%. This result was in line with prior work by Korgaonkar, P. and Wolin, L. A [36] and Dittmar [14], where according to them men are more likely than women to purchase products and or services from the Web. In other words, women may be visiting Internet sites, but men are more likely to purchase or use web-based products or services (Slyke, Comunale and Belanger, 2002).

The most services or products used by the customers were online banking and online bill payment with 94.0% and 88.7% respectively. Short Massaging and Downloads services comprise 15.2% while the other products or services only constitute less than 10%. These data were consistent with Karjaluoto (2002) research on electronic banking among Finland citizen. According to Karjaluoto (2002), the Internet was mainly used for online banking, communication, and information seeking; it was not much used for investments or online purchasing.

Male respondents constitute the highest usage of online banking and online bill payment with 57% and 55.6% respectively while female constitute 37.1% and 33.1% respectively. Young users were the highest users that used online banking and online bill payment with percentage of 44.4% for online banking and 39.7% for online bill payment. Adult users were the second highest group that used online banking and online bill payment. Monthly income range between RM 1000 and RM 3000 were the highest users group that used online banking and online bill payment. Only 0.7% of the

respondents make investments through website and they are from income level of RM 3000 to RM 5000. It can be conclude that online banking and online bill payment were the popular services that have been used by the customers compared to the others.

#### *Factor Analysis*

The Kaiser-Meyer-Olkin measure of sampling adequacy test (0.875) and Bartlett's test of sphericity ( $p < 0.001$ ) indicated that the data were appropriate for factor analysis. In addition, the anti-image correlation matrix indicated that the partial correlations were small, implying that true factors existed in the data. Given these results, the exploratory factor analysis (EFA) was conducted. The EFA employed a principal component analysis (PCA) with VARIMAX rotation. To ensure that each factor identified by the EFA would have only one dimension and that each attribute would load on only one factor, items with factor loadings less than 0.50 and any item loading on more than one factor with a loading score equal to or greater than 0.40 on each factor were eliminated from the analysis [53].

#### *Factor extraction for usability and trust constructs*

The exploratory factor analysis (EFA) was conducted in this study. Exploratory Factor Analysis (EFA) that employed principal component analysis with VARIMAX rotation using Kaiser's normalization revealed six factors. Factors with eigenvalues greater than 1.0 and rotated factor loadings of 0.50 or greater were retained. Hair et al. [25] suggest that factor loadings of 0.50 or greater are practically significant.

Table 4.0 depicts all the factors. From all factors, trust and usable variables will be group out to make it into two dimensions only. Factor 2 and factor 4 contains all variables for trust dimension while factor 1, factor 3, factor 5 and factor 6 are constructs for usability dimension. From all variables, updated information (timeliness) was the highest loadings factor with 0.807 followed by quick loads and fast check out. This result is consistent with Lin and Lu [38] research. According to Lin and Lu's [38], response time of a Web site is an important factor in electing the user's beliefs of such a Web site. This showed that Web page providers not only have to make the content informative and timely, but they also need to design a speedy Web page by not putting in unnecessary pictorial data as it might jeopardize the display time. In addition due to the proliferation of B2C websites, it becomes more crucial for the companies to ensure that their information satisfy the needs of users and customers [57] to improve both conversion and retention. In general, the quality of information on the website has the highest factor of loadings compared to system quality, service quality and trust.

After rotation, total variance explained for usability constructs was 45.339 percent ( $R^2 = 0.45339$ ) with total eigenvalues of 12.134. The results that all the usability beliefs are positively related to the

intentions of planned and future purchases are consistent with DeLone and McLean's [12] reformulated Model of IS success. Total variance explained for trust constructs was 27.92% ( $R^2=0.2792$ ) with total eigenvalues of 6.967.

purchase. Security and policies shows lower factor loadings with 0.630 and 0.703 compared to other usability factor loadings like navigation with 0.734

Table 4.0: Factors Loading

Scale Items	Factor 1 Information Quality	Factor 2 Opportunistic Behavior and Open Communication	Factor 3 Service Quality	Factor 4 Shared Value	Factor 5 System Quality	Factor 6 Fast Check Out
Time lines	0.807					
Understandable	0.706					
Format	0.682					
Personalization	0.678					
Helpfulness	0.604					
Reputation	0.581					
Simple and natural language	0.562					
Content	0.515					
Information Asymmetry		0.666				
Believable		0.648				
Regulation		0.617				
Speed		0.578				
Responsiveness		0.576				
Reliable		0.557				
Communication		0.480				
Quick Loads			0.799			
Ease of Use			0.628			
Response Time			0.621			
Accurate			0.532			
Policies				0.703		
Seal of Approval				0.652		
Ethics				0.648		
Security				0.630		
Effectiveness					0.745	
Easy Navigation					0.734	
Consistency					0.576	
Fast Check Out						0.769
<b>Total eigenvalue</b>	<b>4.212</b>	<b>3.928</b>	<b>3.610</b>	<b>3.039</b>	<b>2.557</b>	<b>1.755</b>
<b>Percent of Variance Explained</b>	<b>15.6</b>	<b>14.549</b>	<b>13.371</b>	<b>11.254</b>	<b>9.470</b>	<b>6.898</b>
<b>Factor Reliability</b>	<b>0.875</b>	<b>0.869</b>	<b>0.832</b>	<b>0.861</b>	<b>0.751</b>	<b>-</b>

These dimensions of usability and trust explain over 70.7% ( $R^2=0.70742$ ) of variance of customer online loyalty (e-loyalty). Therefore, this research model provides a strong and robust framework for website usability and customer trust studies in the future by classifying isolated and fragmented attributes in past usability and trust studies into more unified and parsimonious dimensions. The higher respondents' perceived usable website design on Internet banking websites, the higher their intentions to purchase and revisits from those websites. The findings are consistent with other scholars [8], [16], [37], who found a positive relationship between consumers' usable website and customer's online loyalty through website.

A possible reason for weaker factors loading of system quality (i.e. easy navigation, ease of use and consistency) in customer loyalty is that users formed a certain degree of confidence and trust in the system quality after a favorable experience on the website. Users form beliefs about the attributes of an unknown vendor partly on the basis of perceptions on the system quality of the website [4] and they seek assurance for their beliefs through experiential evidence [37] such as supplied by using the system of the website in an uncertain situation. Nielsen [46] even argued that customers will decide whether they stay or leave the website based on the initial experience on the system of the website.

Therefore, the perception on system quality is more critical for conversion [37]. Once the customers have positive experience and are familiar with the website, system quality may not exert such a major impact in determining the future intention to

of factor loadings. This finding supports those of Swaminathan, Lepkowska-White, and Rao [76] and Milne and Gordon [42] which suggest that privacy and security are not major concerns of consumers. Swaminathan et al. [76], also mentioned that the concern over security has decreased over the years partly because of the developments in payment systems that ensure confidentiality. M. Sadiq and Shanmugham, B. [40] posits a proper navigational attributes leads to higher level of interactivity will have an impact on the customer perception on user friendliness of the Malaysia Internet banking site. The results lend empirical support to Research Question 1. From the factor analysis, the major factors that drive customer online loyalty on the Internet banking website can be determine.

## 5. Results of hypotheses testing and discussion of findings

Linear Regression analysis was used to test relationship between independent (e-loyalty) and dependent variable (usability and trust). In this analysis, the dependent variables were the six design factors (*Information Quality, System Quality, Service Quality, Fast Check Out, Shared Value and Opportunistic and Open Communication*), and the independent variable were three loyalty factors (*Action Loyalty, Affective Loyalty and Conative Loyalty*). This analysis will give empirical evidence to support Hypothesis 1, 2, 3 and 4. From this analysis, the  $R^2$  value can be obtained. Table 5.0 reports the linear regression analysis results for the relationship of usability and trust constructs toward customer online loyalty (e-loyalty).



Table 5.0: Hypotheses Testing

Model	R <sup>2</sup>	F Value	t	Significant
Website Usability and E-loyalty	0.109	1.790	1.336	Significant
Trust and E-loyalty	0.087	1.145	1.070	Significant

Hypothesis 1 concerns with the relationship of usability factors on customer online loyalty while Hypothesis 2 concerns with the relationship associated between trust factors and customer online loyalty. The results in Table 7.0 give an empirical support to Hypothesis 1 and Hypothesis 2. The result shows that usable website design dimension was more significant with customer online loyalty rather than trust dimension. From this results we can conclude that usability factor has relatively more important than trust factor in building customer online loyalty in Internet banking environment. The higher respondents' perceived usable website design on Internet banking websites, the higher their intentions to purchase and revisits from those websites.

The tests of the relative contributions for Hypothesis 4 of the independent variables to explaining customer online loyalty at Internet banking websites show significant t values for website usability design (see Table 5.0). From the results, it is concluded that usability dimension (*Service Quality and Information Quality*) was more associated to the customer online loyalty from Internet banking websites rather than trust dimensions with significant value  $p < 0.05$ . Bivariate Correlation analysis was used to test whether usable website design significantly have relationship with customer trust on website in Hypothesis 3. From the analysis, usable website design was highly significance with customer trust on the website with  $p$  value = 0.005. The results of hypotheses testing showed support for all hypotheses constructed earlier in research methods.

Unpleasant customer service quality on the web can ruin the first good impression on system quality and information quality (which comes from easy navigation and consistent interfaces) and discourage customers from returning. This reason leads to why service quality exerts a greater influence on customer retention than on conversion [37]. This is actually consistent with relationship marketing literature which emphasizes a long term relationship with the consumers by creating values (e.g. [68]). Properly and promptly answering customers' inquiries, personalized web pages, frequently asked questions, responsive help desks, assurance on security and return policies etc., can enable customers to define the value they want and enhance the value of customers in the long term [22]. As a result, this will make customers likely to

return the website repeatedly in the future. Therefore, effective customer relationship management can actually be done through the usability dimension of service quality which is essential for customer loyalty in B2C [68].

## 6. Implications

This research framework provides a foundation for understanding customers' online loyalty. It has significant implications for both practitioners and academic researchers. Important "usable design" factors and trust constructs that may directly or indirectly impact customers' intention, behavior, and satisfaction are revealed in this paper. These findings would help the Internet banking service providers, e-commerce website designers, and other e-commerce shareholders to target more appropriate consumer groups, to improve product and service quality, and to design better e-commerce websites. Thus they could attract more online transactions and establish more successful e-CRM.

The findings show that consumers' the higher they perceived usable website design on the Internet banking, the higher their trust towards the website, which will eventually affect their attitudes toward their likelihood to held commitment for certain products or services provides online and positive online usage behavior. In addition, their attitudes toward websites affect their future intentions to use the same Internet banking websites rather than other Internet banks. Usability factor was found to be the important factor than trust specifically on the quality of information displayed on the website. In other words, consumers may stay with a company's products through the quality information that they get from websites. In new paradigm of building relationship with customer, trust was no longer the main factor for customer's disloyalty.

The findings of this study imply the values of what makes participants to have a relationship with another human being, also make them loyal to a brand, product on the website. These values are: (1) they want to liked, recognized or valued and this can be achieve if the Internet banking imply personalize and customized service on the web [65]. Some scholars refer to this as the 'core benefit proposition' [82], which can also differentiate a specific Internet banking from their competitors, (2) they like to feel associated with the other party even though the activities are virtually done. Banks should provides real-time communication and user friendly environment in order to fulfill this criteria, (3) they trust the brand and this can be achieved by hire good encryption services and endeavor to strengthen the security control of their sites to ensure that security for online financial transactions is high; sign a trust seal, and display it on the home page of the site to increase the confidence of customers; promote security features on the site to ensure customers can learn about the site's safety at any point [5], (4) they like to be respected by the others. And this value

associated with the ability of Internet banking to serve a reliable and set and ethics standard to decrease personal information violation. In this vein, the Internet plays a pivotal role in managing relationships with customers. By establishing effective banking websites based on information about customers' online shopping behavior, Internet banking service providers could retain their customers by managing relationships with them and even attract new customers through the websites.

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