

THE USAGE OF QUICK RESPONSE (QR) CODE
AMONG THE SMARTPHONE'S USER

MOHAMAD AZWAN BIN OMAR ALI SAIFUDDIN

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

“I hereby acknowledge that I have read this
and in my opinion this work sufficient in terms of scope and quality for award of a
Bachelor Degree in Technology Management (Hons) in High-Tech Marketing”

Signature :

Supervisor Name :

Date :

USAGE OF QUICK RESPONSE CODE
AMONG THE SMARTPHONE USERS

MOHAMAD AZWAN BIN OMAR ALI SAIFUDDIN

This report submitted in partial fulfillment of the requirement for the award Bachelor of
Technology Management in High Technology Marketing with Honors.

Faculty of Technology Management and Technopreneurship

Universiti Teknikal Malaysia Melaka

JUNE 2014

“I hereby declare that the work of this research project is produced by me for quotations summaries that have been duly acknowledged”

Signature :

Name :

Date :

DEDICATION

This research paper is lovingly dedicated to my respective parents Encik Omar Ali Saifuddin Bin Haji Enton and Puan Fatimah Binti Abdullah who have been my constant source of inspiration. They have given unconditional support with my studies. I am honored to have them as my parents. Thank you for giving me a chance to prove and improve myself through all my walk of life. To all my family thank you for believing me for allowing me to further my studies. Lastly to my brothers, hoping that with this research I have proven to you that there is no mountain higher as long as Allah is on our side. Stay focus in your studies and be good children to both of our parent.

ACKNOWLEDGEMENT

First of all, I would like to thankful to the Almighty Allah SWT for giving me the ability, time, courage and strength to successfully completing this Projek Sarjana Muda (PSM) within the time given. I sincerely appreciate and thank for the help, teaching, monitoring, support and contribution to my beloved supervisor Dr. Norhidayah bt Mohamad and millions of appreciation and infinite of gratitude to all those involved either directly or indirectly assist or support the success of this project. This research will bring forward as requirements in completing my studies to graduate in Bachelor of Technopreneurship at Universiti Teknikal Malaysia Melaka (UTeM).

ABSTRACT

A Quick-response (QR) is a two-dimensional bar code which presents as a series of squares within squares. Capturing information horizontally and vertically, which allows more information to be captured and conveyed. Nowadays, many businesses organizational apply the Quick-respond code as their marketing strategy. Therefore, this research aims to indentify the relationship between knowledge, awareness and purpose of using QR Code. Other than that, this research also aims to determine the influence of demographic profile toward the usage of QR Code among the Smartphone's users. Furthermore, this research also aims to identify the factors that contribute to the usage of QR Code among the Smartphone's users. The limitation of the research is including that sample of population of traditional age Smartphone's user come from a single university in Melaka, Malaysia. In this research, a quantitative research and survey research strategy conducted through the use of questionnaires of 136 survey respondent from the population of single batch of University Teknikal Malaysia Melaka students. The researcher chooses University Teknikal Malaysia Melaka student because they represent one of the groups who have Smartphone and potentially expose faster to QR Code technology. As the result show, the usage of Quick-response code among the Smartphone users showing a positive relationship especially female respondents. Moreover, the purpose of use of QR Code is contributed more than others variable toward the usage of QR Code. This research will be benefit and important to three importance of the study which is new marketing channel, business organization and Smartphone users.

ABSTRAK

Quick Response Code adalah kod bar dua dimensi yang membentangkan sebagai satu siri kuasa dua dalam dua. Menangkap maklumat mendatar dan menegak, yang membolehkan lebih banyak maklumat untuk ditangkap dan disampaikan. Pada masa kini, banyak perniagaan organisasi menggunakannya di dalam strategi pemasaran. Oleh itu, kajian ini bertujuan untuk mengenal pasti hubungan antara pengetahuan, kesedaran dan tujuan menggunakan QR Code. Selain itu, kajian ini juga bertujuan untuk menentukan pengaruh profil demografi ke arah penggunaan QR Code dalam kalangan pengguna Smartphone. Tambahan pula, kajian ini juga bertujuan untuk mengenal pasti faktor-faktor yang menyumbang kepada penggunaan QR Code. Had penyelidikan itu termasuk sampel penduduk pengguna umur tradisional Smartphone datang dari sebuah universiti di Melaka, Malaysia. Dalam kajian ini, penyelidikan kuantitatif akan dijalankan melalui soal selidik daripada 136 responden pelajar Universiti Teknikal Malaysia Melaka. Penyelidik memilih pelajar Universiti Teknikal Malaysia Melaka kerana mereka mewakili salah satu kumpulan yang mempunyai Smartphone dan berpotensi terdedahkan lebih cepat kepada teknologi QR Code. Kesimpulannya, penggunaan QR Code di kalangan pengguna Smartphone menunjukkan hubungan yang positif terutama responden wanita. Selain itu, tujuan penggunaan QR Code menyumbang lebih daripada faktor yang lain dalam penggunaan QR Code. Kajian ini akan memberi manfaat dan penting untuk tiga kepentingan kajian yang merupakan saluran pemasaran baru, organisasi perniagaan dan pengguna Smartphone.

TABLE OF CONTENT

CHAPTER	TOPIC	PAGE
	DEDICATION	iv
	ACKNOWLEDGEMENT	v
	ABSTRACT	vi
	ABSTRAK	vii
	CONTENT	viii
	LIST OF TABLE	xi
	LIST OF FIGURE	xiv
	LIST OF ABBREVIATION	xvi
CHAPTER 1	INTRODUCTION	
	1.1. Introduction	1
	1.2. Background of Study	2
	1.3. Problem Statement	3
	1.4. Research Objective	3
	1.5. Research Hypothesis	4
	1.6. Scope, Limitation and Key Assumption	5
	1.7. Importance of Project	6
	1.8. Summary	7

CHAPTER II LITERATURE REVIEW

2.1. Introduction	8
2.2. Background	9
2.3. Summary	13

CHAPTER III RESEARCH METHOD

3.1. Introduction	14
3.2. Research Design	15
3.3. Theoretical Framework	16
3.4. Quantitative Method	17
3.5. Primary and Secondary Data Resource	17
3.6. Method of Primary Data Collection	18
3.7. Time Horizon	21
3.8. Method of Data Analysis	22
3.9 Validity, Reliability and Generalability	22
3.11. Summary	24

CHAPTER IV RESULT AND ANALYSIS

4.1. Introduction	25
4.1. Demographic Profile	26
4.1.1. Gender	27
4.1.2. Races	28
4.1.3. Age	29
4.1.4. Level of Education	30
4.1.5. Occupation	31
4.2. Usage of Quick Response Code	32
4.3. Level of Knowledge	33
4.3.1. Range of knowledge of QR Code	33

4.3.2. QR Code familiarity	34
4.3.3. QR Code Installation	30
4.4. Awareness of QR Code	31
4.4.1. QR Code Awareness	31
4.4.2. Scanned QR Code	32
4.4.3. Interested toward QR Code	32
4.5. Purpose of Using	33
4.5.1. Purpose of use	33
4.5.2. Perceive Benefits	34
4.6. Validity and Reliability Test	34
4.6.1. Validity Test	34
4.6.1.1. Usage of QR Code	35
4.6.1.2. Level of Knowledge	35
4.6.1.3. Awareness of QR Code	36
4.6.1.4. Purpose of Use of QR Code	38
4.6.2. Reliability Test	40
4.7. Multiple Regression Analysis (MRA)	45
4.8. Test Hypothesis with Simple linear regression	47
4.8.1. Hypothesis 1	48
4.8.2. Hypothesis 2	49
4.8.3. Hypothesis 3	51
4.9. Cross Tabulation of Demographic with independent variable	53

CHAPTER V DISCUSSION

5.0. Introduction	57
5.1. Main Finding	58
5.2. Research Objective	58
5.2.1. Research Objective 1	59
5.2.2. Research Objective 2	63

5.2.3. Research Objective 3	64
-----------------------------	----

CHAPTER VI CONCLUSION & RECOMMENDATION

6.1. Conclusion	65
6.2. Recommendation	66

REFERENCE	67
------------------	----

APPENDICE	71
------------------	----

LIST OF TABLE

TABLE	TITLE	PAGE
Table 1	Demographic Profile of Sample	20
Table 2	Usage of QR Code	32
Table 3	Familiarity Level of QR Code	33
Table 4	QR Code Installation	35
Table 5	QR Code awareness statistic	36
Table 6	QR Code Scanned Cross Tabulation Data	37
Table 7	Interest toward QR Code	37
Table 8	QR Code Usage	38
Table 9	Benefits of QR Code	39
Table 10	Correlation of Dependent Variable Z	41
Table 11	Correlation of Independent Variable Y1	41

Table 12	Correlation of Independent Variable Y2	42
Table 13	Correlation of Independent Variable Y3	43
Table 14	The Cronbach's Alpha Coefficient Range	44
Table 15	Reliability Test Result	44
Table 16	Model Summary	45
Table 17	Anova	45
Table 18	Coefficient	46
Table 19	Hypothesis Result 1	48
Table 20	Hypothesis Result 2	49
Table 21	Hypothesis Result 3	51
Table 22	Knowledge of QR Code with Gender Cross Tabulation	53
Table 23	Awareness of QR Code with Gender Cross Tabulation	54
Table 24	Purpose of using QR Code with Gender Cross Tabulation	55

LIST OF FIGURE

FIGURE	TITLE	PAGE
Figure 1	Theoretical Framework	16
Figure 2	Respondents by Gender	27
Figure 3	Respondents by Race	28
Figure 4	Respondents Age Range	29
Figure 5	Respondents Level of Education	30
Figure 6	Respondents Occupation	31
Figure 7	Knowledge of QR Code	33

LIST OF ABBREVIATION

ABBREVIATION	MEANING
QR CODE	Quick Response Code
URL	Uniform Resource Locater
DOK	Depth of Knowledge
U.S	United State
RIM	Research In Motion
HTML	Hypertext Markup Language
UTeM	Universiti Teknikal Malaysia Melaka
SPSS 21	Statistical Package for Social Science version 21.0
MRA	Multiple Regression Analysis

CHAPTER I

INTRODUCTION

This chapter will explain about the introduction and background of study, problem statement, and list of objectives. This chapter is also brief about scope, limitation and key assumptions of the study. Last but not least, the importance of this study and summary also cover in this chapter.

1.1. Introduction.

Nowadays, many first class countries such United Kingdom, South Korea, Hong Kong, Singapore and Japan are using Quick Response codes in as their marketing tool or medium. According to Law & So, Quick Response codes are two-dimensional barcodes that can contain simple amounts of data such as multilingual text, a linked Uniform Resource Locator (URL), an automated SMS text, a business card or contact

information. In this millennium era, Facebook and Twitter came to rule the online world with hundreds of millions of subscribers logged into their accounts almost every day. However, in Malaysia the used of Quick Response codes are increasing but with slow pace. This is due to the low expose about the Quick Response code as a marketing medium.

1.2. Background of Study

A QR Code is a two-dimensional bar code which presents as a series of squares within squares. Capturing information horizontally and vertically, which allows more information to be captured and conveyed. Furthermore, QR codes can be scanned by the cameras built into every Smartphone that has been used today and also QR scanner. QR Codes are invented to assist manufacturer in logistic, warehouse and tracking system. By using QR codes, consumer can scan the QR Code on a product and the image will redirect a smart phone's Web browser to the destination of the code producer's choice—a Web page with a discount coupon, a video or access to in-depth information where Smartphone's user can connect with the marketing campaign or event.

Nowadays, various marketing medium has penetrated Malaysian market. The market demands encourage more and more research and developments to enhance marketing channel activity. For example, Smartphone can be medium to run business, share information and make advertisement. One of application that is rising toward Malaysia market is the application of Quick Response Code. Even though this application is stable at first class country like South Korea and Japan, in Malaysia this application still in the early stage. Malaysian people is getting to know or do not know about this Quick Response Code. Maybe some of Malaysian people are aware the present of Quick Response code in their Smartphone via Wechat application, product packaging and etc.

1.3. Statement of the Problem

This study still focuses on the usage of QR Code among the Smartphone's users. Since the usage of QR Codes is new, the study conducted to find the lack of understanding or familiarity of QR codes among the Smartphone's users. There are few research questions:

- i. What is the relationship between knowledge, awareness and purpose of QR Code with the usage of QR Code among the Smartphone's users?
- i. Does the demographic profile have influence the usage of QR Code?
- ii. What is the factor that contributes more to the usage of QR Code among the Smartphone's users?

1.4. Research Objectives

The main objectives of the project are as follows:

- ii. To identify the relationship between knowledge of QR Code with the usage of QR Code among the Smartphone's users.
- iii. To determine the influence of demographic profile toward the usage of QR Code among the Smartphone's users.
- iv. To identify the factor that contributes and enhances the usage of QR Code among the Smartphone's users.

1.5. Research Hypothesis

According to Sekaran (2003), hypotheses can be defined as a logically conjectured relationship between two or more variables expressed in the form of a testable statement. The research hypothesis for the study is:

a) Hypothesis 1

H_0 : There is no significant relationship between levels of QR code knowledge with the usage of QR Code among the Smartphone's users.

H_1 : There is significant relationship between levels of QR code knowledge with the usage of QR Code among the Smartphone's users.

b) Hypothesis 2

H_0 : There is no significant relationship between the awareness of QR code with the usage of QR Code among the Smartphone's users.

H_1 : There is significant relationship between the awareness of QR code with the usage of QR Code among the Smartphone's users.

c) Hypothesis 3

H_0 : There is no significant relationship between purposes of using QR code with the usage of QR Code among the Smartphone's users

H₁: There is significant relationship between purposes of using QR code with the usage of QR Code among the Smartphone's users

1.6. Scope, Limitation and Key Assumptions of the study

1.6.1. Scope

The research and report cover the usage of QR code of Smartphone's user for interactive communication medium. This research will focus on:

- i. What usage and benefits of QR code for marketing medium among the Smartphone's users.
- ii. The scope also includes the awareness of Smartphone's user about QR code and its relationship crucially.
- iii. The study determine what is relationship of the purpose of the Smartphone's user use the QR codes.

1.6.2. Limitation

The research is limited to several areas to ensure the reliability and the validity of the research. The limitation of the research is including that sample of population of traditional age Smartphone's user come from a single university in Melaka, Malaysia. This is to ensure that the research cover the specific approach in detail. Other than that,

due to large number of Smartphone's user, there will be selected respondent regarding the usage of QR code. The selected respondent will be determining by the rate of using quick-response code in their purchasing behavior. Since the Quick-response code application is new in marketing especially in Malaysia, it is hard to find Smartphone's user that frequently used QR code. Lastly, the limitation is to acquire accurate usage knowledge of result is hard due to the application of QR code is not very common among Smartphone's users in Malaysia.

1.6.3. Key Assumption of the study

There is significant positive relationship between the entire independents variable with the dependent variable. Furthermore, the entire hypothesis also accepted.

1.7. Importance of the study

There are three importance of the study which is new marketing channel, business organization and Smartphone users. In marketing channel, QR Code can use to strengthen the relationship between customers by connecting customer with QR code marketing. Meanwhile, in business organization, they might use the research to create new ways of marketing using QR code as interactive marketing communication. Lastly, for the Smartphone users, the study can provide knowledge and benefits using QR code in purchasing item offline or online.

1.8. Summary

Chapter 1 is explained the development of the framework for the project. The framework works as guidelines for the researcher to ensure the research align with the objective of the research. This chapter includes basic information about the research such as introduction of QR Code application used. The objective of doing the research and the key assumption is also discussed under Chapter 1. The chapter also tells about the scope that the researcher will cover the limitations of the research and expectation of the result of the research. Finally, the chapter covers the importance of the research. The next chapter will be more focus on the previous study about the QR Code.

CHAPTER II

LITERATURE REVIEW

In this literature review, it will cover wide variety of the research topic; it will focus on usage of QR codes for interactive medium purpose among Smartphone's users. Therefore, it will emphasize of the scope of the research and will avoid the limitation of the research. There are several supporting theories and definition explained about the QR Code.