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 duty 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 their 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.
# TABLE OF CONTENT

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>TOPIC</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDICATION</td>
<td></td>
<td>iv</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td></td>
<td>vi</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td></td>
<td>vii</td>
</tr>
<tr>
<td>CONTENT</td>
<td></td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLE</td>
<td></td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF FIGURE</td>
<td></td>
<td>xiv</td>
</tr>
<tr>
<td>LIST OF ABBREVIATION</td>
<td></td>
<td>xvi</td>
</tr>
</tbody>
</table>

## 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

CHAPTER VI CONCLUSION & RECOMMENDATION

6.1. Conclusion 65
6.2. Recommendation 66

REFERENCE 67
APPENDICE 71
LIST OF TABLE

<table>
<thead>
<tr>
<th>TABLE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Demographic Profile of Sample</td>
<td>20</td>
</tr>
<tr>
<td>Table 2</td>
<td>Usage of QR Code</td>
<td>32</td>
</tr>
<tr>
<td>Table 3</td>
<td>Familiarity Level of QR Code</td>
<td>33</td>
</tr>
<tr>
<td>Table 4</td>
<td>QR Code Installation</td>
<td>35</td>
</tr>
<tr>
<td>Table 5</td>
<td>QR Code awareness statistic</td>
<td>36</td>
</tr>
<tr>
<td>Table 6</td>
<td>QR Code Scanned Cross Tabulation Data</td>
<td>37</td>
</tr>
<tr>
<td>Table 7</td>
<td>Interest toward QR Code</td>
<td>37</td>
</tr>
<tr>
<td>Table 8</td>
<td>QR Code Usage</td>
<td>38</td>
</tr>
<tr>
<td>Table 9</td>
<td>Benefits of QR Code</td>
<td>39</td>
</tr>
<tr>
<td>Table 10</td>
<td>Correlation of Dependent Variable Z</td>
<td>41</td>
</tr>
<tr>
<td>Table 11</td>
<td>Correlation of Independent Variable Y1</td>
<td>41</td>
</tr>
</tbody>
</table>
Table 12 Correlation of Independent Variable Y2  
Table 13 Correlation of Independent Variable Y3  
Table 14 The Cronbach’s Alpha Coefficient Range  
Table 15 Reliability Test Result  
Table 16 Model Summary  
Table 17 Anova  
Table 18 Coefficient  
Table 19 Hypothesis Result 1 
Table 20 Hypothesis Result 2  
Table 21 Hypothesis Result 3  
Table 22 Knowledge of QR Code with Gender Cross Tabulation  
Table 23 Awareness of QR Code with Gender Cross Tabulation  
Table 24 Purpose of using QR Code with Gender Cross Tabulation
<table>
<thead>
<tr>
<th>FIGURE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Theoretical Framework</td>
<td>16</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Respondents by Gender</td>
<td>27</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Respondents by Race</td>
<td>28</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Respondents Age Range</td>
<td>29</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Respondents Level of Education</td>
<td>30</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Respondents Occupation</td>
<td>31</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Knowledge of QR Code</td>
<td>33</td>
</tr>
<tr>
<td>ABBREVIATION</td>
<td>MEANING</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>QR CODE</td>
<td>Quick Response Code</td>
<td></td>
</tr>
<tr>
<td>URL</td>
<td>Uniform Resource Locater</td>
<td></td>
</tr>
<tr>
<td>DOK</td>
<td>Depth of Knowledge</td>
<td></td>
</tr>
<tr>
<td>U.S</td>
<td>United State</td>
<td></td>
</tr>
<tr>
<td>RIM</td>
<td>Research In Motion</td>
<td></td>
</tr>
<tr>
<td>HTML</td>
<td>Hypertext Markup Language</td>
<td></td>
</tr>
<tr>
<td>UTeM</td>
<td>Universiti Teknikal Malaysia Melaka</td>
<td></td>
</tr>
<tr>
<td>SPSS 21</td>
<td>Statistical Package for Social Science version 21.0</td>
<td></td>
</tr>
<tr>
<td>MRA</td>
<td>Multiple Regression Analysis</td>
<td></td>
</tr>
</tbody>
</table>
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?

ii. Does the demographic profile have influence the usage of QR Code?

iii. 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

\[ H_0: \text{There is no significant relationship between levels of QR code knowledge with the usage of QR Code among the Smartphone’s users.} \]

\[ H_1: \text{There is significant relationship between levels of QR code knowledge with the usage of QR Code among the Smartphone’s users.} \]

b) Hypothesis 2

\[ H_0: \text{There is no significant relationship between the awareness of QR code with the usage of QR Code among the Smartphone’s users.} \]

\[ H_1: \text{There is significant relationship between the awareness of QR code with the usage of QR Code among the Smartphone’s users.} \]

c) Hypothesis 3

\[ H_0: \text{There is no significant relationship between purposes of using QR code with the usage of QR Code among the Smartphone’s users} \]
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.