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USABILITY DESIGN EVALUATION OF MALAYSIAN ONLINE BANKING WEBSITES

PADMADEVI D/O SUBRAMANIAM

DISSERTATION SUBMITTED IN FULFILLMENT OF THE REQUIREMENT
FOR THE DEGREE OF MASTER OF EDUCATION (INTERNET COMPUTING)
(MASTER BY MIXED MODE)



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APPRECIATION

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ABSTRACT

This study was intended to evaluate customer feedback towards the purpose and facility of online banking and an indirect way to evaluate their satisfaction towards website design. On the other hand, this study was used to investigate relationship between demographic variables and respondents feedback towards the purpose and facility of online banking and website design. This study applied the method of cross sectional design by using quantitative method. The number of sample was 450 respondents selected from three different banks, i.e. CIMB Bank Berhad (CIMB), Malayan Banking Berhad (Maybank) and Public Bank Berhad (PBB) in Kuala Lumpur area. The finding shows the majority of the respondents claimed that online banking system of bank helped them to save time by reducing travelling cost. Other than that, online banking has proven that it can reduce error transactions. Meanwhile, it was reported that majority of of respondents had high level of satisfaction towards website design while the rest had moderate satisfaction. None of the respondents had low satisfaction level. Additionally, inferential analysis shows the old generation has recorded less likely to use online banking as compared to the new generation. However, sex, race and education level insignificantly influenced their perception towards online banking in term of purpose and website design. In conclusion, online banking turn out to become an essential system in daily life routine due to the fact that this system effectively reduced usage time and cost.





PENILAIAN REKA BENTUK KEBOLEHGUNAAN LAMAN SESAWANG PERBANKAN ATAS TALIAN MALAYSIA

ABSTRAK

Kajian ini bertujuan untuk menilai maklum balas pelanggan terhadap kemudahan perbankan dalam talian dan secara tidak langsung untuk menilai kepuasan mereka terhadap reka bentuk laman web. Seterusnya, kajian ini juga bertujuan untuk mengkaji hubungan antara pembolehubah demografi dan maklum balas responden terhadap tujuan dan kemudahan perbankan dalam talian dan reka bentuk laman web. Kajian ini menggunakan pakai kaedah reka bentuk keratan rentas dengan menggunakan kaedah kuantitatif. Bilangan sampel adalah 450 yang dipilih daripada tiga buah bank iaitu CIMB Bank Berhad (CIMB), Malayan Banking Berhad (Maybank) dan Public Bank Berhad (PBB) di kawasan Kuala Lumpur. Hasil kajian menunjukkan majoriti daripada responden mendakwa sistem perbankan atas talian terbukti dapat membantu mereka untuk menjimatkan masa dengan mengurangkan kos perjalanan. Selain daripada itu, perbankan dalam talian telah terbukti boleh mengurangkan transaksi kesilapan. Sementara itu, telah dilaporkan bahawa majoriti responden mempunyai tahap kepuasan yang tinggi ke arah reka bentuk laman web manakala yang reponden selebihnya mempunyai kepuasan yang sederhana. Tiada seorang pun daripada responden mempunyai kepuasan yang rendah. Selain itu, inferensi analisis menunjukkan generasi lama didapati kurang menggunakan perbankan dalam talian berbanding dengan generasi baru. Walau bagaimanapun, jantina, bangsa dan tahap pendidikan tidak mempengaruhi persepsi mereka terhadap perbankan dalam talian dari segi tujuan dan reka bentuk laman web. Kesimpulannya, perbankan dalam talian telah beralih menjadi sistem penting dalam rutin kehidupan harian kerana dapat menjimatkan masa dan kos secara efektif.



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ABBREVIATION LIST

Below are the lists of abbreviation used in this thesis:

ATM	Automated Teller Machine
BNM	Bank Negara Malaysia
CAPTCHA	Completely Automated Public Turing Test to tell Computers and Humans Apart
CDM	Cash Deposit Machine
CGI	Common Gateway Interface
CSI	Common System Interface
CSP	Cloud Service Provider
E- Banking	Electronic Banking
E-mail	Electronic Mail
EULA	End User License Agreement
FAQ:	Frequently Asked Questions.
HCI	Human Computer Interface
HID	Human Interface Device
HIG	Human Interface Guidelines
HTML	HyperText Markup Language
HTTP	Hypertext Transfer Protocol
I/F	Interface
IBS	International Banking Statistics
ICT	Information and Communication Technology
IM	Instant Messaging
IP	Internet Protocol
IS	Information Systems
ISP	Internet Service Provider
ISR	Interrupt Service Routine
IT	Information technology

KB	Keyboard
Mb	Megabit
MB	Megabyte
MS	Microsoft
MX	Mail exchange
MY	Malaysia
OTP	One Time Transaction Pin
PCs	Personal Computers
RM	Ringgit Malaysia
SMS	Short Message Services
SPSS	Statistical Package for the Social Sciences
TAC	Transaction Authorisation Code
TV	Television
UAT	User Acceptance Testing
UI	User Interface
URL	Uniform Resource Locator
USD	United States Dollars
WWW	World Wide web



CHAPTER 1

INTRODUCTION

1.1 Overview



Information and Communication Technology (ICT) has a drastic impact in our daily life routine. It does not replace human but help us to improve ways of doing things without error compared with those days without ICT. Some of the reason why technology is incorporated in our work is to reduce human error, to be more productive and systematic, reduce cost in long term basis, working time and most importantly to get connected

Computers and Internet have been an essential element in today's lifestyle as many routine tasks are much easier to be accomplished such as paying bills online, education online, playing games, chatting and meeting new friends and various other activities which are done through many different services provided through Internet service. Realising the facts and benefits of online banking, many banks and financial





institution today in Malaysia are competing in providing various different services through their online banking websites. Compared to other industries, banking industries have a slight drawback in creating online banking services as it is handling and dealing with money.

Based on the The Star 2013, Deputy Finance Minister, Datuk Ahmad Maslan stated that Online Banking in Malaysia has grown significantly alongside the use of smart phones and tablets and the penetration rate is half of the country's population.

Furthermore, The Malaysia is a country which has 14.6 million subscribers of online banking as at June 2013 as reported by The Star newspaper. According to the The Edge Malaysia article on 28th April 2011, Malaysia has the most number of users of online banking services in Southeast Asia. Further on the article stated, A comScore Media Matrix Malaysia survey report released in February 2011 indicated that there are 2.7 million visitors in January 2011 for online banking sites in Malaysia and which is a growth of 16% on a year-to-year basis.

Based on the source mentioned, the top three online banking websites that were frequently visited by Malaysian users are Maybank, CIMB Bank and Public Bank.

Basically, the first step towards providing these services through their websites is to build the confidence among its customers. Blanca Hernadenz (2009), has stated that the design of a quality website, as part of e-business strategy, has become a key element for success in the online market. He identified that accessibility, speed, navigability, content are the most important elements to focus.



Based on Bank Negara website, Online Banking should provide a fast and convenient way of performing common banking transactions on the Internet. They also clearly stated that, a consumer will be able to do their online banking transactions from the comforts of your home, office or virtually anywhere else in the world if the consumer has a computer with Internet access, a web browser and a registered account for online banking from your banking institution

According to banking info website which is an official website of Bank Negara Malaysia the features or services that a user can do on the banking websites are as follows: -

- Check your balances and statements online
- Submit applications for new accounts, credit cards or loans
- Transfer funds between accounts
- Pay your bills, credit cards, and insurance premiums
- Create, change and cancel standing orders
- Request for cheque books and check the status of your cheques
- Request to stop cheque payments
- Apply for bank drafts and telegraphic transactions

A banking website user can be from any range of age group, any type of profession with different information technology knowledge. This should be given serious consideration as the easier to use a website the more frequent the users might use the services of the online banking.



This is where the concept of Human Computer Interaction is introduced. Human-Computer Interaction (HCI) is a term used to refer to the understanding and designing of different relationships between people and computers.

HCI has established an impressive track record for developing and applying all manner of design and evaluation methods to ensure that technologies are easy to learn and easy to use.

1.2 Background of the study

Malaysia is a fast-growing country and encourages public or private sectors to have online system to cater to their customer needs. Banking industry is no exception from the said trend. This research is focused on Malaysia's local banks. The official website for all banks and Malaysian banking info is <http://www.bnm.gov.my> which is owned by Bank Negara Malaysia.

According to Bank Negara Website, below are the five types of banks that are available in Malaysia:

- Commercial Banks
- Islamic Banks
- International Islamic Banks
- Investment Banks
- Other Financial Institutions





Since the commercial banks are well known and widely used by various types of users, researcher is focusing on commercial banks. In our country, there are 27 commercial banks in operation. Please refer to the table below:

Table 1.1

List of banking institutions in Malaysia

No.	Name	Ownership
1	Affin Bank Berhad	L
2	Alliance Bank Malaysia Berhad	L
3	AmBank (M) Berhad	L
4	BNP Paribas Malaysia Berhad	F
5	Bangkok Bank Berhad	F
6	Bank of America Malaysia Berhad	F
7	Bank of China (Malaysia) Berhad	F
8	Bank of Tokyo-Mitsubishi UFJ (Malaysia) Berhad	F
9	CIMB Bank Berhad	L
10	Citibank Berhad	F
11	Deutsche Bank (Malaysia) Berhad	F
12	HSBC Bank Malaysia Berhad	F
13	Hong Leong Bank Berhad	L
14	India International Bank (Malaysia) Berhad	F
15	Industrial and Commercial Bank of China (Malaysia) Berhad	F
16	J.P. Morgan Chase Bank Berhad	F
17	Malayan Banking Berhad	L
18	Mizuho Bank (Malaysia) Berhad	F
19	National Bank of Abu Dhabi Malaysia Berhad	F
20	OCBC Bank (Malaysia) Berhad	F
21	Public Bank Berhad	L
22	RHB Bank Berhad	L
23	Standard Chartered Bank Malaysia Berhad	F
24	Sumitomo Mitsui Banking Corporation Malaysia Berhad	F
25	The Bank of Nova Scotia Berhad	F
26	The Royal Bank of Scotland Berhad	F
27	United Overseas Bank (Malaysia) Berhad.	F

Note : Adapted from

<http://www.bnm.gov.my/index.php?ch=li&cat=banking&type=CB>

Legend: L – Licensed from Malaysia, F –Franchised from overseas





1.3 Problem statement

An important factor for the success of the website usage is its simplicity and science of design as it encourages user to understand the complete set of services provided to them without causing serious error.

Confusion in design might lead to other problem in a banking website, including unsuccessful transactions, failure of on time bill payments which will lead to further problems of higher interest rate or late payment charges.

It is very important for a business owner to understand the impact of poor website design can have on their visitor retention. If they would like their website to be a successful part of their business plan, they have to ensure they work with their website designer to develop a website design that can keep the interest of their visitors.

The home page is a very important part of their website as it is the first point of interaction between their business and their customer. Make sure that their homepage is interesting and engaging otherwise they may find that most of their customers do not venture further than their home page.





1.4 Research objective

Below are the objectives of the research

- a. To understand the importance of online banking in the ever-changing lifestyle of people.
- b. To evaluate banking website design to its usage among users
- c. To test design of a banking website and its usage among users. This will further be the guidance for preference towards certain banking website.
- d. To identify the importance of web usability elements in a website that can further encourage users to utilize the banking website and its services.
- e. To develop a framework of online banking website as guidance for Malaysian Online Banking websites.
- f. To measure the level of satisfaction towards website design
- g. To determine relationship between demographic variables and purpose and facility of internet banking and website design.

1.5 Research questions

- a) Why individuals use banking websites to perform their daily life transactions?
- b) What is the user's expectations in using a banking website in terms of its design?
- c) What are the lacking usability aspects of the selected website pages 'design'?
- d) What are the measurements criteria for a banking website compared to its competitors?



- e) What are the important aspects in usability criteria should be taken into consideration by the chosen bank?
- f) What is the level of satisfaction towards website design?
- g) Is there any relationship between demographic variables and (purpose & facility & website design)?

1.6 Hypotheses

H₁: There is a significant relationship between age and purpose and facility internet banking

H₂: There is a significant relationship between age and purpose and website design

H₃: There is a significant relationship between sex and purpose and facility of internet banking

H₄: There is a significant relationship between sex and purpose and website design

H₅: There is a significant relationship between race and purpose and facility of internet banking

H₆: There is a significant relationship between race and purpose and website design

H₇: There is a significant relationship between education and purpose and facility of internet banking

H₈: There is a significant relationship between education and purpose and website design