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Factors Influencing the Adoption of Internet Banking in Malaysia

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Abstract

This study aims to look into the ways on how demographic characteristics, social factors, and consumer perceptions and attitudes towards internet banking influence the adoption of internet banking in an emerging economy like Malaysia.

The study focused solely on the local and multinational banking industries in Malaysia and used questionnaire to obtain the relevant data. Implementation of the questionnaire was done by using the proportional stratified random sampling method, whereby questionnaires were distributed to the target population over the period of August to September 2014. Of the 300 questionnaires distributed 120 were returned complete and clean.

Overall it was shown that social factors were strongly influence the adoption of internet banking in an emerging economy like Malaysia.

Keywords: Competencies; IT-solutions; Crowdsourcing; Platforms; Open innovations; Key competencies management

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INTRODUCTION

Digital innovation has been rapidly grow and increased in the banking industry to promote and help to increase the competition ability from current competitors, new potential entrants, rapidly increase in terms of costs and the increasing demands and needs by banks to fulfil the mass consumer real time demands. Internet banking is the new innovative and creative ideas that occurred in the banking industry as the digital distribution channel [1]. Moreover, Karin [2] and Elham [3] stated that the internet banking represents a means of revolutionize and modernise the formal traditional banking environment. According to Suganthi [4] sooner and soonest internet banking will become a critical part of the transformation. In this study aims to offer the helpful and valuable information of the existing market for internet banking in Malaysia and the factors determining it, this includes demographic factors and social influences towards internet banking.

The objective of this study is to investigate and examines the factors influencing the adoption of internet banking in Malaysia. There are few previous studies conducted in Singapore show that an understanding on the users' acceptance level of internet banking services and this could help bank managers to implement and improve the internet banking service. In fact, Malaysia has the same trails as other developed and developing countries in the rate of adoption of internet banking. Therefore, it indicates that there is a request to have this study on this field based study of this nature.

Theoretical perspective and review of literature

According Agarwal et al. [5] Information and communications technology (ICT) services are considered as the main key driver for the changes taking place around the world. Recently, internet banking is the most innovative and effective service and it is also become the new trend among some of the new customers to perform their transaction via internet banking instead of over the banking branches. The movement and switch from the formal traditional banking environment to internet banking has been a 'leap' change. This study it will help to identify the determinants of the factors that influence the consumer's adoption of internet banking in Malaysia. Besides, it will also help to investigate the influence of perceived usefulness of internet banking, perceived ease of usage of internet banking and perceived risk on usage of internet banking by the customers. It is a necessary part of a bank's strategy of transformation process in an emerging economy to ensure the sustainability of the bank in the banking industry of Malaysia. In this study, data was collected via the survey approach that was based on

questionnaire.

In this respect, Technology Acceptance Model (TAM) was founded by Davis [6] to introduce the acceptance point of Bodoni font entropy applied science and indirectly it may be adopted to forecast the adoption of cyberspace banking. TAM is a faultless model to feature shows acknowledgement level of exploiter and connected science .TAM additionally finds that the utilization and embracing of an early engineering is undaunted by his demeanour to use it. In any case, the fundamental antigenic causal variable of medication utilizes appropriation evaluation are the two principles which are seen handiness (PU) and saw simplicity of profit (PEOU). Both of this unremarkable will be characterized in the edge opus of this request. As can be optically recognized that gives a considered the segment that influence the customer air to increase the use of beginning connected science. Utilizing TAM ideas within forecasting customers' demeanour of selection of the internet keeping money were sustained the case that of as per the front matter circle done by Chen et al. [7].

Meanwhile, Qureshi [8] communicated about the believability element which is focus on the investigation of e-keeping money in a solid style and asserted that Atomic number 94, testament and mystery are the principles key constituent to acknowledge web managing an account convenience. PU and PEOU are immediate determinants of customer position towards using web banking as per the determination predictable with the 3 faculties of finding of Celik [9] who participates in the same variables. In course, order nation the trust-based human relationship between responder solace soul level, feel of security measure and their postures towards e-managing an account. From his meditation, he found that there is a coefficient of correlativity between these components with the client long time, yearbook compensation, and level of enlightenment. This association was adventitiously described by different analysts excessively, for example, Alda's-Manzano [10] concentrated on the ampleness of variables and surmise that TAM impression and saw danger in state of security, insurance, open presentation and blender have a prompt effect one-dealing with a record gathering. In other Scripture, he considered trust as key apples and oranges variable that lessens saw peril and recognized ten considerable components related to the clients' appropriation of web managing an account Robert William accommodation. Security office and protection were the significant reasons for disatonement. Both of these acumens free rein a principal part in deciding the clients' embrace purpose of web saving money facilities as to diverse division of long time bunch, ordinate transcription level, and wage level. Alternate variables, for example, accessibility, contraction, outline and limit were turned into the reasons for contentment.

In summation, Padachi et al. [11] study essentially get the same close however; talk about how considerable are different components, for example, the cost of electronic machine, web availability, and accommodation of profit. Consequently, also found in Liao et al. [12] subject field .They find that the same three components Atomic number 94, PEOU, and Personal machine have essentially impact on client major connection with net keeping money and that the individuals would circumstance an incredible

eagerness on the endorsement of the internet-predicated monetary transactions. They also asserted that the considered parts of Plutonium the indispensable determinants of web dealing with a record getting. The impact shows that those components have an overwhelming and positive substance on clients to acknowledge web keeping money and religious settlement.

One of a useful speculative model in serving to understand and elucidate use direct in the information system utilization which supported by Vincent [13] study is Technology Acceptance Model (TAM). They said that TAM is an immaculate model and has been affirmed the viability in distinctive viewpoint and component. Both analysts were intrigued to direct an examination concentrate on the TAM for web saving money focused around an invariance dissection. In their study, they utilized diverse levels of invariance dissection on the TAM build in the setting of the web saving money acknowledgement. They found that the TAM build was invariant for their example crosswise over diverse in the demographic variables and ICT ability subgroups.

A comparable research by Kent et al [14] is to examine the engineering acknowledgement of web managing an account in Estonia. In this study, they highlighted that web keeping money as a paramount appropriation channel. The finding of their examination recommended that expand the use of web managing an account as client see it compelling and supportive administration. They presumed that the apparent helpfulness of web managing an account is the key develop ought to distinguish by banks and utilization to push the client use of web saving money. They additionally prescribed that the TAM ought to be rebuilt to center all the more on the key driver of the apparent convenience of the administration union and blend in the engineering.

It should be noted that there are few previous studies discussed the relationship between social influences factors and adoption of internet banking by using technology acceptance model (TAM). The pervious study of Amin [15] is targeted to examine the factors influencing the internet banking acceptance in Kota Kinabalu, Northern Borneo, Malaysia. He used technology acceptance model (TAM) as base framework of the study. He found that social norm, perceived usefulness, perceived ease of use, and perceived credibility are statistically significant while perceived enjoyment is statistically insignificant.

Pervious study done by Hakkak [16] is to discover the influencing factors that promote customer to use internet banking in Khorramabad. They were using technology acceptance model (TAM) and incorporates some additional critical control variables. From the study, they concluded that the social influence, internet connection quality, the internet banking awareness and its advantages, and computer self-efficacy have significant impact on the perceived usefulness (PU), and perceived ease of use (PEOU) of internet banking acceptance and adoption. They also mentioned that trust and resistance to change also have the significant impact on the attitude toward the acceptance and adoption of internet banking.

Not only that, Leng et al [17] studies also had emphasised to tackle a study need for extending the technology acceptance model (TAM) by adding contextual factors for internet banking case. They found that the social influences factors such as perceived usefulness and computer self-efficacy were the main factors influencing internet banking acceptance and usage. They also recommended to banks managers to focus and take more initiative on social influences factors such as advertising about internet banking benefits and advantages, and sales and marketing activities so that banks promotion of customer acceptance and adoption of internet banking.

CONCEPTUAL FRAMEWORK

This stud aims to identify the demographic and social influence factors that influencing the adoption of internet banking in Malaysia. This study used quantitative research approach and collected the primary data based on the nature of quantitative approach. The vaildation is used in this study to ensure the quality of the questionnaire in its development in order to obtain the information required. The data was collected by using the finalised version of the questionnaire. Meanwhile, cross-sectional research is the most frequently approach that is adopted in the descriptive design in the marketing research. Moreover, cross-sectional research also involved in the information collection only once from any given sample of population factors, therefore, this study used single cross-sectional design.

In this study, the developed research framework and measurements are based on the findings of the previous studies. It has determined the determinants and hypotheses from other studies based on the problem statement, research questions and research objectives determined by this study. For each determinant in the study, it proposed the relevant hypotheses and all the hypotheses were tested based on data collected. In this respect, this study examined the impact and influence between demographic factors and social influences factors towards internet banking and the adoption of internet banking in Malaysia (Figure 1).

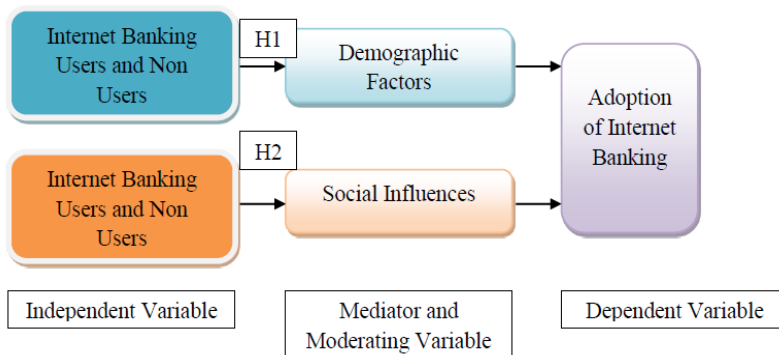


Figure 1: The Study Framework.

Due to the difficulties to identify the elements in advance as the list of the required factors and random sampling were unavailable, therefore non-probability sampling was adopted. In sampling the population, the judgmental sampling was used in this study to filter and select the sampling units to discover the following two aspects.

H1: There is a difference between users and non-users with their demographic factors influences with internet banking adoption.

H2: There is a difference between users and non-users with their perceptions of social influences with internet banking adoption.

SOURCES OF DATA

In this study aims to identify and examine the impact and influence between demographic factors and social influences factors towards the adoption of internet banking. In order to achieve and complete this study, the survey questionnaire has been distributed to all the relevant party and respondents. The questionnaire has been distributed to 300 respondents at each of three departments in the bank which are E-Business, Group Information System, and Group Communication and Marketing. However, in this study, there are only 120 respondents who answered and gave feedback to the survey questionnaires distributed that used in this study as the complete and clean. Sampling units E-Business, Group Information System, and Group Communication and Marketing are the three departments in three different specialise which were filtered and chosen via the method of judgemental sampling that is mentioned in previous section. The selection is based on variables categories that measure perception using nominal and ordinal scales.

Convenience sampling also called haphazard or accidental sampling is considered as one of the sampling method in conducting the research. It refers to the sampling by obtaining units or group who are most conveniently available and familiar with the field of the study. It is the method of choosing items arbitrarily and in an unstructured manner from the frame. For instance, in this study, it may be convenient and economical to collect the data from the population of sample in local and multi-national banking industries in Malaysia. By using convenience samples, it can obtain a large number of completed questionnaire quickly and economically.

In this study, the respondents of the questionnaires consist of all positions of employees working in local and multi-national banking industries in Malaysia which include department manager, senior ICT consultant, associate ICT consultant, customer help desk consultant and so on. Besides that, there is no limit and selective on age, gender, and years of experience as long as they are employed for local and multi-national banking industries in Malaysia.

This study is conducted by using Malaysia as sample and the sample size is 120 respondents from local and multi-national banking industries in Malaysia. The data was collected via questionnaire. Due to considering the reliability and validity of the data

collection, therefore the survey questionnaire is distributed to 300 respondents at each of three departments in the bank which is E-Business, Group Information System, and Group Communication and Marketing. After that the respondents' feedback that filtered and selected based on variables categories that measure perception using nominal and ordinal scales.

In this study, the questionnaire created based on the literature review done in earlier section. However, the source of the questions being indicated and following authors are stated on the right row of the table below. All the questions have been modified to better suit of this study and the interview approaches will following with and after the questionnaire have been distributed out to the respondents.

The questionnaire of this study consisted of five sections as shown in Appendix A1. Section 1 of the questionnaire is focus on the question related to the internet usage. In this section, it tested on the frequency and the usage of the internet and the respondents adopt the internet for what purpose. In section1, it also used to explain and as the indicators for respondents express the frequency and usage of the internet. However, section 2 of the questionnaire acquired the feedback about the respondents' practice in the internet banking in Malaysia. In this section, it were highlighted and tested the frequency and the usage of the internet banking and the purpose of using internet banking was used. Next, section 3 of the questionnaire seek to explore and understand the cognition and manner of respondents about using the internet banking service. Then, in section 4 of the questionnaire acquired demographic information of respondents and at the same time it also ensure that the respondents' identity as anonymity which is the respondents' names were not required. This is to ensure the accuracy and reliability of the honest opinions and answers obtained from respondents. Lastly, section 5 of the questionnaire was an open-discussed question which is given to the respondents an opportunity to add in the clarify on some issues or highlighted and expressed any concerns and ideas in their mind which they considered applicable with their own words.

RESULTS AND ANALYSIS

In this study, the respondents of the questionnaire consist of all positions of employee working in local and multi-national banking industries in Malaysia which include department manager, senior ICT consultant, associate ICT consultant, customer help desk consultant and so on. Besides that, there is no limit and selective on age, gender, and years of experience as long as they are employed for local and multi-national banking industries in Malaysia.

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Group Communication and Marketing. After that the respondents' answer and feedback that filtered and selected based on variables categories that measures perception using nominal and ordinal scales.

Response rate

Total of 300 questionnaires were mailed to the targeted survey respondents. 130 questionnaires (43.33%) were returned at the end of the data collection period after one reminder letter and one follow up email were sent. Out of the 130 questionnaires received, 120 questionnaires were completely answered while 10 were not. Thus, the overall response rate received in this study is 40% as summarized in Table 1.

Table 1: Response Rate of the Survey.

Item	Number of Respondents	Percentage (%)
Total questionnaire sent to respondents	300	-
Overall response rate	130	43.33
Unusable questionnaire (Partially completed)	10	3.33
Overall usable response rate	120	40

Factor analysis

Factor analyses has been used to examine the degree of responses on measured variables are being influenced by the underlying constructs. There have two main types of factor analysis which is exploratory and confirmatory. Exploratory factors analysis (EFA) is adopted in identifying the possibilities of underlying factor structure of a set of observed variables without expressing a pre-assumed structure on the outcome. However, confirmatory factor analysis (CFA) is adopted in verifying the factors structure of a set of observed variable. Factor analysis being used in this study is to test validity of all variables. Factor with Eigen values greater than 1 will be used and retained for further analysis but factor with Eigen values less than 1 will be categorized as insignificant and removed from the study.

Reliability and validity

According to Malhotra [18] the scale of validity can be explained as the degree to which

the divergence in observed scale scores highlighted the real differences between the objects on the characteristics being measured rather than systematic or stochastic errors. However, according to Malhotra et al. [19] reliability defined as the degree to which the extent to which a scope yields for the consistent results if the measurements are used again and again.

In this study, the interview approaches was adopted to increase the reliability and validity for the survey instrument which is the questionnaire. To ensure the quality of the questionnaire, so an interview approaches have did together and after the questionnaire have been finalised and distributed out to the respondents. On the other hand, this study used to ask the comment from the professional bank staff with expertise on internet banking in a local bank and multi-national banking to assess the reliability and validity of the questionnaire and it is also used to ensure that it have included the best factors influencing the usage of the internet banking service. Reliability is concerned with estimates of the extent to which a measure is free of random error. In this study, adding similar questions to the data-collecting instrument will expand the sample of measurement questions. Cronbach's Alpha is one of the approaches adopted to evaluate the reliability and validity of the instrument.

Correlation analysis

In this study, correlation analysis is adopted to test all the possible relationship between the dependent and independent variables. The correlation coefficient (r) value must between positive value of 1.0 and negative value of 1.0. It used to indicating the strength of the relationship between the dependent and independent variables. When r more than zero, it indicates there is a positive relationship. When r less than zero, it indicates there is a negative relationship. When r equal to zero, it indicates there is no relationship. On the other hand, if r equal to positive value of 1.0, it indicates that is a perfect positive correlation. However, if r equal to negative value of 1.0, it indicates that is a perfect negative correlation. The value of coefficient closer to 1 then it indicates that the stronger strength of the relationship between variables.

Demographic factors

Age: There are about 40% of the respondents fall in the 21 to 29 age group. 30% of the respondents fall in the 30 to 39 age group, 23.33% of the respondents fall in the 40 to 49 age group and 6.67% of the respondents fall in the over 50 age group (Figure 2). Figure 3 shows that internet users are relatively young about 47.1% of the respondents fall in the 21 to 29 age group, while non-internet banking users are likely older. This result shows that age is an important factor that impact on internet banking usage. The result implies that younger users are the dominant users of internet banking.

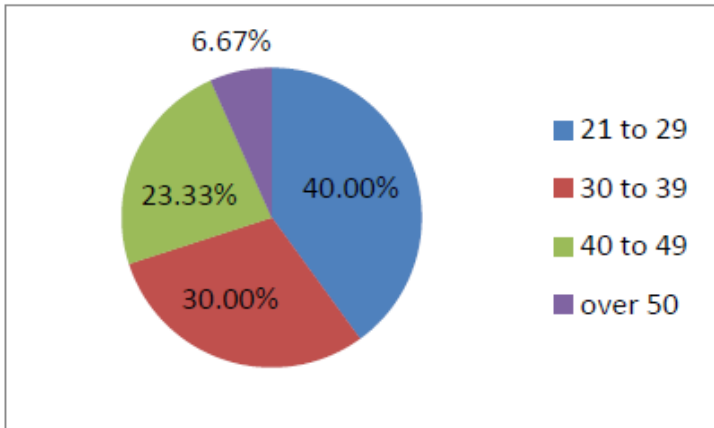


Figure 2: Age.

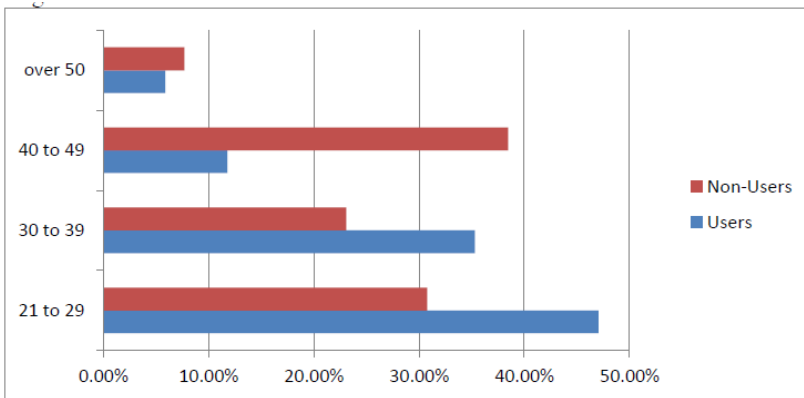


Figure 3: Users and Non-Users by Age.

Internet usage: The respondents' internet usage patterns were discussed in this section and how often they use the Internet.

- What respondents use the internet

There are 87.8% of respondents will use internet for email usage so that they are keep up to date with any news available. 88.4% of the respondents normally use Internet for entertainment usage, 38.1% of the respondents use Internet for study purpose and 44.67% of the respondents do their banking on the internet.

- Frequency of internet usage

Figure 4 indicates that 6% of the respondents use the Internet more than 2 times a week; 15% use the internet once a week; 73% use the Internet daily and 5% use the Internet once a month.

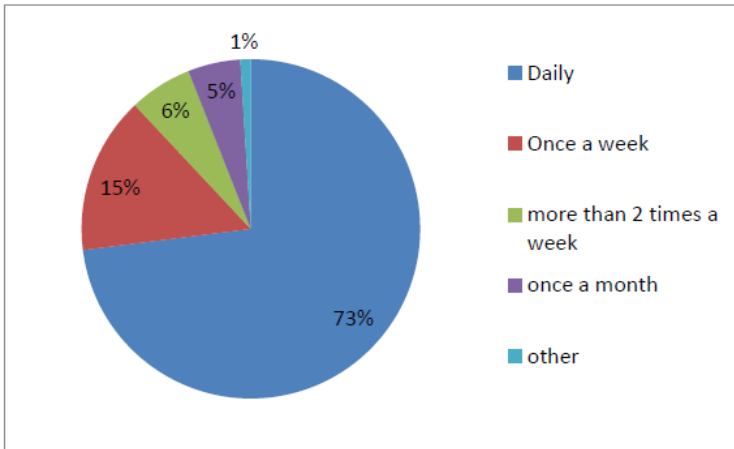


Figure 4: Frequency of Internet Usage.

Internet banking (IB): This section depicts the findings about internet banking (IB) user’s habit in Malaysia where why they use IB and what is the usage of IB to them.

- Internet banking (IB) users

As illustrated in Figure 5, there is 57% of the respondents use internet banking (IB) while 43% of the respondents do not use IB.

- Factors impeding the Use of Internet Banking (IB)

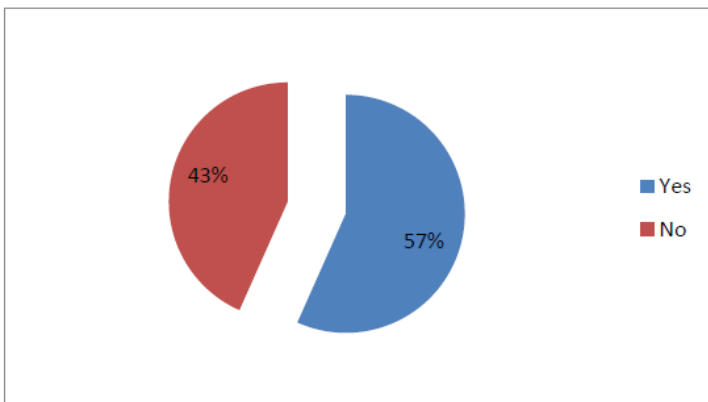


Figure 5: Internet Banking (IB) Users.

Referring to Appendix A1) Descriptive Statistics, the mean for the use of internet banking for 120 respondents is 1.17 with a standard deviation of 0.374. The trimmed mean value of 1.13 is similar to the mean above. Hence, possibly there are no outliers in the data set. The maximum and minimum of use of Internet Banking are 2 (Implicit for answer of no) and 1 (Implicit for answer of yes). The range is 1. The interquartile range, the difference between the first and the third quartiles, is 0. The median of use of Internet Banking is 1, indicating at least 50% of the respondents have been used

Internet Banking before (Table 2).

Table 2: Factors Impeding The Use Of Internet Banking (IB).

Factors impeding the use of IB	Yes	No	Total
No Internet access	12	40	52
No computer devices	12	40	52
Not good at computer	16	36	52
Not good in using Internet	18	34	52
High Internet access cost	30	22	52
Internet banking is not safe	40	12	52
No need	24	28	52
Not heard about Internet banking	16	36	52
Other	0	52	52

Since the mean and median values are very close to each other, perhaps the data is symmetrical. The skewness value is 1.812, which is within ± 1 . Hence, the data can be assumed to be symmetrical. The kurtosis value is 1.303, which is within ± 1 . Therefore, the data distribution can be assumed to be mesokurtik.

Besides, referring to the extreme values (Appendix A1), Descriptive Statistics, the top five values are 2, 2, 2, 2 and 2a. The bottom five values are 1, 1, 1, 1 and 1b. SPSS provides two methods for testing if data are normally distributed. The Shapiro-Wilk test is useful to test normality when the sample size is small, generally less than 50. The Kolmogorov-Smirnov test can be used when the sample size is large. In both tests, if the p-value is more than 0.05, normality can be assumed. In this study, since the sample size is 120, the Kolmogorov-Smirnov test will be used. The p-value of the test is more than 0.05 which is showing in Tests of Normality table from Appendix B1: Descriptive Statistics. Hence, the data can be assumed to be normally distributed.

In SPSS, normality can also be viewed from the Q-Q (quantile-quantile) plot which is showing in Appendix B1: Descriptive Statistics. This plots the expected normal values against the observed values, where the straight line represents a perfect normal distribution. The dots represent the observed values. When the dots fall very close to the linear line, there is an indication of data normality. When dots fall away from the linear line, there is a departure from normality.

Referring to (Appendix A2), Frequency, Descriptive Statistics it has been showed that of the 120 respondents, 100 (83.3%) respondents mentioned that they have been used

internet banking before. And 20 (16.7%) respondents mentioned that they have never use Internet Banking before.

Referring to (Appendix A3), one-Sample T-Test, the sample mean for 120 respondents is 1.17 with a standard deviation 0.374. The standard error, SE, is 0.034. In this study, the finding of this One-Sample T-Test shown that the mean difference is -118.833 and the standardized difference, $t = -3478.388$. The two tailed p-value of the test is 0.000, which is less than 0.05. The 95% confidence interval for mean difference is [-118.90, -118.77], which does not contain 0. The 95% confidence interval for population mean is $[(-118.90 + 120), (-118.77 + 120)] = [1.1, 1.23]$. In short, the 95% confidence interval for mean difference does not contain the tested value of 0 and the p-value of the test is less than 0.05. The effect size is moderate to large and the power of the test is more than 80%. Thus, the mean of use of Internet Banking of the study population is not 120. We are 95% confident that the use of Internet Banking for this population is between 1.1 and 1.23.

Referring to (Appendix A4), Paired Sample Statistics, the mean of use of Internet is 1.00 with a standard deviation of 0.000. The mean of use of Internet Banking is 1.17 with a standard deviation of 0.374. In this study the finding of this Paired Sample Statistics shown that the mean difference is -0.167 with a standard deviation of 0.374. The standardized difference, $t = -4.879$ and $df = 119$. The two tailed p-value of the test is 0.000, which is less than 0.05. The confidence interval for mean difference is [-0.234, -0.099], which does not contain 0. In short, the 95% confidence interval for mean difference does not contain the tested value of 0 and the p-value of the test is less than 0.05. Thus, there is significant change in the mean use of Internet Banking. Thus, the special differentiation use of Internet and Internet Banking is effective influenced the use of Internet Banking.

Referring to Appendix A5: One-Way ANOVA, the sample mean for use of Internet Banking is -1.00 (Implicit for answer of no) is 2.00 with a standard deviation of 0.000. The samples mean for 0.00 (Implicit for answer of yes) is 1.00 with a standard deviation of 0.000. In this study, the finding shown that the p-value for Levene's test for equality of variance is 0, which is less than 0.05. Thus, equality of variance is not assumed. The F-value is 0 and the degrees of freedoms are 1 and 118. The p-value of the test is 0, which is less than 0.05 too. In short, the p-value of the test is less than 0.05. Hence, at least one pair of mean differ significantly. When there is a difference, there is a need to identify the pair(s) that differs significantly. This is done using post hoc tests.

Encouraging factors to use internet banking (IB): The objective of this question was to ascertain some of the encouraging factors to use internet banking (IB). Out of 52 non-users, 40 non-users discovered that the major factor will be free internet access, 20 respondents stated that if they are being provided with free skills training, then they would adopt to use IB and 3 respondents agreed that they would adopt to use IB if banks provide better security (Table 3).

Bank of preference: Figure 6 showed that foreign bank is preferable by the respondents who use internet banking (IB).

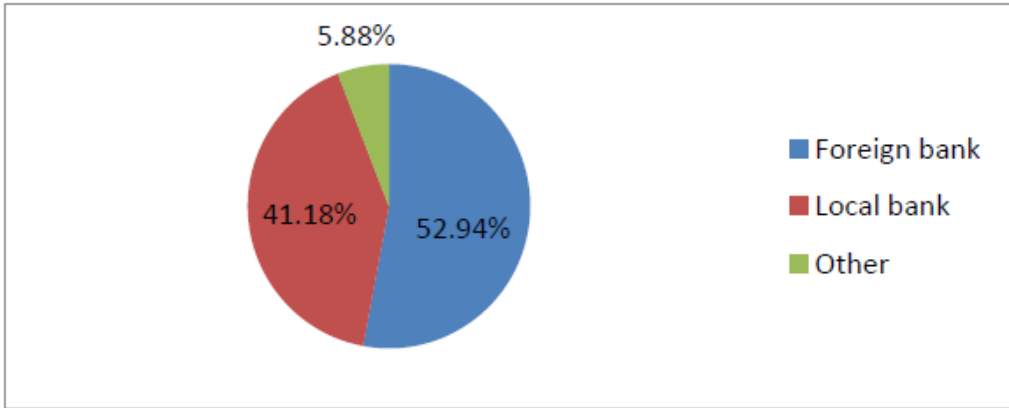


Figure 6: Preference Bank.

Table 3: Encouraging Factors to Use Internet Banking (IB).

Encouraging Factors for use of IB	Yes	No	Total
Free internet access provided	44	8	52
Free skills training provided	20	32	52
More economical banking transactions	36	16	52
Better security features	40	12	52
Other	8	44	52

Uses of internet banking (IB): Table 4 shows that the respondents that use their internet banking (IB) service to perform payments (94.1%), for transferring funds (88.2%), for account statements inquiry (76.5%) and for cheque account balances inquiry (41.2%).

Frequency of using internet banking (IB): Figure 7 illustrates that there are about 47.10% of the respondents using internet banking (IB) weekly, 35.30% of the respondents using IB daily, 11.80% of the respondents using IB monthly, 5.88% of the respondents using IB quarterly, and none of the respondents using IB yearly Appendix A6.

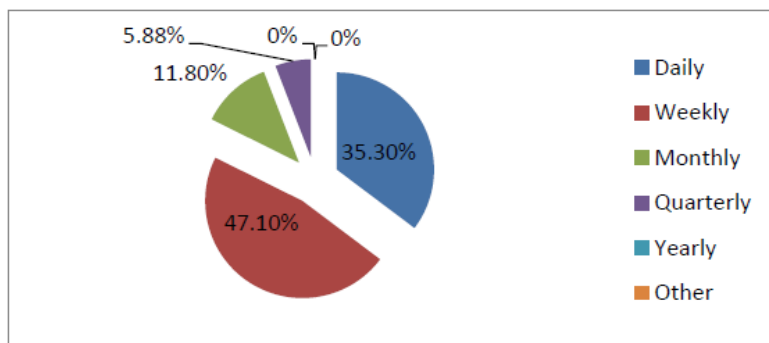


Figure 7: Frequency of Using Internet Banking (IB).

Table 4: Uses of Internet Banking (IB).

Uses of Internet Banking (IB)	Yes	No	Total
Viewing account statements	52	16	68
Viewing cheque account balances	28	40	68
Making payments	64	4	68
Transferring funds	60	8	68
Other	12	56	68

The comparative advantages of internet banking (IB)

Internet banking (IB) promotes greater finance management: As illustrated in Table 5, there are about 56.67% of the respondents agree that internet banking (IB) enables them for greater finance management compare to brick and mortar banking services provided. There is 20% of non IB users agreed that IB allow them to better manage finance.

Table 5: Internet Banking (IB) Enables Better Management of Finances.

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	12	10	0	0	12	30
Disagree	40	33.33	20	25	20	50
Neither	0	0	0	0	0	0
Agree	48	40	40	50	8	20
Strongly Agree	20	16.67	20	25	0	0
Total	120	100	80	100	40	100

Internet banking (IB) promotes time savings: 56.67% of the respondents agree that internet banking (IB) promotes time saving as they can manage all the financial transactions done with just at fingertips and not visiting a branch. Besides that, there are 100% of respondents agree IB allows them to perform financial transaction at anytime, anywhere and 7*24 throughout a year. Thus the adoption of IB has eliminates the time and place boundary constraints. Contrary, there are more than half of non-internet banking users (84.61%) disagree that IB can save time (Table 6).

Table 6: Internet Banking (IB) Saves Time.

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	4	3.33	0	0	4	7.69
Disagree	40	33.33	0	0	40	76.92
Neither	8	6.67	0	0	8	15.39
Agree	20	16.67	20	29.41	0	0

Strongly Agree	48	40	48	70.59	0	0
Total	120	100	68	100	52	100

Internet banking (IB) cause respondents more comfortable communicating with bank: A total of 56.66% of respondents agreed that internet banking (IB) allow them to communicate with the bank more comfortable. From the survey, 83.33% of users agreed that IB makes them to communicate with the bank more comfortable while only 16.67% of non-internet banking users agreed that IB makes them to communicate with the bank more comfortable (Table 7).

Table 7: Internet Banking Causes Respondents More Comfortable Communicating with Bank.

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	20	16.67	4	5.56	16	33.33
Disagree	24	20	8	11.11	16	33.33
Neither	8	6.67	0	0	8	16.67
Agree	40	33.33	32	44.44	8	16.67
Strongly Agree	28	23.33	28	38.89	0	0
Total	120	100	72	100	48	100

Internet banking (IB) compatibility

Internet banking (IB) suits respondents' life styles: 56.66% of the respondents agree that internet banking (IB) suits their life style. 88.24% of internet banking users concurred that IB suits their life style, whereas just 15.39% of non-internet banking users agreed that IB suits their life style (Table 8).

Table 8: Internet Banking (IB) Suits Respondents' Life Styles.

Option	Frequency	Percentage	IB users Frequency	IB users Percentage	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	20	16.67	4	5.88	16	30.76
Disagree	32	26.67	4	5.88	28	53.85
Neither	0	0	0	0	0	0
Agree	40	33.33	32	47.07	8	15.39
Strongly Agree	28	23.33	28	41.17	0	0
Total	120	100	68	100	52	100

Internet banking (IB) suits respondents' work styles: A total of 63.33% of respondents agree internet banking (IB) can accommodate with their working life style. 80%of users agreed whereas 30%of non IB users concurred that IB can lodge with work life Style (Table 9).

Table 9: Internet Banking (IB) Suits Respondents' Work Styles.

Option	Frequency	Percentage	IB users Frequency	IB users Percentage	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	32	26.67	12	15	20	50
Disagree	12	10	4	5	8	20
Neither	0	0	0	0	0	0
Agree	48	40	40	50	8	20
Strongly Agree	28	23.33	24	30	4	10
Total	120	100	80	100	40	100

Internet banking (IB) makes life convenient: A total of 86.66% of the respondents agree that internet banking (IB) provide more convenience to them. 100% of users agreed that IB makes their life more convenience while just 50% of non-internet banking users agreed that IB makes their life more convenience (Table 10).

Table 10: Internet Banking (IB) Makes Respondents' Life Convenient.

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	8	6.67	0	0	8	25
Disagree	8	6.67	0	0	8	25
Neither	0	0	0	0	0	0
Agree	88	73.33	72	81.82	24	50
Strongly Agree	16	13.33	8	18.18	0	0
Total	120	100	80	100	40	100

Internet banking (IB) complexity

Ease of use of internet banking (IB): 46.67% of the respondents concurred that internet banking (IB) is ease of use. 80% of the users concurred that it is easy to use internet banking but only 13.33% of the non-internet banking respondents concurred that IB is easy to be used (Table 11).

Table 11: The Ease of Conducting Internet Banking (IB).

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	32	26.67	4	6.67	28	46.67

Disagree	32	26.67	8	13.33	24	40
Neither	0	0	0	0	0	0
Agree	48	40	40	66.67	8	13.33
Strongly Agree	8	6.66	8	13.33	0	0
Total	120	100	60	100	60	100

Internet banking (IB) complexity: 53.34% of respondents agreed that Internet Banking (IB) is very complex to be used. 100% of non-internet banking users concurred IB is a very complex system to be used (Table 12).

Table 12: The Complexity of Using Internet Banking (IB).

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	16	13.33	16	26.67	0	0
Disagree	40	33.33	40	66.67	0	0
Neither	0	0	0	0	0	0
Agree	60	50	4	6.66	56	93.33
Strongly Agree	4	3.34	0	0	4	6.67
Total	120	100	60	100	60	100

The simplicity of the internet banking (IB) process

56.67% of the respondents agree Internet Banking (IB) is simple to be used. 94.12% of users and 7.69% of non-internet banking users agree that IB is simple to be used (Table 13).

Table 13: The Simplicity of the Internet Banking (IB) Process.

Option	Frequency	Percentage	IB users Frequency	IB users Percentage	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	8	6.67	0	0	8	15.39
Disagree	40	33.33	4	5.88	36	69.23
Neither	4	3.33	0	0	4	7.69
Agree	64	53.34	60	88.24	4	7.69
Strongly Agree	4	3.33	4	5.88	0	0
Total	120	100	68	100	52	100

The perceived cost of internet banking (IB)

Expensive telecommunication costs: 69.99% of the respondents agree that expensive telecommunication costs have play an important role to determine internet banking adoption. Only 13.34% disagree that the telecommunication costs are expensive. 76.19% of the non-users agree that the telecommunication costs are expensive while 22.22% of the users did not agree that the telecommunication costs are expensive. This finding indicates that perception of cost plays an important part in the consumer decision-making process whether to adopt the usage of internet banking (IB) (Table 14) Appendix A7.

Table 14: Telecommunication Costs are Expensive.

Option	Frequency	Percentage	IB users Frequency	IB users Percentage	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	8	6.67	4	11.11	4	4.76
Disagree	8	6.67	4	11.11	4	4.76

Neither	20	16.67	8	22.22	12	14.29
Agree	80	66.66	20	55.56	60	71.43
Strongly Agree	4	3.33	0	0	4	4.76
Total	120	100	36	100	84	100

The Cost of internet installation: 69.99% of the respondents concurred that the internet installations cost are too high and expensive. 22.22% of the respondents don't agree that cost of internet installation is expensive. 76.19% of non-internet banking (IB) users agree that internet installation costs are too high and expensive (Table 15).

Table 15: The Cost of Internet Installation.

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	8	6.67	4	11.11	4	4.76
Disagree	8	6.67	4	11.11	4	4.76
Neither	20	16.67	8	22.22	12	14.29
Agree	40	66.66	20	55.56	60	71.43
Strongly Agree	4	3.33	0	0	4	4.76
Total	120	100	36	100	84	100

The Cost-effectiveness of internet banking (IB): A total of 56.67% of the respondents consider internet installation costs to be too expensive. 88.24% of users noticed that internet banking (IB) is cost-effective, but 61.54% of non IB users who don't concurred that IB is cost-effective (Table 16).

Table 16: The Cost-Effectiveness of Internet Banking (IB).

Option	Frequency	Percentage	IB users Frequency	IB users Percentage	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	8	6.67	0	0	8	15.39
Disagree	32	26.67	8	11.76	24	46.15
Neither	12	10	0	0	12	23.08
Agree	48	40	40	58.82	8	15.38
Strongly Agree	20	16.66	20	29.42	0	0
Total	120	100	68	100	52	100

The perceived risk of internet banking (IB)

Banking at branch safety: 18 of the respondents believe that banking at branch is safe. 23.08% of users and 88.24% of non-internet banking users perceive that banking at branch is safe (Table 17).

Table 17: Safety of Banking at the Branch.

Option	Frequency	Percentage	IB users Frequency	IB users Percentage	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	8	6.67	8	15.38	0	0
Disagree	40	33.33	32	61.54	8	11.76
Neither	0	0	0	0	0	0
Agree	72	60	12	23.08	60	88.24
Strongly Agree	0	0	0	0	0	0
Total	120	100	52	100	68	100

The internet banking (IB) safety: 56.67 % of the respondents agreed that internet banking (IB) is safe. Most of the users (100%) agree, and 100% of the non IB users consider IB to be safe (Table 18).

Table 18: The Safety of Internet Banking (IB).

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	20	16.67	0	0	20	38.46
Disagree	32	26.67	0	0	32	61.54
Neither	0	0	0	0	0	0
Agree	60	50	60	88.24	0	0
Strongly Agree	8	6.66	8	11.76	0	0
Total	120	100	68	100	52	100

Credit card/account details disclosure on digital: 43.33% of respondents are not confident in disclosing their credit card/account details digital. 100% of non-users are not confident to reveal their credit card and account details on the internet, and this is a reluctance that is shared by 100% of the users (Table 19).

Table 19: Credit Card/Account Details Disclosure on the Internet.

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	40	33.33	0	0	20	38.46
Disagree	12	10	0	0	32	61.54
Neither	0	0	0	0	0	0

Agree	60	50	60	88.24	0	0
Strongly Agree	8	6.67	8	11.76	0	0
Total	120	100	68	100	52	100

Personal information disclosure on digital: About 56.67% of the respondents not are comfortable with disclosing personal information on digital. 100 % of users are confident to disclose their particulars on the internet but the majority of non-internet banking (IB) users (100%) are taciturn. This confirms that negative perceptions concerning the safety of IB abound among consumers (Table 20) Appendix A8.

Table 20: Personal Information Disclosure on the Internet.

Option	Frequen cy	Percenta ge	IB users Frequen cy	IB users Percenta ge	Non IB users Frequency	Non IB users Percentage
Strongly Disagree	20	16.67	0	0	20	38.46
Disagree	32	26.67	0	0	32	61.54
Neither	0	0	0	0	0	0
Agree	60	50	60	88.24	0	0
Strongly Agree	8	6.66	8	11.76	0	0
Total	120	100	68	100	52	100

CONCLUSION AND IMPLICATIONS

The objective of this study is to determine the factors that influenced the adoption of internet banking in an emerging economy: Malaysian consumer's perspective. Besides that, the impact of usefulness of internet banking, ease of use of internet banking and risks of using Internet Banking has also been assessed. From the literatures review of prior studies, several determinants has been identified such as usefulness of internet banking, ease of use of internet banking and risks of internet banking.

In this research, some of the factors that influenced the adoption of internet banking in an emerging economy: Malaysian consumer's perspective have been studied.

This study results show that ease of use of internet banking, usefulness of internet banking and risks of internet banking are the most important factors determining the internet banking adoption. Moreover, the small sample size is one of the setbacks on this study. Internet banking services adoption is the main factors for this study to be conducted to explore the feasibility of the service. In this respect, wider scale of internet banking customers and both local and overseas consumers' cultures is vital for the auxiliary generalization of these findings.

The regression analysis results conducted on the factors indicate that usefulness of internet banking, ease of use of internet banking and risks of internet banking were found to be the most influential factors. The results show that risks of internet banking are negatively related to the adoption of Internet Banking use which supports the hypothesis. Also it shows that usefulness and ease of use have activist relation with Internet Banking use supporting the hypotheses. Consumer use internet banking for the benefits of ease of use while compare to the brick and mortal channels. Customer's intention to adopt internet banking will be great if internet banking services are perceived as useful. When internet banking is easy to use, most of the bank customers will start to adopt it as they would like to anchor their internet banking to the beneficial outcomes and ease of use of the internet banking system. Some of the banks customers are reluctant to adopt internet banking entail that the risk associated with it even though internet banking provides real time flexibility in performing financial transactions which is fast and easy. Security and privacy are the two main elements in the risks of internet banking that has caused some of the consumers not prepared to take the risk of internet banking adoption.

Banking industry should highlights the benefits of using internet banking, enhance internet banking to make it ease of use, and improvise the internet banking security to improve consumer's trust on internet banking adoption. Besides that, awareness and education must be made available to consumers about the details benefits of using internet banking together with the promotional and advertising activities run by the banking industry. Banking industry also plays a vital role in enhancing their internet banking security parameters such as encryption, firewall, security intrusion detection and multi-factor authentication must be embedded. Hence, bank should invest to find out more risk-reducing strategies that may boost the high confidence level of consumers to use internet banking. Besides, this study reveals that banking industry should focus more on intrusion mitigation, fraud attempts, identity theft, and account hi-jacking. Also, this study suggests that banking industry should develop trust-based relationship between the bankers and consumers to entice consumers to perform internet banking with confidence and peace of mind.

There are few limitations in this study that should be taken into considerations in future research. The study focused solely on the local and multinational banking industries in

Malaysia. With the mix of local and local multinational against overseas banking industries, we could obtain different results from the research since local and local multinational against overseas banking industries provide different Internet Banking capabilities and securities.

Finally, there are some limitations with the data collection process. We have distributed the questionnaire to 300 respondents and only 130 respondents (43.33%) returned. Out of 130 questionnaires received, 10 are not completed thus the overall response rate for the survey is only 40%. Due to limited time frame, we have to proceed with the data analysis based on the 120 questionnaire returned instead of 300 respondents that we targeted previously.

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