The Prospects of New Media Advertising

In Sudan

With Special reference to Mobile Marketing

A Thesis Submitted to the University of Khartoum in the Fulfillment of the Requirement for the degree of Ph. D.
In Business Administration

By

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To the Soul
of my Beloved Father
The Dream
Came True
Declaration

I, Elham Hassan Fath-elrahman Haj Mansour, declare that this dissertation entitled “The Prospects of New Media Advertising In Sudan: with Special reference to Mobile Marketing” submitted in fulfillment of the requirements for the award of Doctor of Philosophy in Business Administration, University of Khartoum, contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree in any other university, this thesis is my own work unless otherwise referenced or acknowledged.

Elham H. F. Mansour

October 13, 2010
Abstract

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The Prospects of New Media Advertising In Sudan
With special reference to Mobile Marketing

Marketing experts consider the mobile device as an extremely promising marketing tool as it supports them to cope with their major challenge: getting time and attention from customers. By utilizing mobile advertising, companies can run marketing campaigns targeted to tens of thousands of people with a fraction of the costs and time compared to other direct marketing media.

This study aims to provide a comprehensive understanding of the advertising space and its influencing factors. First, the study investigates the factors that induce consumers to accept the mobile phone as a means of communicating promotional content, then; inspired by Fishbein and Ajzen’s (1975) Theory of Reasoned Action and a review of previous studies in the field, the study proposes a conceptual model for consumers' acceptance of mobile advertising in Sudan. Second, the study investigates success factors that influence mobile advertising from the marketer’s point of view and point out the important factors that contribute to implementing good campaign.

To investigate hypotheses and research questions, a survey was conducted in which 251 mobile users were recruited in Khartoum, the national Capital of Sudan. Factor analysis, multiple regressions, and Pearson correlation analysis are used to carry out
the required statistical analysis in this study. Consistent with most past studies in this area, most of the stated hypotheses were supported, while few ones were not.

The empirical results support the Theory of Reasoned Action confirming the links between attitude-intention, social influence-intention, and identify perceived usefulness as the strongest driver of acceptance of the mobile phone as an innovative medium for advertising content communication. The effect of perceived usefulness on attitude was greater than the effect of the other proposed factors, namely innovativeness, attitude towards advertising in general and subjective norms which were positively and significantly related to attitude toward mobile advertising. The findings from the marketer perspectives indicated that content, acceptance, reach, cost, permission as well as complementary factors are critical to ensure the success of SMS based campaigns.

In this research, mobile marketing has been limited to Short Message Service (SMS), as it is the only medium of mobile advertising used in Sudan. Thus, this leaves many opportunities and interesting research avenues to pursue. Therefore, future research need to cover other mobile marketing services like MMS, WAP, LBS and the area of mobile viral Marketing. The research concerning industry perspective was conducted at a singular point in time and consisted of only one round of data collection. The results were drawn solely from the interviewees’ perspectives and thoughts. A longitudinal study is also suggested in order to understand the sustainability of the Success Factors and how they may change over time.
المستخلص البحث
الهام حسن فتح الرحمن حاج مصروف
مستقبل الوسائل الإعلانية الجديدة في السودان
بالتركيز على التسويق عن طريق الهاتف النقال

يعتبر خبراء التسويق جهاز الهاتف النقال أداة تسويقية واعدة إذ يوفر لهم الدعم
الأزم لمواجهة التحدي الكبير والمتمثل في جذب اهتمام ووقت المستهلكين ويحمل إعلان
الهاتف النقال بشارة قوية كي يصبح الوسيط الأكثر استهدافًا والذي يوفر طرقًا جديدة
لإيصال الرسائل للمستخدمين. وعن طريق استغلال إعلانات الهاتف النقال فإن في
استطاعة الشركات القيام بحملات تسويقية تستهدف عشرات الآلاف من الناس وتتطلب
فقط جزء من التكلفة والزمن الذي تحتاجه وسائد التسويق المباشر الأخرى، وعليه تهدف
هذه الدراسة إلى تقديم فهم شامل لمجال الإعلان والمواقع المؤثرة عليه. أولا تقوم
الدراسة باستكشاف العوامل التي تؤثر على قبول المستهلكين للهاتف النقال كوسيلة من
وسائل إعلام مواد ترويجية وبعد ذلك تقوم بمراجعة الدراسات السابقة في المجال كي
تبني عليها الدراسة نموذجاً إätigرايا لقبول إعلان الهاتف النقال في السودان. ثانيا، تقوم
الدراسة باستكشاف عوامل النجاح التي تؤثر على إعلانات الهاتف، من وجهة نظر
المستخدمين (منشآي الأعمال)، وتشير إلى العوامل الهامة التي تساهم في تنفيذ حملات
نافعة وفعالة.

ولإنجاز هذا الغرض، طرعت هذه الدراسة واكتشفت عدا من العلاقات
والارتباطات وأبرزت نتائج تحليل البيانات التي استخدمتها. تم تمت صياغة فرضيات و
أسئلة للبحث. ومن أجل اختبار هذه الفرضيات واسئلة البحث، قامت الدراسة بإجراء
استبيان (مسح) تم فيه استطلاع رؤية 251 من مستخدمي الهاتف النقال في الخرطوم,
العاصمة القومية للسودان. ولقد استخدمت هذه الدراسة عدة طرق إحصائية منها تحليل العوامل، والانحدار المتعدد، وتحليل الارتباط الخطي (أيرسون). وفي إشارة للتوافق مع الدراسات السابقة، فقد تم قبول معظم فرضيات الدراسة، فيما تعرض القليل منها للرفض. وقد دعمت نتائج الدراسة التجريبية نظرية "الفعل المسبب" مثبتة بذلك العلاقة بين النتيجة.

- السلوك، والتأثير الاجتماعي – السلوك، وعرفت الفائدة المتوقعة كأهم دافع لقبول الهاتف النقال كوسبيع مبتكر لإيصال محتوى الإعلان. وكان تأثير الفائدة المتوقعة على السلوك أكبر من أثر العوامل الأخرى المفترضة، وهي الابتكار، والسلوك تجاه الإعلان عموما، والتأثير الاجتماعي والتي كان لها إرتباط موجب ومهم إحصائيا مع إعلان الهاتف النقال. أما النتائج من وجهة نظر المسوقين (منشآت الأعمال) فقد أشارت إلى أن المحتوى والتكلفة والقبول، مدى الوصول، واستدامة المتلقي وتكرار ورود الرسائل قد برزت كعوامل مهمة نحو ضمان نجاح حملات الإعلان القائمة على رسائل الجوال.

النصية.

اقترحت هذه الدراسة على التسويق عن طريق الرسائل القصيرة بالهاتف النقال ويوصى هذا البحث بدراسة الأنواع الأخرى المتقدمة للتسويق عن طريق الهاتف النقال كالتسويق عن طريق الوساطة المتعددة والإنترنت. كما يوصى البحث بدراسة العوامل الهامة للتسويق عن طريق الرسائل القصيرة في أوقات مختلفة لمعرفة مدى تأثيرها على ترتيب أهميتها مع الزمن.
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All praise is to Allah, the almighty and the only God that provided me with knowledge and health and blesses me with other things that I could not name or even realize.

Now that my four years of PhD research have finally materialized in this thesis, it is time to take a step back and see things in a bigger perspective. The past years went by in a blink of an eye, but still seem like a lifetime when I think of everything I have learned and experienced during this period. It is also the time to thank all those who supported me in the past years and contributed to this thesis in one way or the other. Sometimes the words “Thank you very much” are not enough for their kindness in trying to help one pass the obstacles to the goal that one wants to achieve. I would like to express my gratefulness to these people. My thesis would not have been possible without them.

Most of all, I would like to thank with all my heart my beloved husband for all his love, understanding, and caring support, who sacrificed a lot so I can achieve this degree. I would not have survived without your help and cheerful attitude.

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Finally, I would like to present my gratefulness and my great love to the memory of my father who stimulated me to learn new things ever since I was a child, and who gave me the opportunity to develop myself as much as I could. Who was still endlessly supportive and was always my mind-support when I had difficulties. It seems to me just like he was still alive! To his memory I dedicate this thesis.
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**List of Abbreviations**

1G: the first-generation refers to the analog telecommunications standards of wireless telephone technology.

2G: the second generation of wireless service refers to the digital mobile phone technologies delivering both voice and data transmissions.

3G: the third generation wireless service promises to provide high data speeds that enable full motion video, high-speed internet access and video-conferencing, and are measured in Mbps.


ADSL: Asymmetric Digital Subscriber Line

ATB: attitude toward behavior

ATT: Attitude Toward Advertising

ATMA: Attitude Toward Mobile Advertising

B2C: Business To customer commerce transactions

B2B: Business Two Business commerce transactions

BI: Behavior Intention

CDMA: Code division multiple access

CMP: Camera Mobile Phone

EK: Existing Knowledge

DF: Degree of Freedom

DSL: Digital Subscriber Line
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>E-commerce</td>
<td>Electronic Commerce</td>
</tr>
<tr>
<td>E-tools</td>
<td>Electronic Tools</td>
</tr>
<tr>
<td>GPS</td>
<td>Global Positioning System</td>
</tr>
<tr>
<td>GSM</td>
<td>Global System for Mobile Com</td>
</tr>
<tr>
<td>IN</td>
<td>Innovativeness</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>ISP</td>
<td>Internet Services Provider</td>
</tr>
<tr>
<td>LBS</td>
<td>Location Based Services</td>
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<td>m-advertising</td>
<td>Mobile Advertising</td>
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<td>m-commerce</td>
<td>M-commerce:</td>
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<td>MC</td>
<td>Mobile Commerce</td>
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<tr>
<td>MMS</td>
<td>Multimedia Message System</td>
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<tr>
<td>PSTN</td>
<td>public switched telephone network</td>
</tr>
<tr>
<td>PTT</td>
<td>Post, Telegraph &amp; Telephone Corporation</td>
</tr>
<tr>
<td>PU</td>
<td>Perceived Utility and Perceived Usefulness</td>
</tr>
<tr>
<td>SI</td>
<td>Social Influence</td>
</tr>
<tr>
<td>SIM</td>
<td>Subscriber Identity Module card</td>
</tr>
<tr>
<td>SMS</td>
<td>Short Message Service</td>
</tr>
<tr>
<td>SN</td>
<td>Subjective Norms</td>
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<tr>
<td>TAM</td>
<td>Technology Acceptance Model</td>
</tr>
<tr>
<td>TRA</td>
<td>Theory of Reasoned Action</td>
</tr>
<tr>
<td>TPB</td>
<td>Theory of Planned Behavior</td>
</tr>
<tr>
<td>VAS</td>
<td>Value Added Services</td>
</tr>
<tr>
<td>WAP</td>
<td>Wireless Application Protocol</td>
</tr>
<tr>
<td>WASP</td>
<td>Wireless Application Service Provider</td>
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<tr>
<td>WIMT</td>
<td>Wireless Internet via Mobile Technology</td>
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Chapter One
Framework of the Study

Businesses use a wide range of marketing communications to promote their companies, their products and services. Marketing communications are messages and related media used to communicate with a market including advertising, direct marketing, publicity, public relations, sales, sales promotion and electronic marketing. The objective of all of these is ultimately to achieve sales, so it is important to communicate effectively.

There are currently many different ways of marketing communications, by which marketers can reach their target audience. Options include traditional media such as broadcast media (television, radio), print media (newspaper & magazines), and outdoors media (billboards & posters).

Marketers are concerned with targeting their customers who might have an interest in the marketed product or service. Advertisers using traditional media typically generate low relative response rates. This requires targeting the masses, thereby increasing the response-to-advertisement ratio.
The evolution of the e-tools and related technologies provide marketers with new ways to communicate their product information to customers. The ongoing penetration of the new communication technology, such as internet, and recently, mobile phone, opens new opportunities to marketers to use these new media to advertise their goods and services.

New media advertising differ from traditional media advertising in many ways. Among the most salient characteristics are:

(1) Unlimited delivery of information beyond time and space,
(2) Unlimited amounts and sources of information, and
(3) The ability to target specific groups or individuals.

However, probably one of the most significant differences may be the interactivity of new media advertisements. What this interactivity implies for the media audience is that it confers them with the ability to "choose and respond" to a particular advertisement of their liking. This is especially important in light of the current shift in advertising strategy that favors the effectiveness of deriving maximum response from selected target groups over the efficiency of providing maximum exposure to many unknown audience groups with a minimum cost.
Since the new media is widely accepted as a medium breaking the traditional boundaries of media advertising, any attempt to distinguish between traditional media and the new media should include a broader base of understanding media audiences' needs and preferences. It is therefore easy to understand that electronic media advertising may differ from traditional advertising in its effectiveness for certain kinds of consumers and for certain kinds of advertisements.

The dramatic growth of the mobile phones in many countries compared with the internet, and the tremendous use of text messaging, especially among youth, promised to make big gains for advertisers to use this newly emerging advertising channel.

Rapidly developing technology capabilities and mobile devices adoptions have increasingly led to the expectations of a mobile commerce (m-commerce) revolution, similar in scale to the first wave of electronic commerce (e-commerce) experienced in the late 1990s. While technology capabilities have continued to expand, the mobile advertising is poised to make big gains.

Mobile advertising i.e. sending commercial messaging “SMS or MMS” to mobile devices, is a brand new phenomenon as
channels for advertising and have many new features and, therefore, opportunities in comparison with traditional media. Although mobile advertising is carried out mainly using SMS at present, in the near future the use of mobile internet and WAP advertisement will combine the voice, text, graphics and music, which represents an additional attraction for using mobile advertising.

The increasing use of mobile phones has created a new opportunity for precision marketing, Barwise and Strong, (2002) reported a penetration of mobile phones in the United Kingdom of 70%, and up to 80% for young adults (18-24 years). In addition, SMS (Short Message Service) text messaging is increasingly being used as a means of communication. According to various sources, more than 25 billion text messages are exchanged worldwide each month, with the United Kingdom being the second-largest European market, behind Germany. Barwise and Strong (2002) reported that 68% of mobile-phone owners use text messaging, and up to about 95% of young adults. This means that approximately half of the U.K. population and three-quarters of all young adults can be reached via text messaging. Similar numbers are to be expected in other regions and countries with the same rate.
The high penetration of mobile phones and text messaging combined with the low cost of text messaging makes this an interesting medium for precision marketing. However, experiments have indicated that advertising via mobile phones works only if it is permission based. Barwise and Strong (2002) reported that in the United Kingdom, 24% of mobile-phone users would agree to receive text-based advertising. Mobiles also allow sending advertising messages to customers so that they can read it at their ease, thereby increasing the chances that the ad will be acted upon. Moreover, the permission-based advertisement can be tailored to specific customers based on their profiles: age, gender, lifestyle, and explicitly expressed preferences in terms of products or services.

The high global penetration of mobile communication devices is only one indicator of the high potential of mobile marketing. Moreover, the specific characteristics of the mobile phone allow for marketing measures not realizable by the use of other media. A mobile phone is rarely used by any other person than its owner. It is thus always attributable to one single person allowing for highly personalized marketing measures. In addition,
most users maintain a very personal relationship with their mobile phone, regarding it almost as intimate accessory. Young users, especially, like to express their individuality by personalizing their mobile phone - choosing a particular brand, color, size, and display logo and ring tone. They continuously carry their mobile phones within reach and regard them as status symbol and an important part of their daily lives. For adults the mobile phone has likewise grown to become a highly personal utensil. They also individualize their mobile phone by saving contacts, messages and important dates. Furthermore, the SIM (Subscriber Identity Module) card allows for the exact identification of each mobile phone and its user. The mobile phone therefore appears to be the ideal medium for direct and personalized customer communication. Using the mobile medium for communication also enables the advertiser to contact potential customers anytime and anywhere. Mobile phone users typically have their devices with them at all times and may leave them on standby for an average of 14 hours a day.

An additional aspect of the mobile phone that lends itself to effective mobile marketing is interactivity. The mobile phone is a highly interactive medium that enables the recipient of a message to
reply to it immediately. Interactive media exhibit a bi-directional mode of communication enabling the recipient to affect the communication process actively. As such, the mobile phone exhibits all characteristics necessary to establish a direct dialogue between the advertiser and the potential customer.

1.1. Research Problem

The research problem of this study is the late adoption of individuals and organizations in Sudan of the mobile text messaging advertising. The main research question addressed in this thesis has involved the need to increase the understanding of the important factors that could influence the adoption and usage of mobile advertising in Sudan. Hence, this study represents the first attempt to identify the factors that may affect mobile marketing adoption in Sudan. The study is, therefore, undertaken with the primary aim of identifying, examining and providing an understanding of the factors that could explain the attitude behavior towards using mobile advertising. This is done in order to provide solutions to the problem of under-utilization, or lack of use of mobile marketing in Sudan as detected in the preliminary work by
the researcher which revealed a lack of knowledge and understanding on the part of both managers and consumers of the existing of such use of the mobile advertising.

1.2. Objectives of the Study:

With the emergence of high-speed wireless network technologies and the increasing market penetration of mobile phones, the global advertising industry's interest in using this medium as a means of marketing communication is rising. However, in spite of the increasing number of companies investing in mobile marketing campaigns worldwide, there is, yet, little academic research on this topic and the nature and implications of this channel in less developed countries are not yet fully investigated. This research attempts to help in bridging this gap, especially in Sudan.

The Purpose of this study is to gain an understanding of the issues related to the prospects of mobile advertising as an acceptable advertising media in Sudan more specifically the main objectives of this study are:
1. To examine to what extent consumers respond to the use of the new media such as mobile as a source of advertising information in Sudan, (as a representative of a developing country).

2. To recognize the factors associated with the intention of consumers to receive mobile advertising to identify a model for use in determining a user acceptance and willingness to use mobile marketing.

3. To identify the effect of age, gender, level of education on consumers’ intention to accept receiving advertising messages in their mobile phones.

4. To investigate the actual practice of mobile marketing in Sudan and shed light on the marketer point of view in using mobile marketing as new advertising media.

5. Outline success factors, which propose opportunities for individuals and organizations to uncover unseen problems, thereby improving the use and acceptance of mobile marketing in Sudan.
1.3. Research Questions & Hypotheses:

As the preceding paragraphs illustrate, mobile marketing communication is an emerging phenomenon that may involve an ocean of unsolved research questions.

The purpose of this study is to contribute to our understanding of central theoretical and pragmatic issues related to the application of the mobile marketing communications in consumer markets. More specifically, the main aim of this study can be divided into five specific research questions:

(1) How do consumers perceive mobile advertising?

(2) What are the most important factors affecting positive or negative attitudes towards mobile advertising messages?

(3) How does gender, age, level of education affect consumers’ responses to mobile advertising?

(4) How do marketers perceive mobile advertising?

(5) What factors are associated with the success of mobile advertising messages?

Figure 1.1 illustrates how these research questions are related to each other and how they relate to the aim of this study.
The research questions were chosen in order to contribute to research accomplishments on mobile marketing communication by exploring the theoretical and empirical foundations of the mobile marketing phenomenon. Thus, nature of mobile marketing in Sudan is reviewed, analyzed and examined from the consumers’ perspective (RQ1). Then, factors affecting consumers’ intention to receive mobile advertising messages and the effects of gender, age,
and education level on consumers’ responses to mobile advertising campaigns are examined (RQ2 & RQ3). Finally, mobile marketing is examined from the company’s or marketer’s point of view (RQ4 & RQ5).

More formally, the hypotheses of this research were assumed as a part of the task of providing answers to the research questions and the research problem of the study. Thirteen hypotheses are stated, which are as follows:

H1: Personal innovativeness positively influence the attitude toward mobile marketing
H2: The Existing knowledge about mobile communications positively influence the attitude toward mobile marketing
H3: The attitude toward advertising in general positively influence the attitude toward mobile marketing
H4: The perceived utility of mobile marketing positively influence consumer attitude towards mobile marketing.
H5a: Perceived Risk of mobile marketing negatively influence consumer's attitude toward mobile marketing.
H5b: Permission and control of mobile marketing negatively influence attitude toward mobile marketing.
H6: subjective norms concerning the adoption of mobile marketing positively influence behavioral intention to adopt mobile marketing.

H7: Attitude toward mobile marketing positively influences consumer behavioral intention to adopt mobile marketing.

H8a: The influence of independent variables on attitude towards mobile marketing is moderated by age.

H8b: The influence of independent variables on attitude towards mobile marketing is moderated by gender.

H8c: The influence of independent variables on attitude towards mobile marketing is moderated by education level.

H8d: The influence of independent variables on behavior intention is moderated by age.

H8e: The influence of independent variables on behavior intention is moderated by gender.

H8f: The influence of independent variables on behavior intention is moderated by education level (logical arguments and formal derivation of these hypotheses are stated in Chapter 3)
1.4. Significance of the Study

This study derives its significance from the potential of using the new media in advertising. It is widely believed that the new media especially mobile marketing, or advertising via text, voice, or picture messaging, will become more important in the future as a means of direct marketing. Instead of mass advertising a product or service, new media marketing allows targeting well-identified potential customers based on their current location, thereby increasing the response-to-advertisement ratio. Given the high penetration of mobile phones and the relatively low cost of sending text messages worldwide, this becomes an interesting medium for telemarketing.

In other words, this study derives its significance from two main factors. First, the media industry has been under-going transitional changes due to the convergence between new communication technology and existing media. This convergence has brought up many unknown factors that might result in conflicts or might be complementary to the use of traditional media. Second, advertising represents the main cost item for the companies so the potential for finding an effective, less expensive, more personal,
highly distributed way to reach their customers in combination with other media might expand marketing opportunities for advertisers. Therefore, it has become important to understand the dimensions of SMS users' perceptions and preferences relative to the use of different media before a marketing strategy is developed. Therefore, the importance of studying acceptance and adoption of mobile marketing could be summarized as follows:

1.4.1. Importance for providers:

Understanding the drivers of adoption can give an idea to service providers or designers on how to tailor particular services so that they will be used by the customers. It can also contribute to better and deeper understanding of consumers’ needs and expectations. In this way, vendors will be able to differentiate themselves from the competitors in form of how mobile services are designed for customers’ particular needs. In addition, more customized, specific or better tailored services that meet customers’ needs and expectations will enable providers to deliver superior customer experience. This in turn can have a positive effect on customer satisfaction and loyalty. If a provider manages to achieve all this, the competitive advantage can increase together with
positive effect on market share and increased revenues as a result of deeper understanding of how customers adopt the technology and/or services.

1.4.2. Importance for customers

As for a customer himself, understanding of motives for adoption of technology or services can increase the customer’s awareness of his own motives for the use of mobile services. Being aware of own motives, customer can choose better and more deliberately, technology or services that fits to his individual needs. It will also enable customer to make smarter choices from the pool of different mobile services. Thus, customer will not only be more satisfied, but can spare resources such as time and money, which were wasted on bad choices before, by choosing appropriate service right away.

1.5. Contributions of the Research

This research sets out to make contributions to knowledge as follows:

1. It provides a big picture of relevant aspects of mobile marketing communications in general and in Sudan in particular.
2. It provides information regarding how to make full use of the SMS advertising messages in promoting goods and services.

3. The study contributes significantly to the global understanding of technology acceptance through the development of the research model in a less developed country such as Sudan. This study presents the “Mobile Marketing Acceptance Model”, using Sudanese mobile users’ actual usage and their intention to use the Mobile Marketing by testing and verifying the theoretical framework along with practical applications in the environment. This outcome is expected to be useful from an academic or scholarly standpoint and will enable other research studies in Sudan and also in other similar countries.

4. It provides a relatively clear description and understanding of models and theories of technology acceptance that has been produced from theoretical and practical viewpoints.

5. It provides the overall picture and details of mobile marketing implementations in Sudanese companies. It is hoped that the study will contribute to wider understanding regarding the mobile marketing usage of Sudanese consumers including their attitudes and intentions to accept mobile marketing in the future.
6. It illustrates the effects of some factors that influence the attitude of Sudanese mobile users that mediate their intentions to adopt advertising messages, and other moderators on the influence of key determinants toward usage behavior and behavior intention.

1.6. Organization of the Research:

Chapter one is an introductory chapter, which provides a brief introduction to the framework of the study along with the research problem. The chapter also outlines the objectives of this study together with the significance, contributions, and the structure of the study.

Chapter two presents telecommunication industry in Sudan, background of the telecommunications, the main market player and the services they present.

Chapter Three comprises two parts the first part gives a presentation of the concepts and overview of mobile marketing including the definition of mobile marketing, its technologies, types of campaigns, and the factors affecting its success as marketing
tool. The second part reviews and examines the literature related to the theories and prominent models of technology acceptance as well as Technology adoption and usage within the contexts of study of mobile marketing as new technology.

**Chapter Four** proposes a theoretical framework which is comprised of key determinants that are expected to influence behavior intention of mobile users in Sudan, together with the moderators that are expected to moderate the influence of these key determinants. Then the research hypotheses are proposed.

**Chapter Five** presents the research methodology and methods as well as the justification of choices of the methods and uses. In addition, the research process, design, development of the model instrument, pilot study, population, sample and data collection, data analysis methods, and data management of multivariate analysis are presented.

**Chapter Six** presents the main data analysis related to testing and developing the model of mobile marketing acceptance, as well
as, the analysis of managers' overview of mobile marketing in Sudan.

**Chapter Seven** highlights the key findings and the mobile marketing Acceptance Model. In addition, the research implications including theoretical and practical aspects are discussed along with the limitations of the study and suggestions for further research.
1. Introduction

2. Telecommunication Industry in Sudan

3. Conceptual Framework and Literature Review


5. Research Design & Methodology

6. Data Analysis & Results

7. Summary, Conclusion & Recommendations

Figure 1.2: Structure of the Study
Chapter Two

Telecommunications Industry in Sudan

The mobile phone is not only the fastest growing technology in the world; it's also the most widespread. Mobile subscribers will continue to grow rapidly, according to Portio Research centre; in 2009 the mobile subscribers worldwide reached 4.6 billion, expected to reach 5.8 billion in 2013. No other media channel offers anything like this reach. The International Telecommunications Union Report (2002) stated that at the end of 2008, there were more than three times as many mobile subscriptions than fixed telephone lines. The number of mobile phone subscribers in the world already surpassed landline telephone subscribers and is still growing. The total number of estimated mobile phone subscriptions in 18 Arab countries stood at 200 million in 2009, whereas fixed line subscribers across 15 Arab countries declined 4.6 per cent over nine months, from 29.2 million at the end of December 2008, to 27.8 million as of the end of September 2009, according to a report by Arab Advisors. The report analysed 20 fixed line providers operating across 15 Arab markets. In sharp contrast, the number of
Internet users in the 18 Arab countries stood at just 57.4 million in 2009 (Arab Advisor, 2009).

The rapid penetration of mobile phones does not come as a surprise to market insiders. The advantages and benefits of mobile phone nowadays are many, including reduced subscription costs and lower priced handsets and accessories. Additionally, mobile phones are becoming increasingly more sophisticated and versatile; offering value added services that go beyond mere communication functions.

The current number of mobile subscribers is still minimal for the vast Middle East and North Africa region. The recent launch of the Multimedia Message Service (MMS) using the Wireless Application Service Provider (WASP) platform heralds further growth for the mobile phone industry. This new technology allows pictures, graphics and videos to be delivered to mobile phones, opening new possibilities in the field of information and entertainment. (Info2cell.com, accessed 2007)

In terms of mobile phone service feature usage, Short Message Service (SMS), and multimedia services (e.g. download picture, photos, and videos) have been increased dramatically. Since 2001
more than 350 billion SMS messages were sent worldwide in a single year and use of multimedia services have now reached one third of multimedia phone users.

2.1. **Historical Background of Telecommunications**

Telecommunications began in Sudan in 1859, using wired communications in Sawakin town on the Red Sea coast, eastern Sudan; it was there that Britain established a line to link the Sudan to its other colonized countries in Central and Northern Africa and as far as India. In 1866, telegraph lines were set up linking Egypt and Sudan during the Turkish rule which were expanded to more than 3,000 miles (Sudatel website).

The first land telephones were installed in 1897 coinciding with the establishment of the Sudan Railway Corporation network. However, there was a further rapid growth when wireless telephones were introduced in 1919 and telephone centers were established in different Sudanese towns.

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1 This historical background section relies heavily on the material presented in Sudatel Company website, [http://www.sudatel.sd/ien/atopic/?artID=5108](http://www.sudatel.sd/ien/atopic/?artID=5108)
In 1927, Khartoum’s telephone centers had a capacity of 600 lines. Later in the same year, telephone networks in the South of Sudan were also established. However, it was not until 1948 that a main trunk line was established between Khartoum and Cairo. Following which there was an expansion linking international trunk communications with the USA and Switzerland in the same year.

From the period 1956 – 1964, a number of isolated automatic call centers were established in remote areas. Gradually, the general telephone network distributed into many Sudanese towns until the modernization of the Khartoum network took place in 1970 and opened up the way for the introduction of the Microwave network connecting many Sudanese towns, and making direct communication possible, whilst providing a better and improved service for the broadcasting of the television and radio stations.

In 1974, satellite stations were installed in Um Harass and at that time the telecommunication’s traffic was managed by the General Post Office but was later transferred to the Wire and Wireless Corporation in 1970 recognized as the national body for wire and wireless telecommunication in 1987. Until 1994 the
communication was dominant by PTT (Post Telegraph & Telephone Corporation) as fixed line operator, under privatization process. Sudatel becomes public company. The huge jump of telecommunication in Sudan was introduced by Sudatel Telecommunications Company, established in 1993 with a monopoly until the creation of Canar in 2005. The number of subscribers of Sudatel has declined rapidly throughout the last couple of years and only amounted to 507,584 in 2006 while Canar accounts for 71,636 subscribers.

Sudatel was the first internet provider followed by Canar Telecommunications, which launched Sudan’s second fixed line network in January 2006. The operator currently provides voice; data and broadband Internet based on next-generation network and CDMA technologies and introduced the wireless internet service for individual and businesses.

2.2. Sudan’s Communications Markets

The National Telecom Corporation (NTC) is the regulatory body in charge of telecommunication services in Sudan. The NTC was established under Telecom Act 2001, and aims at promoting and regulating the telecom sector to conform to developments and
globalization. Moreover, the NTC oversees the connectivity among the licensed telecommunication public networks, and is currently managing the National Numbering plan and information programs on key issues affecting Sudan’s telecom markets.

The NTC is reportedly still working on reforming and updating the telecom and competition laws of the country. Currently, the market is increasingly more competitive with competition in the fixed and cellular markets. The fixed services market in Sudan (including fixed voice, Internet and Data communication services) had a new operator in late January 2006. Canar, a consortium led by UAE’s Etisalat, launched its fixed services based on wireless technologies. On the cellular side, the market hosts three cellular service providers: Mobitel, MTN Sudan (previously Areeba Sudan) and Sudatel (through its new cellular CDMA network). MTN ended the monopoly of Mobitel in July 2005 when it launched its services. Later the same year, Sudatel finalized its CDMA cellular network, commercially named “Sudani”, and started its operations limitedly in late 2005.

The fixed line market in Sudan is very small, in both absolute and relative standards. During 2005, the fixed line market in Sudan
declined sharply. The number of fixed line subscribers dropped by half from more than 1.1 million to 570,000 by the end of 2005. Sudatel explains the drop as related to the withdrawal of a lot of lines from service, in addition to not counting the lines used for receiving calls only in the published figure. With such a status, according to the Arab Advisors Group fixed services market has ample room for significant growth especially as oil revenues gear the Sudanese economy for higher growth in the coming years.

The Sudanese cellular market has been growing at an impressive rate over the past few years. By June 2005, and closely before the launch of MTN Sudan’s services, Mobitel managed to add a new 400,000 subscribers, to stand at 1.4 million subscribers. This had a sharp reflection on the penetration rate, which leaped from 2.89% by year end 2004 to 4.12% by June 2005.

Upon launching, MTN-Sudan limited its services to one postpaid package. Close to yearend 2005 the new entrant launched its two prepaid packages, which were reasonable in a more-than-95%-prepaid market. Those two packages turned to be a “late” success for the new entrant. By the end of 2005 (that is 5 months of
operation) MTN added 269,000 subscribers, that is 26.1% of total market additions. This subscriber base was 99.2% prepaid.

2.2.1. Landline Market: Operators’ Profiles

- Sudatel

Sudan Telecommunications Company (Sudatel) is the country’s incumbent fixed telecom operator. Sudatel was established in 1993 as a public shareholding company following the privatization of the Public Telecom Corporation. The Sudanese government had decided that privatization was needed for properly developing this vital telecom sector. Sudatel commenced operations in February 1994, as a public shareholding company owned by the government, local investors and foreign investors. When Sudatel started operating in 1993, the government owned the majority of shares (67%). Over the years that followed until the end of September 2006 the government share was gradually reduced to 26%, with the majority of shares owned by private and/or foreign investors including UAE’s Etisalat, Qatar’s Qtel, Bank of Sudan, and Dubai Islamic Bank. Sudatel’s paid-up capital until December 31, 2005 was US$ 660 million, with an authorized capital of US$
750 million (i.e. the company can raise its paid up capital to US$ 750 million).

**Sudatel Investments**

Until February 2006, Sudatel largest investment was in Mobitel, its cellular subsidiary. Sudatel owned a 61% share in the Sudanese Mobile Telephone Company, known as Mobitel, while Celtel (Kuwait’s MTC Group’s African subsidiary) owned the remaining shares. On February 6, 2006, MTC announced that it successfully concluded the acquisition of 61% of Mobitel from Sudatel increasing its stake in Mobitel to 100%.

The exhibit below shows Sudatel’s investments as reported by the end of 2005.

Through its two subsidiaries, **Sudani** and **Datanet**, Sudatel provides its internet and data communication services. Sudanet was established in 1996 and started its services in 1997. In 2005, Sudatel increased its ownership in Sudanet to 100% from 51% (the remaining 49% had been owned by several investors including Civil Aviation Authority and Sudan Television “International Channel”). Sudanet’s services include subscription, free Internet service via phone lines, email and virtual email accounts services,
in addition to web hosting. As for Datanet, it was established in 1999, and is 99.9% owned by Sudatel. Through Datanet, Sudatel offers Asymmetric Digital Subscriber Line (ADSL) services and performs data communications connectivity projects in the country. It is noteworthy that Sudatel itself provides leased line services directly to customers.

Table 2.1: Sudatel’s Investments by the End of 2005

<table>
<thead>
<tr>
<th>Company</th>
<th>Sudatel Investment (US$ millions)</th>
<th>Sudatel % ownership</th>
<th>% of total Sudatel investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobitel</td>
<td>36.2</td>
<td>61.0%</td>
<td>72.5%</td>
</tr>
<tr>
<td>Arab Cables</td>
<td>9.21</td>
<td>46.0%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Thuraya Satellite-Cellular services</td>
<td>1</td>
<td>20.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Rancom</td>
<td>1.19</td>
<td>6.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>SudaNet</td>
<td>1.12</td>
<td>99.9%</td>
<td>2.2%</td>
</tr>
<tr>
<td>DataNet</td>
<td>0.77</td>
<td>99.9%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Financial services co.</td>
<td>0.47</td>
<td>30.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>49.96</strong></td>
<td>-</td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Figure 2.1: Sudatel’s Investments by the End of 2005

Alternate text: Sudatel’s Investments by the End of 2005

Mobitel: 36.2 US$ millions, 61.0% ownership, 72.5% value
Arab Cables: 9.21 US$ millions, 46.0% ownership, 18.4% value
Thuraya Satellite-Cellular services: 1 US$ million, 20.0% ownership, 2.0% value
Rancom: 1.19 US$ million, 6.1% ownership, 2.4% value
SudaNet: 1.12 US$ million, 99.9% ownership, 2.2% value
DataNet: 0.77 US$ million, 99.9% ownership, 1.5% value
Financial services co.: 0.47 US$ million, 30.0% ownership, 0.9% value

Total: 49.96 US$ million, 100.0% value

Note: Mobitel is not part of Sudatel investments anymore; in January 2006, Sudatel sold its shares in Mobitel to HTC Group – Kuwait.
Source: Sudatel
Sudatel Services

Sudatel offers the following services:

- Fixed voice telephony (PSTN).
- Wireless local loop telephone (WLL).
- Rural communications, including rural wireless networks and VSAT networks.
- Internet services.
- Data transmission services.
- Prepaid cards service.
- Public telephone services (payphones).
- International communication services.
- Multimedia services.

- Canar Telecommunication Co. Ltd

In November 2004, Canar, a consortium led by UAE’s Etisalat, won the second fixed line license in Sudan. The consortium paid US$ 53.3 million for the license, coming ahead of offers from Telecom Egypt and Tamara, a consortium of Korean companies. The license, issued in early January 2006, is valid for 15 years and gives Canar a duopoly guarantee for 6 years. On
November 27, 2005, Canar announced the official launch of its network as Sudan’s second fixed line operator.

UAE investors are the majority owners of the new operator with a 72% share (including Etisalat’s 40%) while Sudanese investors own the remaining 28% stake. Etisalat manages, operates and maintains the Canar network. The agreement is similarly structured to the deal put together by Ettihad Etisalat, the Etisalat-led consortium that won the Saudi second GSM license.

Figure 2.2: Canar Shareholders Breakdown

Source: Arabs Advisor report 2007
Canar Services

The services portfolio of Sudan’s new fixed operator includes:

- Voice telephony services
- DSL broadband
- Wireless Internet and data
- International Business Services

Canar splits its services into two streams: Residential and Business. Both streams include packages with bundled voice and Internet services in a prepaid and postpaid scheme.

2.2.2. Cellular Market: Operators' Profile

Mobitel served the market as the monopoly cellular operator (and as a subsidiary of the incumbent Sudatel) since 1997. In 2005, MTN Sudan (known as Areeba Sudan by that time) entered the market. Later that year Sudatel started its new project, a cellular CDMA "Code Division Multiple Access" network commercially named “Sudani”. “Sudani” started limited operations by end of 2005 as the third cellular operator in Sudan.

Following is a detailed look at each of the operators.
- **Mobitel (ZAIN)**

  Established in 1996, Mobitel launched its service in April 1997 as the first cellular operator in Sudan, purely offering postpaid service at first to follow it with the prepaid service in 1999.

  Figure 2.3: Mobitel Ownership Structure

  ![Mobitel Ownership Structure Chart](image)

  Source: Arab Advisor Group 2007

**Mobitel Services:** the services offered by Mobitel include:

- Postpaid packages
- Prepaid packages
- Short messaging service (SMS) and Bulk SMS

  Mobitel SMS is available for both prepaid and postpaid clients and can be sent locally or internationally. In addition, Mobitel offers its enterprise clients a Bulk SMS service, which enables sending promotions or announcements to customers.
Value Added Services (VAS)

Mobitel offers a wide variety of VAS other than the basic VAS usually offered such as SMS banking service. Moreover, the operator provides SMS news from several sources such as Al Jazeera, AlArabiya, and SUNA (Sudan News Agency). However, due to the lack of General packet radio service (GPRS), Wireless Application Protocol (WAP) and Internet-via-mobile services, the downloading services is still limited to basic content such as monophonic ringtones.

- Mobile Telephone Networks (MTN) Sudan (previously Areeba Sudan)

  MTN Sudan (previously Areeba Sudan) won a 15-year mobile license on October 25, 2003 in a tough competition with Orascom Egypt, Diamond Company (a Local Sudanese Co.), and a consortium led by the Yemeni Sabafon (part of Hameed AlAhmar Group). MTN Sudan officially launched its cellular services, in competition with the incumbent Mobitel, on July 13, 2005.

  MTN Sudan is a consortium combining MTN Group (a multinational telecommunications group operating in Africa and the Middle East, launched in 1994) and LarryCom Investment (a local investor). MTN’s brand name replaced the older one (Areeba of
Investcom) when MTN acquired Investcom LLC in May 2006. The MTN Group Limited and Investcom LLC (Investcom) announced a deal to create a massive mobile operator in the emerging markets of Africa and the Middle East. The MTN Group acquired the entire issued share capital of Investcom, which is listed in Dubai and London, for a total of US$5.526 billion.

Figure 2.4: MTN Sudan Ownership after may 2006

![Pie chart](attachment:image.png)

Source: Mobile Telephone Networks (MTN) Sudan

- **MTN Sudan Services:**

The services offered by MTN Sudan include:

- Pay Monthly-Postpaid Cellular Service
- Pay As You Talk - Prepaid cellular Service
- Value Added Services (VAS)
MTN Sudan provides its prepaid and postpaid users with an array of Value Added Services (VAS) which are entirely basic and mostly free of charge. MTN Sudan still does not provide any multimedia based VAS.

- **Sudatel’s CDMA Cellular Network - Sudani**

As a strategic move after selling its stake in Mobitel (now wholly owned by Kuwait’s MTC Group), Sudatel started a new cellular network based on Code Division Multiple Access (CDMA) technology. Sudatel concluded the main part of the network by end of 2005 and already started offering the service.

Upon limited launch in late December 2005, the network covered a total of 155 sites in Greater Khartoum Governorate, scattered as follows: 32 in Al Khartoum Bahri (Khartoum North), 57 in Um Durman, and 66 in the City of Khartoum. All over Sudan, Sudani network covers 37 sites in AlJazeera Governorate, 4 cities in Greater Kurdafan, 16 cities in White and Blue Nile, 3 cities in Greater Darfour, 5 cities in Nile River Governorate, 3 cities in the Northern Governorate, 3 cities in Southern Governorate, and 18 sites in the Eastern Governorates. The cellular CDMA network,
commercially named “Sudani Network”, supports the following services:

- Cellular prepaid and postpaid voice services
- Broadband Internet services
- SMS services
- Virtual Private Network (VPN) services
- Push-to-Talk (PTT) services
- Wide Area Network (WAN) services
- 3G services

In addition, Sudatel offers Sudani users the following VAS:

- Caller ID service
- Call transfer in the following case
- Incoming call notification during call in process.
- Conference call
- Voice mail services

“Sudani” started a prepaid usage scheme and was kept so until the third quarter of 2006. In September 2006, Sudatel added the postpaid cellular CDMA service to the prepaid service.
- Thuraya Satellite Cellular Services

On January 14, 2004, Thuraya and Sudatel announced the formation of Thuraya-Sudatel, a new joint venture telecommunications service company in Sudan. The new company, a satellite telecom service provider is responsible for the sales of Thuraya satellite mobile phones and fixed line public telephone utilities across Sudan. Furthermore, it extends Thuraya’s services throughout Sudan providing mobile, fixed and rural satellite telephony. The new entity had an initial capital of US$ 2.5 million. While Thuraya holds 80% of the capital, Sudatel holds the remaining 20%. As part of the joint venture agreement, the new company is responsible for all sales, distribution, marketing and customer support activities for Thuraya services in Sudan. Thuraya-Sudatel targets selling close to 40,000 phones in the first five years of operation.

Thuraya Services include:

- Satellite telephony
- GSM cellular telephony
- GPS services
- SMS short messaging services
- Fax and Data transfer

In addition to the above, Thuraya service portfolio contains number of value added services, such as: Caller ID, Call hold, Voice mail. etc

In a vast geographic area like Sudan, coupled with terrestrial cellular coverage that does extend to the whole population, satellite-based services have an opportunity to fill the gaps. This certainly explains the cooperation between Sudatel and Thuraya.

2.3. Sudan’s Cellular Market Status

The Sudanese cellular market has been growing at an impressive rate over the past few years. Serving the market alone prior to competition, Mobitel reached the 1million-subscriber milestone by end of 2004. By June 2005, and closely before the launch of MTN Sudan’s services, Mobitel managed to add a new 400,000 subscribers, to stand at 1.4 million subscribers (which are predominantly prepaid users) recording a growth rate of 40% within the first 6 months of 2005. This had a sharp reflection on the penetration rate, which leaped from 2.89% by year end 2004 to 4.12% by June 2005.
MTN-Sudan officially launched its cellular services in competition with the incumbent Mobitel on July 13, 2005, kick starting its services in Greater Khartoum. Upon launching, MTN-Sudan limited its services to one postpaid package. Close to yearend 2005 the new entrant launched its two prepaid packages, which was reasonable in a more than 95% prepaid market. Those two packages turned to be a “late” success for the new entrant. By the end of 2005 (that is 5 months of operation) MTN added 269,000, that is, 26.1% of total market additions. This subscriber base was 99.2% prepaid. The exhibit below portrays the market status in numbers.

By end of Q3 2006, the Sudanese cellular market leaped far from its status at year end 2005. The market added more than one million new subscribers to stand at a total of 3.3 million. Within the first nine months of 2006, Mobitel added 56.0% of total market additions. This made an absolute 662,000 new subscribers, lifting the operator’s subscriber base to more than 2.46 million (which is almost 2.5 times the figure of 2004). MTN Sudan, meanwhile, added a slightly lower figure of 520,000 subscribers, yet reflected a
better share of total market additions (44.0%) when compared to the operator’s performance between launch date and the end of 2005.

In terms of market shares, Mobitel is still in the lead being the incumbent with the largest cellular subscriber base. Mobitel’s market share stood at three quarters of the total market (75.7%) by end of Q3 2006. Meanwhile, MTN Sudan’s market share reached 24.3% by the end of September 2006, up from 13% by end of 2005. The Arab Advisors Group believes that MTN Sudan’s late introduction of prepaid packages -in a 96% prepaid market- affected its performance during the first few months of its operations. The prepaid service allowed MTN to improve its performance throughout 2006 (obvious in a higher share of total market additions and a higher market share). The operator’s prepaid subscriber base is 99.6% of its total. Between 2003 and 2004 the Sudanese cellular market made its first record growth. By end of 2004, Mobitel –the monopoly operator back then- managed to reach the 1-million benchmark, elevating from a bit more than half a million by the end of 2003.
During 2005, and as a result of competition introduced (as MTN launched its services in July 2005), the total market doubled its subscriber base to stand at nearly 2.1 million by the end of December of that year. This had sharp reflection on cellular penetration, which leaped from 2.9% by end of 2004 to 5.9% in yearend 2005 (yet still low relative to regional and absolute standards) (Arabs Advisor report 2007).

By the end of 2008, there were 11.745mn mobile subscribers in Sudan, giving a penetration rate of just over 30% shared between the 3 mobile companies: Zain (Mobitel previously) with 6,734,000 subscribers, MTN Company(Areeba previously) with 3,395,000 subscribers and Sudan Company recently established with 4,000,000 subscribers.
Sudan Telecommunications Report Q2 2010 (Published by: Business Monitor International) estimate that Sudan had almost 16.8mn mobile customers at the end of 2009, up from nearly 15.6 mm at the end of September. It appears that the market grew by around 40% in 2009 and reached a penetration rate of 42.6% at the end of the year.

Table 2.2: Mobile Subscribers in Sudan (2009)

<table>
<thead>
<tr>
<th></th>
<th>No of mobile Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zain</td>
<td>6,734,000</td>
</tr>
<tr>
<td>Sudani</td>
<td>4,000,000</td>
</tr>
<tr>
<td>MTN</td>
<td>3,395,000</td>
</tr>
<tr>
<td>Total</td>
<td>11,745,000</td>
</tr>
</tbody>
</table>

Source: Zain, Sudani, MTN

Table 2.3: Telecommunications Market Players in Sudan:

<table>
<thead>
<tr>
<th></th>
<th>MTN</th>
<th>Zain</th>
<th>Sudani</th>
<th>Sudatel</th>
<th>Canar</th>
</tr>
</thead>
<tbody>
<tr>
<td>date</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subscribers</td>
<td>1.8m</td>
<td>3.2m</td>
<td>1.7m (est.)</td>
<td>150K (est.)</td>
<td>132K (est.)</td>
</tr>
<tr>
<td>Suppliers</td>
<td>Ericsson</td>
<td>Ericsson</td>
<td>Huawei</td>
<td>Ericsson</td>
<td>Huawei</td>
</tr>
<tr>
<td></td>
<td>Alcatel</td>
<td>n</td>
<td></td>
<td>Huawei</td>
<td></td>
</tr>
<tr>
<td>Coverage</td>
<td>15 cities</td>
<td>Most northern</td>
<td>Most northern</td>
<td>17 main</td>
<td></td>
</tr>
<tr>
<td></td>
<td>36 towns</td>
<td>45,538 km2 of cities &amp; 3 main cities</td>
<td>cities &amp; villages</td>
<td>main</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sudan</td>
<td></td>
<td></td>
<td>cities</td>
</tr>
<tr>
<td>Shareholders</td>
<td>MTN (85%)</td>
<td>Sudatel (26%)</td>
<td>Government (26%)</td>
<td>Etisalat (40%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Larrycom Company Ltd (15%)</td>
<td>Private (74%)</td>
<td>Private (74%)</td>
<td>Private (60%)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Mobile Telephone Networks- MTN - 2007
2.4. Internet in Sudan

In 1996, Internet was introduced in Sudan by the Sudan Internet Services Co. Ltd. (Sudanet), with 128 Kbps Bandwidth capacity. In early 1998, the Sudan Telecom Co. Ltd. (Sudatel) introduced its internet service in the country as a value added service to its basic fixed telephony services, with 265 Kbps Bandwidth capacity.

In June 1998, an agreement was reached between Sudatel and Sudanet. By this agreement, Sudanet becomes the only internet Services Provider (ISP) in Sudan. Sudatel opened its Internet service provisioning to other potential service providers, the enterprise and universities sectors using its existing data communication infrastructure. (Sudan Internet Society “SIS” 2003)

Internet access is available in the main cities and towns. The estimated number of internet Users is 4,200,00 by the end of 2009, Sudan houses 23 Internet Service Providers, and there are 1900 DSL internet subscribers and 2026 Broadband (source Novatech-Africa The ICT Africa marketplace 2007)

Table 2.4: Internet and Mobile Subscribers in Sudan (end of 2009)

<table>
<thead>
<tr>
<th></th>
<th>internet</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users</td>
<td>4,200,000</td>
<td>11,745,000</td>
</tr>
</tbody>
</table>

Source: the researcher own data
2.5. Advertising in Sudan:

Despite steady economic development witnessed by the Sudanese economy during the past few years, especially after the commercial production and exporting of oil and its positive impact on economic growth. The growth rate of the advertising industry is not as was expected under the circumstances. Advertising market in Sudan is dominant by the telecommunications companies which face a tough competition. The problems of advertising in Sudan are many, but the most important one is the lack of national qualified companies that meets the international standards. The advertising
industry is most in need of experience and technical competence, particularly with the entry of modern technology and sophisticated new media. That requires local advertising companies to use more training and development of their advertising techniques and adopt modern technologies.

2.6. The advertising Media Used in Sudan:

The following section provides broad outline of the advertising media in Sudan. It represents a rough – of the existing media tools without including in any detailed analysis of the available media.

- Television:

  There are about seven satellite channels encompassing Sudan TV which is the official national public channel, Blue Nile, Ashoroq, Harmony, Zoal, Sahoor, Taybia and Gutoof channels which are private owned. Those TV channel's which are the most popular outlet dominated by advertisement from communication, food, beverages, and furniture companies.
- **Radio:**
  There are about three radio stations which are Radio Omdurman the official public station and two private stations which are Alkawthar FM, Mango FM and Alrabia FM. 100.

- **Newspapers and Magazines:**
  There are about 25 newspapers in Sudan the most of which are: Alsahafa, Akhbar-Alyoum, Akhirlahza, Al Ayaam, Al Captain (Sport), Al Intibaha (Khartoum), Al Mshaheer (Sport), Al Osboa, Al Sadda (Sport), Alnilin (Khartoum), Al Khartoum.

- **Internet:**
  Internet advertising is not popular since internet itself is not well in use in Sudan due to the lack of adequate technical knowledge and cost.

- **Mobile:**
  Until now mobile advertising is not popular in Sudan. Few companies use SMS as a commercial advertising tool, its usage is limited to alert messages from telecommunication companies to their subscribers or voting in some TV programs, in addition to information and news paid services provided by SUNA. Below are cost of different advertising media in Sudan:
Table 2.5: Sudan National TV Average Prices (in Sudanese Pound)

<table>
<thead>
<tr>
<th>Time</th>
<th>Special time</th>
<th>Excellent time</th>
<th>Prime time</th>
<th>Normal time</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 secs</td>
<td>1,030</td>
<td>887</td>
<td>597</td>
<td>255</td>
</tr>
<tr>
<td>30 secs</td>
<td>2,010</td>
<td>1,615</td>
<td>982</td>
<td>603</td>
</tr>
<tr>
<td>45 secs</td>
<td>2,608</td>
<td>2,175</td>
<td>1,398</td>
<td>964</td>
</tr>
<tr>
<td>60 secs</td>
<td>3,353</td>
<td>2,744</td>
<td>1,827</td>
<td>1,296</td>
</tr>
</tbody>
</table>

Source: Sudan national TV, 2009

Table 2.6: Blue Nile TV Average Prices (in Sudanese Pound)

<table>
<thead>
<tr>
<th>Time</th>
<th>Excellent time</th>
<th>Prime time</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 secs</td>
<td>436</td>
<td>364</td>
</tr>
<tr>
<td>30 secs</td>
<td>724</td>
<td>603</td>
</tr>
<tr>
<td>45 secs</td>
<td>1043</td>
<td>869</td>
</tr>
<tr>
<td>60 secs</td>
<td>1,365</td>
<td>1,137</td>
</tr>
</tbody>
</table>

Source: Blue Nile Channel(2009)
Table 2.7: Radio Average Prices (in Sudanese Pound)

<table>
<thead>
<tr>
<th></th>
<th>National Radio</th>
<th>FM100</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 sec</td>
<td>145</td>
<td>121</td>
</tr>
<tr>
<td>30 sec</td>
<td>156</td>
<td>102</td>
</tr>
<tr>
<td>45 sec</td>
<td>169</td>
<td>84.5</td>
</tr>
<tr>
<td>60 sec</td>
<td>181.5</td>
<td>60.5</td>
</tr>
</tbody>
</table>

Source: National corporation for TV and Radio (2009)

Table 2.8: Newspaper Average Prices (Sudanese Pound)

<table>
<thead>
<tr>
<th>Size (in inches)</th>
<th>First page</th>
<th>Last page</th>
<th>Inside colored</th>
<th>Inside B &amp;W*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2×2</td>
<td>246</td>
<td>202.95</td>
<td>-</td>
<td>90</td>
</tr>
<tr>
<td>2×5</td>
<td>1,230</td>
<td>676.50</td>
<td>-</td>
<td>147.60</td>
</tr>
<tr>
<td>1/8</td>
<td>2,152.5</td>
<td>1,968</td>
<td>492</td>
<td>246</td>
</tr>
<tr>
<td>1/4</td>
<td>3,075</td>
<td>2,706</td>
<td>861</td>
<td>492</td>
</tr>
<tr>
<td>1/3</td>
<td>4,305</td>
<td>3,075</td>
<td>1,353</td>
<td>738</td>
</tr>
<tr>
<td>1/2</td>
<td>6,150</td>
<td>4,305</td>
<td>2,152</td>
<td>861</td>
</tr>
<tr>
<td>Full page</td>
<td>-</td>
<td>9,225</td>
<td>3,975</td>
<td>1,845</td>
</tr>
</tbody>
</table>

Source: Akhbar Alyoum Newspaper and Akhirlahza Newspaper (2009)
*B&W: Black & While
Chapter Three

Conceptual Framework and Literature Review

3.1. Part One: Mobile Marketing, Concepts and Use

In this part the concept of advertising and marketing will introduced in order to create an understanding about the subject in general in addition to the concepts of mobile commerce and mobile marketing as well. We believe that this is important since the main discussion in this thesis is how the mobile marketing will be perceived in Sudan and what will be their attitude towards mobile marketing using SMS. To fulfill this purpose and to understand mobile marketing a description of advertising terms in general is needed.

3.1.1. Definition of Advertising:

There are numerous ways for companies to communicate their messages, where advertising is perhaps the most common of them, which, according to Kotler (2003), advertising is defined as “any paid form of non-personal presentation and promotion of ideas, goods or services by an identified sponsor”. Advertising is a type of one way mass communication, this mean that there is no
instant feedback and that you are able to reach out to a large audience, but you do not know exactly who you will reach out to. Turban (2006) stated that “Advertising is an attempt to disseminate information in order to affect buyer-seller transaction”

Advertising is the promotion of a company’s products and services carried out primarily to drive sales of the products and services but also to build a brand identity and communicate changes or new product /services to the customers. Advertising has become an essential element of the corporate world and hence the companies allot a considerable amount of revenues as their advertising budget. There are several reasons for advertising some of which are as follows:

- Increasing the sales of the product/service
- Creating and maintaining a brand identity or brand image.
- Communicating a change in the existing product line.
- Introduction of a new product or service.
- Increasing the buzz-value of the brand or the company.

Thus, as there are several reasons for advertising and similarly there exist various media which can be effectively used for advertising.
3.1.2. Advertising Media:

According to Arens (2006) advertising media is the medium that carries the advertising’s message. It is the vital connection between the company, that manufactures a product or service, and the customers who may wish to buy it. It can be classified into two major categories; traditional media and new interactive media.

Television, radio, newspapers, cinema, magazines, billboards, are all examples of traditional media channels.) They could be divided into three groups which are print media, visual media and audio media. Print media encompass newspapers, magazines, posters, billboards etcetera. Television and cinema is included in the visual media and radio in audio media.

New media include all the electronic interactive Medias as long as they digital computer communication such as internet and mobile phone. These media exists almost all over the world but are more or less used. What channels to use is an important decision within the marketing strategy. Mentioned below are the various categories or types of advertising media:
- **Print Advertising: Newspapers, Magazines, Brochures and Fliers:**

  The print media have always been a popular advertising medium. Advertising products via newspapers or magazines is a common practice. In addition to this, the print media also offers options like promotional brochures and fliers for advertising purposes. Often the newspapers and the magazines sell the advertising space according to the area occupied by the advertisement, the position of the advertisement (front page/middle page), as well as the readership of the publications. For instance an advertisement in a relatively new and less popular newspaper would cost far less than placing an advertisement in a popular newspaper with a high readership. The price of print ads also depend on the supplement in which they appear, for example an advertisement in the glossy supplement costs way higher than that in the newspaper supplement which uses a mediocre quality paper.

- **Outdoor Advertising: Billboards, Kiosks and Events**

  Outdoor advertising is also a very popular form of advertising, which makes use of several tools and techniques to attract the customers outdoors. The most common examples of outdoor advertising are billboards, kiosks and exhibitions. The
billboard advertising is very popular however has to be really terse and catchy in order to grab the attention of the passersby. The kiosks not only provide an easy outlet for the company products but also make for an effective advertising tool to promote the company’s products. Organizing several events or sponsoring them, makes for an excellent advertising opportunity. The company can organize trade fairs, or even exhibitions for advertising their products. If not this, the company can organize several events that are closely associated with their field. For instance a company that manufactures sports utilities can sponsor a sports tournament to advertise its products.

- **Broadcast advertising: Television, & Radio**

Broadcast advertising is a very popular advertising medium that constitutes of several branches like television, radio or the Internet. Television advertisements have been very popular ever since they have been introduced. The cost of television advertising often depends on the duration of the advertisement, the time of broadcast (prime time/peak time), and of course the popularity of the television channel on which the advertisement is going to be
broadcasted. The radio might have lost its charm owing to the new age media however the radio remains to be the choice of small-scale advertisers. The radio jingles have been very popular advertising media and have a large impact on the audience, which is evident in the fact that many people still remember and enjoy the popular radio jingles.

- **Internet/Web Advertising**

  This rapidly growing marketing force borrows much from the example of press advertising, but the most effective use, adopted by search engines, is interactive.

- **Mobile Advertising**

  Personal mobile phones have become an attractive advertising media to network operators. Table 2.1 illustrates the advantages and disadvantages associated with different advertising media.
### Table 3.1: Advantages and Disadvantages of Advertising Media

<table>
<thead>
<tr>
<th>Media</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td>Potentially large coverage area&lt;br&gt;Low cost relative to other media&lt;br&gt;Immediate/timely (daily or weekly) Access to many socioeconomic groups, Target specific audience via specialty section, Can use color Flexibility in ad size and cost Visibility of the product (i.e., picture),</td>
<td>Inconsistent reproduction&lt;br&gt;Typically one-day exposure&lt;br&gt;Clutter (can be lost among other ads)&lt;br&gt;May be limited to text or black-and-white&lt;br&gt;Lack of movement and sound</td>
</tr>
<tr>
<td>Magazines</td>
<td>Potentially large coverage area&lt;br&gt;Can target a specific audience&lt;br&gt;Can use color Flexibility in size and cost Visibility of the product (i.e., picture), Use of coupons to measure effectiveness Large repeat and secondary exposure</td>
<td>Clutter (can be lost among others) Cost associated with repeat exposure&lt;br&gt;Lack of movement and sound&lt;br&gt;Not immediate; publication may be weekly, monthly or less frequent</td>
</tr>
<tr>
<td>Television</td>
<td>Large coverage area&lt;br&gt;Can target a specific audience&lt;br&gt;Uses both visual and auditory stimulants&lt;br&gt;Large repeat exposure</td>
<td>Can be costly to produce and air. Time limitations restrict message. Need for repetition/short ad recall. Clutter, Inverse relationship between hours watched and audience income</td>
</tr>
<tr>
<td>Radio</td>
<td>Specific audience (demographics)&lt;br&gt;Immediate/timely/multiple exposures- Possible high entertainment value of ad, Celebrity endorsement or pitch -Time and content flexibility Use of a human voice (celebrity) Sound reinforcement</td>
<td>Time limitations restrict message. Need for repetition Clutter (can be lost among others). Ad recall is low “Station surfing” during commercial breaks Short ad exposure</td>
</tr>
<tr>
<td>Outdoor (signage and billboards)</td>
<td>Large audience exposure depending on: Placement Use of color&lt;br&gt;Can provide information and directions Continuous exposure</td>
<td>Limited message length Initial production and preparation costs. Ideal sites are difficult to access</td>
</tr>
<tr>
<td>Internet</td>
<td>Information available 24/7&lt;br&gt;Customers access at their convenience Relatively cost effective -Can target types of viewers-Messages can be timely Ads can be interactive, Ability to use coupons to measure effectiveness</td>
<td>Maintenance necessary&lt;br&gt;Not effective as stand-alone strategy&lt;br&gt;Difficult to gauge impact&lt;br&gt;Costs of development and maintenance can vary</td>
</tr>
</tbody>
</table>
3.1.3 Mobile Commerce and Mobile Marketing

Emerging digital technologies promise to deliver a high level of personalization for commercial activities. In an attempt to offer anytime, anywhere and personalized advertising messages to customers, advertisers are turning towards wireless communication. This transition from ecommerce to m-commerce opens up a variety of opportunities to offer a broad range of services to prospect. Thus, Mobile Commerce (m-commerce) is considered as a natural extension of electronic commerce (e-commerce). It includes any business activity conducted over a wireless telecommunication network. This includes B2C and B2B commercial transaction as well as the transfer of information and services via wireless mobile devices, categories of m-commerce applications are financial services, shopping, advertising, content provision, intra-business services, and location based. (Turban 2006) the focus in this study will be on mobile SMS advertising

Mobile advertising has emerged as one of the most popular application in mobile commerce, particularly in the form of SMS (Short Message System) advertising. Mobile advertising (m-advertising) is defined as
“The usage of interactive wireless media (such as mobile phones and pagers, cordless telephones, personal digital assistants, Two way radios, wireless networking systems, GPS-based locators and maps) to transmit advertising messages to customers with overall goal to promote goods and services” (Haig, 2000).

According to Murphy et al (2004) "Mobile advertising is the use of mobile channel to provide end-users with location and time sensitive, personalized information that promote goods, service and idea, for the benefits of stakeholders".

Some of the mode of delivering mobile marketing includes Short Message System (SMS), Multimedia Message Service (MMS), and Wireless Application Protocol (WAP).

Mobile advertising hold strong promises to become the best targeted advertising medium delivering new medium means of reaching users with message other than traditional channels (e.g. TV, radio, print and mail). M-advertising provide consumers with personalized relevant information based on their location, and time.

Mobile advertising is a very recent, but promising industry created by the emergence and widespread adoption of wireless data network, which enable the convergence of the internet, e-business
and wireless world. However, interactive marketing such as marketing website, internet advertising, and permission e-mail, mobile and other new media is the fastest growing area within advertising community and companies have long term reasons for adopting it.

Marketing usually makes the difference between the success and failure for most consumer goods companies. It is the lifeblood of many companies. If a company produced a product that no one knew about, the company would be unlikely to survive. This is basically at the point where marketing comes in to play.

The American Marketing Association defines marketing as:

“Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders.” (American Marketing Association, 2007)

Rather similar, Philip Kotler, one of the world's leading strategic marketers, defines marketing as: “Marketing is a social and managerial process by which individuals and groups obtain
what they need and want through creating, offering and exchanging products of value with others.”

He continues to define the role of a marketer as someone who seeks one or more prospects who might engage in an exchange of values. This definition implies several major insights:

- Marketers do not create needs; needs pre-exist marketers;

  Because a product provides a solution to a need, it means packaging a service. Thus a marketer’s job is to promote the benefits or services built into a physical product rather than the product itself; and,

- Marketers seek to elicit a behavioral response from another party.

However, at the end the ultimate goal of marketing is to sell more and make a greater profit. When looking at marketing on a more practical level, it can be seen as the profitable identification, attraction, acquisition, and retention of consumers. It is much more than advertising and promotion. It involves a thorough understanding of the market, from the product through the sale and the consumer relationship beyond the sale. (Nysveen, 2005a)
3.1.3.1. The Marketing Mix

The major marketing management decisions can be classified into one of the following four categories, known as the 4 P’s of marketing (product, price, place, and promotion) or the Marketing Mix. A company uses several different tools in their marketing strategy. Hence, these tools can be divided into four categories (Kotler, 1997). Each P represents a group of marketing variables as shown below.

Table 3.2:
The Elements of the Four Ps.

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
<th>Place</th>
<th>Promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product variety</td>
<td>List price</td>
<td>Sales promotion</td>
<td>Channels</td>
</tr>
<tr>
<td>Quality</td>
<td>Discounts</td>
<td>Advertising</td>
<td>Coverage</td>
</tr>
<tr>
<td>Design</td>
<td>Allowances</td>
<td>Sales force</td>
<td>Assortments</td>
</tr>
<tr>
<td>Features</td>
<td>Payment period</td>
<td>Public relations</td>
<td>Locations</td>
</tr>
<tr>
<td>Brand name</td>
<td>Credit terms</td>
<td>Direct marketing</td>
<td>Inventory</td>
</tr>
<tr>
<td>Packaging</td>
<td></td>
<td></td>
<td>Transport</td>
</tr>
<tr>
<td>Sizes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warranties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>returns</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: Philip Kotler: Marketing Management, 1997

Since the introduction of the first four Ps, four additional Ps have been added to the mix. They are, people, positioning, physical evidence, and process. People (or partners) include internal retailers
and distributors, consumers and staff. *Positioning* includes the tools for positioning the brand. *Physical evidence* includes the resources of the company. Finally, *Profit* describes how all the numbers come together (such as Return on Investment).

3.1.3.2. Mobile Marketing Definition:

When the mobile channel emerged on a larger scale in the end of the 1990s marketers realized the potential early on. Together with some positioning technology it could have huge impact.

The Mobile Marketing Association defines mobile marketing as:

“The use of the mobile medium as a communications and entertainment channel between a brand and an end-user. Mobile marketing is the only personal channel enabling spontaneous, direct, interactive and/or targeted communications, any time, any place.” (Mobile Marketing Association, 2004)

Although the above is perhaps a bit over optimistic in its view of mobile marketing, it is a definition that summarizes the special features that the mobile phone can add to marketing. However, it does not stand alone. Mobile marketing uses traditional media to invite people to participate with the brand." (Park, 2004)
Yet another definition can be found in Dickinger et al.: "Mobile marketing is defined as using interactive wireless media to provide customers with time and location sensitive, personalized information that promotes goods, services and ideas, thereby generates value for all stakeholders." (Dickinger et al., 2004)

A definition that summarizes the definitions mentioned above, together with general comments about mobile marketing in the press could be:

"Mobile marketing is the marketing of products and services through the use of a mobile communication channel. It is a personal, time and location sensitive channel which can reach its intended audience instantaneously with direct, interactive, or targeted communication". Mobile marketing should always be used with the utmost care, so as not to compromise the integrity of the receivers of these messages. It is potentially a great new marketing tool, but it must always be integrated with other channels. (Martin Gardlund, 2005)

Mobile marketing means marketing on or with mobile device, such as mobile phone. Ever since the rise of SMS (Short Message Service) in the early 2000s, marketing on mobile phone
has become increasingly popular in Europe and over the past few years SMS has become a legitimate advertising channel. Mobile marketing uses a wireless medium to provide consumers with time and location sensitive, personalized information that promotes goods, services and ideas, thereby benefiting all stakeholders (Scharl et al., 2005). Mobile marketing can also be seen as a use of the mobile medium as a communications and entertainment channel between the brand and end-user. Mobile channel is the only personal channel that enables spontaneous, direct, interactive and/or targeted communications, at any time, and at any place. (Leppäniemi et al., 2004).

According to Pousttchi & Wielemann (2006), Mobile marketing can for example be used for:

- Building brand awareness
- Changing brand image
- Sales promotion
- Enhancing brand loyalty
- Building customer database
- Mobile word-of-mouth
Mobile marketing can also be used for internal communications, direct marketing and as an effective business to business communications tool (MMA, 2007).

Mobile Marketing utilizes technologies of all mobile devices including handsets and PDAs. Communications include Short Message Services (SMS), Multimedia Messaging Services (MMS), Wireless Application Protocol (WAP) mobile Internet and WAP Push services and full multimedia Third Generation (3G) services (MMA 2007).

According to Sultan and Rohm (2005) the key challenge in mobile marketing is to interact with individuals in a meaningful manner that adds value to the brand-consumer relationship without being intrusive. Customers have to feel they get something that has for example information or entertainment value for them. The information that customers receive from mobile marketers has to be relevant for them.

Consumer behavior should be studied because it has a huge impact on the success of the mobile marketing. Customers’ acceptance is the main factor that defines the future of mobile marketing (Leppäniemi et al. 2004).
3.1.3.3. SWOT-analysis of Mobile Marketing

Based on a literature review a SWOT-analysis was conducted in order to find out the strengths, weaknesses, opportunities and threats of mobile marketing. SWOT-analysis involves monitoring the external and internal marketing environment (Kelle & Kotler, 2006).

The internal and external factors affecting the success of mobile marketing can summarized below:

-Strengths of Mobile Marketing:

There are many strengths of mobile marketing, mobile marketing can be defined as a medium that offers a context-sensitive, personal, interactive and quick way to communicate with customers (Tahtinen j., 2006). The mobile phone is a highly interactive media channel that enables immediate reply from the receiver of the message (Bauer et al., 2005). This interactivity is a key element that separates mobile channel from other media channels. With mobile marketing it is possible to personalize the message based on the consumer’s location, time and preferences. Content of the message and how it is being delivered to customers are key success factors of mobile marketing. (Scharl et al., 2004)
One of the best advantages of mobile marketing is that it enables high-speed message delivery (Forrester Research, 2002). Customers can also be reached fast and effectively (Takkula & Tähtinen, 2006).

Mobile marketing enables one-to-one dialogue with consumers (Hein, 2007). With mobile marketing it is possible to reach customers anywhere and anytime because people carry their mobile phones with them almost everywhere and mobile phones are on most of the time (Bauer et al, 2005). Because of the personalized messages and the personal nature of mobile devices, mobile marketing should not be targeted for masses but individuals (Salo & Tähtinen, 2005). Mobile devices can be addressed individually, which means that it is possible to send very personalized and target oriented advertising (Bulander et al, 2005).

“Mobile campaigns complement other media, such as television, print and Internet, and vice versa” (Leppäniemi et al., 2005). Mobile marketing is most effective when it is being used with other more traditional media channels. Strength of the mobile marketing is also its multimedia capabilities. Multimedia
capabilities enable more diversified advertising with pictures and sounds.

_-Weaknesses of Mobile Marketing_

Because of the relative newness of the mobile marketing medium it has weaknesses starting from the lack of research. It also suffers from the lack of co-operation and knowledge sharing (Leppäniemi et al., 2006)

Mobile marketing is developing all the time and new technical features offer new opportunities. However, there is not much of experience of all possible ways that mobile marketing could be utilized. There is neither a lot of knowledge about how and what kind of mobile marketing consumers would be ready to accept. Mobile phone manufacturers are not willing to share their experiences or knowledge about mobile marketing which is a weakness of the development of mobile marketing.

_-Opportunities of Mobile Marketing_

The amount of mobile phone users is increasing all the time. Increasing use of mobile devices is clearly an opportunity for mobile marketing and increasing adaptation of mobile services also
offer great opportunities in the future. There is a high global penetration of mobile devices (Bauer et al, 2005). Also the development of mobile device technology offers great opportunities for mobile marketing in the future.

In addition to text messaging there are also multimedia, WAP, GPRS and Bluetooth capabilities that can be utilized. (MMA, 2007) The number of mobile devices with multimedia capabilities is increasing all the time (Bulander et al., 2005). Messages can be delivered to consumers without time or place constraints which makes mobile marketing a time and place independent medium (Karjaluoto et al, 2004).

Consumer behavior and consumer acceptance are things that have probably the biggest effect on the success of mobile marketing. If consumers are willing to receive mobile marketing, it offers great possibilities for marketers. Consumers’ acceptance is also a critical factor when considering viral marketing. Viral marketing means that customers forward the ad to their friends (Salo & Tähtinen, 2005). Viral marketing has been used successfully in the Internet marketing and it can also be seen as a great opportunity for mobile marketing.
Consumers are becoming more interactive and more familiar with doing business with their mobile phones (Virtanen & Raulas, 2004). This is of course a positive and promising aspect of consumer behavior when thinking about mobile marketing.

According to Becker (Becker, 2006) consumers must receive value from the interaction with marketers. And when they do get some kind of value they are most likely more willing to receive marketing to their mobile devices. Entertainment value and information value are the strongest drivers of the acceptance of the mobile phone as an advertising medium (Bauer et al. 2005).

Mobile marketing can be used for loyalty building (MMA 2007). Because of the personal nature of the hand-held electronic devices, mobile marketing offers possibilities of a closer brand connection (Sultan & Rohm, 2005). Mobile marketing can be used to build brand awareness or to change brand image. It is also possible to build customer database by using mobile marketing. (Pousttchi & Wiedemann 2006)

There are many opportunities to be seen when considering viral marketing. In addition to fastness of spreading the message there are some opportunities to save time and money. If picturing
the situation where consumers are forwarding the message to their friends, the marketer has to send a lot less messages that they would have to if they would not utilize viral marketing.

-Threats of Mobile Marketing

Probably the biggest threat for mobile marketing is consumer inertia and the fact that consumers might not be very interested and willing to receive marketing to their mobile devices. Consumers’ habits, attitudes and images can be seen as obstacles for the wider use of mobile marketing (Virtanen & Raulas, 2004).

Based on the survey of Scharl et al. (2005) fear of spam is defined of the strongest negative influence on consumer attitudes towards SMS advertising. In addition to spam other challenges for mobile marketing are limited user interface, privacy concerns and expenses of mobile data communication (Bulander et al. 2005). According to Sultan and Rohm (2005) wireless communications are less secure than transmissions over fixed ones and use of viral marketing might further erode an individual’s sense of personal privacy.

Transmission process and technical barriers can create threats for mobile marketing operations. For example the text message may
never arrive. There is either no guarantee that the messages will arrive within a few minutes. (Scharl et al., 2005) If the message is highly location or time dependent then a message that arrives too late is easily seen as spam because of the non-usefulness of the message. A physical limitation for mobile marketing is the small screen size of mobile devices (Haghirian et al., 2007).

Virtanen and Raulas (2004) have listed the main barriers for the growth of mobile marketing as a marketing medium. There can be seen some resistance to change among marketing service providers and marketers. Fear of technology and possible complexity of implementation can be seen as threats for the mobile marketing.

Mobile marketing is permission based which means that marketers have to have consumers’ permission before they can send them advertising messages. This is a strength for the consumers because they can decide whether they want to receive mobile advertising or not and what kind of advertising they want to receive to their mobile phones. However, permission based marketing can be a threat for the marketers. Mobile device users must opt-in before marketers can send them text messages. Mobile device users
also have to have a possibility to opt-out anytime they want. There are also legislations that regulate to whom marketers can send mobile advertising. Those will be gone through later in this thesis.

Mobile marketing media is currently too limited to function effectively as a purely stand-alone channel. To get the most effective results it is important to integrate mobile marketing in multi-channel marketing campaigns. (Karjaluoto et al. 2004) Mobile marketing has to be incorporated into the overall marketing strategy because of the fact that mobile medium needs other media in order to thrive (Leppäniemi et al., 2005).

3.1.3.4. Mobile Marketing Compared to Regular Marketing

The mobile channel is split into two categories: the personal communication channel and the nonpersonal communication channel (Kotler, 1997). This means that the mobile channel can be both personal and nonpersonal. In its personal sense it can be a one-to-one individual and/or interactive marketing channel using voice or messaging as a means of communicating between two parties. This can still be personal even if it is computer to person. However,
there is a need for a database and advanced interpretation tools, to mimic the communication of a person to person conversation.

In its nonpersonal sense, it is used as a one-to-many marketing channel without any personal contact or interaction. Kotler divides this category into three subcategories: media, atmospheres, and events. The mobile channel falls under the subcategory of media. Kotler divides this subcategory into print media (newspapers, magazines, direct mail), broadcast media (radio, television), electronic media (audiotape videotape, DVD, CD-ROM), and display media (billboards, signs, posters). Mobile marketing becomes a new division in this subcategory, since it can be seen as a mix of print, broadcast, and electronic media.

There are several unique features of the mobile channel. Until there is a paradigm shift in digital screen technology, the screen sizes of the mobile phones will stay small and limited.

This decreases the usability of the mobile phone when compared to other interactive media such as the personal computer. The location of the mobile user will vary and in turn so will the consumer’s needs. The same applies to the time sensitivity of the mobile communication. The needs of mobile customers will vary
depending on when they are using these devices, since mobile communication takes place in real time, or near real time. Additionally, the mobile channel is almost always accessible. It offers immediate interaction on a level that cannot be compared to any other marketing media. The mobile devices are always with their owners, both when they are working and on their spare time. Since the mobile phone is considered to be a highly personal device, the user need for mobile personalization emerges. If the users allow companies to use their mobile phones as a marketing channel directly to themselves, they will expect to receive a valuable service or offer in return. There is also an apparent risk of spam and a general distrust of marketing messages via the mobile phone. This latter aspect is possibly decisive when it comes to the failure to accept the mobile channel as a part of the marketing mix. This will be elaborated on further in the analysis part.

3.1.3.5. Mobile Marketing in the Marketing Mix

If we once again look at the marketing mix introduced above, we can see that mobile marketing can fit in below every P. The elements in bold in table 2.3 can be especially recognized by mobile marketing. The integration of mobile marketing in all four P’s was
also proposed by Dufft, N.; Wichmann, T., (2003). They claim that mobile marketing has to offer more than traditional marketing tools do, since without any value added to the product or service, it is unlikely to attract new customers.

When analyzing the literature, the governing idea is that mobile marketing should be integrated into the marketing mix similar to other elements such as television or public displays.

Table 3.3 The Elements of the Four Ps of Mobile Marketing

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
<th>Place</th>
<th>Promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product variety</td>
<td>List price</td>
<td>Sales promotion</td>
<td>Channels</td>
</tr>
<tr>
<td>Quality</td>
<td>Discounts</td>
<td>Advertising</td>
<td>Coverage</td>
</tr>
<tr>
<td>Design</td>
<td>Allowances</td>
<td>Sales force</td>
<td>Assortments</td>
</tr>
<tr>
<td>Features</td>
<td>Payment period</td>
<td>Public relations</td>
<td>Locations</td>
</tr>
<tr>
<td><strong>Brand name</strong></td>
<td>Credit terms</td>
<td><strong>Direct marketing</strong></td>
<td>Inventory</td>
</tr>
<tr>
<td>Packaging</td>
<td></td>
<td></td>
<td>Transport</td>
</tr>
<tr>
<td>Sizes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warranties returns</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Kotler, 1997

3.1.3.6. Mobile Marketing Laws and Regulations

Advertising companies, marketing agencies, and telecommunication operators are among those promoting rules and regulations for the mobile marketing market. To them much is at stake if this market were to be tainted by being viewed as the new
way to spam consumers. The Mobile Marketing Association (MMA), an industry trade association for companies involved in mobile marketing and associated technologies have produced a Code of Conduct document (Mobile Marketing Association, 2004b). This document presents an extensive guide of how to conduct marketing using the mobile communication channel in a correct and legitimate fashion.

To summarize the MMA Code of Conduct it can be broken down to the Six Cs of privacy:

**Choice:** Mobile marketing is acceptable only to consumers that opt-in to receive it.

**Control:** Consumers who opt-in must have an easy way to opt-out of all mobile marketing.

**Constraint:** Consumers should be able to set limitations on messages received.

**Customization:** Analytical segmentation tools will help advertisers optimize message volume, ROI, and relevancy to the consumer.

**Consideration** Consumers must perceive value in any mobile marketing campaign.
Confidentiality Privacy policies must be aligned between the carrier and the Brand

Regulations vary between countries and between operators. This has led to the establishment of some ground rules to protect end-users. Some regulations also exist to make sure the advertising material is easily understandable and clear to the end-users. Some telecommunication operators have contributed ideas on how to make the mobile messages easier to read. Services must also be correctly delivered to end-users and guarantee a specific quality of service. If any questions or problems arise, a rapid response time is required. In this section some general rules which are common to most operators and countries will be presented.

- Spam/Unsolicited Messages

To send messages to consumers, who have not opted in to receive messages, is strictly forbidden in all countries. Provided that users are given the possibility to accept or refuse all subsequent messages. The fact that mobile spamming is prohibited, should not be seen as an obstruction, since all recent literature on the subject of mobile spamming comes to the conclusion that a mobile marketing campaign will lose its credibility if it does not originate with an opt-
in (Barwise et al, 2002) and (Leppäniemi, 2004). It should be noted that spam, or unsolicited commercial communications, is still a relatively rare phenomenon on mobile networks. This is first of all due to the fact that it costs to send messages on a mobile network and secondly the trace-back and security features of mobile networks make it easy to reveal the origin of the spam.

3.1.4. Mobile Marketing Technologies:

For Mobile Marketing to be effective and efficient, it requires wireless network, technology and infrastructure that serve as the sound platform for implementation of wireless promotion and advertising. The following are the three major mobile technologies that are been used worldwide:

**WAP:** Wireless Application Protocol is an open, global specification that empowers users of mobile devices to interact and access information and services instantly with ease. WAP technology make use of WAP gateway and wireless Markup language (WML) and handheld device Markup language (HDML) to translate a wireless request into traditional HTML/HTTP request that is understood by web server and vice versa. WAP used as channel of information between internet and mobile devices.
**I-Mode:** Is a wireless internet connection that allows users to browse internet pages, send and receive email through mobile devices. It offers easy access to more than 94,000 internet sites.

**SMS:** Short messaging is a digital cellular network feature. Which allows users to send and receive short messages to and from digital cell phones over the internet using email and mobile phones based on public gateway.

### 3.1.5. Types of Mobile Advertising Campaigns:

- **Mobile Push Campaign:** can be explained as the message that are delivered proactively to mobile device users. Using this approach, companies can use a database containing information about existing customers or purchase externally, to reach the target groups. It should be relevant and permission-based that the customer (opt in) to receive mobile advertising.

- **Mobile Pull Campaigns:** pull advertisement are messages served to users as they are navigating WAP or wireless sites/properties. It is usually seen when a user is requesting specific information from a provider and an advertiser’s message is displayed to the viewer, as banner ad are presented on the fixed
internet. Applying a pull approach, advertisers use their traditional marketing media mix such as TV, radio, print or packaging to promote an interactive mobile campaign.

Figure 3.1: Types of Mobile Advertising Campaigns

<table>
<thead>
<tr>
<th>Active</th>
<th>Mobile Push Campaigns</th>
<th>Mobile Interactive Campaigns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Company-initiated</td>
<td>• Customer or company initiated</td>
</tr>
<tr>
<td></td>
<td>• Permission needed for the company</td>
<td>• Dialogue</td>
</tr>
<tr>
<td></td>
<td>• Typically free of charge for customer</td>
<td>• Permission needed</td>
</tr>
<tr>
<td></td>
<td>• Immediate response not required</td>
<td>• With customers registered to MCRM program</td>
</tr>
<tr>
<td></td>
<td>• Mostly information and promotions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Passive</th>
<th>Traditional Campaigns Without Interaction:</th>
<th>Mobile Pull Campaigns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Print, TV, Radio Ect..</td>
<td>• Customer-initiated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Permission given by the customer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Typically chargeable for customer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Context relevant services and information requested by customer</td>
</tr>
</tbody>
</table>


- **Mobile Dialogue Campaigns:**

  a dialogue campaign is different from pull and push campaign in terms of duration and the intensity of interaction between the customers and advertisers. It spans for several months and include various themes that build on one another. The main objective is to create long term relationship with customers, in order to have full insight into customer's preferences.
3.1.6. Text Messaging Applications:

Text message advertising integrates easily into the media mix. Experts agreed that SMS campaigns should complement other media. The 160-character limitation hinders the design of cell phone messages, and SMS should not serve as the main media in a campaign. The different application of SMS in advertising is as follows:

- **Information Services:** Advertising funded information services include news, weather, traffic, market rates, horoscopes, or songs just played on the radio. The receiver of the services would pay little or nothing for this relevant and personalized information. Three advertising agency experts noted that a prerequisite for increasing this advertising method's success is a strong relation between the required information and the advertisement. Accordingly, companies should only send advertisements that complement customer interests.

- **Mobile CRM:** Text messaging supports Customer Relationship activities such as receiving free newsletters,
pictures, ring tones, bonus points and coupons after joining a customer program. Mobile telephone companies plan to use SMS for customer relationship management, sending their clients information on where to get cheap pre-paid phone cards when their credits are running low. Also companies can use mobile marketing for customer relationship management by "sending SMS based reminders if clients do not pay their bills on time. This kind of reminder is more effective and less expensive for us as operators. Of course the legal consequences need to be checked first."

- **Branding:** Mobile marketing is a branding tool. For over a century, branding efforts have attempted to link images and emotions with a brand in order to gain a competitive edge beyond utilitarian differences. Brands, usually a company’s most stable asset and a fundamental tenet of business success, simplify consumer’s choice with a brand name that links closely to a product category. Barwise et al (2002) posit that trusted brands are more important in the virtual world where they influence online purchases, generate customer
loyalty, and attract customers to their Web sites. This ‘virtual branding’ effect may apply to SMS as well.

- **Competition**: Is the most popular form of mobile advertising as it provides mobile users with a great incentive to make contact with the company. Some main reasons of running competitions are:

- **To launch a service**: text message competition provides a better way to launch a service especially mobile one.

- **To build a database**: a strong cash incentive is required if a company want to add new users to its existing database.

There is several kind of mobile competition:

- **Simple Entry**: enable customer to enter a competition by simply SMS a keyword associated with the brand to a competition number. Simple Entry can be used with a conventional media campaign.

- **Txt ’n Win**: Is the way that consumers can enter a branded competition through SMS and win prizes. Entrants choose between answer options.

- **Quiz**: entrants send a brand keyword to an SMS competition number. In reply they receive a question
and then they need to reply with an answer. Correct answers qualify for branded prizes. Question can be around the brand, event or promotion.

- **SMS Voting**: viewers and listeners of traditional broadcast media such as TV and Radio interact with these media by express an opinion or vote on an issue whilst the broadcast is in progress.

- **Location based services (LBS)**: are services, which are enhanced with, and depends on information about a mobile station’s position. This kind of information will not useful if it is not correlated with some types of services. Location based services take up the role of to supply the user of these service with customized information. Location based services that connect to a distinct location are highly relevant for local advertising such as a person can receive a message including directions to the nearest restaurant or train station. Companies can send advertisement to registered customer when he passes the point of purchase, illustrating the sensitiveness of this approach.
• **Mobile Coupons**: companies can send coupons to mobile phones through SMS. There are three advantages from mobile coupons targeting, based on consumers mobile phone numbers: time sensitivity and efficient handling by scanning the coupon’s bar-code at the cash desk. Expert predicts that, customers will use mobile coupons more than ordinary paper coupons because the coupons will be stored in the mobile phone memory and therefore difficult to misplace or forgot compared to their paper-based equivalents. By sending mobile advertising coupons, advertisers have created the value to message instead of sending the message with general promotions, they make the message activate and create good feeling for customers. Mobile coupons is important with the development of location based service but advertisers still must care about spam and over sending message problems even if the product offer is good. In addition mobile coupons are a good way to build customer loyalty.

• **Alerts**: Alerts fit well with mobile Medias because they are location or time sensitive. Advertisers can reach users at any
time because mobile devices are carried along by people wherever they go.

- **Sponsorships:** sponsorship for an already established service is another way advertisers can use to reach mobile users. The sponsorship money can be used to add value to the service or reduce cost for customers. To be successful, sponsorship activities should be relevant to the company or brand and the service should targeted (Haig 2000).

### 3.1.7. Success Factors of Mobile Advertising:

Factors that influence the effectiveness of mobile advertising can be grouped into two categories, message characteristics and media characteristics. Descriptions of these factors are as follow.

- **Content:** The copy of an SMS advertisement is important. A UK survey of one thousand Greater London cell phone owners identified six advertisement types: brand building, special offers, timely media teasers, requests, competitions, and polls. Across these categories, the authors found that good advertisements were short/straight to the point (28%), funny/entertaining (26%), relevant to the target group (20%), eye catching (13%), and informative about prizes and promotions (12%). A message should contain an
attractive underlying idea, be concise, use language understood by
the target group and use the available 160 characters effectively
(Barwise, and Strong 2002) another important aspect is information
on how the customer can stop receiving future company messages.
Finally, when addressing young people, messages should be
entertaining and show familiarity with the abbreviations and the
spitfire conversational style typical of SMS and instant Internet
messaging.

- **Time & Frequency**: SMS messages are less intrusive than
phone calls as recipients can read the message at their leisure and
choose whether to respond. Nevertheless, organizations must
consider the time and frequency to send messages, based on both
the target group and the topic. Real time transmission, whereby the
message appears on the potential consumer’s screen within seconds,
will further increase mobile marketing success. These instantaneous
broadcasts offer opportunities, such as ordering songs played on the
radio instantly after hearing them.

- **Personalization**: Targeted advertising based on client profiles
enhances the experience for mobile owners and brands. Personalizing
the message increases its impact. A structured and
well-maintained database is crucial for targeting customers effectively. To build such a database for SMS campaigns, clients must disclose information about their habits, interests and preferences. Common attributes include leisure activities, number of holidays taken within a particular interval, music interests, favorite newspapers, favorite radio, Internet access, occupation, marital status, car ownership and income. Obtaining explicit data from consumers, rather than leveraging existing databases, increases the message’s relevance. Many clients, however, resist sharing personal details. This illustrates an inevitable trade-off between personalization and control granted to the consumer. Gathering data for tailored messages raises privacy concerns, which the following section discusses. Corporate policies must consider general guidelines for sending SMS messages as well as the validity of electronic signatures and electronic contracts (Barwise and Strong 2002).

- **Consumer Control, Permission and Privacy:** Even though SMS offers myriad marketing possibilities, there are practical limitations. Sending high loads of data via text messaging is time consuming. Content restrictions i.e., messages may not exceed 160
characters – might inhibit consumers from signing up for SMS. Web-based information systems, by contrast, offer easier registration. Their display devices’ bigger screens and higher resolutions offer more convenient access to privacy policies and legal frameworks. A simple registration process also helps gain permission. Without consent, clients will refuse to accept messages. Permission, a relatively new marketing term but actually an old concept, has come of age thanks to e-mail. Both the customer and the company benefit from permission marketing. While marketers get an audience interested in their message, customers receive fewer and more relevant messages. Researchers cited fear of spam as the strongest negative influence on customer attitudes towards SMS advertising. Dread of unwanted messages and privacy fears may prevent consumers from registering for SMS ads. Unlike changing one’s email address hosted by free Web-based services such as Yahoo! or Hotmail, changing one’s cell phone number is far more difficult.

- **Ad Source or Advertiser credibility:** The term “source credibility” is repeatedly used to refer to traits of the communicator including expertise, trustworthiness, attractiveness, and power.
Researches had found that credibility strongly influenced attitude towards advertiser and attitude towards advertiser was the most important predictor of attitude towards the advertising. Corporate credibility is defined as "the extent to which consumers believe that a firm can design and deliver products and services that satisfy customer needs and wants" and has been found to have direct, positive effects on attitude towards the ad, attitude towards the brand, and purchase intent.

- **Interactivity**: Interactive elements of a mobile ad attempt to draw out cognitive response by allowing the viewer to look for more information via the mobile device. By providing interactivity, the advertiser is attempting to increase viewer involvement by creating two-way communication in real time, instead of the usual more traditional one-way types of advertising. Studies had shown that the level of interactivity is positively associated with ad and product attitudes.

- **Device Technology**: A major problem of mobile marketers has been SMS' graphical limitations. Designing attractive text messages with only 160 characters is difficult. This limitation challenges marketers and limits possibilities to convey the messages. All
experts agreed that text messaging is only an additional element in their marketing media mix. Emerging technologies such as the Multimedia Messaging Service (MMS) help overcome this limitation. Phones with higher resolutions and multicolor displays, already common in Japan can include visual elements for innovative marketing strategies. The different devices however, are incompatible with little agreement on common standards.

- **Transmission Process**: technical barriers in sending text messages are identified as follow: First, a text message may never arrive. The technology for text messages is a “best effort” service; there is no guarantee that the data arrive within the next minute. The text message should arrive a few minutes after sending, but delays of a couple of hours are possible according. This is a major problem for time sensitive content such as customer account changes, last-minute tickets, product availability notifications and weather reports. Online booking services and airlines, for example, already use SMS to notify travelers of flight status (Turban2000). New technologies may help solve this issue.

- **Product Fit**: Their distinctive characteristics position SMS advertising as better for frequently purchased low-ticket items
rather than infrequently purchased high value products (Barwise 2002). SMS is particularly useful for promoting technical goods and services, or those that appeal to a young target group such as event or party announcements.

- **Direct and Indirect Impact**: SMS usually urge the recipient to “Act on the spot”. As all experts claimed that almost all recipients would read the message, it is imperative to induce the customer to act, such as attending the party that night. The message's impact vanishes quickly. Another important impact is the viral effect of appealing text messages. Recipients may forward messages to their friends, thus increasing the overall impact. This effect though, is difficult to plan, as it depends on consumer trends. Viral effects add to the success of an SMS marketing campaign.
3.2. Part Two: literature Review

3.2.1 Studies on the Technology Acceptance:

Davis (1989) developed and validated new scales for perceived usefulness and perceived ease of use, which were hypothesized to be fundamental determinants of user acceptance. The definitions of the two variables were used to develop scale items that were pretested for content validity. The items were then tested for reliability and construct validity in two studies involving a total of 152 users and four application programs. After refining and streamlining the measures, the resulting two scales of six items each demonstrated reliabilities of .98 for usefulness and .94 for ease of use. The scales also exhibited high convergent, discriminant, and factorial validity. In both studies, usefulness had a greater correlation with usage behavior than did ease of use, though both were significantly correlated with current usage and future usage. Regression analyses suggest that perceived ease of use may actually be a casual antecedent to perceived usefulness, as opposed to a direct determinant of system usage.

Davis et al, (1989) attempted to predict people's acceptance of computer systems from a measure of their intentions and the
ability to explain those intentions in terms of their subjective norms, perceived ease of use, and related variables. A longitudinal study was conducted of 107 individuals over 14 weeks. The abilities of the theory of reasoned action and of the technology model to explain acceptance and rejection were examined empirically. Perceived usefulness was found to be the factor most closely related to individual intentions to use a particular system after a period of training. Perceived ease of use was a lesser but significant factor and tended to subside over time. Intention to use computers was a reasonable basis for predicting future use. Subjective norms had no effect on intentions. Ease of use may not be as important a factor in system use as usefulness of applications.

In their study Venkatesh & Davis (1996, pg. 451) focused on understanding the determinants of perceived ease of use. Data from three experiments spanning 108 subjects and six different systems supported the hypothesis that an individual's perception of a particular system's ease of use is anchored to her general computer self-efficacy at all times, and objective usability has an impact on ease of use perceptions about a specific system only after direct experience with the system. In addition to being an important
research issue in user acceptance research, understanding antecedents of perceived ease of use is also important from a practical standpoint since several systems in which millions of dollars are invested are rejected because of poor user interfaces. Moreover, the actual underlying problem might be low computer self efficacy of the target user group. In such cases, training interventions aimed at improving computer self-efficacy of users may be more effective than improved interface design for increasing user acceptance. The possibility of computer self-efficacy serving as an anchor for ease of use perceptions

Detmar Straub et al, (1997) compared the Technology Acceptance Model (TAM) across three different countries: Japan; Switzerland; and the United States. The study was conducted by administering the same instrument to employees of three different airlines, all of whom had access to the same information technology innovation, in this case, E-mail. The results indicated that TAM holds for both the U.S. and Switzerland, but not for Japan, suggesting that the model may not predict technology use across all cultures. TAM model was significant in explaining usage behavior in both the U.S. and Switzerland, but not in Japan. TAM may not
hold equally well across cultures perceived usefulness (PU) and perceived ease of use (PEOU) as independent variables. PU was significant for both the U.S. and Swiss samples, but not for the Japanese sample. PEOU was not found to be significant for any of the three country samples.

Viswanath & Davis (2000) extended the Technology Acceptance Model (TAM) that explains perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes is developed and tested. The extended model, referred to as TAM2, was tested by using longitudinal data collected regarding four different systems at four organizations, two involving voluntary usage and two involving mandatory usage. Model constructs were measured at three points in time at each organization: reimplementation, one month post implementation, and three months post implementation. The extended model was strongly supported for all four organizations at all three points of measurement, accounting for 40%-60% of the variance in usefulness perceptions and 34%-52% of the variance in usage intentions. Both social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job
relevance, output quality, result demonstrability, and perceived ease of use) significantly influenced user acceptance. These findings advance theory and contribute to the foundation for future research aimed at improving the understanding of user adoption behavior.

Viswanath et al, (2003, pg. 425) reviewed user acceptance literature and discussed eight prominent models, then empirically compared the eight models and their extensions and formulated a unified model that integrates elements across the eight models, finally empirically validated the unified model. The eight models reviewed are: the theory of reasoned action, the technology acceptance model, the motivational model, the theory of planned behavior, a model combining the technology acceptance model and the theory of planned behavior, the model of PC utilization, the innovation diffusion theory, and the social cognitive theory. Using data from four organizations over a six-month period with three points of measurement, the eight models explained between 17 percent and 53 percent of the variance in user intentions to use information technology. Next, a unified model, called the Unified Theory of Acceptance and Use of Technology (UTAUT), was formulated, with four core determinants of intention and usage, and
up to four moderators of key relationships. UTAUT was then tested using the original data and found to outperform the eight individual models. UTAUT was then confirmed with data from two new organizations with similar results. UTAUT thus provides a useful tool for managers needing to assess the likelihood of success for new technology introductions and helps them understand the drivers of acceptance in order to proactively design interventions (including training, marketing, etc.) targeted at populations of users that may be less inclined to adopt and use new systems.

Anandarajana et al, (2002) claimed that perceived usefulness and perceived enjoyment are not factors, which motivate individuals to use microcomputers. Organizational support and social pressure are shown to be factors, which influence microcomputer usage. In addition perceived ease of use has strong influence on perceived usefulness as well as microcomputer usage. Previously the difference between the findings of this study and studies conducted in North America can be attributed to the phenomenon of national culture.

Hobona & Burton Jones (2003) applied TAM to assess the user acceptance and voluntary usage of a particular email
application, cc: mail, in two different organizations. The results largely validate TAM, although the findings suggest that certain external variables, namely length of time since first use, and level of education, directly affect email usage behavior apart from their influence as mediated through the perceived usefulness (PU) and perceived ease of use (PEOU) constructs. The primary objective was to ascertain whether the PEOU and PU belief constructs partially or fully mediated the effects of the individual differences on email usage behavior. The findings suggest that the belief constructs only partially mediate the influences of length of time since first use, level of education, and employment category on cc: mail usage volume and usage frequency. The study offers two possible explanations for this seeming contradiction to TAM’s ‘full mediation’ assumption: (1) that TAM’s inherently ‘parsimonious’ nature has excluded other critical belief constructs that are necessary to fully capture and mediate the influence of all external variables on user acceptance and subsequent usage behavior; or (2) that there is some characteristic(s) of collaborative technology in general, or email technology in particular, that requires additional explanatory constructs to be included.
G. ElSaid & K. Hone (2003) examined the perceptions and attitudes that Egyptian users hold towards electronic shopping sites. Internet sites are globally available, opening up huge potential markets for online retailers. However, it remains unclear whether sites designed for the US or European markets will be acceptable in other cultures. This paper describes an exploratory study conducted with Egyptian consumers. The study was designed to examine the e-commerce interface features that are most salient to this user group and to explore how these relate to user intentions to engage in internet shopping. The results support the role of site familiarity in predicting purchase intentions within this cultural setting.

Loch et al, (2003) examined culture-specific inducements and impediments to using the Internet in the Arab world. Of the two research methods employed, the first was a quantitative field study of knowledge workers. The instrument measured the extent to which respondents and their organizations are influenced by advanced technology cultures. The first of two models tested links between SNs; technological culturation and Internet usage for each respondent. The second model investigated links between technological culturation and Internet utilization for the
respondent’s organization. Findings show strong support for models, explaining, respectively, 47% and 37% of the variance. The second method was a qualitative analysis of respondents’ free-format comments. These findings reinforce the quantitative findings, on the one hand, and reveal additional cultural barriers that still need to be studied, on the other. Findings identify how culture can both inhibit and encourage technological innovation and how Arab cultures can move their economies more quickly into the digital age. Another contribution of the study was the qualitative findings. It is useful to know that lack of awareness of the Internet and its restrictiveness of language (that is, lack of Arab language sites) are barriers to adoption.

Al-Gahtani et al (2007) Using a survey sample collected from 722 knowledge workers using desktop computer applications on a voluntary basis in Saudi Arabia, this study examined the relative power of a modified version of UTAUT in determining ‘intention to use’ and ‘usage behavior’. The results found that the model explained 39.1% of intention to use variance, and 42.1% of usage variance. In addition, drawing on the theory of cultural dimensions, the study hypothesized and tested the similarities and differences
between the North American and Saudi validations of UTAUT in terms of cultural differences that affected the organizational acceptance of IT in the two societies the study found that performance expectancy had a positive effect on intention, but no interacting effect with performance expectancy and either gender or age on intention was found. Also results found that effort expectancy did not have a significant effect on intention in the presence of interactions with the moderating variables. Among Saudi users, subjective norm positively influences intention, but, as expected, this influence is diminished by both increasing age, and increasing years of experience using computers.

3.2.2. Studies on the Mobile Services Acceptance

In addition to the models and studies done on intention to accept and to use technology, there are some studies that have focused specifically on intention to use mobile services. A short overview over some of these studies is presented below. At the end of the chapter, a summary the findings from the studies presented will be presented.

Khalifa et al (2002) investigated the role of exposure in intention formation within the context of mobile commerce
adoption. More specifically, the study developed and empirically tested a model that integrates exposure with its various sources, i.e. trial, observation, and communication into the Theory of Planned Behavior framework. The study resulted in important theoretical and practical contribution. On the theoretical side, it gained a better understanding of the nature of the relationship between exposure and intention, and also identified the major sources of exposure. The empirical results confirmed the hypothesized mediated and moderating effects of exposure.

Nysveen, (2003) investigated the adoption of mobile services across four different service categories. The adoption model underlying the study includes analysis of the motivational, attitudinal, social, and resource-related influences on adopters’ intention to use mobile services. Overall, the model explains 62-75 percent of the variance in “intention to use”. Two important findings stand out as very consistent across all four studies: The relatively strong influence of intrinsic and derived motivations and the lack of influence of social norms. This latter finding is rather surprising given past research on the importance of subjective norm in the adoption of new technology-based and communication
services. Also notable is the observed differences in influences across types of services. Contrary to expectations, enjoyment and expressiveness were found to be important determinants of intention to use services that were dominantly utilitarian. Similarly, results revealed few effects of attitudinal processes on intentions to use established (as opposed to new) mobile services. The results show significant effects of attitude towards use on the intention to use text messaging and contact services (i.e. communication services) and payment services. Perceived usefulness was revealed to influence intention to use text messaging and contact services. Motivational influences (perceived expressiveness and perceived enjoyment) are both found to be a significant predictor of intention to use all four mobile services. Also, resource based influences (behavioral control) show significant influences on intention to use mobile services except for contact services. Social influences, however, had no direct effects on intention to use any of the four mobile services – although indirect effects mediated by attitudes were observed for text messaging and contact services. Consequently, the study conclude that motivational and resource-based influences are the most important drivers of intention to use
mobile services while effects of attitudinal and social influences seem to be moderated by type of mobile service. When investigating model relationships, the results showed that intention to use text messaging is explained by direct instrumentality of usefulness, enjoyment and expressiveness, attitudes towards use and behavioral control. Subjective norm does not significantly influence intention to use text messaging directly. Attitude towards use is significantly influenced by usefulness, enjoyment and subjective norm. Expressiveness does not significantly influence attitudes. The study conclude that the extended model explains a large proportion of the variance in intention to use, that the suggested concepts of enjoyment and expressiveness are important contributors to this explanatory power, and that subjective norm seems less important in explaining the adoption of text messaging services among these young users.

Oh & Xu (2003) empirically examined the effects of multimedia on consumer behavior in a simulated mobile commerce environment. A structural model was formulated to test the effects of multimedia on entertainment, informativeness, and irritation in the context of location-aware advertising. The results showed that
multimedia location-aware advertising messages lead to more favorable attitudes and increase the intention to reuse the mobile advertising service. Evidence also suggests that multimedia has a significant impact on purchase behavior.

Kesti (2004) found that the perceptions users got from testing mobile services affect their intention to use those kinds or similar services in the future. The results also indicate that there are significant differences when examining two kinds of groups; low interest users and high interest users. The test users regarded the guidance services as the most important, followed by mobile ads and communication services. Furthermore, there were statistically significant differences in means between different types of users and their evaluation of the three services groups. It seems that perceptions users got from testing the mobile services affected their intention to use those kinds of services in the future, and there were no major differences in perceptions between high and low interest users, but it seems that there are significant differences in how high given m-services are valued when considering low interest and high interest users’ perceptions. The most interesting services were guidance services, followed by mobile advertisements and personal
communication. Finally, the test users seem to be significantly interested in mobiles services overall and thus are also willing to use them in the future.

Lu (2004) explored factors significantly impact the acceptance of Wireless Internet via Mobile Technology (WIMT) in China. The results indicate that the acceptance of WIMT was related with factors of: perceived usefulness, perceived ease of use, social influences, wireless trust environment, and facilitating conditions. It provides diagnostic insight into how different factors influence user intention to accept WIMT in China, and thus help business build solid strategy to prompt WIMT and m-commerce there.

Tsang et al (2004) investigated consumer attitudes toward mobile advertising and the relationship between attitude and behavior. An instrument for measuring attitudes toward mobile advertising is developed. The results of a survey indicated that (1) consumers generally have negative attitudes toward mobile advertising unless they have specifically consented to it, and (2) there is a direct relationship between consumer attitudes and consumer behavior. Thus it is not a good idea to send SMS advertisements to potential customers without prior permission.
Entertainment was the most significant of the factors affecting respondents’ attitudes, followed by credibility and irritation. Attitude is positively related to the intention to receive mobile ads. Intention is affected by the incentive associated with the advertising. The respondents were more willing to accept incentive based mobile advertising. Finally, intention significantly affected how and when the respondents read the message.

Bauer et al (2005) investigated the factors that induced consumers to accept the mobile phone as a means of communicating promotional content. The empirical results identified entertainment value as well as information value as the strongest drivers of the acceptance of the mobile phone as an innovative medium for advertising content communication. Another result of this study is that risk perception negatively determines the attitude toward mobile marketing. Risk perception in the context of mobile marketing mainly results from the fear of data misuse and the reception of unwanted mobile marketing messages.

Wua & Wanga (2005) presented an extended technology acceptance model (TAM) that integrates innovation diffusion theory, perceived risk and cost into the TAM to investigate what
determines user mobile commerce (MC) acceptance. The proposed model was empirically tested using data collected from a survey of MC consumers. The structural equation modeling technique used to evaluate the causal model and confirmatory factor analysis was performed to examine the reliability and validity of the measurement model. The findings indicated that all variables except perceived ease of use significantly affected users’ behavioral intent. Among them, the compatibility had the most significant influence. Furthermore, a striking, and somewhat puzzling finding was the positive influence of perceived risk on behavioral intention to use.

Scharl (2005) reviewed mobile marketing and then investigated the most successful form of mobile communication, short message services (SMS), via a quantitative content analysis of the Fortune Global 500 Web sites and qualitative interviews with European experts. The content analysis explores the diffusion of SMS technology and sheds light on mobile marketing campaigns of large multinational organizations. Combining a literature review with results from the qualitative survey leads to a conceptual model of successful SMS advertising. After developing a broad overview of mobile marketing based on the presence of terms on global Web
sites, this paper presented a conceptual model of effective SMS advertising based on a qualitative survey among senior management and academic experts in the field. The model sheds light on emerging forms of mobile advertising. It distinguishes two categories of success factors, message and media characteristics, which influence three dependent success measures: consumer attention, consumer intention and consumer behavior.

Leppaniemi & Karjaluoto (2005) built a conceptual model of consumers’ willingness to accept mobile advertising. First, the study investigated factors that influence the acceptance of mobile advertising from both industry’s and consumers’ point of view. Second, based on a review of previous studies in the field, the authors propose a conceptual model of consumers’ willingness to accept mobile advertising. The model, based on four research hypotheses, indicates that consumers’ willingness to receive mobile advertisements to handsets is mainly driven by four factors: the role of mobile medium in marketing mix, development of technology, one-to-one marketing medium and regulatory. The findings provide several conceptual and managerial insights into the role of mobile advertising today and in the near future. Technology acceptance
research has tended to focus on instrumental beliefs such as perceived usefulness and perceived ease of use as drivers of usage intentions, with technology characteristics as major external stimuli. Behavioral sciences and individual psychology, however, suggest that social influences and personal traits such as individual innovativeness are potentially important determinants of adoption as well, and may be a more important element in potential adopters’ decisions. This paper models and tests these relationships in non-work settings among several latent constructs such as intention to adopt wireless mobile technology, social influences, and personal innovativeness. Structural equation analysis reveals strong causal relationships between the social influences, personal innovativeness and the perceptual beliefs: usefulness and ease of use, which in turn impact adoption intentions.

Standing G. et al (2005) examined various theoretical approaches that can be used to investigate effective m-marketing strategies. He used an adapted version of the unified view of user acceptance of IT to determine the factors that impact on the intention to participate in m-marketing. A survey of mobile phone users shows that consumers view the benefits of m-marketing as
saving money, saving time and providing useful information. Consumers think that granting permission is an important factor in a decision to participate in mobile marketing. In addition, financial incentives can substantially improve the level of participation. It would appear that the effort and time involved in processing m-marketing messages are not important factors in the decision to participate in m-marketing schemes.

Yang (2005) employed the Technology Acceptance Model (TAM) to examine factors affecting Singaporeans attitudes toward this emerging mobile technology and applications. The research uses a quantitative approach to survey 866 Singaporean students examining their decision-making process to adopt M-commerce. Empirical data from regression analyses reflect consumer perceived usefulness (PU) influence attitude toward using (AT) M-commerce. It is also found consumer innovativeness, past adoption behavior; technology cluster adoption, age, and gender affect their adoption behavior. Results from multiple regression analyses further revealed that male respondents tend to perceived M-commerce favorably. The majority of positive relationships between PU, PEOU, AT, innovativeness, adoption behavior, and demographics are supported
by the empirical data. Results also support the applicability of TAM and its extension to examine M-commerce adoption by Singapore consumers. This research also validates the robustness of TAM to study emerging technologies outside the U.S. context.

Nysveen, et al (2005) developed original TAM model with some additional variables aimed to explain consumers’ intentions to use mobile services. The results of the study showed strong support for the effects of motivational influences (usefulness, ease of use, enjoyment and expressiveness), attitudinal influences (attitude), subjective norms and perceived control on consumers’ intentions to use mobile services. In other words, results confirm perceived usefulness, perceived ease of use and attitude toward use to be either direct or indirect determinants of mobile services usage. Subjective norms and perceived control are further proved to be important direct antecedents of consumers’ intentions to use mobile services. Perceived expressiveness and perceived enjoyment show the most promising and notable effect in the study. All the variables that were proposed to be the determinants of intention to use mobile services were significant. In addition to this, the results found that process characteristics (goal oriented vs. experiential services)
associated with the mobile services moderated some of the effects between the drivers of adoption and the intention to use mobile services. For goal-oriented services, such as SMS and payment via mobile phone, perceived ease of use and perceived control were found to be especially important, while for experiential services (chat and game on the mobile phone) it was perceived expressiveness and perceived enjoyment that were important.

Nysveen et al (2005) researched on how gender moderates the intention to use mobile chat services. Almost the same extended adoption model based on TAM was used as in their previous study, except that behavioral control was not included in the model in this study. The results showed that social norms and intrinsic motives such as enjoyment are important determinants of intention to use mobile services for female users. For male users, it was extrinsic motives such as usefulness, and surprisingly expressiveness that were the key drivers for intention to use mobile chat services. Ease of use and attitudes did not have different effects across genders.

Haghirian et al (2006) investigated cross-cultural differences in perception of m-advertising. The overall results of the study indicated that students generally did not perceive mobile advertising
as very positive. However, there are slight differences in perceptions between Japan and Austria. Japanese respondents perceive advertising as more entertaining and valuable. Despite the fact that they are more frequently exposed to mobile advertising messages, they also showed a more positive attitude toward it.

Bamba & Barnes (2006) examined the phenomenon of consumers’ willingness to give permission to receive Short Message Service (SMS) advertisements. The study utilized a multi-method research approach with both qualitative and quantitative data – via focus group and scenario-based survey. The results showed that even if the relevance of the advertisement is high it does not on its own make consumers give permission; it need to be combined with the control over opt-in conditions to assure consumers and gain permission. Regarding brand familiarity, this appears to have little impact on consumers’ willingness to give permission to receive SMS advertisements. The opt-in conditions valued the most are: the possibility to withdraw at any time, personal data disclosure only with consent, and mobile phone operators as a primary advertising filter. The paper rounded off with
conclusions, implications for marketing practice and directions for future research into permission in SMS advertising.

K. Rouibah (2006) introduced a model that describes Camera Mobile Phone (CMP) adoption in the Arab world. Data collected from 240 users in Kuwait were tested against the extended TAM. Results revealed perceived enjoyment is the most direct determinant of CMP usage, followed second by personal innovativeness and third by perceived usefulness. However, results show privacy exerts the weakest effect on CMP usage. Findings show that PU exerts more effect than PEOU, which is in line with previous studies. Among the external and latent variables, perceived enjoyment exerts more effect on current usage than PU, PEOU and subjective norm. This findings contrast with TAM 1 (Davis et al., 1989, Hwang 2005) where PU emerged as the major determinant of IT acceptance in the work place.

K. Rouibah & H. Hamdy (2006) applied TAM to assess the acceptance and voluntary usage of instant messaging (IM) and its impact on 609 students at Kuwait University. Two cultural variables, namely curiosity and compatibility, and a technical variable, prior similar experience, were included in the model
besides perceived usefulness (PU) and perceived ease of use (PEOU). The results validate TAM, although it shows some slight differences compare to what it has been established in North America. The findings suggest that PU has no effect while PEOU plays the most important role on IM acceptance. Results also indicate that cultural variables (curiosity and compatibility) affect IM acceptance that is more associated with negative impact on students on IM acceptance. Results also indicate that curiosity, compatibility and prior similar experience play the second larger affect on IM acceptance after PEOU since they exert the same direct or indirect effect. Contrary to what it has been established in the west, PU has no effect on current usage. In addition, while results indicate that compatibility has the strongest direct effect on IM Impact PU exerts the second largest direct effect on IM impact.

The main contributions of the paper stem: (a) in the application of a rigorous statistical technique- the application of structural equation modeling using LISREL, (b) the extension of TAM to include curiosity as a mediating factor and belief that has equal power as PEOU and PU, (c) prove that cultural factors (compatibility and
curiosity) affect directly and indirectly IM acceptance in the Arab world.

Lee (2006) examined the influencing factors of consumer behaviors in the context of mobile advertising. The first stage of the study evaluates the correlation relationship of consumer motives for receiving mobile advertising and their attitudes toward mobile advertising. It also investigates the relationship between consumer intentions for receiving advertisements on their cellular phones and their subsequent actions once the mobile advertising was received. A negative sentiment was revealed by cellular phone users toward mobile advertising, a signal that current practices of mobile advertising are ineffective and require a careful reevaluation on the part of mobile commerce firms. The second stage of the research validates a Fishbein and Ajzen’s Theory of Reasoned Action model. It is found that positive actions on the received advertisements are significantly influenced by strong intentions; strong intentions are influenced significantly by favorable attitudes, and favorable attitudes are influenced significantly by strong motives.

Amin et al, (2007) adopted a technology acceptance model (TAM) to investigate factors that determine an individual’s
intention to use mobile banking among bank customers in Labuan and Kota Kinabalu. The TAM includes perceived credibility, perceived self-efficacy and normative pressure. The results supported the extended TAM in predicting bank customers’ behavioral intention to use mobile banking. Determinants are perceived usefulness, perceived ease of use, perceived credibility and perceived self-efficacy. Normative pressure was found to be a weak determinant in explaining bank customers’ intention to use mobile banking. The study also demonstrates the significant effect of perceived ease of use on behavioral intention through perceived usefulness. It successfully confirms the applicability of the TAM to mobile banking. Traditional TAM measures found to be significant factors of the behavioral intention to use mobile banking, these being ‘perceived usefulness’ and ‘perceived ease of use’. This study supports Wang et al.’s (2003) research findings that there is a significant direct relationship between perceived self efficacy and behavioral intention to use online banking, and may extend its generalisability to mobile banking; and the study also supports the valid argument on perceived credibility as previously examined by Wang et al. (2003).
Karjaluoto et al (2007) conceptualized and tested a theoretical framework that investigates customers’ intention to engage in permission based mobile marketing communications with a firm in the hospitality sector. The model proposes that perceived usefulness, perceived ease of use and perceived trust affect attitude toward advertising, which in turn, together with perceived behavioral control over mobile communications and reference group influence, affects intention to engage in permission based mobile communications with a firm. Data is collected by the means of an online survey (n=8,578) and analysis incorporates confirmatory factor analysis and structural equation modeling. The results support the conceptual model and show specifically that perceived usefulness of mobile communications explains a considerable amount of attitude toward advertising. Attitude was found to explain a considerable amount of the intention to receive messages from a firm. The results showed that the use of almost purely electronic channels in advertising has proved to be a great success. The case company has reduced its marketing expenses to one third, created a large SMS and e-mail opt-in database mostly via word-of mouth and made the mobile channel a very attractive
and interactive channel among its opt-in users. Thus, there is strong evidence that mobile marketing works if the target audience is suitable.

Merisavo (2007) examined the drivers of consumer acceptance of SMS-based mobile advertising. A conceptual model and hypotheses were tested with a sample of 4,062 Finnish mobile phone users. Structural equation modeling was used to test five drivers of mobile advertising acceptance: (1) utility, (2) context, (3) control, (4) sacrifice, and (5) trust. The results showed that utility and context are the strongest positive drivers, while sacrifice is negatively related to the acceptance of mobile advertising. Despite the concerns about privacy, the results indicated that control and trust are not that important to consumers in mobile advertising.

Muk (2007) examined whether cultural differences between countries have a significant impact on consumers’ adoption of SMS advertising. Hofstede’s cultural individualism / collectivism dimension was used to investigate whether culture is an important determinant of people’s intentions to accept SMS advertising; Taiwan and the US, representing two different cultures. The propositions presented in this study provide preliminary evidence...
that consumers’ cultural orientations embedded in their belief systems may play an influential role in their decision making processes. The findings of this study reveal that American consumers’ decisions on accepting SMS ads via their mobile phones are solely based on attitudinal considerations whereas Taiwanese consumers’ intentions to act are influenced by social norms as well as attitudinal factors.

Wua (2007) amplified the basic elements of mobile advertising, which would be influential factors to the development of mobile advertising, then try to analyze the correlations and effect between each elements and generation. In the end, the study tried to categorize the variation from first generation (1G) to the third generation (3G), and infer the trend of mobile advertising in the fourth generation (4G). Through the generalization of development of each element, authors suggest that mobile advertising should reinforce multimedia application, adopt consumer-oriented perspective and imitate of internet advertising model in 4G stage.

Barutçu (2007) analysed the possible significant impacts of mobile phone technology developments on marketing and determines those target mobile phone users who have the most
positive attitudes towards mobile marketing tools. The survey results, conducted on 418 mobile phone users, showed that the mobile phone users’ adaptation to mobile shopping is low; however, mobile phone users have positive attitudes towards mobile marketing tools—mobile advertising, mobile discount coupons, mobile entertainment, location-based mobile services, mobile internet and mobile banking. The survey results suggested that target segment/segments can be determined for mobile marketing strategies.

Lo’pez Nicola’s et al (2008) integrated TAM and Diffusion Theory to assess advance mobile services acceptance using a sample of 542 Dutch consumers. The results found that traditional antecedents of behavioral intention, ease of use and perceived usefulness, can be linked to diffusion-related variables, such as social influence and perceived benefits (flexibility and status). The findings showed that social factors exert an important influence on people’s decision to adopt advanced mobile services. The opinions of friends and relatives have a significant impact. The positive impact of social influences on PEOU is of special interest. The results indicated that social influences should be viewed as an
antecedent of constructs explaining the adoption of mobile advanced services. From a managerial viewpoint, this means that PEOU, and BI depends significantly on social influences.

Haghirian & Madlberger (2008) investigated whether consumers in more advanced markets concerning m-commerce show a different attitude toward mobile advertising than consumers in less developed markets. The study presented two empirical studies conducted in Japan and Austria. The results indicated that entertainment and informativeness are significant antecedents in both samples, but with different strengths of relationship.

Manochehri & AlHinai (2008) studied the status of mobile-commerce in the Gulf Cooperation Council (GCC) countries in term of consumers’ attitudes towards mobile commerce and mobile services provided by mobile operators Oman, one of the GCC countries is used as the case study. The results showed that there is a promising future for mcommerce in Oman as above 66 percent of respondents said that they are willing to buy products and services using their mobile phones. Security of mobile transactions and the cost of products and services are great concerns to the mobile phone users.
Suher & Ispir (2009) investigated factors that affect consumer attitudes toward SMS advertising in Turkey and the relations between attitude and the indicators. The empirical data showed four factors are important for attitudes toward SMS advertising in Turkey: Infotainment, Life partner, Privacy, and Irritation. The findings of this study showed parallel results to those in the literature, meaning that, the attitudes of Turkish consumers toward SMS advertising can be analyzed using similar factors already presented in the literature.

Shalini Nath Tripathi (2009) studied consumer responsiveness to mobile marketing, in terms of its impact on purchase decision making in India. The major findings revealed that the perception of consumers towards mobile marketing can be broadly categorized into three factors: 1) Lack of contextualization and personalization of mobile ads 2) Disruptive nature of mobile ads and 3) Perceived usefulness of mobile ads. Further results indicated that mobile marketing/advertising (in its current format) does not have a significant impact on the purchase/brand decision of consumers.
Waldt & Brown (2009) this study focused on determining the perceptions of the South African younger consumer segment towards SMS advertisements. It is expected that this segment, due to their changing consumer behaviour and media habits, will be the future focus of a great deal of SMS advertising campaigns. Quota sampling was done in a large university and self-administered questionnaires were completed by 198 respondents. It was found that consumers’ perceptions of the entertainment value, informativeness and credibility of SMS advertisements are positively correlated to consumers’ overall attitudes towards SMS advertisements. The study further found consumers’ perceptions of the irritation aspect of SMS advertisements is negatively correlated with consumers’ attitudes towards SMS advertisements. Consumers have generally negative overall attitudes towards SMS advertisements and it must be cautiously used when attempting to gain the attention of a younger segment of consumers. Permission based marketing, the sending of SMS advertisements to only those who have agreed to receive promotional information, is an important element for the success of SMS advertising.
3.2.3. Studies on Advertising in Traditional Media:

Wossen; et al (1991) Investigated the effectiveness of urban newspapers as compared to suburban weeklies and radio broadcasts as advertising vehicles for retail businesses. The study suggests that advertising responsiveness of some target markets can be enhanced by changing the advertising vehicle. Local weekly community paper may be better alterative than urban dailies for two reasons: first, because it is difficult to reach the suburban market using radio. Second, urban dailies, as an alternative media vehicle offer lower advertisement exposure to suburban residents. It is suggested that it is strategically unwise to exclusively use one medium in a major market with overlapping suburban-urban target markets. The appropriate choice of media vehicles results in better media exposure and reach.

Kover and Abruzz (1993) evaluated the theoretical framework introduced by Rossiter and Percy in 1987 which aimed at helping advertisers predict and plan for advertising effectiveness. The focus of the study was on the emotional sequence sparked by the advertising that discussed by Rossiter, Percy and Donovan (1991) aspects and proposed that advertising that agrees with the
Rossiter and Percy model would be more effective than advertising that does not agree with it. Purchase interest responses served as a measure of effectiveness. The most important implications of this research is that there exists a subtle and complex relationship between emotional response and advertising more than the Rossiter-Percy model indicates.

Mehta A (1994) developed “Advertising Response Model” for use in copy research that attempts to provide a clearer understanding of the processing of the particular advertising and helps identify its areas of strengths and weaknesses. The model integrates several multiple measures found to be of value in copy testing. The applications of this model, which presented in two different case studies, showed that the model is flexible and broad, and can be useful in situations with differing marketing communications objectives by showing relationships among multiple copy-testing measures: product-oriented and corporate advertising.

Gonten and Donius (1997) applied a proprietary model called 'X-10d' to identify and quantify the effects of advertising and other marketing activities. Consistent evidence of advertising impact was
found by separating the penetration element of volume by measuring weekly increases against an expectation based on off-air weeks. Among the general findings of the study are that the commercial causes the response and not the campaign or the strategy, that the advertising effect is immediate and accumulates over time, that short-time effect is generated by the penetration component of volume, and that long-time effect accumulates through the repeat components.

Opposing to the minimalist who assert that one exposure is enough and repetitionists who believe that repetitive advertising is necessary, Tellis, G. J. (1997) argued that Effective frequency depends on three factors: brand familiarity, message complexity, and message novelty.

Avery (1998) compared consumer reactions to products advertised through an interactive medium with reactions to products advertised in a more traditional, non interactive format. Findings showed that the traditional linear advertising format of conventional ads was actually better than interactive advertising for certain kinds of consumers and for certain kinds of ads. In particular, a cognitive 'matching' of the system properties (being predominately visual or
verbal) and the consumer segment needs (preferring their information to be presented in a visual or verbal manner) appeared to be critical.

Elliott and Speck (1998) studied the consumer perceptions of advertising clutter and examined through a national survey of 946 individuals. Perceived ad clutter across the spectra of advertising media, including newspapers, magazines, Yellow pages, direct mail, television and radio, was investigated to find out how such perceptions relate to consumers' attitudes toward advertising and their ad avoidance in each of these media. Furthermore, the study sought to determine the extent of the occurrence of clutter-related effects across advertising media, as well as the extent to which these effects are clutter-related. The findings indicated that the perception of advertising clutter is highest in television and direct mail, while the highest level of advertising-related communication problems was observed in television and magazines.

Abela and Farris (1999) provided a critical review of the recent literature on advertising effectiveness, market efficiency and advertising and price. The study concluded that the research efforts on the question of the impact of advertising on price should focus
on absolute, not relative, prices. Price dispersion is not *per se* evidence of high absolute prices, and the role of vertical competition needs to be recognized explicitly.

Mehta (2000) tested the hypothesis that, more favorite attitudes toward advertising in general would recall more advertisements the day after exposure and be more persuaded by the advertisements. Two key measures were selected for use as indicators of advertising effectiveness in this study: Intrusiveness, an indicator of attention-getting power and memorability of the advertising, and Persuasion, measured as the favorable buying interest for the advertised products. The findings clearly showed that individual attitudinal factors related to advertising in general do influence how a respondent reacts to any particular advertisement. Accordingly, for the advertisement to be effective, it should be something people should like looking at, believe, and find utility with keeping them up-to-date about products and services. Advertising that is entertaining, informative, and truthful promotes consumers to like advertising in general and believe in its value. Overall positive attitudes to advertising, in turn, render specific
advertising messages to be better received and more effective among consumers

Broussard Gerard (2000) examined the relationship between frequency of ad exposure and advertising effectiveness, and how media planners can use this information to develop scheduling guidelines. Two case studies demonstrate this relationship for campaigns with different basic marketing approaches: direct response versus branding. The direct response example employs an advertising frequency model that is used to obtain more sales leads per dollar spent on advertising. The branding case shows the point of diminishing returns for building awareness.

Sohn and Choi (2001) analyzed TV advertising lifetime data of five mobile phone companies in Korea to identify the distribution of advertising lifetime and model the median life as a function of company-specific fixed effects, type of advertising, the number of new customers signed for the service, and the number of new advertisements placed by the competitors. The study showed how the fitted lifetime model can be applied to advertising policy such as switching time for new advertisement.
Bruce F. Hall (2002) addressed the question of how advertising works conceptually, and uses a conceptual foundation to suggest some new measurement methodologies by elaborating a new theoretical framework for how advertising operates on the consumer. The study developed a theoretical model of the consumer's response to advertising, which maps a process founded in three key elements: perception, experience, and memory. It then generated some clear, straightforward, and radical alternatives to current techniques for testing advertising.

Bruce F. Hall (2004) attempted to lay the framework for a new approach to copy testing based on a theoretical model of advertising that brings affective measures to the forefront. It pointed the way to a complete rethinking of some new and old tools for measuring the effects of advertising and made specific suggestions for how copy testing should change.

Vakratsas and Zhenfeng (2005) examined the long-term effectiveness of multimedia advertising in a competitive setting and its implications for budget allocation decisions, using multivariate persistence methodology. Analysis of network TV, spot TV, and magazine advertising for the two major competitors in the U.S.
SUV industry suggested that long-run advertising effectiveness differed considerably among media. These differences were attributed to the media lifespan, retrieval, and content of the message they convey. Results proposed that budget allocation decisions should consider the long-run effectiveness of the different media employed to increase the productivity of advertising campaigns.

Heinonen & Strandvik (2005) explored consumers' responsiveness to marketing communication about various services and products in three different media: traditional direct mail, e-mail and SMS. Communication value had been seen as an element of service value and was measured as consumer responsiveness to marketing communication. Findings showed differences in consumer responsiveness to different services and physical products. The overall responsiveness was relatively low for the offerings in all media. A division into responsiveness groups demonstrated that there were also consumers who are positive to communication.

Homer. P. M. (2006) assessed the impact of ad-induced affective and cognitive responses on brand attitudes for known and
unknown brands. Past efforts have typically neglected to account for the multidimensionality of affect, cognition, and attitude. Findings presented suggested that the relative roles of affect and cognition are impacted by brand familiarity.

3.2.4. **Studies on Advertising in New Media:**

Elaine K. F. Leong et al (1998) explored the perceived position of the effectiveness of the Web as an advertising medium versus several traditional media. The perspective taken in study was that of business managers and operators focused on businesses that have already taken a significant step to use the Internet for promotional purposes by setting up Web sites. The study found that the perceptions suggest that the Web site is a potential threat to Direct Mail. Moreover, the Web site complements the other main media, Television, Telemarketing, and Radio. Therefore, the Web site should be integrated into the media mix to help achieve the company's marketing and communication objectives. Advertisers should not use traditional type advertising on the Web. Based on the characteristics of the medium, and its suitability for different types of communication, advertising for the Web should be designed
specially to take advantage of the medium's unique interactive characteristics and capabilities.

Cho and Leckenby (1999) explored the concept of interactivity in Web advertising by looking at its antecedents and consequences. The study found that three antecedent variables successfully predict the degree of interactivity; i.e., people are more likely to engage in a high degree of interactivity when they have 1) high level of involvement, 2) high perception of message-relatedness between the banner ad and the target ad, and 3) high perception of message-personalization. It also found that a higher degree of interactivity yields better advertising effects (i.e., favorable attitude toward the target ad, favorable attitude toward the brand, and high purchase intention).

Anderson & Nelson (2000) explored the effectiveness of wireless advertising campaign via SMS in cellular network. The study conducted in Sweden by first evaluate its effectiveness on traditional communication effect measures such as Advertisement awareness, Brand awareness and attitude, purchase Intention and search for more information. Then possible mediators of advertising effectiveness that have impacts on the evaluation measures such as
ad specific and medium specific factors have been investigated. The findings of the study confirmed the effectiveness of SMS wireless advertising campaign

Kumar (2000) examined various aspects of the advertising hierarchy-of-effects in the context of commercials running on the World Wide Web. The study explored the advertising hierarchy-of-effects and its antecedents in the context of the web by replicating and extending a previous study by Stevenson, Bruner, and Kumar, (2000). In doing this, the effects of webpage complexity and dynamic content on the hierarchy-of-effects experimentally tested using nonstudent subjects. The study found that increasing webpage complexity led to the pages being perceived as more interesting. Interestingness, in turn, had a positive impact on viewers' attitudes-toward-the-website but webpage complexity had a negative effect. The effects of complexity on attitude-toward-the-website are not simple since the direct and indirect effects oppose each other. In light of the fact that prior research found that webpage complexity had negative influences on advertising effectiveness, the findings from the present study make a useful contribution in clarifying that relationship.
Parsons, et al (2000) examined user responses to advertising and information content on the Web under varying forms of content and advertising structure. The results showed that advertising effectiveness is constant across advertising formats, media, and Web content structures. Evaluation of content was found to be unaffected by medium or Web content structure, but positively related to the presence of advertising, and negatively associated with the level of intrusiveness of advertising format.

SkyGo (2001) outlined consumer’s response to mobile marketing and identified preferences for advertising format types. The findings of this wireless marketing study demonstrates that mobile "push" advertising (in this case, WAP alerts) is perceived as a value-added service, generating high response rates, fostering brand awareness and driving consumers to act. The data gathered illustrates that when done correctly, wireless advertising offers carriers a way to reduce churn, publishers a method to monetize their wireless content, and consumers a compelling value-added service. Permission-based alerts delivered to wireless devices captured consumers attention, derived action and built brand awareness.
Barwise & Strong (2002) explored the effectiveness of SMS as an advertising medium for reaching young adults on permission-based advertising via mobile phones. The results suggest that, with the right execution the mobile channel has the potential to benefit both advertisers and consumers. To be effective the text should be attractive, relevant and informative and explicit permission is essential.

Kavassalis, P, et al (2002) claimed that for mobile marketing to be effective and lucrative the industry participants should address the customer relevant, requested and interactive content. End-use privacy must be respected, so permission marketing for opt-in, with clear opt-out instructions, is the efficient way to proceed. Public policy should encourage industry self-regulation bodies to define standards for privacy and consumer protection, and avoid any direct implication in these early stages of experimentation with an innovative marketing channel that was not yet clearly understood.

Reyck & Degraeve (2003) presented a new broadcast scheduling system methodology for mobile marketing developed for a precision marketing firm specialized in location-sensitive permission-based mobile advertising using SMS (Short Message
Service) text messaging. The model balances the needs and preferences of both customers and retailers, resulting in a multi-objective setting, solved by determining appropriate priorities. The system maximized customer satisfaction primarily by broadcasting interesting offers such as deep discounts or offers on popular products, customized ads that match the individual customer's preferences at an appropriate time, and with maximum variety among ads. Further, the system also considers retailer preferences by tailoring the ads to specific customer segments, to individual customer profiles, and by allowing the specification of preferred broadcast time slots. Moreover, the developed system greatly reduces the time required to schedule the ad broadcasts, allowing for an increase in the scale of operations.

Gong and Maddox (2003) examined Chinese consumers' perceptions and responses to web banner advertising. Results suggested that just one additional banner exposure improves Chinese users' brand recall, changes their attitude toward the brand, and increases their purchase consideration. Although click through was found to be a significant predictor for banner recall, there was no evidence that click-through affects brand recall, attitude toward
the brand, or purchase consideration. Thus, banner advertisements do work and the web is a good medium for brand building and consumer communication. The results also reveal that the click-through rate itself is unlikely to be indicative of the overall effects of a banner exposure. Knowledge of Chinese consumers' perceptions and behavioral reactions to banner exposure is valuable to marketers' understanding of this significant market. In addition, consumers in the Greater China area share similar core values despite the different degree of westernization/individualization so similar responses toward web advertising were suggested. Consumers from other emerging markets with similar internet development may show the same response.

George Baltas (2003) studied the structure of advertising effectiveness on the internet. The importance of creative and media factors for banner effectiveness was empirically investigated. Econometric modeling of actual data on banner ads demonstrated that creative factors such as banner size, animation, message length and logos, as well as media factors such as campaign length, number of host websites, use of offline media, and campaign cost, may influence the direct response of the target audience as
measured by click-through rates. The results offer several directions for the design and execution of effective banner campaigns. The creative characteristics of effective banner are: large size, short message, few frames and absence of company logo.

Dahlen, et al (2003) investigated whether a website visit immediately lead to love (increased brand attitude) for the brand. The findings of the study showed that websites for different products differ in their ability to increase brand attitude. Moreover, websites for different products work differently over time, with repeat visits.

Chandon, et al (2003) claimed that the click-through rate is an interesting and original measure of advertising effectiveness and considered as an immediate response to an advertisement and a behavioral action to request further information. It can be studied by examining the effects of some variables that were supposed to enhance advertising effectiveness either in traditional media or on the internet. Results showed that the effect of image presence (already controversial in traditional media) has not been confirmed. The moderating effect of involvement (here approached by the type of hosting page) has not been confirmed either. This would suggest
that the internet can be considered as a high-involvement media and that vividness may not have any differential effect.

Tsao; & Sibley (2004) measured the extent to which consumers used the internet to displace or reinforce the use of other media as sources of advertising information. The media compared with the internet in the study included billboards, daily newspapers, direct mail, in-store advertising sheets, magazines, radio, free community papers, television, and weekly paid newspapers. The results showed that although internet advertising provided many unique features, it has not displaced most media as sources of advertising information. Many consumers found that internet advertising serves as a complementary rather than competitive medium based on their favorable attitudes or frequent use of other media advertising. The results also indicated that the reinforcement effects will be likely more evident for the future use of internet advertising associated with the use of billboards, direct mail, magazines, and television.

Joseph E. et al (2004) have carried out three studies that examine consumer responses and motivations to pass along email. The study illustrated the importance of selecting targets who will
find the advertiser’s information relevant enough to pass-along and 
the message creation for advertising practitioners interested in 
implementing viral efforts. Suggestions for future research relating 
to computer-mediated consumer-to-consumer interactions are 
presented for academic researchers.

Based on a literature review and exploratory qualitative 
research Dickinger & Haghirian (2004) suggested an exploratory 
SMS marketing model of two independent variables, message and 
media success factors, which influence three dependent measures of 
success: consumer attention, consumer behaviors and advertising 
cost ratios. They also propose a definition of mobile marketing, its 
instruments and marketing applications. The analysis sheds light on 
the perceptions of managers working with nascent forms of mobile 
marketing.

versus intrusive ad media in the nature of American public opinion 
toward advertising. The study also explored the impact of self-
selection on the psychological processes underlying evaluations of 
ad media. The results revealed that how people feel about 
advertisements depends on the medium in which the ads appear.
Media that allow for self-selected experiences, where perceived interest in an ad is the basis for attention to it, were evaluated much more favorably than more intrusive advertising media. Catalogs and business classifieds elicited the most favorable opinions; TV advertising elicited the least, and these media differences generally cut across demographic lines. Although more educated and affluent consumers generally held less favorable views of advertising, preliminary results suggested that this did not hold true for media that allow for self-selected processing. An additional study suggested that memory of advertisements plays a significant role in the evaluation of a self-selected ad medium (catalogs). That is, consumers’ strongest memories are for those ads to which they paid the most attention, and consequently these engaging ads have a disproportionate influence on opinions toward the ad medium.

Hristova and O’Hare (2004) discussed key issues in the development of Ad-me (Advertising for the Mobile E-commerce user), a context-sensitive advertising system. Ad-me aims to deliver more palatable, less intrusive and personalized advertisements overlaid upon a mobile tourist guide. This paper describes the design and implementation of Ad-me and subsequently reflects
upon the possibility of using user emotion to increase effectiveness of the advertising. The design of Ad-me adopts a Multi-Agent Systems (MAS) philosophy.

Nysveen, et al (2005) investigated the effects of mobile channel additions on consumer-brand relationship dimensions. The results suggested that SMS channel additions are perceived as complements to the brands' main channel, whereas MMS channel additions today primarily are perceived as supplementary channels. Moreover, the findings suggested that a promising strategy for increasing consumption of the brand's main channel is facilitation of the consumers' direct relationship investment in the mobile services.

Mort & Drennan (2005) investigated m-services usage and the relationship between emergent m-services types and mobile user characteristics. Results showed that consumers perceive mobile services (m-services) in terms of usage benefit types that labeled 'mobile life enhancers' (MLEs). The research further establishes important patterns of relationships between mobile user characteristics and MLE types.
Svendsen et al (2006) investigated SMS in a representative sample of office environments in a Scandinavian town. The results indicated that SMS messaging is not integrated into office work, that the messages are highly informal, and mostly from the private sphere and from persons well known to the receiver. Different explanations of the infrequent use of SMS in the workplace, e.g. cost sharing between employer and employee, are proposed. One explanation ties the difference in popularity in the private and business spheres to technical aspects of the system and its user interface. This explanation suggests that SMS is an inherently informal communication system, ill suited to the business domain.

Chin-Lung Hsu, et al (2007) applied innovation diffusion theory to examine the factors that influence the adoption of MMS. The proposed model was empirically evaluated by using survey data collected from 207 users concerning their perceptions of MMS. The findings indicated that perceptions of use were different over innovation diffusion stages. Specifically, there was a significant difference between potential adopters and users.

Drossos et al (2007) investigated the significance of a number of factors associated with SMS advertising effectiveness
through an experimental study. The findings indicate that incentive, interactivity, appeal, product involvement, and attitude toward SMS advertising in general directly influence attitude toward the advertisement, attitude toward the brand, and purchase intention. The results of the study suggest that a stronger focus on these factors is necessary to improve the effectiveness of SMS advertising campaigns.

Wiedemann & Pousttchi (2007) provided four standard types and identified a set of eight success factors in mobile viral marketing. With clear reflections of success factors’ significance in different standard types the relationship between both was structured and a success factor framework was developed. This framework supported marketers in defining as well as evaluating mobile viral strategies. Following these straightforward and intuitive guidelines increases the likelihood of high viral diffusion of mobile viral content. Not all of the above mentioned factors are necessary to make mobile viral marketing successful. However, the probability of success increases with the number of success factors considered.

Wehmeyer (2007) introduced the concept of ad intrusiveness to mobile advertising research and assessed possible factors which
contribute to consumers’ perceptions of intrusiveness when receiving advertising messages on their mobile devices. Two message types (informative vs. entertaining) were combined with two different situations (low vs. high level of activity). Attitude towards advertising in general and ad relevance (here: product class involvement) were further variables assessed in order to test for a hypothesized impact on mobile ad intrusiveness. While message type was not found to contribute significantly to the explanation of mobile ad intrusiveness, the situation type showed a highly significant effect. Three of the four assumed relationships were found in the data. The study contributes to the body of knowledge on mobile advertising effectiveness. Empirical evidence for the effects of the situational context on mobile advertising effectiveness has been found and discussed with possible implications for marketing practice.

Salem (2007) evaluated the level of banks advertising efficiency and effectiveness in Palestine. Two models were developed for measuring advertising efficiency and effectiveness. The results showed that many inter-correlation factors contributed to inefficiency and ineffectiveness of banks advertising. These
factors were lack of importance of external and internal environments, lack of setting advertising objectives, non-allocation of budget, inefficient and ineffective message formulation, lack of advertising media, and unavailability of advertising evaluation.

Henriksson (2008) succeeded in finding a definition for mobile advertising to use in the context of the report, despite the fact that there is no definition commonly agreed upon. Different ways for marketing through mobile advertising were presented. Two different value chains were presented and were both similar. The correct definition of the mobile advertising value chain was not in the scope of this paper, and thus both were presented as viable mobile marketing value chains. The status of the mobile Internet evolution was touched upon and the commercial value of mobile advertising through mobile Internet portals was briefly evaluated. However challenges need to be overcome for mobile Internet before it can become a commercial success. The main driver for mobile Internet is the potential for mobile commerce including marketing.
3.2.5. Previous Studies Discussion

Main findings of past research done on mobile advertising by location:

<table>
<thead>
<tr>
<th>The Study</th>
<th>Main Findings</th>
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<tr>
<td>Anderson &amp;Nelson “Wireless Advertising Effectiveness” (2000) “Sweden”</td>
<td>-SMS advertising campaign was effective on all evaluation measures except for Brand Attitude. It have a positive impact on Brand Awareness and Purchase Intention -The relevance, the credibility and the level of entertainment in the advertisements were proven to play an important role as mediators of effects on evaluation measures -Four factors concerning wireless advertising in general were highlighted by the end-users:(1) receive something valuable in exchange, (2)receiving free SMS-service in exchange for advertising (3) advertising based on the personal user-profile (4) the ability to influence what kind of advertising they were being sent (most important factor)</td>
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<td>SkyGo Inc. “Ideas &amp; Strategies for Implementing Mobile Marketing” (2001) “Us”</td>
<td>-Permission-based alerts delivered to wireless devices capture consumer attention, drive action and build brand awareness. -Consumers perceive relevant, compelling and convenient information as content NOT advertising -More than half of the consumer pool opted to receive more than the minimum number of ads required to participate in the study.</td>
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<tr>
<td>Barwise &amp; Strong “Permission-based mobile advertising” (2002) England</td>
<td>-Consumers like copy of the text adverts to be concise and entertaining or informative, and relevant -Explicit permission is essential -SMS has great potential as an advertising medium especially for low ticket items aimed at younger consumers.</td>
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<td>Author(s)</td>
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| Kavassalis, P, et al. | “Mobile Permission Marketing - Framing the Market Inquiry” | Greece | 2002 | - For mobile marketing to be effective and lucrative for the industry, participants should address the customer relevant, requested and interactive content.  
- Permission marketing for opt-in, with clear opt-out instructions, is the efficient way to proceed.  
- Privacy and consumer protection should be considered. |
| Herbjørn Nysveen | "Adoption of Mobile Services. Model Development and Cross-Service Study." | Finland | 2003 | - Significant effects of attitude towards use on the intention to use text messaging and contact services  
- Intention to use text messaging is explained by direct instrumentality of usefulness, enjoyment and expressiveness, attitudes towards use and behavioral control. Subjective norm does not significantly influence intention to use text messaging directly although indirect effects mediated by attitudes were observed. |
| Bert De Reyck, Zeger Degraeve | “Broadcast scheduling for mobile advertising” | London | 2003 | - Mobile marketing allows targeting well-identified potential customers based on their current location, thereby increasing the response-to-advertisement ratio  
- The system maximizes customer satisfaction primarily by broadcasting interesting offers such as deep discounts or offers on popular products, customized ads that match the individual customer's preferences at an appropriate time, and with maximum variety among ads. |
| Lih-Bin Oh & Heng Xu | "Effects of Multimedia on Mobile Consumer Behavior: An Empirical Study of Location Aware Advertising" | Singapore | 2003 | - A structural model was formulated to test the effects of multimedia on entertainment, informativeness, and irritation in the context of location-aware advertising.  
- Multimedia location-aware advertising messages lead to more favorable attitudes and increase the intention to reuse the mobile advertising service.  
- Evidence also suggests that multimedia has a significant impact on purchase behavior. |
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<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Year</th>
<th>Country</th>
<th>Key Points</th>
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<tbody>
<tr>
<td>Xu Yan</td>
<td>“Mobile Data Communications in China”</td>
<td>2003</td>
<td>China</td>
<td>An advanced but less-than user-friendly technology like WAP is not necessarily more commercially viable than basic but easy-to-use ones like SMS. The value of an effective business model; the mobile data communication system must be an open system attractive to content providers, because, like the Internet itself, the availability of content makes data communications attractive to subscribers. Pricing scheme enabling mobile data communications to function as a cheaper substitute for voice service is also important, at least in low income economies where subscribers are highly sensitive to price.</td>
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<tr>
<td>Kesti et al</td>
<td>&quot;Tracking Consumer Intentions to use Mobile Services: Empirical Evidence From A Field Trial in Finland&quot;</td>
<td>2004</td>
<td>Finland</td>
<td>Perceptions users got from testing mobile services affect their intention to use those kinds or similar services in the future. There are significant differences when examining two kinds of groups; low interest users and high interest users. The test users regarded the guidance services as the most important, followed by mobile ads and communication services. There were significant differences in means between different types of users and their evaluation of the three services groups.</td>
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<td>Tsang et al</td>
<td>&quot;Consumer Attitudes Toward Mobile Advertising: An Empirical Study&quot;</td>
<td>2004</td>
<td>Taiwan</td>
<td>Consumers generally have negative attitudes toward mobile advertising unless they have specifically consented to it, and Entertainment was the most significant of the factors affecting respondents’ attitudes, followed by credibility and irritation. Attitude is positively related to the intention to receive mobile ads. Intention is affected by the incentive associated with the ad</td>
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| “Ad-me: Wireless Advertising Adapted to the User Location, Device and Emotions” Hristova & O’Hare (2004) Ireland | - Ad-me aims to deliver more palatable, less intrusive and personalized advertisements overlaid upon a mobile tourist guide.  
- Ad-me offers a valuable revenue model whereby it is anticipated that consumers would not pay a subscription charge but rather advertisers would either: Pay a fixed rate a priori charge per month of advertising; or Pay a percentage of sales revenue accrued directly as a result of the usage of the system. Ad-me is operational.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Leppäniemi, et al “The Success Factors of Mobile Advertising Value Chain” (2004) Finland | - The management of the five Cs- which are the critical success factors of m-advertising value chain is vital in defining business models in the m-advertising landscape.  
- These five Cs are content, cross-media marketing, campaign management, customer database, and carrier cooperation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
<p>| A. Scharl et al. &quot;Diffusion and success factors of mobile marketing&quot; 2004 Australia | Presented a conceptual model of effective SMS advertising based on a qualitative survey among senior management and academic experts in the field. The model sheds light on nascent forms of mobile advertising. It distinguishes two categories of success factors, message and media characteristics, which influence three dependent success measures: consumer attention, consumer intention and consumer behavior.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |</p>
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<thead>
<tr>
<th>Study Title</th>
<th>Country</th>
<th>Key Findings</th>
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<tr>
<td>“Marketing m-services: Establishing a usage benefit typology related to mobile user characteristics” Mort &amp; Drennan. (2005) Australia,</td>
<td></td>
<td>Values and attitudes have been found to influence the adoption of technology and technology-related products Association between consumer characteristics (e.g. innovativeness, self-efficacy, love of shopping, interpersonal influence and demographics - specifically gender and age) and intentions to use m-services</td>
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<td>Sio Lai &amp; Kautonen “Permission To Use Personal Information In Mobile Marketing And The Impact Of Trust: A Conceptual Framework” (2005) Finland</td>
<td></td>
<td>-A Conceptual Framework of the Impact of Trusted Factors to Customers’ Willingness for giving Permission to Use Personal Information in Mobile Marketing was developed. -Factors that can affect the level of trust between the customer and the company can be separated into two categories: Internal (Past experience, Customer’s Interpretation on companies’ marketing communication program, Similarity of Organization and Personal goals and vision) External (Reputation, Intermediaries Institutions, Mobile technology’s reliability)</td>
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<td>Bauer, et al , (2005) “Driving Consumer Acceptance of Mobile Marketing: A Theoretical Framework and Empirical Study” Finland</td>
<td></td>
<td>Factors that induce consumers to accept the mobile phone: Innovativeness, Knowledge about mobile communications, Information seeker-behavior, Attitude toward Advertising, Perceived Utility -Social norms only have a slight direct influence on behavioral intention, but are a strong indirect determinant via personal attitude towards the act. -The positive relationships between the constructs &quot;innovativeness&quot; and &quot;knowledge about mobile communications&quot; as well as for &quot;information seeker-behavior&quot; and &quot;attitude toward advertising -Entertainment and information value are identified as the central acceptance drivers of mobile marketing. -Risk perception (fear of data misuse and the reception of unwanted mobile marketing messages) negatively determines the attitude toward mobile marketing.</td>
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<tr>
<td>Author(s)</td>
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| Okazaki (2005) |  | Europe | “Mobile advertising adoption by multinationals: Senior executives' initial responses”
- Branding strategy, location-based services, and service costs were determined to be the most important managerial factors in establishing a mobile-based business model, while facilitating condition, regulatory control, and cultural barriers were the most relevant environmental factors.
- Results reveal that branding strategy, facilitating conditions, and security and costs are the strongest determinants of MNCs' mobile advertising adoption. |
| Drossos & Giaglis | 2006 | Greece | “Mobile Advertising Effectiveness: an Exploratory Study”
- Four categories of mobile messaging advertising effectiveness factors were: Campaign Strategy, Source, Targeting, and Creative Development |
- Effectiveness of advertising campaigns depends on a six constructs: entertainment, informativeness, irritation, credibility, Advertising Value and Attitude toward M-advertising
- Japanese students perceive m-advertising as more entertaining than Austrian students and show a more positive attitude toward it and perceive it as more valuable.
- Differences in technology adoption may therefore also lead to differences in attitude toward m-advertising.
- Mobile as communication channel will become more popular when people become more familiar with the underlying technology.
- Austrian students do not differ from Japanese students in their perception of informativeness and credibility. |
- There is a direct relationship between consumer attitude and consumer intention
- Three important factors affecting attitudes towards mobile advertising were identified: Entertainment, credibility, and personalization.
- Personalization is one of the most important factors in affecting consumer attitude towards mobile advertising particularly for Female users. |
<p>| Carrol, Barnes &amp; Scornavacca | - Four factors were identified and proven as having a significant impact on mobile marketing acceptance - permission, content, wireless service provider control and the delivery of the message, -Trust and permission are necessary factors of consumer acceptance; -Attention needs to be focused around the of the content and the timeliness and frequency of the delivery of marketing messages. |
| &quot;Consumers Perceptions and Attitudes towards SMS Mobile Marketing in New Zealand&quot; | 2005 |
| Ruth Rettie; Ursula Grandcolas &amp; Bethan Deakins | -SMS is effective interactive medium both as a branding vehicle and in stimulating response; demonstrated by significant improvements in brand attitude and purchase intentions. -suitable for time and place sensitive advertising -Effective communication should provide clear targeted and high-value content messages. |
| &quot;Text message advertising: Response rates and branding effects&quot; | 2005 UK |
| Fatim Bamba and Stuart J. Barnes | -Even if the relevance of the advertisement is high it does not on its own make consumers give permission; it needs to be combined with the control over opt-in conditions to assure consumers and gain permission. -Brand familiarity has little impact on consumers’ willingness to give permission to receive SMS advertisements. The opt-in conditions valued the most are: the possibility to withdraw at any time, personal data disclosure only with consent, and mobile phone operators as a primary advertising filter. |
| &quot;SMS advertising, permission and the consumer: a study&quot; | 2006 UK |
| Drossos, et al | -Several content and medium factors were manipulated and the key finding is that (1) incentive, (2) interactivity, (3) appeal, (4) product involvement, (5) acronyms usage and (6) attitude towards SMS advertising in general, exhibit main effects on attitudinal variables and purchase intentions. |
| “An Empirical Assessment of Factors that Influence the Effectiveness of SMS Advertising” | 2007 Greece |</p>
<table>
<thead>
<tr>
<th>Source</th>
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<th>Location</th>
<th>Key Findings</th>
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</table>
-Informants perceived Wireless Advertising Message as a way to stay "in the know," build relationships with companies, and feel part of an "in-group."  
-Two potential barriers to adoption: social costs and monetary costs. |
-The results of the study suggest that a stronger focus on these factors is necessary to improve the effectiveness of SMS advertising campaigns.  
-Credibility does not seem to be a decisive factor at least for the first advertising communication and following the permission based marketing approach.  
-The perceived uncertainty and privacy costs effects on mobile advertising communications probably incur when providing personal data to opt-in databases and not on the first SMS permission based communication. |
| Pousttchi & Wiedemann (2007) | “Success Factors in Mobile Viral Marketing: A Multi-Case Study Approach” | Germany | -The success factors of mobile viral marketing extracted were: (1) perceived usefulness by recipient; (2) reward for communicator; (3) perceived ease of use; (4) free mobile viral content; (5) initial contacts; (6) first mover’s advantage; (7) critical mass; and (8) scalability |
| Wehmeyer (2007) | “Mobile ad intrusiveness: The effects of message type and situation” | Germany | -The main effects could be interpreted with a clear domination of the situations’ effects over the message types’ (informativeness/entertainment) effects.  
-SMS-based advertising is highly prone to be perceived as intrusive because more than other types of advertising, it can attract attention to itself.  
-Attitude towards advertising significantly influences perceptions of mobile ad intrusiveness in both message scenarios.  
-Involvement significantly influences intrusiveness in the respective scenarios. |
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Location</th>
<th>Key Points</th>
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<tbody>
<tr>
<td>Retti &amp; Brum</td>
<td>“M-Commerce: The Role Of SMS Text Messages”</td>
<td>UK</td>
<td>Most respondents were very concerned about junk messages and wanted to retain control, giving permission before receiving messages. Most initial attitudes to advertising in text messages were negative, but many were prepared to accept advertising in exchange for discounts or promotional offers.</td>
</tr>
<tr>
<td>Heinonen and Strandvik</td>
<td>&quot;Consumer Responsiveness to Mobile Marketing&quot;</td>
<td>Finland</td>
<td>Responsiveness to mobile marketing communication varies among consumers. Compared to traditional direct mail and commercial email communication, the responsiveness to mobile marketing was considerably lower. Content relevance and channel acceptance are not directly related to high consumer responsiveness.</td>
</tr>
<tr>
<td>Tsang et al</td>
<td>“Consumer Attitudes Toward Mobile Advertising: An Empirical Study”</td>
<td>Taiwan</td>
<td>Consumers generally have negative attitudes toward mobile advertising unless they have specifically consented to it, and there is a direct relationship between consumer attitudes and consumer behavior. Prior permission is an essential to send SMS advertisements to potential customers.</td>
</tr>
<tr>
<td>Scharl et al</td>
<td>&quot;Diffusion and success factors of mobile marketing&quot;</td>
<td>Europe</td>
<td>A strong presence is identified not only among technology providers such as telecommunications and electronics companies, but also strong interest for applying mobile services within the automotive and financial sectors. Two categories of success factors, message and media characteristics, influence three dependent success measures: consumer attention, consumer intention and consumer behavior.</td>
</tr>
<tr>
<td>Leppäniemi &amp; Karjaluoto</td>
<td>“Mobile Marketing: From Marketing Strategy to Mobile Marketing Campaign Implementation”</td>
<td>Finland</td>
<td>Need for an integration of mobile marketing efforts into a firm’s overall marketing communications planning process. Mobile marketing includes three of the main promotion tools: advertising, sales promotion and direct marketing. The customer relationship management (CRM) should be seen as a specific communications tool in mobile marketing context.</td>
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<td>Author</td>
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<td>Süleyman Barutçu</td>
<td>&quot;Attitudes towards mobile marketing tools: A study of Turkish consumers&quot;</td>
<td>Mobile phone users have positive attitudes towards mobile marketing tools: mobile advertising, mobile discount coupons, mobile entertainment, location-based mobile services, mobile internet and mobile banking. Target segment/segments can be determined for mobile marketing strategies.</td>
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<tr>
<td>Shalini Nath Tripathi</td>
<td>&quot;Investigating the Impact of Mobile Marketing in the Current Indian Scenario and Proposing CUSTOMERIZATION as a Solution&quot;</td>
<td>The major findings reveal that the perception of consumers towards mobile marketing can be broadly categorized into three factors: 1) Lack of contextualization and personalization of mobile ads 2) Disruptive nature of mobile ads 3) Perceived usefulness of mobile ads. Further results indicate that mobile marketing/advertising (in its current format) does not have a significant impact on the purchase/brand decision of consumers.</td>
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Source: compiled by Author
Chapter Four
The Research Model, Hypotheses and Definition of Model Variables

Many factors could affect the success and effectiveness of mobile marketing in Sudan. To succeed mobile marketing, like any new technology, should first be accepted by consumers. Therefore, acceptance research has provided important insights in explaining the success or failure of new products or services being determined not only by their adoption but also by their continuous use thereafter. As the success of an innovative marketing instrument such as mobile marketing can only be ensured if it is continuously used by consumers, mobile marketing is to be considered as a use innovation. The communication of advertising content over mobile media can only be effective if consumers permit the continuous reception of advertising messages on their mobile phone.

Mobile commerce is perceived as a technology since it requires the use of telecommunication, some type of computer software, and the internet. Consequently, Many theoretical models exits in the innovation acceptance and adoption literature as attempts to explain how and why innovations or technologies are
accepted and adopted by users. In order to understand the processes behind the factors affecting consumers’ intention to use and adopt mobile services such as mobile marketing, it is necessary to get a thorough understanding of the theory behind it.

Theoretical models on user acceptance of information technology (e.g. mobile services) employ “intention to use” and “actual use” as the main dependant variables (Venkatesh et al, 2003). Intention to use information technology as a predictor of behavior (e.g. usage, adoption) has been well established in the literature e.g. (Venkatesh et al, 1991). Following figure 4.1 shows the basic concept:

Figure 4.1: Basic Concept Underlying User Acceptance Models

(Source: Venkatesh et al. 2003)

Many competing theoretical models co-exist in the innovation acceptance and adoption literature, each with different focus and tested in different contexts. However, most of these
models attempt to build theories to explain how and why innovations or technologies are adopted and predict the level of acceptance and adoption, the first theory in this context is the Theory of Reasoned Action (Fishbein & Ajzen, 1975).

As mobile marketing is still in an embryonic stage of commercial deployment in Sudan, most consumers have not yet had the chance to adopt and use it as an innovation. It is thus not possible to empirically measure adoption and use acceptance; consequently, as is typical in these scenarios, overall acceptance should be forecasted by measuring the attitude toward acceptance. Therefore, for this research the Theory of Reasoned Action, which is often used to explain behavior of the adoption of technology, will be the base of the proposed model used to study the attitude of Sudanese towards mobile marketing to identify constructs that predict the adoption of new mobile services that may be empirically tested

4.1. Theory of Reasoned Action (TRA)

Ajzen and Fishbein developed a versatile behavioral theory and model in 1980 called the Theory of Reasoned Action (TRA). This model forms the backbone of studies associated with attitude-
behavior relationships. This has been adapted for use in many fields
and is widely used in academia and business today. The TRA
postulates that beliefs influence attitude and social norms which in
turn shape a behavioral intention guiding or even dictating an
individual’s behavior. Intention is the cognitive representation of a
person's readiness to perform a given behavior, and it is considered
to be the immediate antecedent of behavior.

TRA has two core constructs (main determinants) of
intention: attitude toward behavior (ATB) and subjective norm (SN)
associated with that behavior (Figure 4.2). The attitude toward the
behavior (ATB) is the previous attitude of a person toward
performing that behavior. It suggests that people think about their
decisions and the possible outcomes of their actions before making
any decision to be involved or not involved in a given behavior.
This theory views the intention of an individual whether to perform
a given behavior or not as the immediate determinant of action, and
attitude is determined by the person’s beliefs and evaluation of
behavioral outcomes. So an individual, who strongly believes that
positive outcomes will result from performing a particular behavior,
will have positive attitudes towards that behavior. On the other
hand, if a person strongly believes that a particular behavior will have a negative outcome, then there will be negative attitudes towards that behavior.

![Figure 4.2: The Theory of Reasoned Action (TRA)](source: Ajzen & Fishbein (1980))

Subjective norm (SN) is the social pressure exerted on the person or the decision maker to perform the behavior. SN refers to an individual’s perception about what other people think of his or her behavior in question. What other individuals or groups will think, agree or disagree about the decision of a person to perform a given behavior and how important these other individuals or groups are to the decision maker play a vital role. So it is normal that sometimes people will consult others before making any decisions.
TRA is a general well-researched intention model that has been applied extensively in predicting and explaining behavior across many domains and virtually any human behavior (Ajzen & Fishbein 1980). Information System researchers often use this theory to study the determinants of Information Technology innovation usage behavior (Han, 2003). Although current models of technology acceptance have their roots in many diverse theoretical perspectives, much literature related to technology acceptance begins studies with the Theory of Reasoned action.

In addition, TRA has been used to predict different behaviors (Sheppard et al., 1988). Consequently, theory of reasoned action is one of the most influential theories of wide range of human behavior (Vekantesh et al. 2003). It suggests that attitude toward behavior and subjective norms will determine intention to perform behavior. And thus, it will be behavioral intention, rather than attitudes, that will determine actual behavior.

Figure (4.2) illustrates the fact that actual behavior is a direct determinant of intention to behave. Intention to behave is in its turn positively determined by attitude toward the behavior, which is composed of beliefs about the consequence of the behavior and
evaluation of the consequence of the behavior, and by subjective norms, which are a function of normative belief and motivation to comply.

The Theory of Reasoned Action (which was related to voluntary behavior), was later developed into the Theory of Planned Behavior (Ajzen 1985) to overcome the limitations of TRA in dealing with behaviors over which people have incomplete volitional control. The Theory of Planned Behavior (TPB) extends TRA by incorporating perceived behavioral control to account for situations where an individual lacks the control or resources necessary for carrying out the targeted behavior, despite a positive attitude toward it (Ajzen 1991). The Technology Acceptance Model (TAM) was developed from TRA by Davis (Davis 1989). This model used TRA as a theoretical basis for specifying the causal linkages between two key beliefs: perceived usefulness and perceived ease of use and users’ attitudes, intentions and actual computer usage behavior. The Technology Acceptance Model (TAM) shares with TRA the common thread that connects attitude to behavioral intention, but differs in its theorized determinants of attitude and behavioral intention. The goal of TAM is to provide an
explanation of the determinants of computer acceptance that is in general capable of explaining user behaviour across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified. But because it incorporates findings accumulated from over a decade of IS research, it may be especially well suited for modeling computer acceptance (Davis, Bagozzi & Warshaw 1989).

4.2. The Development of the Research Model:

There has been a long history of research and development into the acceptance and adoption of technology in general and the acceptance of mobile marketing in particular. Most of these studies were conducted in the western countries, it may be necessary to study the validity of those theories of technology acceptance such as mobile marketing in the circumstances that exist in less developed countries such as Sudan. There is no empirical evidence that information technology acceptance models, established in developed countries, can apply equally well to less-developed countries without some modification to account for the different context.
One of the objectives of this study is to explore the factors that influence mobile marketing acceptance in Sudan. As mentioned in Chapter 1, the purpose of this study is to develop a model of technology acceptance that will have the power to demonstrate acceptance and behavior intention of the mobile marketing in Sudan. A thorough understanding of the model may help practitioners to analyze the factors that influence consumer attitude toward the mobile marketing as new technology and would also help to take efficient measures to improve user acceptance/usage of it. According to Davis (1989) practitioners evaluate systems for two purposes, one is to predict acceptability, the other is to diagnose the reasons resulting in lack of acceptance and to take proper measures to improve user acceptance.

Based on the existing literature about attitudes toward advertising and consumer behavior models, a research framework is constructed to illustrate the factors affecting consumer attitudes toward mobile marketing (SMS-based advertisements) and the relationships among attitudes, intention to view mobile ads, and users’ actual behavior. Attitude, intention, and behavior are three major constructs in the theory of reasoned action (TRA) proposed
by Fishbein and Ajzen in the early 1970s. The model links individual beliefs, attitudes, intentions, and behavior to describe the psychological process that mediates the observed relations between attitudes and behavior (Fishbien & Ajzen 1975).

As illustrated in (Figure 4.3), the proposed research model comprised the following three important types of variables:

1) Six core constructs (independent variables) are personal innovation (IN), Existing Knowledge (EK), Perceived Utility (PU), Attitude towards advertising (ATA), Perceived Risk (PR) and social Norms (SN). These core constructs are expected to influence attitude towards mobile advertising which in turn influence behavior intention. A definition of each code (such as IN, EK, PU, ATA, PR and SN) is presented in Table (4.1)

2) Two dependent variables are attitude towards mobile advertising which expected to influence behavior intention of accepting mobile advertising Table (4.1).

3) Three moderating variables represent individual characteristics including gender, age, and level of education. These moderators are expected to impact on the influence of the core constructs toward behavior intention of mobile marketing.
4.3. Model Constructs and Hypothesis:

4.3.1. Factors Affecting Attitude:

Based on the existing literature about attitudes toward advertising and consumer behavior models, a research framework is constructed to illustrate the factors affecting consumer attitudes toward mobile marketing (SMS-based advertisements) and the relationships among attitudes, intention to view mobile ads, and users’ actual behavior. Attitude, intention, and behavior are three major variables in the theory of reasoned action (TRA) proposed by Fishbein and Ajzen in the early 1970s. The model links individual beliefs, attitudes, intentions, and behavior to describe the psychological process that mediates the observed relations between attitudes and behavior (Fishbein & Ajzen 1975) Figure 4.3 demonstrate the proposed model of this research.

The major determinants affecting consumer attitude in the proposed research model in this study are (personal innovation (IN), Existing Knowledge (EK), Perceived Utility (PU), and Attitude towards advertising (ATA) and Perceived Risk (PR). Next is a justification with explanation of why these determinants are integrated into the proposed research model.
1. Personal Innovativeness (IN)

Personal Innovativeness is defined as “the willingness of an individual to try out any new technology”. Leung and Wei (1998) reported that consumer innovativeness is positively related to their adoption decision of various technologies. Innovative individuals have been also found to be dynamic, communicative, curious, venturesome, and stimulation–seeking. Other diffusion studies also confirmed that innovativeness is related to consumer adoption behavior.

This variable is included in this study because it has been recognized individuals with higher personal innovativeness are more likely to develop positive attitudes towards adopting it than less innovative individuals (Rao & Troshani 2007). Drawing upon Rogers’ theory of the diffusion of innovations, it is expected that personal innovativeness generating a strong impact on user's attitude towards new innovations. Citrin et al (2000) found that personal innovativeness predict consumer adoption of internet shopping. Given the relative infancy of the mobile services it is appropriate to test innovativeness as an influencing variable under new circumstances. This study developed and validated the
measures for personal innovativeness and, thus, made it practical to explain and predict how personal innovativeness influences user attitude towards mobile marketing.

Consumers characterized by a high degree of innovativeness are usually very open to new experiences and tend “to make constructive use of information received” (Leavitt and Walton, 1975). Given the relative infancy of the mobile services it is appropriate to test innovativeness as an influencing variable under new circumstances. This research developed and validated the measures for personal innovativeness and, thus, made it practical to explain and predict how personal innovativeness influences mobile marketing intention to adopt. This allows the formulation of the following hypothesis:

**H1:** Personal innovativeness will positively influence the attitude toward mobile marketing.

2. Existing Knowledge (EK):

Existing knowledge affects the cognitive processes related to a consumer’s decisions and is thus also an important determinant of the acceptance decision. A consumer’s existing knowledge determines his ability to understand the features and usage of an
innovation. Existing knowledge thus affects the consumer’s perception of the innovation’s complexity. The innovation is perceived to be easy and less complex if the consumer already possesses a certain amount of knowledge about the innovation itself or about a product similar to it. In this case, the knowledge relevant to reducing the perceived complexity of mobile marketing is the knowledge about mobile communications. Mobile communications technology provides the technological basis for mobile marketing. The more familiar a consumer is with mobile communications in general the less difficult the use of mobile marketing services will appear to him. Prior knowledge is essential for the comprehension of the technology and related services. Knowledge occurs when a potential adopter learns about the existence of an innovation and gains some understanding concerning its functionality. Knowledge consists of two components, namely, familiarity and expertise. For instance, the former constitutes the number of mobile services-related experiences accumulated by consumers over time, which include exposure to advertising, information search, and interaction with salespersons. The latter represents the ability to use mobile
services, and it includes beliefs about service attributes (i.e. cognitive structures) as well as decision rules for acting on those beliefs (i.e. cognitive processes). However, “knowledge alone cannot determine the basis for adoption” of a technology or innovation. Adopters’ previous positive or negative experiences with a technology or service can have a significant impact on their perceptions and attitudes towards that technology or service. Because of their greater clarity and certainty, direct prior experiences are likely to have a stronger impact on perceptions and attitudes towards usage than indirect or incomplete evidence (i.e. pre-trial).

H2: The Existing knowledge about mobile communications will positively influence the attitude toward mobile marketing

3. Attitude toward Advertising in General (ATA)

The Theory of Cognitive Dissonance developed by (Festinger, 1978) is one of the most important theoretical concepts in explaining the integration of a single attitude into an individual’s attitudinal system. The theory is based on the assumption that an individual is always aiming to keep his cognitive system in balance.
If inconsistencies between several cognitions - i.e. opinions, attitudes, or expectations - arise, consumers experience a feeling of discomfort. To overcome this displeasing feeling, consumers try to reduce the inconsistencies between their cognitions. One usable strategy is to reshape the attitude featuring the lowest resistance to become more consistent with the other attitudes of the system.

These considerations hold important implications for this study, as they allow us to determine the relationship between the attitude toward advertising in general and the attitude toward mobile marketing. Both attitudes are related: mobile marketing can be considered to be a subset of all available instruments for communicating advertising content. Consumers are likely to be highly familiar with advertising in general, as they are exposed to it on an everyday basis. Consequently, they can be expected to hold a stable and consistent attitude toward advertising in general. Mobile marketing on the other hand is to be classified as an innovation, to which only few consumers have yet been exposed. Consumers’ attitudes toward mobile marketing can thus be assumed to be less stable and easily changeable. The attitude toward mobile marketing has a lower resistance to change than the attitude toward advertising.
in general. It therefore appears obvious that the attitude toward mobile marketing will be highly dependent on the attitude toward advertising in general. Therefore:

**H3:** The attitude toward advertising in general will positively influence the attitude toward mobile marketing.

### 3. Benefit of Receiving Advertising Messages: (Perceived Utility)

Many authors claim that consumers will only accept mobile marketing if they perceive a benefit in receiving advertising messages on their mobile phone (Kavassalis et al. 2003). Perceived usefulness is “the degree to which a person believes that using a particular system would enhance his or her job performance.” (Rao, 2007). That is, potential adopters assess the consequences of their adoption behavior based the ongoing desirability of usefulness derived from the innovation.

According to Kaas (1990), a consumer perceives the advertising stimuli if its marginal utility exceeds the marginal utility that results from using an additional time unit to engage in an alternative activity. This implies that a consumer’s attitude toward
mobile marketing will be more positive the higher he perceives the utility of this marketing service.

**H4**: The perceived utility of mobile marketing will positively influence consumer attitude towards mobile marketing.

However, studies also suggest the usefulness concept should be extended and supplemented to cover the issues of informativeness and enjoyment or entertainment of the ads. This is consistent with earlier research findings that interesting and pleasing ads have a positive impact on consumers’ attitudes towards a brand (Shimp, T. A. 1981).

Igbaria et al (1996) defined perceived enjoyment as a reward derived through the use of the technology or service study, and it has been shown to influence consumers’ use of mobile services. Thus perceived enjoyment stands out as an important motive for consumers’ attitude toward mobile marketing:

**H4a**: Perceived entertainment utility of mobile marketing will positively influence consumer's attitude towards mobile marketing.

**H4b**: Perceived informativeness utility of mobile marketing will positively influence consumers' attitude towards mobile marketing.
5. Perceived Risk & Control

Consumer behavior is strongly influenced by perception of risk; consumers are usually uncertain about the consequences of a decision or an action (Bauer 1976). Furthermore, it has been revealed that consumers try to minimize risk rather than maximize utility. A consumer’s subjective risk perception can thus strongly determine his behavior. This is especially true for the adoption of innovations, as consumers lack experience with the new product and find themselves in a situation of high risk. Consumers therefore try to reduce the risk associated with a certain behavioral decision. During an adoption decision this can result in the refusal of an innovation.

The risk associated with mobile marketing is mainly perceived as one of data security. New media services users tend to have concerns about data manipulation, unauthorized data access, and unwanted tracking of usage patterns. Another security issue concerns consumers’ privacy. By using the mobile medium it is possible for marketers to reach consumers anytime and anywhere. This characteristic provides the basis for high-potential,
personalized mobile marketing on one hand, but also accounts for consumer’s fear of privacy violations on the other.

Many studies found that most of the consumers would like to know more about what and how companies collect and use their personal data; thus, they are more willing to receive the message from companies that they have authorized to use their personal information and where they can control when to opt-in to and opt-out from the marketing programs (Drossos et al., 2003; Sullivan Mort and Drennan, 2002).

As mentioned above, risk perception strongly influences consumers’ willingness to adopt mobile marketing as an innovation. The causal relationship between risk perception and attitude toward mobile marketing can be assumed as being negative. We therefore hypothesize:

\[ H5: \text{Perceived Risk of mobile marketing will negatively influence consumers' attitude toward mobile marketing.} \]
4.3.2. Factors Affecting Behavior Intention

The basic assumption of Ajzen and Fishbein’s theory is that individuals consciously decide on performing or not performing a specific behavior; they consider and evaluate various criteria concerning the behavior before actually performing it. To give an advertising company the permission to send advertising messages to an individual’s mobile phone can certainly be considered as a decision made consciously.

The most basic proposition of the TRA is that behavior (B) is determined by behavioral intention (BI). The behavioral intention is in turn postulated to be a function of the individual’s attitude toward the act (Aact) and the social norms (SN). Whether the attitude toward the act or the social norms exerts the greater influence on the behavioral intention depends on the individual and the decision object (Ajzen and Fishbein 1980). This relationship can therefore be written as:

\[(1) \ B \sim BI = w_1 A_{act} + w_2 SN\]

The parameters \(w_1\) and \(w_2\) each reflect the strength of the relative impact of the attitude toward the act and the social norms on the behavioral intention. The attitude toward the act in turn is
determined by the individual’s beliefs about consequences (Bi) and his evaluation of those consequences (Ei). That is:

\[(2) \quad \text{A}_{\text{act}} = \text{Bi} \cdot \text{Ei} \quad i = \text{number of consequences}\]

The social norms are a result of the individual’s normative beliefs (NBi), i.e., his assumption about what another person wants him to do, and his motivation to comply (MCi) with the expectations of this person. It may be written:

\[(3) \quad \text{SN} = \text{NBi} \cdot \text{MCi} \quad i = \text{number of norm givers}\]

The third level of explanation specified above provides some additional insight about how the constructs "attitude toward the act" and "social norms" emerges. Nevertheless, the reliability of behavioral prediction does not increase by considering these additional constructs. Measuring the second level constructs, i.e., "attitude toward the act" and "social norms", will therefore be sufficient for this study. Reflecting these considerations the following hypotheses can be formulated:

**H6: Attitude toward mobile marketing positively influence consumer behavioral intention to adopt mobile marketing.**
Subjective norms are defined as “the person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Fishbein & Ajzen 1975). Subjective norms are intended to account for social influences that the person’s behavior is exposed to. Thus, performing a particular behavior is also influenced by other’s opinions about the behavior. And hence the intention to behave or to use technology would not be only determined by personal attitude towards the behavior but will also be influenced by other’s opinions about the behavior. The rationale for direct effect of subjective norms on intention is that “people may choose to perform a behavior, even if they are not themselves favorable toward the behavior or its consequences, if they believe one or more important referents think they should, and they are sufficiently motivated to comply with the referents” (Venkates & Davis 2000)

H7: subjective perception of social norms concerning the adoption of mobile marketing positively influence consumer behavioral intention to adopt mobile marketing.
4.3.3. The Moderating Variables:

The moderator or the moderating variable is one that has a strong contingent effect on the independent variable and dependent variable relationship. That is, the presence of a third variable (the moderating variable) modifies the original relationship between the independent and the dependent variables Sekaran (1992). Venkatesh et al (2000) identifies demographic variables such as age and gender as moderating variables in determining acceptance and intention to use of technology. Evidence shows that gender and age might influence the adoption of technology and related services due to their moderating effects on other constructs (Nysveen et al 2000).

Level of education influences the successful use of technology, several studies have reported that higher level of education are negatively related to computer anxiety and positively related to favorable towards computer attitudes (Igbaria & Parsuraman1989 ) toward computer technology . As dealing with mobile marketing involve reading the message content level of education consider important moderating variable

Similarly, because affiliation needs increase with age, older adopters are more likely to be affected by social influence.
However age on its own may not be a reliable variable in explain adoption behavior. Mobile service adoption and usage may vary significantly among young users, thus, treating them as a homogeneous group is not appropriate. Therefore, we argue that gender and age affect all of the constructions that were discussed in the previous sections as moderating variables. In this context we define the following:

H8a: The influence of independent variables (INN, EK, PU, PR, ATA and SN) toward Behaviour Intention is moderated by age

H8b: The influence of independent variables (INN, EK, PU, PR, ATA and SN) toward Behaviour Intention is moderated by gender

H8c: The influence of independent variables (INN, EK, PU, PR, ATA and SN) toward Behaviour Intention is moderated by education

H8d: The influence of attitude towards mobile marketing on Behavior Intention is moderated by age

H8e: The influence of attitude towards mobile marketing on Behavior Intention is moderated by gender

H8f: The influence of attitude towards mobile marketing on Behavior Intention is moderated by education
Figure 4.3: A Conceptual Model of Consumer Acceptance of mobile marketing
To summarize the constructs discussed in this section, Figure 4.3 portrays our proposed model of mobile service Adoption.

Table 4.1: Summary of the Model Determinants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Symbol</th>
<th>Definition</th>
<th>Example studies</th>
</tr>
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<tbody>
<tr>
<td>Personal Innovativeness</td>
<td>INN</td>
<td>the willingness of an individual to try out any new technology and their related services</td>
<td>Bauer et al 2005, Yang 2005, Lu 2004, Ra02007</td>
</tr>
<tr>
<td>Existing Knowledge</td>
<td>EK</td>
<td>Familiarity and experience about mobile communications</td>
<td>Bauer et al 2005, Roa 2007</td>
</tr>
<tr>
<td>Perceived Utility Entertainement Informativeness</td>
<td>PU PUent PUinf</td>
<td>a benefit in receiving advertising messages on mobile phone such as useful information or entertainment</td>
<td>Bauer et al 2005</td>
</tr>
<tr>
<td>Perceived Risk</td>
<td>PR</td>
<td>the potential for an undesired outcome due to uncertainty about future developments such as Privacy fears or fear of being spammed with advertising and misuse of personal informations</td>
<td>Bauer et al 2005</td>
</tr>
<tr>
<td>Attitude towards advertising in general</td>
<td>ATA</td>
<td>predisposition to respond in a favourable or unfavourable manner to advertising</td>
<td>Bauer et al 2005</td>
</tr>
<tr>
<td>Attitude towards mobile marketing</td>
<td>ATM A</td>
<td>an individual’s positive or negative feelings about accepting mobile advertising</td>
<td>Bauer et al 2005</td>
</tr>
<tr>
<td>Social Influence (subjective Norms)</td>
<td>SN</td>
<td>the person’s perception that most people who are important to him think he should or should not perform the behavior in question</td>
<td>Bauer et al 2005</td>
</tr>
<tr>
<td>Behavior Intention</td>
<td>BI</td>
<td>Acceptance and intention to receive advertising messages in mobile phone</td>
<td></td>
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<tr>
<td><strong>Table 4.2: Summary of Hypotheses</strong></td>
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<tr>
<td><strong>H1</strong>: Personal innovativeness will significantly influence the attitude toward mobile marketing</td>
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<tr>
<td><strong>H2</strong>: The Prior knowledge about mobile communications will significantly influence the attitude toward mobile marketing</td>
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<td><strong>H3</strong>: The attitude toward advertising in general will significantly influence the attitude toward mobile marketing</td>
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<tr>
<td><strong>H4</strong>: The perceived utility of mobile marketing will significantly influence consumer attitude towards mobile marketing.</td>
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<tr>
<td><strong>H4a</strong>: Perceived entertainment utility of mobile marketing will significantly influence consumer's attitude towards mobile marketing.</td>
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<tr>
<td><strong>H4b</strong>: Perceived informativeness utility of mobile marketing will significantly influence consumers' attitude towards mobile marketing.</td>
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<tr>
<td><strong>H5</strong>: Perceived Risk of mobile marketing will negatively influence consumers' attitude toward mobile marketing.</td>
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<tr>
<td><strong>H6</strong>: Attitude toward mobile marketing significantly influences consumer behavioral intention to adopt mobile marketing.</td>
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<td><strong>H7</strong>: subjective perception of social norms concerning the adoption of mobile marketing significantly influence consumer behavioral intention to adopt mobile marketing</td>
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<tr>
<td><strong>H8a</strong>: The influence of independent variables (INN, EK, PU, PR, ATA and SN) toward Behaviour Intention is moderated by age</td>
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<tr>
<td><strong>H8b</strong>: The influence of independent variables (INN, EK, PU, PR, ATA and SN) toward Behaviour Intention is moderated by gender</td>
<td></td>
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<tr>
<td><strong>H8c</strong>: The influence of independent variables (INN, EK, PU, PR, ATA and SN) toward Behaviour Intention is moderated by education</td>
<td></td>
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<tr>
<td><strong>H8d</strong>: The influence of attitude towards mobile marketing on Behavior Intention is moderated by age</td>
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<td></td>
<td></td>
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<tr>
<td><strong>H8e</strong>: The influence of attitude towards mobile marketing on Behavior Intention is moderated by gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>H8f</strong>: The influence of attitude towards mobile marketing on Behavior Intention is moderated by education</td>
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</table>
Chapter Five

Methodology & Research Design

This chapter presents a detailed description of the research design and methodology used in this study. The purpose of this study is to gain a deeper understanding of the new role of mobile marketing, not in developed countries where it originated, but in a developing country where circumstances are quite different. There are several factors that influence consumers of mobile marketing, and enhance customer service. This research investigates the adoption of mobile marketing specifically through SMS in Sudan, and aims to develop a framework of the variety of factors that are likely to be involved in its acceptance by Sudanese users.

There are many types of research including exploratory, descriptive, analytical, predictive, quantitative, qualitative, deductive, inductive, applied, and basic research. The research methodology and methods for this research were chosen in order to successfully achieve the research objectives. The justification of choices and uses will be presented in this chapter.

In this chapter the research process employed in this study will be reflected, since it is normally a sequence process involving
several clearly defined steps, which insures that the study remains methodological and orderly. The way in which the steps in the research process are structured gives an indication of the direction that the research will take. Consequently, consideration will also be given to the research approach (e.g. the choice between quantitative and qualitative), and to the research design, which involves research methods, data collection technique and the analysis of the collected data.

5.1 The Research Process

This research is conducted in accordance with a research process based on the concepts of hypothetic-deductive method (Sekaran, 1992) to produce the theoretical model, which was then tested. In order to achieve the aims and objectives set out earlier the research methods adopted included literature search, a pilot questionnaire, a large-scale survey of mobile users and interviews with companies' managers. The exploratory multiple case studies are used to emphasize the success factor of mobile advertising with respect to managers point of view.

The hypothetic-deductive methodology as described by (Sekaran, 1992) is applied in this research as follows:
1) Observation (it was conducted, but was not used as a research methodology).

2) Preliminary information (data) gathering through semi-structured interviews with mobile marketing stakeholders i.e. the services providers, some companies' managers and mobile users. This done in order to gather information on what is happening and why, so the researcher could get an idea or a feel for what was happening in the situation. The information from this step helped in designing the questionnaire.

3) Obtaining more information through literature survey. A literature review was conducted in order to obtain more information to identify how such issues have been tackled in other situations. This information give additional insights into various possibilities, sometimes including some that had not surfaced in interviews, and help to confirm that these variables are good predictors of usage behavior and behavior intention (see Chapters 3).

4) Theory formulation (theorizing) is a step in developing a theory incorporating all the relevant factors contributing to the usage behavior and behavior intention of the subject to use mobile phones. It is an attempt to integrate all the information in a logical
manner, and is a collection of theories and models from literature to help conceptualize and test the reasons for the problem. In other words, it explains the research questions or hypotheses, and made variables clearly identified and labeled (see Chapter 4).

5) Hypothesizing
This step is used to generate various hypotheses for testing to examine whether the theory is valid or not (see Chapter 4).

6) Data Collection
There are two surveys involved in this study. The first one is for the pilot study (see Appendix II). The second survey is for the main study and meant to test the specific hypotheses suggested in Chapter 4 (see Appendix II). A questionnaire is developed, based on various theorised factors, to determine the use and intention to use mobile advertising. This was then used as a survey tool to collect data (see details under the specific topic in this chapter 4).

7) Data Analysis
Data obtained through the questionnaire and structured interviews is analysed to see what factors influence behavior of the subjects targeted in this study. Other information about the characteristics and background of mobile marketing users was also obtained from
this stage (see details of data analysis methods in specific topic in this chapter and see more details of data analysis in Chapter 6).

8) Deduction
This is the process of arriving at conclusions by interpreting the meaning of the results of the data analysis (see details in Chapter 7).

5.2 Research Design

Research design, as described by (Blumberg, Cooper and Schindler, 2008) is the plan and structure of the investigation so conceived as to obtain answers to research questions. In other words, the research design is the step aimed at designing the research study in such a way that the essential data can be gathered and analyzed to arrive at a solution, (Sekaran 1992). The following are the design considerations for this research in accordance with the guidelines suggested by Sekaran (1992).

1) The Purpose of the Study

The purpose of this study is hypothesis testing in nature, in one part, because usually, studies relating to hypothesis testing explain the nature of certain relationships; establish the differences
among groups or the independence of two or more factors in a situation.

2) The Type of Investigation

There are two types of investigation: causal and correlational study. Correlational studies are used to look for relationships between variables. This study is a correlational study since the research is interested in delineating the important variables that are associated with the problem instead of delineating the cause of one or more problems (a cause and effect relationship). This research also attempts to establish cause-and-effect relationships through certain types of correlational or regression analyses and factor analysis.

3) Extent of Researcher Interference with the Study

The extent of researcher interference has a direct bearing on whether a causal or correlational study is undertaken. Since this study is conducted in the natural environment and so would consequently minimize interference by the researcher with the normal flow of events, compared to that caused during causal studies.
5) Unit of Analysis

The unit of analysis refers to the level of aggregation of the data collected during the subsequent data analysis. For this study, the unit of analysis is an individual mobile user in the first part and a marketing manager in companies that used mobile marketing in the second part, within Khartoum the national capital of Sudan. This research treated each response as an individual data source.

6) Time Horizon of the Study

A study can be either a cross-sectional or a longitudinal study. This study is classified as a one-shot or cross-sectional study because it aims to collect data just once, in order to achieve the research objectives. It is different than a longitudinal study, where data on the dependent variables is gathered at two or more times to answer the research questions.

7) Sample Design

A sample is a subset of the population, comprising some members selected from the population. In this study the population consists of individuals live in Khartoum the national capital of the Sudan, with a population of 5 million (Sudan Census 2008) (which represents the population for this study, N). The subject for this
study is a mobile user in Khartoum. Sampling is the process of selecting a sufficient number of elements from the population. Sample sizes larger than 30 and less than 500 are appropriate for most research (Sekaran 1992). For this study, the sample size \( n = 251 \) subjects was comprised of usable responses from all subjects who participated in this research and was representative of the population for generalisability.

8) Data Collection

Data collection is the process of collecting data associated with variables in the hypotheses in order to test the hypotheses that would be generated in this study. Primary data for this study collected through questionnaire for the main study of consumers prospective conducted during the period June – September, 2008, and structured interview method for industry prospective which was during the period February to March 2009. After collecting data, coding was required so that it could be stored (Sekaran 1992). Using SPSS software version 17.0, data was edited by checking and adjusting for errors, omissions, legibility and consistency in order to ensure completeness, consistency, and readability of the data. Each question or item in the questionnaire has a unique variable name,
some of which clearly identify the information such as gender, age, and educational level. A coding sheet (see Appendix III) was used to keep information about how each variable was coded. It comprised a list of all variables in the questionnaire, the abbreviated variable names that were used in SPSS and the way in which the responses were coded.

9) Data Analysis

Data analysis is the step where data is analysed statistically to see if the hypotheses can be substantiated. The data analysis is separated into two parts. The first part involves testing the consumer perception of mobile advertising using survey questionnaire, the second part testing the industry prospective using multiple case study. (Details are provided in Chapter 6).

5.3 Methodology Strategy

There are many methods that are available in the literature that can be used for studying phenomena or address certain issues such as: historical, descriptive correlational, causal-comparative, and experimental (Gray & Diehi, 1992). Among these methods, the survey research methodology (which is a positivistic methodology), is considered to be the most appropriate for study at hand. It is
concerned with drawing a sample of subjects from a population and studying this in order to make inferences about the population.

This study uses three research Methods, in order to attain the objectives of this study, and help answer the specific questions raised earlier.

(1) Questionnaire method which represents the most important method used to collect primary data in the survey is used to collect data for studying mobile users' prospects of mobile marketing for main study

(2) Interview method is used to gather information for the industry overview and managers perspectives.

(3) The statistical analysis methods which are used to analyze data such as descriptive statistics, case study, and factor analysis.

Interviewing, administering questionnaires, and observing people and phenomena are the three main data collection methods in survey research (Sekaran 1992). On the other hand, others suggest questionnaire and interview are specific methodologies used to conduct survey research. Even though the data source for this research is new information (primary data) which is obtained from questionnaire survey and interviews, it is often necessary to
make use of other existing information (secondary data) such as companies records and archives, government publications, industry analysis offered by the media and previous research, obtained through the literature survey (see Chapter 3). It is imperative that secondary data are data that already exist and do not have to be collected by the researcher (Sekaran 1992).

5.4 Development of the Questionnaire

In order to develop a questionnaire to be as a tool to collect primary data, this research conducts preliminary information gathering by using pilot study together with information from a literature survey before going into the stage of questionnaire design for the main survey. Pilot study will be discussed in details later in this chapter

5.4.1. Questionnaire Design

In order to minimize bias in this research, the researcher has focused on three areas when designing questionnaire, according to Sekaran (1992):

(1) The wording of the questions,
(2) Planning of issues of how the variables will be categorized, scaled, and then coded after receipt of the responses, and

(3) The general appearance of the questionnaire.

The items used to measure the research model (items used in the questionnaire) are based mostly on items used in measurements by Bauer (2005) and Nysveen (2005), and modified to suit the objectives of this study. Statistical analysis methods were then used to analyze data from the questionnaire survey.

The aim in designing the questionnaire is to achieve the research objectives (see Chapter 1), and always considered the basic criteria of relevance and accuracy.

The theories and models, especially the theoretical framework and the research hypotheses (in Chapter 4) guided the questionnaire design process significantly. The questions are integrated into the questionnaire only when they are related to the research objectives. Some parts of questionnaires from previous studies which were considered relevant to the study and possibly for further data analysis were selected to become part of the input into the questionnaire design process. For example, questions used in
measurement of the research model were based on the prominent models/theories (Ajzen 1975, Braure 2003) (see Chapter 4).

The information gathered about mobile users from this questionnaire survey is generally divided into three parts:

1. Respondent characteristics (personal data),
2. Activities and behavior concerning media use and
3. Attitudes and motivations to mobile marketing.

It is essential to attach a covering letter to introduce respondents to the study and explain the survey objectives. To establish credentials and legitimacy, the covering letter explained that the study was a research for a PhD project, and that all information obtained would be subject to anonymity and confidentiality and used only for the purposes of the present study.

**Part One:** placed at the beginning of the questionnaire after the covering letter. It contains 8 questions with a range of response options focus on respondent personal information as age, education level, marital status and their usage habit of new media such as mobile and internet

**Part Two** focuses on mobile services and SMS usage background. It comprised 10 questions all established as nominal
scales, such as how often do consumer currently use different mobile services.

**Part Three:** is an important section used for testing and generating the model of mobile marketing acceptance for this research. It comprises 26 questions focused on the predictors or determinants that were expected to influence consumer's attitude and behavior intention based on theories and models in Chapter 5. (Established as a 5-point Likert scale).
Table 5.1: The survey instrument

<table>
<thead>
<tr>
<th>Variable</th>
<th>Code</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innovativeness</strong></td>
<td>IN1</td>
<td>1. Usually I am among of the first to try out a new product</td>
</tr>
<tr>
<td></td>
<td>IN2</td>
<td>2. Often I try new products before my friends do</td>
</tr>
<tr>
<td></td>
<td>IN3</td>
<td>3. Generally, I enjoy buying new products</td>
</tr>
<tr>
<td><strong>Existing Knowledge</strong></td>
<td>EK1</td>
<td>4. I have a profound knowledge about mobile communications</td>
</tr>
<tr>
<td></td>
<td>EK2</td>
<td>5. In comparison to my circle of friends, I am an expert in mobile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>communications</td>
</tr>
<tr>
<td></td>
<td>EK3</td>
<td>6. In my circle of friends, I am usually the first who knows about the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>latest mobile phones</td>
</tr>
<tr>
<td><strong>Attitude Towards Advertising</strong></td>
<td>ATA1</td>
<td>7. Generally I find advertising a good thing</td>
</tr>
<tr>
<td></td>
<td>ATA2</td>
<td>8. I like advertising.</td>
</tr>
<tr>
<td><strong>Perceived Utility</strong></td>
<td>PU1\text{_inf}</td>
<td>9. I think through advertising messages via the mobile phone I can receive valuable and information about product and services</td>
</tr>
<tr>
<td></td>
<td>PU2\text{_inf}</td>
<td>10. I think through advertising messages via the mobile phone I can get timely information about sales and discount on product and services</td>
</tr>
<tr>
<td></td>
<td>PU3\text{_inf}</td>
<td>11. I feel advertising messages via the mobile phone will be entertaining</td>
</tr>
<tr>
<td></td>
<td>PU4\text{_inf}</td>
<td>12. Participating in an SMS advertising lottery is fun.</td>
</tr>
<tr>
<td></td>
<td>PU5</td>
<td>13. I think advertising messages customized to my profile will be useful</td>
</tr>
<tr>
<td></td>
<td>PU6</td>
<td>14. I can benefit from advertising messages via the mobile phone</td>
</tr>
<tr>
<td><strong>Perceived Risk</strong></td>
<td>PR1</td>
<td>15. I think there is a risk of personal data being misused when using mobile marketing services</td>
</tr>
<tr>
<td></td>
<td>PR2</td>
<td>16. I think there is a risk of receiving unwanted SMS-messages when using mobile marketing services</td>
</tr>
<tr>
<td></td>
<td>Cont1</td>
<td>17. I will only be prepared to receive mobile advertising messages, if I had provided my permission first</td>
</tr>
<tr>
<td></td>
<td>Cont2</td>
<td>18. I will only be prepared to receive mobile advertising messages if I can stop receiving it at any time</td>
</tr>
<tr>
<td><strong>Social Norms</strong></td>
<td>SN1</td>
<td>19. If I use mobile marketing services most of the people who are important to me will regard me as clever</td>
</tr>
<tr>
<td></td>
<td>SN2</td>
<td>20. If I use mobile marketing services most of the people who are important to me will regard it as useful</td>
</tr>
<tr>
<td></td>
<td>SN3</td>
<td>21. If I use mobile marketing services most of the people who are important to me will regard it as valuable</td>
</tr>
<tr>
<td><strong>Attitude Towards Mobile Advertising</strong></td>
<td>ATMA</td>
<td>22. I feel positively about advertising messages via mobile phone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23. I think mobile advertising is good</td>
</tr>
<tr>
<td><strong>Behavioral Intention</strong></td>
<td>B1</td>
<td>24. I am willing to receive mobile marketing messages in the future</td>
</tr>
<tr>
<td></td>
<td>B11</td>
<td>25. I will read all the advertising messages I receive in the future</td>
</tr>
<tr>
<td></td>
<td>B111</td>
<td>26. I will provide my personal profile in order to receive advertising message</td>
</tr>
</tbody>
</table>

Source: compiled by the researcher
5.4.2. **Instrumental Items:**

The questions were structured and separated into three sections (see Appendix II). The first two sections use multiple choice questions, where nominal scale, which categorizes individuals or objects into mutually exclusive collectively exhaustive sets, is used. The respondents indicate their answers by choosing one (some questions have more than one alternative) to answer the question.

The third section consists of 27 items measuring the model constructs as depicted in Table (5-1). Innovativeness is measured by 3 items, Existing Knowledge by 3 items, Attitude towards Advertising in General by 2 items, Perceived Utility by 6 items, Perceived Risk and Control by 4 items, Subjective Norms by 3 items, Attitude Towards SMS Advertising by 2 items and Behavior Intention by 3 items (see Table 5.1). These codes together with their meanings are presented in a coding sheet in Appendix II - Part B. Each of these scales is examined in the pilot test.

To measure the above mentioned variables, interval scale in form of a numerical scale is selected as the most appropriate scale. The interval scale is probably the most widely used in research in
which, numbers are assigned to indicate order and measure distance in unit of equal intervals.

A 5-point Likert scale is used because it is extremely popular for measuring attitudes and the method is simple to administer. With the Likert scale, respondents indicate their attitudes by checking how strongly they agree or disagree with carefully constructed statements that range from very positive to very negative toward the attitudinal object. Respondents generally choose from five alternatives and may number from 1 to 5 (Sekaran 1992).

In this study, five alternatives were used according to the measurement scales used in previous well-known studies such as Davis (1989). This scale ranges from strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5. A brief summary of the use of scales and measurements follows.

<table>
<thead>
<tr>
<th>Item</th>
<th>strongly disagree</th>
<th>Disagree</th>
<th>undecided</th>
<th>Agree</th>
<th>strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

For ease in interpreting the results of the questionnaire, the weighting scheme will remain consistent throughout the survey.
The questionnaire is first written in English and then translated into Arabic as the majority of Sudanese converse in Arabic; therefore the pilot study survey as well as the main study survey will be done in Arabic language. The questionnaires in both language versions were compared in order to resolve any differences. The final versions were then used for the pilot study and the Main survey.

5.5. Pilot Survey

A pilot study is recognized as a part of the scale development methodology. It is an experiment study used to prove a particular instrument and is also refer to “pre testing” or “trying out” of a particular research instrument (Blumberg, 2008). A pilot study is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection. It should draw subjects from the target population and simulate the procedures and protocols that have been designed for data collection. In effect, a pilot study is a small experiment designed to test logistics and gather information prior to a larger study, in order to improve the study quality and accuracy. One of the advantages of the pilot study is that it gives a
preliminary warning about any area in which the main research could possibly fail, where the possibility of research protocol may not be followed, or where suggested methods or instruments are inappropriate or complicated. The reasons for conducting a pilot study (Blumberg, 2008) are listed as follows:

- Developing and testing adequacy of research instruments
- Assessing the feasibility of a (full-scale) study/survey
- Designing a research protocol
- Assessing whether the research protocol is realistic and workable
- Establishing whether the sampling frame and technique are effective
- Assessing the likely success of protocol recruitment approaches
- Identifying logistical problems which might occur during the data collection stage
- Estimating variability in outcomes to help determine sample size.
- Collecting preliminary data
- Assessing the proposed data analysis techniques to uncover potential problems.
- Developing a research question and research plan.
- Training a researcher in as many elements of the research process as possible

Accordingly, a pilot study would be useful for this research in terms of increasing the accuracy of the results through achieving the above points. The test instrument would be developed and administered to a convenient sample of Sudanese mobile users in Khartoum, the capital of the Sudan. The pilot survey was conducted within the same target population of the study which is Khartoum, the national capital of the Sudan during the period of March to May 2008. The size of the pilot group may range from 25 to 100 subjects (Blumberg et al. 2008). In this study a sample of 65 individuals was randomly selected from the Sudanese mobile users in Khartoum. The returned responses were 51 questionnaires; from them only three were exempted, 48 questionnaires are thus used in the analysis. There were some suggestions from the analysis, because there were many questions left unanswered. Therefore, any comments from respondent were noted to improve the questions for the main study.
5.5.1. Analysis of the Pilot Study Data:

The demographic profile of the respondents to the pilot test presented in Table 5.3 below shows that 54% (27) were female, while 42% (21) of the respondents were male. Average age of the respondents was 28 years with a range between 18 and 50 years. The sample was better educated with over 34% (17) of the respondents university graduate and 30% university students and only 24% (12) had general education. The higher percentage of the respondents is university graduate 34% (17) and 28% were households or self employed, while 31% of the respondents were singles and 13% were married.

As presented in Table 5.4, approximately most of the respondents (98%) had used the mobile services and 89% have experience in SMS. Compared with the internet, we found that only 54% of the sample has access to the internet. In our sample, respondents used text messaging largely for personal communication (69%) in chatting with friends and family, and 25% of the respondents use SMS in entertainments.

With regards to acceptance of mobile advertising, as presented in Table 5.4 an interesting fact was that among the
survey respondents 94% were willing to receive advertising messages in their mobile, 44% without any exchange while 29% in exchange for customized advertising, and 25% in exchange for free credit.

It was important to more than 54% of the survey respondents to give permission (opt-in) before receiving text messages ads, and approximately 80% are willing to accept receiving text messaging only if they were able to stop it when they want (opt-out)
Table 5.3: Usage and Experience of Mobile Services

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do you use Mobile phone</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47</td>
<td>98</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Mobile services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Call</td>
<td>44</td>
<td>92</td>
</tr>
<tr>
<td>SMS</td>
<td>37</td>
<td>77</td>
</tr>
<tr>
<td>MMS</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>WAP</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Games</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>Internet use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>26</td>
<td>54</td>
</tr>
<tr>
<td>No</td>
<td>22</td>
<td>46</td>
</tr>
<tr>
<td>At home</td>
<td>15</td>
<td>31</td>
</tr>
<tr>
<td>At work</td>
<td>14</td>
<td>29</td>
</tr>
<tr>
<td>Internet café</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>Mobile WAP</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td><strong>SMS expertise</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expert</td>
<td>22</td>
<td>46</td>
</tr>
<tr>
<td>Medium experience</td>
<td>19</td>
<td>40</td>
</tr>
<tr>
<td>Low experience</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>No experience</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td><strong>SMS service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>News</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>Personal information</td>
<td>14</td>
<td>29</td>
</tr>
<tr>
<td>Chat with friends and family</td>
<td>33</td>
<td>69</td>
</tr>
<tr>
<td>Jokes and entertainment</td>
<td>12</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: The researcher own data (Pretest questionnaire)
Table 5.4: Demographic Data of Pilot Study

<table>
<thead>
<tr>
<th>Variable</th>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>21</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>27</td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>19</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>26-35</td>
<td>18</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>36-45</td>
<td>7</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>45+</td>
<td>4</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>3</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>9</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>15</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>17</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Post graduate</td>
<td>6</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>17</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Employee</td>
<td>12</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Businessman</td>
<td>6</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Household</td>
<td>14</td>
<td>28%</td>
<td></td>
</tr>
<tr>
<td>Maternal status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>31</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>13</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Do you accept receiving mobile advertising</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>45</td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>No of advertising messages accepted per day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than two</td>
<td>19</td>
<td>38%</td>
<td></td>
</tr>
<tr>
<td>Less than 4</td>
<td>7</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>More than 4</td>
<td>7</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Any number of messages</td>
<td>18</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>Type of reward</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discount on advertised product/services</td>
<td>3</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Free credit</td>
<td>12</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Free SMS</td>
<td>3</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Customized SMS</td>
<td>14</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>Without any reward</td>
<td>21</td>
<td>44%</td>
<td></td>
</tr>
</tbody>
</table>

*Total numbers of usable responses was 48

Source: The researcher own data (Pretest questionnaire)
5.5.2. Factor Analysis for Pilot Study

An exploratory factor analysis was conducted as structure detection method for justified scales of the variables used in the model. The data from respondents were examined using principal component method. Factor loadings were examined. The items with factor loadings of less than 0.5 on each factor were deleted to purify the measure. The results show that the loading values of most of the items exceed the cut-off level (0.5), which means that the six variables are valid and their loading factors are greater than 0.5 and explain 72% of the variances.

The reliability of the test, and thus the questionnaire, was within the acceptable range, with Cronbach’s alpha equal to 0.84, Table (5-5) shows the results of the factor loadings for each variable. Four items measuring behavior intention (questions 24, 25, 26 and 27) were not used in factor analysis as together they represent dependent variables. three items relevant to subjective norms construct (questions 20, 21 and 23) formed factor 1 with factors loadings between .741 and .864, items measuring attitude towards mobile advertising and the advertising attitude in general constructs (questions 9, 10, 23) formed factor 2 with factors loading
values ranging between .571 and .788. There were some cross-loadings on factor 1, question 23 loaded on two factors, thus the strong loading which is on factor 2 was chosen. The two items relevant to perceived risk construct (question 16 and 17) with a factor loading of 0.838 and 0.865 respectively, formed factor 3. Fourth factor also had three distinct items related to Personal innovativeness construct (questions 1, 2 and 3) clearly formed with factor loadings ranging between .777 and .733. Existing knowledge construct’s represented by the three items (questions 4, 5 and 6) grouped in factor five with a factor loading values ranging between .810 and .657. The items relevant to perceived utility construct (questions 11, 12 and 14) formed factor 6 with a factor loading values between .713 and .538. Question 12 cross loaded with factor 3, hence the strongest value which is in factor 6 was chosen. Question 7 & 8 which measure information seeker construct do not loaded on any factor which means it is not an important construct and will not be used in the main study.
Despite the relatively small sample used at this stage, these results lend initial support to the research theory laid out earlier, and give positive and encouraging signs to implement the full scale study after some manipulation of the questions and excluding of the construct that seems not important. The final version of the

Table 5.5
The Results of the Factor Loadings for Independent Variables

<table>
<thead>
<tr>
<th>Ques.</th>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
<th>SD</th>
</tr>
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<tbody>
<tr>
<td>Q1</td>
<td>IN1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.777</td>
<td></td>
<td>2.9</td>
<td>1.10</td>
</tr>
<tr>
<td>Q2</td>
<td>IN2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.771</td>
<td></td>
<td>2.7</td>
<td>.90</td>
</tr>
<tr>
<td>Q3</td>
<td>IN3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.733</td>
<td></td>
<td>3.6</td>
<td>.89</td>
</tr>
<tr>
<td>Q4</td>
<td>EK1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.810</td>
<td></td>
<td>3.6</td>
<td>1.0</td>
</tr>
<tr>
<td>Q5</td>
<td>EK2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.782</td>
<td></td>
<td>3.3</td>
<td>1.0</td>
</tr>
<tr>
<td>Q6</td>
<td>EK3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.657</td>
<td></td>
<td>3.0</td>
<td>.96</td>
</tr>
<tr>
<td>Q9</td>
<td>ATA1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.788</td>
<td></td>
<td>4.04</td>
<td>.71</td>
</tr>
<tr>
<td>Q10</td>
<td>ATA2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.755</td>
<td></td>
<td>3.8</td>
<td>.94</td>
</tr>
<tr>
<td>Q23</td>
<td>ATA3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.510</td>
<td>.571</td>
<td>3.7</td>
<td>.71</td>
</tr>
<tr>
<td>Q15</td>
<td>PU3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.712</td>
<td></td>
<td>3.96</td>
<td>.68</td>
</tr>
<tr>
<td>Q11</td>
<td>PU1_{inf}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.713</td>
<td></td>
<td>3.9</td>
<td>.89</td>
</tr>
<tr>
<td>Q12</td>
<td>PU2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.526</td>
<td>.538</td>
<td>3.8</td>
<td>.96</td>
</tr>
<tr>
<td>Q14</td>
<td>PU5_{unt}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.667</td>
<td></td>
<td>3.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Q13</td>
<td>PU4_{unt}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.506</td>
<td></td>
<td>3.2</td>
<td>1.0</td>
</tr>
<tr>
<td>Q16</td>
<td>PR1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.865</td>
<td></td>
<td>4.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Q17</td>
<td>PR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.838</td>
<td></td>
<td>4.17</td>
<td>.99</td>
</tr>
<tr>
<td>Q20</td>
<td>SN1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.714</td>
<td></td>
<td>2.92</td>
<td>.96</td>
</tr>
<tr>
<td>Q21</td>
<td>SN2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.818</td>
<td></td>
<td>3.4</td>
<td>.94</td>
</tr>
<tr>
<td>Q22</td>
<td>SN3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.864</td>
<td></td>
<td>3.42</td>
<td>.87</td>
</tr>
</tbody>
</table>

Principal component analysis for all items measuring intention to use (varimax rotation)- factor analysis 1. Values below .5 suppressed
Source: SPSS results-factor analysis
questionnaire that will be used for the main study is shown in appendix III.

From these results, a minor change was also made to the questionnaire design such as the format of the questionnaire in order to improve understanding. After the data was collected, reversed scoring was performed for the negatively worded items, data was analysed by using preliminary basic statistical methods using SPSS, and the respondents feedback was summarised. Any biases could also be detected if the respondents had tended to respond similarly to all items or stuck to only certain points on the scale (Sekaran, 1992). The feedback and data analysis indicated that there was some problem with the original survey; so revision was again made. After this the researcher could proceed to the main survey.

The next section considers the reliability and validity of the instrument and confirms that the instrument was ready to be used in the main survey.

5.6. Reliability Analysis of the Instrument

Testing goodness of data is testing the reliability and validity of the measures. According to Sekaran (1992), reliability of a measure
indicates the stability and consistency with which the instrument is measuring the concept and helps to access the goodness of a measure. That means findings would be the same if the research were to be repeated at a later date, or with a different sample of subjects. In other words, the reliability of a measure indicates the extent to which the measure is without bias (error free) and hence offers consistent measurement across time and across the various items in the instrument.

This research used the most popular test of inter-item consistency reliability that is the Cronbach’s coefficient alpha which used in multipoint scaled items (Sekaran 1992). This is a test of the consistency of respondents’ answers to all the items in a measure. To the degree that items are independent measures of the same concept, they will be correlated with one another (Sekaran 1992).

Reliabilities less than 0.6 are considered to be poor, those in the 0.7 range, acceptable, and those over 0.8 good. The closer the reliability coefficient gets to 1.0, the better. In other words, the generally agreed upon lower limit for Cronbach’s alpha is 0.70.
Chapter Six

Data Analysis and Results

In this chapter the results of the questionnaires findings from main study survey of the mobile users in Khartoum Province, as well as the companies' managers overviews expressed in interviews held with them will be discussed and analyzed. First, the main demographic characteristics of the respondents in the survey of mobile users are described. Second, the responses to the questionnaire are analyzed. Third, the interview returns are summarized.

This chapter comprises two parts. The first part discusses the findings of the survey, which constitute the main part of the research, and includes several statistics methods that were used to examine hypotheses and research questions. The second part summarized the overviews of some of the industry mangers, who use mobile marketing, regarding the prospects of using mobile marketing as part of their marketing plans and marketing mix.
6.1. Part 1: Main Study Results: Mobile Users

6.1.1. Analysis of Survey Questionnaire:

The aims of data analysis in this part are to test and present the results of:

1. The descriptive analysis associated with mobile users' demographic data, and background of mobile services usage,

2. The reliability of the instrument based on internal consistency of the measures by testing the reliability of the questionnaire instruments using Cronbach’s alpha together with inter-item correlations

3. The convergent validity of the constructs by using factor analysis,

4. The extent to which mobile users used and intended to use the mobile advertising

5. What factors affecting respondents positive or negative attitudes towards mobile advertising?

6. How does gender, age, level of education affect consumers’ responses to mobile advertising?

This data analysis needed to address the above issues and questions will be achieved by using descriptive statistical
techniques, factor analysis, analysis of variance (ANOVA), correlation and regression analysis.

6.1.2. Data Sample:

The sample comprised 365 mobile users were randomly targeted from the community in Khartoum the capital of the Sudan, which identified as having high penetration rates for mobile phone usage. All the targeted participants were mobile phone users selected randomly from the Sudanese community: universities, companies, Internet cafes, households and, businessmen or women from private or public sectors. The expected age of adult participants is 18 years or older. Out of the 365 distributed questionnaires 265 (73%) returned their questionnaires. 14 of the questionnaires (4%) were excluded from the analysis because they didn’t complete most sections in the questionnaire. Therefore, 251 of the questionnaires (69%) from the returned questionnaires are subjected to the required statistical analysis that needs to be conducted in order to answer the questions raised in this research.

The results from the data collection show that there is a large number of respondents (249) who use mobile phone (99%), while the percent of respondents who do not use the service were just 2
respondents (1%). This shows the strength of mobile phone usage among the population.

6.1.3. Sample Profile: Demographic Data

Analyzing the demographic variables revealed interesting results that impacted the analysis that follows. The frequency and percentage for each demographic variable is listed and described in a separate table. The following sections describe these results.

Gender (Sex):

108 (43%) of the valid respondents (those who returned complete and valid questionnaire used in the analysis) were males and 143 (57%) were females (see table 6.1). This shows that percentage of females who participated in the survey is higher than the percentage of males.

Age Group:

The results in Table 6.2 show that the percentage of age group (18-25) is the highest among valid questionnaires at 50%, (125), followed by both the 26-35 and 36-45 groups, which are equal to 29% (74), 15% (37) and those more than 45 years age group at 6% (15) respectively.
**Education level:**

The survey shows that the highest number of valid respondents were undergraduate students (174, 69%), which is more than half of the sample (see Table 6.3). 21% have a higher level of education with a Bachelor’s degree (graduates), while 10% have a lower level of education (where 5% of the respondents have secondary certificates and 5% have a general education).

**Occupation:**

The results in Table 6.4 show that the majority of valid respondents, 131, were university students, which is equal approximately to half of the sample. The second largest percentage of respondents, 37% was employee. The other categories were households at 8%, self employed at 4% and the smallest group is laborers at 1%.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>108</td>
<td>43</td>
</tr>
<tr>
<td>female</td>
<td>143</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>251</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Main study questionnaire
Table 6.2: Age Distribution

<table>
<thead>
<tr>
<th>Age group</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>125</td>
<td>50</td>
</tr>
<tr>
<td>26-35</td>
<td>74</td>
<td>29</td>
</tr>
<tr>
<td>36-45</td>
<td>37</td>
<td>15</td>
</tr>
<tr>
<td>45+</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>251</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Main study questionnaire

Table 6.3: Education Level Distribution

<table>
<thead>
<tr>
<th>Education level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Secondary</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>174</td>
<td>69</td>
</tr>
<tr>
<td>Graduate</td>
<td>53</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>251</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: The researcher own data (Main study questionnaire)

Marital Status:

The results in Table 6.5 show that the majority of the valid responses, 179, were singles while the married were 62 respondents which represent 72% and 25% respectively, and 10 of the valid respondents were either divorced or widowed representing 4% of the valid respondents. This information supports the fact that users are mainly young, within 20s and 30s, and are therefore singles.
### Table 6.4: Occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>131</td>
<td>52</td>
</tr>
<tr>
<td>Employee</td>
<td>93</td>
<td>37</td>
</tr>
<tr>
<td>Self employed</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Laborer</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Household</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>251</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: The researcher own data (Main study questionnaire)

### Table 6.5: Marital Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>179</td>
<td>71</td>
</tr>
<tr>
<td>Married</td>
<td>62</td>
<td>25</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>251</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: The researcher own data (Main study questionnaire)
6.1.4. **Background of the New Media Usage:**

Table 6.6 shows the results of the sample analysis in terms of whether or not the respondents use the new media (mobile and internet), how long they use them, what mobile services they use, what is the pattern in using mobile services and how will they evaluate different media. Regarding the usage of new media i.e. mobile and internet in Sudan, the results show that the usage of mobile, 249, respondents is greater than the 177, internet users among the sample. This matches the penetration rate of mobile and internet in Sudan and may be due to the easy access to mobile compared to the internet which needs certain technical knowledge of computers. The majority of internet users access the internet at home or at work which represents 41% and 37% respectively (See Table 6.6). Results will be presented as answers to the questions concerning this part of questionnaire.

**Mobile Use:**

Other than calling, most of the mobile users use SMS services more than the other mobile services.
SMS Experience

The majority of the sample (89%) was expert in using SMS i.e. had been using this service for more than a year

SMS Services Use

Users mostly use SMS to communicate with friends (chat), 59%, and secondly to send contact information 47%, 23% for news service, and 19% for entertainments.

<table>
<thead>
<tr>
<th>Table 6.6 : Analysing Sample Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Media Penetration Rate</td>
</tr>
<tr>
<td>Do you have mobile phone</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Do you have access to internet</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>If yes, where do you access internet?</td>
</tr>
<tr>
<td>Home</td>
</tr>
<tr>
<td>Work</td>
</tr>
<tr>
<td>Internet café</td>
</tr>
<tr>
<td>WAP</td>
</tr>
<tr>
<td>Which of the following mobile services do you use regularly?</td>
</tr>
<tr>
<td>SMS</td>
</tr>
<tr>
<td>MMS</td>
</tr>
<tr>
<td>WAP</td>
</tr>
<tr>
<td>Games</td>
</tr>
<tr>
<td>How long have you been a regular user of SMS?</td>
</tr>
<tr>
<td>Less than a year</td>
</tr>
<tr>
<td>More than a year</td>
</tr>
<tr>
<td>Never use SMS</td>
</tr>
<tr>
<td>which of SMS services do you use regularly</td>
</tr>
<tr>
<td>To receive Information and news</td>
</tr>
<tr>
<td>To send contact information</td>
</tr>
<tr>
<td>To chat with friends and family</td>
</tr>
<tr>
<td>To exchange jokes and funny stuff</td>
</tr>
</tbody>
</table>

Source: The researcher own data (Main study questionnaire)
6.1.5. **SMS Advertising Potential Effective Measures:**

**Readership:**

The results showed a high level of readership, more than 74% stated that they don't delete messages before reading them. Most respondents (74%) usually read messages in full, and 25% usually read messages and delete them (see Table 6.7).

![Figure 6.1 Readership](image)

**Speed of Readership:**

The results showed that 86% of the valid respondents usually read messages as soon as they receive them; this has an important implication for being able to provide time-sensitive information. However, 12% read messages when they find time for them.
Frequency of Messages:

42% of the valid respondents stated that receiving one message per day is suitable for them, 37% felt that 2 messages will be suitable for them, 3 massages a day was suitable for 15% of the respondents while 6% stated that they can receive more frequent advertisements. Issues to consider in this respect are that increasing the frequency of advertisements could use up phone memory and may irritate recipients and thus lead to "delete on receipt" reaction.
Reward:

The results showed that 16% of the respondents welcome receiving advertisement messages on their mobile in exchange for discount on advertised products, 24% in exchange for free credit, 27% without any exchange. Most respondents 33% of them welcome advertising messages that relevant to them. This supports other researches who indicate mobile users expect the advertising to be highly relevant to them because of the very personal nature of the mobile phone compared with other media. High relevance can only be achieved from data obtained explicitly from the consumer at the time of obtaining permission.
The results showed that among different media, mobile phone has the highest exposure time, as respondent's phone is open 24 hours a day on average. This supports previous research that indicates the mobile phones average exposure time is 14 hours per day.

Figure 6.4: Type of Reward

Different Media Exposure:

The results showed that among different media, mobile phone has the highest exposure time, as respondent's phone is open 24 hours a day on average. This supports previous research that indicates the mobile phones average exposure time is 14 hours per day.
6.1.6. Media Evaluation:

The respondents' evaluation of different Media shows that TV has the highest evaluation rate followed by web, billboard, radio and newspapers. The evaluation of SMS as advertising media comes last compared to other media which may be due to the fact that only 60% of the respondents do receive advertising messages, as the use of mobile marketing is not well popular in Sudan yet.

![Media Evaluation Chart]

Figure 6.6: Media Evaluation
Table 6.7: SMS advertising Potential Effectiveness Measures

<table>
<thead>
<tr>
<th>When you receive an SMS on your mobile you:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read in full</td>
<td>185</td>
<td>74</td>
</tr>
<tr>
<td>Read and delete</td>
<td>63</td>
<td>25</td>
</tr>
<tr>
<td>Delete prior reading</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When you receive an SMS on your mobile you:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read it as soon as received</td>
<td>213</td>
<td>85</td>
</tr>
<tr>
<td>Read it when have spare moments</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>Send to a friend</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How many messages do you believe will be suitable for you per day?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>One message</td>
<td>104</td>
<td>42</td>
</tr>
<tr>
<td>Two messages</td>
<td>38</td>
<td>15</td>
</tr>
<tr>
<td>Three messages</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>Any no. of messages</td>
<td>89</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>For what exchange you will be willing to accept receiving advert messages?*</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount on advertised product</td>
<td>41</td>
<td>16</td>
</tr>
<tr>
<td>Free credit</td>
<td>62</td>
<td>25</td>
</tr>
<tr>
<td>Personal profile</td>
<td>84</td>
<td>34</td>
</tr>
<tr>
<td>Without any reward</td>
<td>69</td>
<td>28</td>
</tr>
</tbody>
</table>

*more than one answer were chosen

Source: The researcher own data (Main study questionnaire)
6.1.7 Analysis of the Independent Variables:

This section analyzes and tests the reliability of data regarding the attitude and intention behavior. In this study the respondents' attitude towards mobile advertising and behavior intention are measured by seven independent attributes: innovativeness, existing knowledge, attitude towards advertising in general, perceived utility, perceived risk and control and subjective norms, as described in chapter 4.

Table 6.8 shows the descriptive statistics for the independent variables measured by 21 instruments (questions), which include the means and standard deviations of them. It is clear from the table that the means range from as small as 2.7 in the questions relating to innovativeness to 4.2 in some of the questions relating to attitude towards advertising.

Similarly, responses show some variations reflected in low standard deviations in some items (such as .85 in attitude towards advertising) and relatively high standard deviations in others (such as 1.2 in case of innovativeness)
It is clear that for most of the items in the questionnaire, the responses are positive (mean > 3.0) and standard deviations close to 1.0.

Before proceeding to model data analysis, it is necessary to test the reliability and validity of the construct. Reliability and validity are separate but closely related conditions (Sekaran, 1992). Both important measures will be discussed and presented in the next two sections.

### 6.1.9.1 Reliability and Validity of the Model Variables:

Before using the data for further analysis, it is important to test and establish the reliability and internal consistency of the data collected through the questionnaire instruments. Cronbach’s alpha is most widely used for assessing the reliability of the entire scale. Computation of alpha is based on the reliability of item (variable) relative to other items (variables) with the same number of observations and measuring the same construct of interest. The acceptable lower limit for reliability of the data varies between 0.6 and 0.7 (Sekaran, 1992). In this study Cronbach’s alpha for the whole set of items is .79, each of the seven factors has reliability higher than 0.7, indicating highly reliable measurement scale. This
means that all scales can be reliably used in this research. The reliability of the constructs is established by testing for both consistency and stability. Consistency indicates how the items (questions) intended to measure a concept correlates as a set or describe the same aspect.

Researchers usually use Cronbach's alpha to measure the reliability of items in a certain set. In effect, Cronbach's alpha measures how well items in a set are positively correlated to one another. Table (6.9) shows the reliability coefficients of the instruments set (as reflected by Cronbach's alpha). All the resulting scales are sufficiently reliable, with an overall alpha of .8 for all the items. The perceived utility questions show the highest reliability measure (\( \alpha = .75 \)), while questions relating to existing knowledge, (EK) and attitude towards mobile advertising (ATMA) have the lowest reliability as alpha is only .65 in both sets. The group of questions relating to the other four sets show very close alphas: for Innovativeness questions (\( \alpha = .73 \)), for Subjective norms questions ( \( \alpha = .73 \)), for Perceived risk questions \( \alpha = .72 \), and for Control questions (\( \alpha = .74 \)).
Cronbach's alpha will generally increase as the intercorrelations among test items increase, and is thus known as an internal consistency estimate of reliability of the items used in the analysis.

As Table (6.9) indicates the Cronbach's alpha shows that the chosen sets of questions relates to each other strongly as reflected in the high values of alphas. Thus, all these sets will be subjected to factor analysis.
Table 6.8: Descriptive statistics of the Independent Variable

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. Usually I am among of the first to try out a new product</td>
<td>2.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Q2. Often I try new products before my friends do</td>
<td>2.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Q3. Generally, I enjoy buying new products</td>
<td>3.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Q4. I have a profound knowledge about mobile communications</td>
<td>3.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Q5. In comparison to my circle of friends, I am an expert in mobile</td>
<td>3.2</td>
<td>1.1</td>
</tr>
<tr>
<td>communications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q6. In my circle of friends, I am usually the first who knows about the</td>
<td>2.9</td>
<td>1.1</td>
</tr>
<tr>
<td>latest mobile phones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q7. Generally I find advertising a good thing</td>
<td>4.2</td>
<td>.85</td>
</tr>
<tr>
<td>Q8. I like advertising</td>
<td>4.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Q9. I think through advertising messages via the mobile phone I can</td>
<td>3.8</td>
<td>1.1</td>
</tr>
<tr>
<td>receive valuable and information about product and services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q10. I think through advertising messages via the mobile phone I can get</td>
<td>3.8</td>
<td>1.1</td>
</tr>
<tr>
<td>timely information about sales and discount on product and services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q11. I feel advertising messages via the mobile phone will be entertaining</td>
<td>3.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Q12. Participating in an SMS advertising lottery is fun.</td>
<td>3.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Q13. I Think advertising messages customized to my profile will be useful</td>
<td>3.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Q14. I can benefit from advertising messages via the mobile phone</td>
<td>3.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Q15. I Think there is a risk of personal data being misused when using</td>
<td>4.1</td>
<td>1.1</td>
</tr>
<tr>
<td>mobile marketing services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q16. I think there is a risk of receiving unwanted SMS-messages when</td>
<td>3.9</td>
<td>1.2</td>
</tr>
<tr>
<td>using mobile marketing services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q17. I will only be prepared to receive mobile advertising massages, if I</td>
<td>3.7</td>
<td>1.1</td>
</tr>
<tr>
<td>had provided my permission first</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q18. I will only be prepared to receive mobile advertising messages if I</td>
<td>4.1</td>
<td>1.0</td>
</tr>
<tr>
<td>can stop receiving it at any time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q19. If I use mobile marketing services most of the people who are</td>
<td>3.1</td>
<td>1.2</td>
</tr>
<tr>
<td>important to me will regard me as clever</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q20. If I use mobile marketing services most of the people who are</td>
<td>3.4</td>
<td>1.1</td>
</tr>
<tr>
<td>important to me will regard it as useful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q21. If I use mobile marketing services most of the people who are</td>
<td>3.5</td>
<td>1.6</td>
</tr>
<tr>
<td>important to me will regard it as valuable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Source: The researcher own data (Main study questionnaire)

N=246
Table 6.9: The Model Constructs Reliability Measures

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Perceive Utility</strong> (3 items)</td>
<td>.8</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td>2. <strong>Innovativeness</strong> (3 items)</td>
<td>.7</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td>3. <strong>Subjective Norms</strong> (3 items)</td>
<td>.7</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td>4. <strong>Existing Knowledge</strong> (2 items)</td>
<td>.7</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td>5. <strong>Attitude To Advertising</strong> (2 items)</td>
<td>.7</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td>6. <strong>Permission &amp; Control</strong> (2 items)</td>
<td>.7</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td>7. <strong>Perceived Risk</strong> (2 items)</td>
<td>.7</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude Towards Mobile advertising</strong> (2 items)</td>
<td>.9</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td><strong>Behavior Intention</strong> (3 items)</td>
<td>.8</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
<tr>
<td><strong>Overall sets</strong> (26 items)</td>
<td>.8</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td></td>
</tr>
</tbody>
</table>

Source: The researcher own data (Main study questionnaire)
6.1.7.2. Factor Analysis for Independent Variables

Thus, the next step is to test the convergent and discriminant validity of these items by conducting an exploratory factor analysis (principal component). Exploratory factor analysis is meant to detect trends and find clusters of variables that can be grouped around similar values for further investigation. The aim of this analysis is to see if variables cluster together in terms of usage frequency.

Using SPSS, a software that is widely used in factors extraction studies, seven factors solution resulted from principal component analysis with varimax rotation. The items with factor loadings of less than 0.5 on each factor were deleted to purify the measure. The results confirmed the existence of seven factors with eigenvalues greater than 1.0. The three items measuring the attitude and intention (questions 22, 23, 24, 25, and 26) were not used in the factor analysis as they represent the dependent variables in the study.

The computed seven factors altogether explained 64.30 percent of variance in the items (see Table 6.11). The factors loaded in rotated component matrix showed that questions 1, 2, and 3 that measured innovativeness, loaded strongly together as factor 2.
Questions 4, 5, and 6, meant to measure existing knowledge, loaded very high with factor 4. The questions measuring attitude towards advertising in general (7-8) loaded very strongly creating factor 5. Perceived utility for informativeness, measured by questions 9-10 loaded strongly together with question 14 forming factor 1. Questions 11-12, measuring perceived utility of entertainment, and question 12, measuring perceived utility of customized advertising, loaded less than 0.5 so they are not loaded in any factor. Questions 15-18, which were the items measuring perceived risk, where loaded in to two factors questions 15-16 loaded very strongly together creating factor 7. Items 17 & 18 measuring permission and control, loaded strongly on factor 6 formed a new factor which will be named as choice & Control factor. Finally, questions 19, 20 & 21, that measured social norms, loaded strongly on Factor 3.

Table (6.11) list all the extracted factors and factors loadings.

The appropriateness of factor analysis – Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is .750. Bartlett's test of Sphericity is a chi-square test of determinant of the correlation matrix and assume the variables are non linear. For this study ($\chi^2 = 1441.85$, df=210, sig.=
indicates that the sample used in this study for factor analysis is adequate. KMO (measure of sampling adequacy) quantifies the degree of intercorrelations among variables, using a scale of 0 to 1, with values less than 0.5 deemed unacceptable. The KMO measure for the correlation matrix for this study is (.8) is an acceptable level (see Table 6.10).

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</td>
<td>.75</td>
</tr>
<tr>
<td>Bartlett's Test of sphericity:</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square df Sig.</td>
<td>1441.846 210 .000</td>
</tr>
</tbody>
</table>
Table 6.11:
Principal Component Analysis for all Measurement Items
(Varimax Rotation)

<table>
<thead>
<tr>
<th>Ques.</th>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>IN1</td>
<td></td>
<td>.796</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.69</td>
</tr>
<tr>
<td>Q2</td>
<td>IN2.</td>
<td></td>
<td>.769</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.65</td>
</tr>
<tr>
<td>Q3</td>
<td>IN3</td>
<td></td>
<td>.737</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.60</td>
</tr>
<tr>
<td>Q4</td>
<td>EK1</td>
<td></td>
<td></td>
<td>.686</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.56</td>
</tr>
<tr>
<td>Q5</td>
<td>EK2</td>
<td></td>
<td></td>
<td>.791</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.68</td>
</tr>
<tr>
<td>Q6</td>
<td>EK3</td>
<td></td>
<td></td>
<td>757</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.66</td>
</tr>
<tr>
<td>Q7</td>
<td>ATA1</td>
<td></td>
<td></td>
<td>.774</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.63</td>
</tr>
<tr>
<td>Q8</td>
<td>ATA2</td>
<td></td>
<td></td>
<td>.764</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.68</td>
</tr>
<tr>
<td>Q9</td>
<td>PUinf</td>
<td></td>
<td></td>
<td>.763</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.67</td>
</tr>
<tr>
<td>Q10</td>
<td>PUinf</td>
<td></td>
<td></td>
<td>.705</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.60</td>
</tr>
<tr>
<td>Q14</td>
<td>PUCUS</td>
<td></td>
<td></td>
<td>.718</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.60</td>
</tr>
<tr>
<td>Q15</td>
<td>PR1</td>
<td></td>
<td></td>
<td></td>
<td>.871</td>
<td></td>
<td></td>
<td></td>
<td>.79</td>
</tr>
<tr>
<td>Q16</td>
<td>PR2</td>
<td></td>
<td></td>
<td></td>
<td>.818</td>
<td></td>
<td></td>
<td></td>
<td>.72</td>
</tr>
<tr>
<td>Q17</td>
<td>PRprmt</td>
<td></td>
<td></td>
<td></td>
<td>.859</td>
<td></td>
<td></td>
<td></td>
<td>.79</td>
</tr>
<tr>
<td>Q18</td>
<td>PRcont</td>
<td></td>
<td></td>
<td></td>
<td>.880</td>
<td></td>
<td></td>
<td></td>
<td>.80</td>
</tr>
<tr>
<td>Q19</td>
<td>SN1</td>
<td></td>
<td></td>
<td>.650</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.57</td>
</tr>
<tr>
<td>Q20</td>
<td>SN2</td>
<td></td>
<td></td>
<td>.792</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.75</td>
</tr>
<tr>
<td>Q21</td>
<td>SN3</td>
<td></td>
<td></td>
<td>.799</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.67</td>
</tr>
<tr>
<td>M</td>
<td>3.7</td>
<td>3.0</td>
<td>3.3</td>
<td>3.3</td>
<td>4.1</td>
<td>3.9</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Variance</td>
<td>22.45</td>
<td>9.99</td>
<td>8.45</td>
<td>7.06</td>
<td>6.42</td>
<td>5.14</td>
<td>4.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative %</td>
<td>22.5</td>
<td>32.5</td>
<td>40.9</td>
<td>49.9</td>
<td>54.4</td>
<td>59.6</td>
<td>64.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Principal component analysis for all items measuring attitude towards mobile advertising and intention to use it (varimax rotation)- factor analysis 1. Values below .5 suppressed

Source: The researcher own data (Main study questionnaire)
Table 6.12: 
Extracted Factor, Parameter Estimate Range and Average Variance Explained

<table>
<thead>
<tr>
<th>Extracted Factor</th>
<th>Parameter Estimate Range</th>
<th>Average Variance Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovativeness</td>
<td>.74-.80</td>
<td>65%</td>
</tr>
<tr>
<td>Existing Knowledge</td>
<td>.68-.79</td>
<td>66%</td>
</tr>
<tr>
<td>Attitude Towards Advertising</td>
<td>.76-.77</td>
<td>63%</td>
</tr>
<tr>
<td>Perceived Utility</td>
<td>.70-.76</td>
<td>62%</td>
</tr>
<tr>
<td>Perceived Risk</td>
<td>.81-.87</td>
<td>76%</td>
</tr>
<tr>
<td>Control</td>
<td>.86-.88</td>
<td>74%</td>
</tr>
<tr>
<td>Social Norms</td>
<td>.65-.80</td>
<td>66%</td>
</tr>
</tbody>
</table>

The results in Table (6.11), indicate that the models explain between 64.4% of the variance in “attitude towards mobile advertising”. These observations indicate that the explanatory power of the adoption models is good when compared to other studies (Nysveen 2003). The average variance explained of the items that belongs to a certain construct and that can be explained by the extracted factors. The results show that all average variance explained under extracted factors is well above 60% and close to 80% in some constructs. That indicate the items retained and loaded are well represented in the common factor space.
The parameters estimate range which reflects the factor loadings of the items under each construct are also shown in Table (6.12) these estimates reflect in essence the correlation of the loaded items with the items. As it is clear from the table, the estimates have close similarity to the Cronbach's alpha.

The values in the table indicate that the data collected from the survey are reliable and suitable for further analysis.

6.1.9 The Analysis of the Dependent Variables

Internal consistency reliabilities based on Cronbach's' alphas of the dependent items (all interval scales) are greater than 0.70 and are considered to be good and acceptable. All reliability tests of independent variables were quite high (0.7 up); and indicated the items in each set (concept) are positively correlated to one another (Sekaran1992). The Cronbach's’ alphas of the attitude towards mobile advertising is .85 and for the Behavior Intention is .76 which indicate that the items measuring the attitude towards mobile advertising are more consistent than the items measuring behavior intention.

The average respondents score on overall attitude is 3.8 on a five –point likert scale, with 1 as the least favorable and 5 as the
most favorable. This is above the neutral score of 3, which implies that respondent attitudes towards mobile advertising are positive on average.

When the respondents were asked about their willingness to receive mobile advertising, 183 of them responded with yes and 37 responded with no, and 31 of them were neutral with a mean of 3.7 which reflects that their intention to receive mobile advertising is positive. When the respondents were asked about their willingness to read all the advertising messages they receive, the mean is slightly reduced to 3.6, which means that not all the respondents who are willing to receive advertising messages are willing to read all of them. Thus, this measures the respondents expected behavior after receiving a mobile advertising i.e. the extent to which an ad would be read. When the respondents were asked about their willingness to give their personal information in order to receive mobile advertising messages the mean comes down to only 3 which is less than the mean of the other items which measure intention behavior, because the personal information is sensitive. When the respondents were asked about their willingness to give their personal data to advertising company those who replied yes are
only 119. Most of the respondents stated that they are not willing to give their personal data to advertising companies because they think advertising messages will be irritating and because the fear of data misuse.

Table 6.13:
Descriptive Statistics of the Dependent Variables

<table>
<thead>
<tr>
<th>Attitude Towards Mobile Advertising</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Q22. I feel positively about receiving advertising messages via mobile phone</td>
<td>3.7</td>
</tr>
<tr>
<td>Q23. I think mobile advertising is good</td>
<td>3.9</td>
</tr>
<tr>
<td>Over all Mean</td>
<td>3.8</td>
</tr>
<tr>
<td>Cronbach's Alpha</td>
<td>.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavior Intention</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Q24. I am willing to receive mobile marketing messages in the future</td>
<td>3.7</td>
</tr>
<tr>
<td>Q25. I will read all the advertising messages I receive in the future</td>
<td>3.6</td>
</tr>
<tr>
<td>Q26. I will provide my personal profile in order to receive advertising message</td>
<td>3.0</td>
</tr>
<tr>
<td>Over all Mean</td>
<td>3.4</td>
</tr>
<tr>
<td>Cronbach's Alpha</td>
<td>.8</td>
</tr>
</tbody>
</table>

Source: The researcher own data (analysis results of the main study questionnaire)
The correlation analysis results (Table 6.14) indicate that Perceived Utility, Innovativeness, Subjective Norms and Attitude Towards Advertising in General, are significantly related to the dependent variable, Attitude towards Mobile Advertising, at all levels. Whereas Existing Knowledge, Control and Perceived Risk constructs are not significantly correlated with Attitude toward Mobile Advertising.

For the Behavior Intention variable the correlation analysis results (Table 6.14) below, indicates that, Subjective Norms and Attitude Towards Mobile Advertising are highly significantly related to Behavior Intention at all levels. Attitude towards Advertising in General, is significant at 5% level where Innovativeness and Perceived Risk are significant at 10% level. However, Perceived Utility, Existing knowledge, Control and Perceived Risk are not significantly correlated with Behavior Intention.

Based on the results of the factors analysis which indicated that the scale that was developed to measure the variables was highly reliable, each variable is computed in order to run the regression analysis. Regression analysis is used to study the direct
Table 6.14: Correlations Among Constructs and Dependent Variables

<table>
<thead>
<tr>
<th>Constructs</th>
<th>ATMA</th>
<th>BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Utility (PU)</td>
<td>.45 (.000)*</td>
<td>.37 (.000)*</td>
</tr>
<tr>
<td>Innovativeness (IN)</td>
<td>.19 (.003)*</td>
<td>.12 (.066)***</td>
</tr>
<tr>
<td>Subjective Norms (SN)</td>
<td>.41 (.000)*</td>
<td>.37 (.000)*</td>
</tr>
<tr>
<td>Existing Knowledge (EK)</td>
<td>.06 (.368)</td>
<td>.07 (.312)</td>
</tr>
<tr>
<td>Attitude Towards Advertising (ATA)</td>
<td>.20 (.002)*</td>
<td>.15 (.017)**</td>
</tr>
<tr>
<td>Control (CNT)</td>
<td>-.07 (.306)</td>
<td>.02 (.799)</td>
</tr>
<tr>
<td>Perceived Risk (PR)</td>
<td>.02 (.777)</td>
<td>-.12 (.059)***</td>
</tr>
<tr>
<td>Attitude towards Mobile Advertising (ATMA)</td>
<td></td>
<td>.59 (.000)*</td>
</tr>
</tbody>
</table>

* Significant at all level of significance  
** Significant at 5% level of significance  
*** Significant at 10% level of significance

Source: The researcher own data: Analysis results of main study questionnaire

6.1.9 Analysis of the Moderating Variables:

The third step in data analysis is related to multiple-group analysis. In order to find out about the impact of moderators on the influence of determinants toward attitude and behavior intention, the objectives of comparing between or among groups are to
investigate whether there are any significant differences between or among them.

Three main categories of moderators are: the moderating variable (e.g. gender) will test the direct paths between independent variables and dependent variables and whether they might differ in magnitude and/or direction across groups (e.g. male and female). If the result shows a difference across groups, it indicates that the influence of the independent variable toward dependent variables is moderated by that moderator (e.g. gender). Three moderators will be investigated to see whether they will affect the influence of independent variables toward dependent variables. A preliminary investigation of the dependent variables reveals the following variation:

6.1.9.1 Attitude towards Mobile Advertising and Age:

ANOVA analysis shows that there are significant differences in mean responses by age group. The means of the responses decline with age and the younger the responses the more positive attitude towards mobile advertising. Moreover, younger respondents show smaller variations than their older counterpart. The findings indicate that younger subjects have more positive
attitude towards mobile advertising than older subjects. This may be
due to the fact that younger individuals are more addictive to new
technologies than older ones.

The summary statistics for responses to the attitude towards
mobile advertising listed by age presented in Table (6.15)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error</th>
<th>N</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>3.95</td>
<td>.95</td>
<td>.009</td>
<td>125</td>
<td>F= 2.22</td>
</tr>
<tr>
<td>26-35</td>
<td>3.81</td>
<td>.73</td>
<td>.008</td>
<td>74</td>
<td>P =.086***</td>
</tr>
<tr>
<td>36-45</td>
<td>3.69</td>
<td>.97</td>
<td>.16</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>45+</td>
<td>3.40</td>
<td>1.02</td>
<td>.26</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.84</td>
<td>.90</td>
<td>.057</td>
<td>251</td>
<td></td>
</tr>
</tbody>
</table>

SD= Standard Deviation, Std= Standard Error of the estimate,
*** significance at all levels

6.1.9.2 Attitude Towards Mobile Advertising and Gender:

The means of the responses as well as the standard deviations
are very close between the male and female groups. This is further
confirmed by highly insignificants F statistic of .031 and the P
value of .86. The summary statistics for responses to the attitude
towards mobile advertising listed by gender presented in Table
(6.16)
Table 6.16: Attitude towards Mobile Advertising by Gender

<table>
<thead>
<tr>
<th>Age group</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error</th>
<th>N</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.82</td>
<td>.90</td>
<td>.087</td>
<td>107</td>
<td>F=.031</td>
</tr>
<tr>
<td>Female</td>
<td>3.84</td>
<td>.91</td>
<td>.076</td>
<td>143</td>
<td>P=.861</td>
</tr>
<tr>
<td>Total</td>
<td>3.83</td>
<td>.90</td>
<td>.057</td>
<td>250</td>
<td></td>
</tr>
</tbody>
</table>

SD= Standard Deviation  Std= Standard Error of the estimate

6.1.9.3 Attitude towards Mobile Advertising by Education Level:

The theoretical model specifies education level as a moderating variable between constructs and the attitude towards mobile advertising. Table (6-17) shows the mean responses by education level and the summary ANOVA statistics.

Table 6.17:

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error</th>
<th>N</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>3.38</td>
<td>.91</td>
<td>.26</td>
<td>12</td>
<td>F= 1.70</td>
</tr>
<tr>
<td>Secondary</td>
<td>3.67</td>
<td>1.13</td>
<td>.327</td>
<td>12</td>
<td>P=.167</td>
</tr>
<tr>
<td>Under Grad.</td>
<td>3.91</td>
<td>.88</td>
<td>.067</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>Post Grad.</td>
<td>3.75</td>
<td>.92</td>
<td>.126</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.84</td>
<td>.90</td>
<td>.057</td>
<td>251</td>
<td></td>
</tr>
</tbody>
</table>

SD= Standard Deviation  Std= Standard Error of the estimate

Although there are relatively large differences
6.1.9.4 Behavior Intention and Age

It is also assumed, the conceptual model of this study, that age, gender and education levels moderate the relationship between attitude of mobile advertising and behavior intention of the subjects. Table (6-18) shows the mean responses by Age and the summary of ANOVA.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error</th>
<th>N</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>3.43</td>
<td>.97</td>
<td>.087</td>
<td>125</td>
<td>F=.429</td>
</tr>
<tr>
<td>26-35</td>
<td>3.51</td>
<td>.75</td>
<td>.087</td>
<td>74</td>
<td>P=.733</td>
</tr>
<tr>
<td>36-45</td>
<td>3.50</td>
<td>.83</td>
<td>.137</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>45+</td>
<td>3.24</td>
<td>1.04</td>
<td>.27</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.45</td>
<td>.895</td>
<td>.056</td>
<td>251</td>
<td></td>
</tr>
</tbody>
</table>

The mean responses are all close to the average response of the whole group, and there is no significant differences between the age groups, demonstrated by the significant F value of .429 (P=.733).
6.1.9.5 Behavior Intention and Gender

Table (6.19) shows the mean responses Behavior Intention by gender and the summary of ANOVA.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Mean</th>
<th>Std</th>
<th>Std. Error</th>
<th>N</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.53</td>
<td>.894</td>
<td>.086</td>
<td>107</td>
<td>F=1 .27</td>
</tr>
<tr>
<td>Female</td>
<td>3.40</td>
<td>.896</td>
<td>.075</td>
<td>143</td>
<td>Sig.=.261</td>
</tr>
<tr>
<td>Total</td>
<td>3.45</td>
<td>.896</td>
<td>.057</td>
<td>250</td>
<td></td>
</tr>
</tbody>
</table>

SD= Standard Deviation   Std= Standard Error of the estimate

The means of responses as well as their standard deviations are almost equal and show no material differences between the two gender groups. The low F statistic of 1.27 (P=.261) further confirms the similarity between the group responses.

6.1.9.6 Behavior Intention and Education level

Table (6-20) shows the mean responses by education level as well as summary results of ANOVA.
Table 6.20: Behavior Intention by Education level

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Mean</th>
<th>SD</th>
<th>ST. Error</th>
<th>N</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>2.69</td>
<td>.86</td>
<td>.24</td>
<td>12</td>
<td>F= 3.98</td>
</tr>
<tr>
<td>Secondary</td>
<td>3.86</td>
<td>.76</td>
<td>.22</td>
<td>12</td>
<td>Sig.=.009*</td>
</tr>
<tr>
<td>Under Grad.</td>
<td>3.49</td>
<td>.91</td>
<td>.11</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>Post Grad.</td>
<td>3.41</td>
<td>.81</td>
<td>.126</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.45</td>
<td>.90</td>
<td>.03</td>
<td>251</td>
<td></td>
</tr>
</tbody>
</table>

SD= Standard Deviation  
Std= Standard Error of the estimate  
** indicates significance at 5% level

The table above clearly shows significant differences in means responses classified according to their education level. Similarly, there is a material difference among their standard deviation and standard error. These large differences are further confirmed by highly significant F value of 3.98 which is significant at all level of significance (P=.009).

6.1.10 Hypothesis Testing:

At this stage of analysis, we are ready to examine the hypotheses of this study, regarding the influences of the dependents variable which directly influence the latent dependent variable, i.e.
the influence of subjective norms and Attitude towards Mobile Advertising on Behavior Intention.

The multiple regression models are used to investigate the antecedents of behavior intentions, i.e. the direct effects between the drivers of adoption and the intention to use mobile marketing. More specifically, in order to test the hypotheses of this study multiple regression results are used to test the effect of the model constructs on the latent dependent variables which are attitude towards mobile advertising and the behavior Intention.

The first step in the analysis is testing the hypotheses about the independent constructs of the model by formally examining the effect of the extracted factors on the attitude towards mobile advertising (ATMA) and their indirect influence on behavior intention (BI) to use mobile advertising. Table (6.21) shows the relationship between attitude and the extracted factors while table (6.22) shows the same tests for behavior intention.

It is clear that the results in Table (6.21) confirm the previous findings of the factor analysis, with the multiple regression models having an overall ability to statistically explain .45 percent of the variation in the attitude towards mobile advertising. This is
reflected in the high and significant F statistic which is significant at all levels of significance (F=27.849, p < .000), indicating that the factors together are capable of explaining the variation in the dependent variable. The table clearly shows that four factors are found to be significant while the other three factors are not significant. The Perceived Utility (PU), Subjective Norms (SN), innovationess (IN), and Attitude towards advertising in general (ATA) influence the attitude towards mobile advertising positively as they are all highly significant factors (at all levels of significance) in explaining the variation in the dependent variables, Attitude towards Mobile advertising (ATMA). The other three variables; existing knowledge(EK) together with perceived risk (PR) and control(CNT), although having the assumed negative sign, are not significant, with perceived risk showed the least significance (t=378, and P value = .706).
Table 6.21: Multiple Regression Analysis: Independent Variable (ATMA) Indirect Effects

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta value(β)</th>
<th>T value (t)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.85</td>
<td>89.36</td>
<td>.000 *</td>
</tr>
<tr>
<td>1. Perceived Utility (PU)</td>
<td>.402</td>
<td>9.31</td>
<td>.000 *</td>
</tr>
<tr>
<td>2. Innovativeness (INN)</td>
<td>.172</td>
<td>3.99</td>
<td>.000 *</td>
</tr>
<tr>
<td>3. Subjective Norms (SN)</td>
<td>.367</td>
<td>8.51</td>
<td>.000 *</td>
</tr>
<tr>
<td>4. Existing Knowledge (EK)</td>
<td>.052</td>
<td>1.20</td>
<td>.231</td>
</tr>
<tr>
<td>5. Attitude Towards Advertising (ATA)</td>
<td>.176</td>
<td>4.07</td>
<td>.000 *</td>
</tr>
<tr>
<td>6. Permission &amp; Control (CNT)</td>
<td>-.059</td>
<td>1.36</td>
<td>.174</td>
</tr>
<tr>
<td>5. Perceived Risk (PR)</td>
<td>-.016</td>
<td>.38</td>
<td>.706</td>
</tr>
</tbody>
</table>

R = 67, R square = .45 ,  
Adjusted R square = .43  
F = 27.849 (.000) *  
* Significant at all level, N=246

Based on the results of multiple regression analysis, hypotheses were examined. Thus, we can summarize and conclude the following about the earlier stated hypotheses, with reference to Table (6.21):

Hypothesis 1(H1): which states that innovativeness positively influence the attitude toward mobile marketing is strongly supported as the beta coefficient is of .172 is of the expected sign is
highly significant with a t value of 3.99 which is significant at all level

**Hypothesis 2(H2):** which states Existing knowledge positively influences the attitude toward mobile marketing is not supported as the beta coefficient is of .052 is of the expected sign is not significant with a t value of 1.20 which is significant at all level

**Hypothesis 3(H3):** which states that attitude towards advertising in general will positively influence the attitude toward mobile marketing is strongly supported as the beta coefficient is of .176 is of the expected sign is highly significant with a t value of 4.07 which is significant at all level

**Hypothesis 4(H4):** which states that perceived utility positively influences the attitude toward mobile marketing ,is supported as the beta coefficient is of the expected sign with a highly significant t value of 9.31 (P value .000)

**Hypothesis 5a (H5a):** which states that perceived risk negatively influences the attitude toward mobile marketing is not supported.
Although the beta coefficient is negative, it is not at all significant level.

**Hypothesis 5b (H5b):** which states that control negatively influences the attitude toward mobile marketing is not supported. Although the beta coefficient is negative, it is not at all significant level

**Hypothesis 5b (H5b):** which measure choice & control is formed due to factor loading in which Risk item loaded into two different factors.

The next step is to test the relationship between the attitude towards mobile marketing and the behavior intention. The results in Table (6.22) show that the assumptions referring to the acceptance construct conceptualized on the basis of the Theory of Reasoned action are confirmed. The mediator variable attitude towards mobile marketing strongly influences the behavioral intention to use mobile marketing as the beta coefficient of .367 is of the expected sign and is significant with a t value of 8.5 which is significant at all levels.
Likewise the behavioral intention is positively influenced by social norms, with a total effect of 0.142. The significantly stronger total effect of the overall attitude towards mobile advertising (0.367) than social norms on behavioral intention is reasonable as the mobile phone can be categorized as a highly personal medium so the personal effect would be stronger than the outside effect of other people. Findings from the analysis generated found that the attitude is strongly influenced by social norms as the beta coefficient is of .367, and t value of 8.51 which is significant at all levels. This is consistent with the findings in previous research (Bauer et al, 2005) which implies that for mobile marketing, social norms have only a slight direct influence on the behavioral intention, but strong indirect influence on behavior intention through attitude.

Table 6.22: Regression Analysis: Dependent Variable: Behavior intention (BI)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta value(β)</th>
<th>T value (t)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.5</td>
<td>6.78</td>
<td>.000 *</td>
</tr>
<tr>
<td>Subjective Norms (SN)</td>
<td>.142</td>
<td>2.8</td>
<td>.005*</td>
</tr>
<tr>
<td>Attitude towards Mobile Advertising(ATMA)</td>
<td>.367</td>
<td>8.51</td>
<td>.000 *</td>
</tr>
</tbody>
</table>

R=.59 , R square = .35, Adjusted R square =.34, F = 66.11 (.000) *
* Significant at all level , N=245
It is seen from table (6.22) that the model explains the variation in the dependent variable (BI) well as adj. $R^2 = 0.35$ and F statistic is 66.11 which are very significant. However, to test the earlier stated hypothesis relating to behavior intention we check the beta coefficients of the independent variables and their t values. Both factors are significant with positive b values and highly significant t values. Figure 7.1 Figure gives a graphical representation of effect of these relationships. Thus, we can summarize the above findings as follows:

**Hypothesis 6, (H6):** which states that subjective norms positively influence the consumer behavior intention is supported as the beta coefficient is of .142 is of the expected sign is significant with a t value of 2.8 which is significant at 5% level

**Hypothesis 7, (H7)** Attitude toward mobile marketing positively influence consumer behavioral intention to adopt mobile marketing strongly supported as the beta coefficient is of .367 is of the expected sign is significant with a t value of 8.5 which is significant at all levels. This means that users’ attitude is an important determinant of their Behavioral Intention.
6.1.11 Direct & indirect effect of independent variables on BI:

According to the Theory of Reasoned Action (Ajzen & Fishbein 1980) the relationship between the independent variable i.e the model constructs and behavior intention is mediated by the attitude towards adoption, that means the effects of the model construct or the independent variable on the behavior intention is indirect (see chapter 4). This indirect effect was discussed in the previous section. In this section, the direct effect of the independent variables on behavior intention is investigated in order to test whether the attitude towards mobile advertising mediated the effect of independent variable and the behavior intention.

The results in table 6.23 indicates that the model explain the variation in the dependent variable (BI) well as adj. $R^2 =0.33$ and F statistic is 16.73 which are significant. However, these results is less than the results obtained earlier concerning the indirect effect where $R^2 =0.45$ and F statistic is 27.85 (Table 6.21). To test the direct effect of independent variable on behavior intention we check the beta coefficients of the independent variables and their t values.
Perceived utility, innovativeness, attitude towards advertising in general has a significant direct effect on behavior intention, while existing knowledge and control have no effect on behavior intention. Perceived Risk has no indirect effect on behavior intention but has a direct effect on behavior intention.

Table 6.23
Multiple Regression Analysis: Independent Variable (BI)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta value(β)</th>
<th>T value (t)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.46</td>
<td>73.018</td>
<td>.000  *</td>
</tr>
<tr>
<td>1. Perceived Utility (PU)</td>
<td>.332</td>
<td>6.99</td>
<td>.000  *</td>
</tr>
<tr>
<td>2. Innovativeness (INN)</td>
<td>.105</td>
<td>2.212</td>
<td>.028</td>
</tr>
<tr>
<td>3. Subjective Norms (SN)</td>
<td>.332</td>
<td>6.98</td>
<td>.000  *</td>
</tr>
<tr>
<td>4. Existing Knowledge (EK)</td>
<td>.057</td>
<td>1.21</td>
<td>.226</td>
</tr>
<tr>
<td>5. Attitude Towards Advertising (ATA)</td>
<td>.137</td>
<td>2.898</td>
<td>.004  *</td>
</tr>
<tr>
<td>6. Permission &amp; Control (CNT)</td>
<td>.0197</td>
<td>415</td>
<td>.679</td>
</tr>
<tr>
<td>7. Perceived Risk (PR)</td>
<td>-.115</td>
<td>-2.410</td>
<td>.017</td>
</tr>
</tbody>
</table>

R = .58, R square = .33, Adjusted R square = .31
F = *16.732 (.000) * Significant at all level, N=246

Source: Analysis results of main study questionnaire
Table 6.24:
Summary of Direct and Indirect Effects of Independent Variables on Dependent Variable.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indirect</th>
<th>Direct</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU</td>
<td>√</td>
<td>√</td>
<td>PU has a direct and indirect influence on BI</td>
</tr>
<tr>
<td>INN</td>
<td>√</td>
<td>√</td>
<td>INN has a direct and indirect influence on BI</td>
</tr>
<tr>
<td>EK</td>
<td>×</td>
<td>×</td>
<td>EK has no influence on ATMA or and BI</td>
</tr>
<tr>
<td>ATA</td>
<td>√</td>
<td>√</td>
<td>ATA has a direct and indirect influence on BI</td>
</tr>
<tr>
<td>CONT.</td>
<td>×</td>
<td>×</td>
<td>Cont. has no influence on ATMA or and BI</td>
</tr>
<tr>
<td>PR</td>
<td>×</td>
<td>√</td>
<td>PR has no indirect influence on BI but has a direct influence on BI</td>
</tr>
<tr>
<td>SN</td>
<td>√</td>
<td>√</td>
<td>SN has a direct and indirect influence on BI</td>
</tr>
</tbody>
</table>

Source: Analysis results of main study questionnaire

6.1.12 Moderating Variables

As shown in the conceptual framework of this study in chapter four, the moderating variables moderate the influences of the constructs on the attitude and intention. To test these assumed effects regression analysis is conducted where the moderating variables are regressed first on attitude, with the results in table (6.25), and second on intention, with the results as shown in table (6.26).
Table 6. 25:  
Regression Analysis  Dependent Variable Attitude towards Mobile Advertising

<table>
<thead>
<tr>
<th>Moderate variable</th>
<th>β</th>
<th>t</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.83</td>
<td>10.93</td>
<td>.000*</td>
</tr>
<tr>
<td>Age</td>
<td>-.169</td>
<td>2.68</td>
<td>.008*</td>
</tr>
<tr>
<td>Gender</td>
<td>-.015</td>
<td>.13</td>
<td>.89</td>
</tr>
<tr>
<td>Education</td>
<td>.105</td>
<td>1.23</td>
<td>.22</td>
</tr>
</tbody>
</table>

R² = .032  
F= 2.71  
P=.046*

* indicates significance at 1% level  
** indicates significance at 5% level

Thus, the results in the table show that the effect is peculiar to age which turns out to have positive effect on attitude, as younger respondents show more positive attitude than older ones with less differences in their responses. However, the other moderating variables have not shown similar effects, as their results are insignificant at all levels of significance.

Thus we can state the following about the hypotheses relating to attitude towards mobile advertising:

**Hypothesis 8 (H8a):** which states that the influence of independent variables on attitude towards mobile marketing is moderated by age, is supported as beta coefficient is significant with a t value of 2.68.
**Hypothesis 8 (H8b):** which states that the influence of independent variables on attitude towards mobile marketing is moderated by gender, is not supported as beta coefficient is insignificant with a t value of .13.

**Hypothesis 8 (H8c):** which states that the influence of independent variables on attitude towards mobile marketing is moderated by education level, is not supported as beta coefficient is insignificant with a t value of 1.23.

To formally test the hypothesis stated earlier regarding the effect of these moderating variables on the relation between the constructs and the behavior intention, a multiple regression analysis is performed to the dependent variable and the moderating variables ones in the table (Table 6.26)
Table 6.26: Regression Analysis Dependent Variable Behavior Intention

<table>
<thead>
<tr>
<th>Moderate variable</th>
<th>β</th>
<th>T</th>
<th>P value</th>
<th>R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.40</td>
<td>9.67</td>
<td>.000</td>
<td>.011</td>
<td>.901</td>
<td>.441</td>
</tr>
<tr>
<td>Age</td>
<td>-.029</td>
<td>.466</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.126</td>
<td>1.08</td>
<td>.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.98</td>
<td>1.15</td>
<td>.25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Analysis results of main study questionnaire

The regression analysis does not support the previous mean responses analysis. But we have to note that the mean responses analysis and the ANOVA results in tables (6.15 – 6.20) in testing the hypothesis show that only education level is found to have an effect as a moderating variable, on the relation between the constructs and behavior intention.

Thus, we can state the following about the earlier stated hypotheses:

**Hypothesis 8 (H8d):** which states that the influence of independent variables on behavior intention is moderated by age, is not supported as beta coefficient is insignificant with a t value of .466.
**Hypothesis 8 (H8e):** which states that the influence of independent variables on behavior intention is moderated by gender, is not supported as beta coefficient is insignificant with a t value of .1.08.

**Hypothesis 8 (H8f):** which states that the influence of independent variables on behavior intention is moderated by education level, is not supported as beta coefficient is insignificant with a t value of 1.15.

Figure 6.7 illustrates the results of hypothesis testing of the relationships of the regression model while figure 6.8 illustrates the significant relationship of the regression model.
Figure 6.7 The Results of testing the research model

SN CNT PR PU ATA EK IN

Significant Effect
Non-significant Effect

R² = 35

ATMA

R² = 45

BI

ATM
Figure 6.8: Significant Relationships in Regression Model
Table 6.27:
The Research Hypothesis Test of the Model Variables

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>B</th>
<th>t</th>
<th>P</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Personal innovativeness positively influence the attitude</td>
<td>.17</td>
<td>3.99</td>
<td>.000</td>
<td>S</td>
</tr>
<tr>
<td>toward mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2: The Prior knowledge about mobile communications positively influence</td>
<td>.05</td>
<td>1.20</td>
<td>.231</td>
<td>NS</td>
</tr>
<tr>
<td>the attitude toward mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3: The attitude toward advertising in general positively influence</td>
<td>.18</td>
<td>4.07</td>
<td>.000</td>
<td>S</td>
</tr>
<tr>
<td>the attitude toward mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H4: The perceived utility of mobile marketing positively influence</td>
<td>.40</td>
<td>9.31</td>
<td>.000</td>
<td>S</td>
</tr>
<tr>
<td>consumer attitude towards mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H5a: Perceived Risk of mobile marketing negatively influence</td>
<td>-.02</td>
<td>.38</td>
<td>.706</td>
<td>NS</td>
</tr>
<tr>
<td>consumer's attitude toward mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H5b: Permission and control of mobile marketing negatively influence</td>
<td>-.06</td>
<td>1.36</td>
<td>.174</td>
<td>NS</td>
</tr>
<tr>
<td>attitude toward mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H6: Subjective norms concerning the adoption of mobile marketing</td>
<td>.14</td>
<td>2.8</td>
<td>.000</td>
<td>S</td>
</tr>
<tr>
<td>positively influence behavioral intention to adopt mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H7: Attitude toward mobile marketing positively influences</td>
<td>.38</td>
<td>8.51</td>
<td>.000</td>
<td>S</td>
</tr>
<tr>
<td>consumer behavioral intention to adopt mobile marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8a: The influence of independent variables on attitude towards mobile</td>
<td>-.17</td>
<td>2.68</td>
<td>.008</td>
<td>S</td>
</tr>
<tr>
<td>marketing is moderated by age.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8b: The influence of independent variables on attitude towards mobile</td>
<td>-.02</td>
<td>.13</td>
<td>.89</td>
<td>NS</td>
</tr>
<tr>
<td>marketing is moderated by gender,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8c: The influence of independent variables on attitude towards mobile</td>
<td>.11</td>
<td>1.23</td>
<td>.22</td>
<td>NS</td>
</tr>
<tr>
<td>marketing is moderated by education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8d: The influence of independent variables on behavior intention</td>
<td>-.03</td>
<td>.466</td>
<td>.64</td>
<td>NS</td>
</tr>
<tr>
<td>is moderated by age.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8e: The influence of independent variables on behavior intention</td>
<td>-.13</td>
<td>1.08</td>
<td>.28</td>
<td>NS</td>
</tr>
<tr>
<td>is moderated by gender.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H8f: The influence of independent variables on behavior intention</td>
<td>.98</td>
<td>1.15</td>
<td>.25</td>
<td>NS</td>
</tr>
<tr>
<td>is moderated by education level.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S = supported, NS = not supported
6.1.13 Discussion

The objective of this study has been to introduce a conceptual framework with an empirical test for explaining several aspects of customers’ intention to use in mobile marketing. The findings of the study support the theoretical framework developed and have demonstrated the applicability of the Theory of Reasoned Action in assessing the acceptance of mobile Marketing in Sudan. Most of the variables proposed in the model and their relationships were found to be relevant in this study. The main findings indicate, in line with several technology acceptance studies (Bauer et al, 2005; Nysveen et al, 2005) (see Table 6.28) that perceived usefulness (PU) of mobile marketing is the main driver of consumer attitudes toward behavioral intentions to receive messages. The effect of PU on attitude was greater than the effect of the other proposed factors, namely innovativeness, attitude towards advertising in general, and subjective norms. The role of subjective norms came more significant via attitude towards mobile marketing than it direct effect on behavior intention.

This research contributes to the literature on consumer attitudes and intentions toward mobile marketing in several ways.
First, our results underscore the importance of perceived usefulness of the mobile marketing as the main driver of consumer attitudes toward advertising. In literature, perceived usefulness has been found to explain a considerable amount of variance of attitude and intention (Davis, 1989; Davis & Venkatesh 1996; Gefen & Straub 2000), and that its effect is typically stronger than the effect of perceived ease of use (Davis 1989).

Second, this study showed that perceived innovativeness is positively associated with the attitude toward advertising and the intention to receive messages. This finding confirms the previous findings of the role of innovativeness as a driver of consumer attitudes and intention in electronic channels (Brouhaha et al 2006; Yang et al. 2005).

Third, this study showed that attitude towards advertising in general is positively associated with the attitude toward advertising and the intention to receive messages. This finding confirms the previous findings of the role of attitude towards advertising in general as a driver of consumer attitudes and intention in electronic channels (Drossos et al 2007).
Fourth, the results contribute to the Theory of Reasoned Action by confirming the links between attitude-intention, social influence-intention. This proves the validity of the Theory of Reasoned Action for research in the area of mobile marketing especially in developing country as the Sudan.

Fifth, this study showed that Existing knowledge, perceived risk and control are not significant drivers of the attitude toward mobile advertising messages. This finding confirms the previous findings in literature (Merisavo 2007, Straub et al 1997).

Sixth, the findings show that there no moderating effect of age, gender and education level on attitude towards mobile advertising and behavior intention.

Table 6.26 shows the previous finding in studies of acceptance of technology and acceptance of mobile marketing as new technology. The results in the table show that attitude toward intention to use mobile services have been significant in all studies. Perceived usefulness was all significant in the studies where they were included as independent variables. Subjective norms were not significant predictors of intention to use mobile services only once,
whereas behavioral control and perceived ease of use were not significant determinants in most studies.

The next part tests the mobile marketing success factor from an industrial point of view.

Table 6.28 Mobile Marketing Drivers in the Existing Literature

<table>
<thead>
<tr>
<th>Study</th>
<th>PU</th>
<th>INN</th>
<th>ATT</th>
<th>SN</th>
<th>EK</th>
<th>PR</th>
<th>CNT</th>
<th>ATMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>This study</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Tsang et al 2004</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Nysveen et al 2005a</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bauer et al 2005</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nysveen et al 2005</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nysveen et al 2005b</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Karjaluto et al 2009</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standling et al 2006</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bamba &amp; Barnes 2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kavassalis 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosses et al 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mort &amp; Drennan 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nysveen 2003</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenneth Yang 2005</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roubaha 2006</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: compiled by author
6.2 Part Two: Managerial Perspective

With the increase in mobile phone and other mobile communication devices, companies and marketers start to see this convenient and moveable device as a new and powerful channel for marketing, which increases the promotion budget of mobile advertising. The potential for mobile advertising is huge, and many major brands are already integrating mobile into their marketing and advertising plans worldwide, such as Starbucks, Pepsi and Coca-Cola.

Comparing to other traditional marketing media, the mobile communication devices, especially the mobile phone, is seamlessly carried by consumers every time and everywhere, therefore the mobile advertising can be more directive, interactive, and personalized. The success that SMS has had as a messaging service provides a potentially huge SMS messaging customer base which could lend itself as an attractive opportunity for marketers. One of the main challenges and opportunities for companies that planning to use mobile advertising are to understand the factors that help them implement and use SMS successfully.
Newly advances of mobile advertising, as MMS and mobile TV ad also emerged offering a new marketing opportunity. Given these advancements in the emergence of mobile advertising, it then remains to examine the companies' views regarding their current and potential adoption of these emerging technologies in their marketing plans and strategies.

The number of mobile subscribers in the Sudan grew to 11 million by the end of 2009, up from one million at the start of 2005, recording a growth rate of 40% within the first 6 months of 2005. (Arab advisor 2007)

Hence this part of the study tries to give a general overview on the perception of mobile advertising from a managers point of view and explores the perceived critical success factors of SMS based campaigns from a managerial perspective in Sudan.

6.2.1 **Success Factors of Mobile Advertising:**

The term success factors gained widespread acceptance as the necessary conditions for success in a given market. Nevertheless, many organizations still struggle to define or measure the success of mobile data service. Most authors of mobile
marketing research, believe that mobile phones, and other wireless internet enabled devices, can be of great value to marketing through the provision of an instantaneous and fully interactive media platform that is capable to deliver information synchronously as well as asynchronously (Barnes 2002; Barnes and Scornavacca 2004; Bauer et al. 2005). It has been argued that the acceptance of a mobile marketing message is likely to be influenced by the consumer’s acceptance of the mobile medium, the relevance of the content and the context of the marketing message (Heinonen and Strandvik 2003; Barnes and Scornavacca 2004; Dickinger et al. 2004; Bauer et al. 2005). Messages that are short and concise, funny, interactive, entertaining, and relevant to the target group usually achieve higher levels of success (Dickinger et al. 2004; Carroll, Barnes and Scornavacca, 2005; Haghirian et al. 2005). Among the critical success factor found in the literature, user permission was believed to be the most important variable, as consumers were seen to be fearful of receiving high levels spam via SMS (Heinonen and Strandvik 2003; Barnes and Scornavacca, 2004; Haghirian et al., 2005).
Table 6.29 lists the success factors of SMS based campaigns found in the literature. The table shows the success factors, its definition and the studies which pioneered the factor.

It is important to notice that most of the Critical Success Factors drawn from the literature review take into account a consumer perspective in term of their acceptance of receiving advertising messages in their mobile phone, which is covered in the first part of this study. However, this part will cover the perceptions of critical success factors of SMS based campaigns from a managerial perspective. Verifying whether campaign managers share the same perceptions is valuable to mobile marketing companies as well as to the researchers in this area.

This part is based on an exploratory multiple case study methodology. Specifically, four case studies are conducted with companies based in Khartoum. Case research is appropriate for examining practice based problems, since it allows a researcher to capture the knowledge of practitioners and use it to generate or deduce theory.
Table 6.29:  
Success Factors of SMS Based Campaigns Found in the literature

<table>
<thead>
<tr>
<th>Success Factor</th>
<th>Definition</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance</td>
<td>Consumers present a favorable attitude towards mobile marketing.</td>
<td>Carroll et al, 2005; Scornavacca &amp; McKenzie, 2006</td>
</tr>
<tr>
<td>Complementary</td>
<td>SMS is used in conjunction with other media in order to strengthen advertising campaign.</td>
<td>Dickinger et al., 2004; Scornavacca &amp; McKenzie, 2006</td>
</tr>
<tr>
<td>Content</td>
<td>The content of the message. It should be entertaining, informative and be relevant to the target audience and not irritating.</td>
<td>Dickinger et al., 2004; Leppäniemi, &amp; Karjaluoto, 2004; Haghvirian et al., 2005</td>
</tr>
<tr>
<td>Cost</td>
<td>The cost of running a campaign. It usually can be justified due to campaigns’ ability to reach customers.</td>
<td>Dickinger et al., 2004</td>
</tr>
<tr>
<td>Credibility</td>
<td>The consumers’ perception of truthfulness and believability of advert in general. It also can be understood as brand trust regarding the organization sending the message.</td>
<td>Carroll, Barnes and Scornavacca, 2005; Haghvirian et al., 2005</td>
</tr>
<tr>
<td>Permission</td>
<td>Customers give permission to receive messages from the campaign operator</td>
<td>Heinonen and Strandvik, 2003; Carroll et al, 2005; Haghvirian et al., 2005</td>
</tr>
<tr>
<td>Frequency</td>
<td>The number of advertising messages received per day.</td>
<td>Haghvirian et al., 2005; Carroll, Barnes and Scornavacca, 2005</td>
</tr>
<tr>
<td>Personalization</td>
<td>Users receive personalized advertising customized to their profile.</td>
<td>Barnes and Scornavacca, 2004; Dickinger et al., 2004, 2005; Haghvirian et al., 2005</td>
</tr>
<tr>
<td>Reach</td>
<td>The number of consumers that can be reached through a campaign.</td>
<td>Scornavacca and McKenzie, 2006</td>
</tr>
<tr>
<td>Incentive</td>
<td>Benefit such as price discounts derived from direct marketing programs</td>
<td>Drossos, et al., 2007</td>
</tr>
</tbody>
</table>

Source: Compiled by the author
The investigated companies have been identified through the services providers. The selection criteria for organization comprise the following:

(a) Should be deploying SMS based campaigns as a marketing tool.
(b) Should be operating in Khartoum

Using these criteria, four potential companies were identified and contacted and agreed to participate in this study. In each organization an interview with a manager - who has been deeply involved with SMS based campaigns - was carried out. The data collection was carried out primarily through structured face-to-face interviews which lasted between 50 minutes to 60 minutes. To help reduce the risk of memory loss towards the context and observations from the interaction, the interviews were written and noted during the interview into Arabic then translated in English. All interviews were transcribed as soon as possible after its conclusions.

Initially the interviewees were asked to describe:

a) His/her role in the organization;
b) His/her role regarding SMS based Campaigns;
c) The technology used in their SMS based campaigns; and
d) How the use of SMS campaigns integrates with existing marketing strategy.

Afterwards, open ended questions were presented (for full copy of interview see appendix (IV). Then the managers were asked to choose the most important success factors out of a list of 10 factors presented earlier in Table 6.29).

6.2.2 Cases Summary:

Case 1: is a leading mobile solutions provider that offers SMS based campaigns, through bulk SMS Service from Zain Communication Company, which is located in Khartoum. The interviewee is the company director who worked closely with his clients to determine the goals of each campaign and assure that the clients’ needs are being met.

When answering the open ended questions, this manager explained that he sees SMS marketing as a new promising media in Sudan that deliver the information at any time at any place. The most important success factor of SMS advertising from his point of view is consumer acceptance to participate and permission to receive the messages which should be personalized.
When asked about the obstacles confronting mobile advertising in his organization the manager mentioned that the major obstacles are the difficulty in building the database i.e. to reach the consumer to get his permission as the incentive based campaigns as lottery is prohibited by law in Sudan. In addition the commercial companies do not know the existence of this new media as an advertising tool.

However, when ranking the top five critical success factors of SMS advertising from Table 6.29, the manager stated that permission followed by acceptance were undoubtedly the most important factors of a SMS based campaign.

Case 2: is an aviation Services Company started to operate with passengers and cargo, to and from domestic stations in 1998 located in Khartoum and has a branch in Dubai. The interviewee is the marketing manager of the company. The company uses SMS in customer relation management and customer service particularly in booking confirmation or confirmation of goods delivery.

When answering the open ended questions, this manager explained that SMS marketing is a promising marketing media especially with the increased use of mobile phone. When asked
about the obstacles confronting mobile advertising he mentioned that there are no obstacles as they build their database from their clients.

However, in ranking the top 5 success factors from Table 6.29, he stated that content followed by frequency of messages and media reach, were the most important factors of a SMS based campaign.

**Case 3:** is a service company that deals in airlines tickets, Hajj and Omra service, limozin cars rental and labor contract services. The interviewee is the customer relations' manger in the company. When answering the open ended questions, this manager explained that SMS marketing is fastest way to deliver information and is the less cost alternative. He further believes that this new media should be used with other media such as TV to reach all market segments. When asked about the obstacles confronting mobile advertising he mentioned that the obstacles are that some areas are not covered by the network and some customers being unable to read so they cannot read the messages. However, when ranking the top 5 Success Factors from Table 6.29, he stated that
SMS usage in conjunction with other media followed by content are the most important factors of a SMS based campaign.

**Case 4:** is a leading exchange company in the Middle East established in 1980, with a branch in Sudan. Primarily focusing on money transfers and money exchange, The Company's portfolio of services includes mail transfers, demand drafts, telegraphic transfers, electronic transfers, Western Union money transfers, and purchase and sale of foreign currency. When answering the open ended questions, this manager explain that his company uses SMS in introducing new services and inform its customers about new service or discount in exchange rates he sees SMS as an easy, fastest, time saving, cost effective media that capable of delivering of the information to a large number of customer. The success factor of SMS advertising from his point of view is its ability to reach a large segment in a short time with less cost.

When asked about the obstacles confronting mobile advertising he mentioned that the obstacles are that the SMS cannot be used alone because there are some customers who are unable to read. There is also the network coverage difficulty in building the
database i.e., to reach the consumers in order to get his permission as the incentive based campaigns and lottery is prohibited by law in Sudan. In addition the commercial companies do not know this new media as advertising tool.

However, when ranking the top 5 important factors from Table 6.29, the manager believed that cost followed by content were undoubtedly the most important factors of a SMS based campaign.

Case 5: it is one of the fastest growing beauty companies selling direct in 62 countries founded in Sweden in 1967. The company offers a wide range of high-quality beauty products. Its sales force consists of approximately 3.3 million Consultants that are marketing products around the globe. The marketing manager of Sudan's branch who answering the open ended questions and explained that they use the in informing the company's sales personnel about the new product and discounts. When asked about the obstacles confronting mobile advertising she mentioned that they face limited obstacles as they have a large database of their customer and SMS advertising is the fastest targeted medium that can be used to deliver information. In addition to that it is cost
effective. However, when ranking the top 5 important factors from Table 6.29, the manager believed that cost is the most important factor followed by permission, Content, reach and credibility.

6.2.3 Manager’s Perceptions of the Top Five Success Factors:

This section first presents the results of the managers ranking of the top five success factors (Table 6.30). This is followed by a description and analysis of the individuals’ perceptions regarding the role and importance of each factor.

After each manager pointed out and ordered what they believe to be the top five CSFs from Table 6.29, a point scheme was applied in order to generate an overall ranking. Five points were assigned to the first success factors rating, four points to the “second place”, three points to the “third place”, two points to the “fourth place”, and finally one point to the “fifth place”. Factors that did not make the manager’s “top five” list did not obtain any points. Table 6.30 presents the results of the ranking process:
The results from table 6.30 showed that the top ranked success factors which are:

1. Content
2. Cost
3. Acceptance
4. Reach & Permission
5. Frequency
In the following paragraph, a brief description of each of these factors is given together with the analysis of the managers' perceptions.

1. **Content** mostly refers to whether the message is entertaining, informative and relevant to the audience (Haghirian et al., 2005). Most managers have previously experienced issues with a campaign being unsuccessful when the messages sent to the audience were not clear, entertaining, and useful or wanted. During the data collection it was evident that content plays a vital role on SMS based campaigns. Each of the managers placed content in their top three of their list – two of them ranked it as the number one success factor.

2. **Cost** was in the second place. Most managers found it relevant to the success of an SMS based campaign. They believe that SMS based campaigns –especially in a multi-channel approach– are very cost effective.
3. **Acceptance** came in the third place ranking even though most managers did not seem to be concerned about this factor when answering the open ended questions because most of these company use their own database when each consumer give his or her contact information. Barnes and Scornavacca (2004) understood that consumer’s acceptance of mobile marketing derives from user’s permission, mobile operator control and brand trust.

4. **Reach:** regarded as a fourth key success factor together with the **Permission**. Most managers perceived it as an important factor due to the fact that SMS can reach a large number especially with the increase of number of mobile users. Permission also appeared as the fourth important factor. Only one manager perceived it as being a key factor to avoid irritation to consumers. Since a mobile phone is a much more personal environment, undesired messages certainly generate a very negative impact on consumers’ perceptions (Barnes and Scornavacca, 2004; Haghirian et al., 2005).
5. **Frequency** was also come in the fifth place; two mangers place it in the second and third place because the excess number of messages will be irritating. It is interesting to note that Haghirian et al (2005) found that a high frequency of exposure tend to decrease the value of advertising.

Two managers thought that **credibility** was an important issue and one of them considered it as a key factor and placed it in the first place, while the other placed it in the fourth place but its overall score is low. Only one manager considered incentive as one of the important factor the other manger perceived that it was not a relevant factor.

The above mentioned findings indicate that content, cost, acceptance, permission, reach as well as messages frequency are critical to insure the success of SMS based campaigns in Sudan. Most of these results are online with previous research (Scornavacca, 2005).
Chapter Seven

Summary, Conclusion & Recommendations

Although Sudan falls behind other countries in the utilization of new media advertising such as mobile advertising, there is a promising opportunity lying ahead for this industry in Sudan. One can think of a wide spectrum of applications based on this new media. Thus, this study looks at the possible factors that may play a role in shaping this wide spectrum and determine its possible effects. Therefore, research in this fertile field is quite important since it may help shape the direction and application of the industry's growth. This study therefore, is undertaken to pioneer research in this field and add significantly to the sheer body of knowledge.

This research involves exploring the issue of acceptance and use of mobile marketing utilizing a survey of mobile users as well as structure interviews of the Sudanese companies that adopt mobile advertising in Khartoum, the national capital of the Sudan. Included in this thesis are a detailed description of the study; a survey of prior research in the area of mobile advertising, the methodology used in the research, and detailed results of the
research. This final part provides summary of the findings and conclusions based on those findings, along with the limitations of the study. Additionally, this study will discuss some directions for further research in the area of mobile marketing.

7.1. Summary of Results:

This study examined the acceptance of new media with emphasis on mobile marketing using the Theory of Reasoned Action developed by Ajzen (1980). A proposed model of mobile marketing acceptance is developed and tested. The results of the data analysis from both the main study consumers' survey questionnaire and the structured interviews for industry overview presented in the previous chapter will be discussed in this chapter. An interpretation of the findings will be derived from the quantitative and qualitative data obtained in this study. This will lead to a new understanding of the acceptance of mobile marketing as a new technology in Sudan.

However, this research recognizes that there are many factors that could affect the success and effectiveness of mobile marketing in less-developed countries such as Sudan. Many factors have been
identified in the existing literature on new technology adoption, but most of that research has been conducted in developed countries for which the technology was originally created. A preliminary review of the literature described in chapter three, suggests that the technology acceptance model, which is the basis of much of the research into technology diffusion, may be useful for a study undertaken in a developing or less developed country.

As indicated in Chapter One, the research problem that this study has taken up is the late adoption of individuals and organizations in Sudan of the mobile text messaging advertising.

The main research question addressed in this thesis has involved the need to increase the understanding of the important factors that could influence the adoption and usage of mobile advertising in Sudan. Hence, this study represents the first attempt to identify the factors that may affect mobile marketing adoption in Sudan.

The study was, therefore, undertaken with the primary aim of identifying, examining and providing an understanding of the factors that could explain the attitude behavior towards using mobile advertising. This is done in order to provide solutions to the
problem of under-utilization, or lack of use of mobile marketing in Sudan as detected in the preliminary work by the researcher which revealed a lack of knowledge and understanding on the part of both managers and consumers of the existing of such use of the mobile advertising. A model based on the theory of reasoned action enhanced and used as a theoretical foundation to address these issues in the current study.

In the interpretation of the findings of this study, impacts and strategies are highlighted that may help making this service more efficient and active in developing countries, especially in Sudan. This will help in turns in reducing the cost of advertising and reach target consumers.

On the other hand, mobile advertising adoption has been slow on the part of the industry managers in Sudan. After weighing the responses from the industry, it appears that few of Sudanese companies are using it despite the fact that the mobile services providers are offering the service.

It is important to reiterate here that the overall objective of this study is to use the results to assist with the adoption and use of
mobile advertising in Sudan. This research therefore has key implications for the industry and practice.

As observed in this research, the majority of survey respondents have had no experience with mobile advertising. At the same time, mobile phone penetration has increased rapidly and local companies need to look aggressively into the future and understand the trends and needs of customers. Therefore, marketers should use the findings of this research to benefit from mobile advertising and establish a wider customer base in order to use permission based mobile advertising in their marketing mix.

This concluding chapter of the thesis reflects on the findings of the following research objectives as stated in chapter one. These objectives are repeated here for convenience and logic flow:

1. To examine to what extent consumers respond to the use of the new media such as mobile as a source of advertising information in Sudan, (as a representative of a developing country).

2. To recognize the factors associated with the intention of consumers to receive mobile advertising to identify a model
for use in determining a user acceptance and willingness to use mobile marketing.

3. To identify the effect of age, gender, level of education on consumers’ intention to accept receiving advertising messages in their mobile phones.

4. To investigate the actual practice of mobile marketing in Sudan and shed light on the marketer point of view in using mobile marketing as new advertising media.

5. Outline success factors, which propose opportunities for individuals and organisations to uncover unseen problems, thereby improving the use and acceptance of mobile marketing in Sudan.

### 7.2. Findings Related to the Research Questions

This research aims to contribute to the existing knowledge on mobile advertising in Sudan. This will be achieved by addressing the broader questions relating to factors affecting technology acceptance in developing countries. The research investigates attitudes to mobile advertising and the intention to use the mobile as an advertising channel. The findings from the analysis of data of
both the survey questionnaire and the structured interviews will now be discussed in relation to each of the research questions identified in chapter one.

**Research Question one:** How do consumers perceive mobile advertising in Sudan?

The results showed that the respondents overall attitudes towards mobile advertising are positive on average, as it turns out that about 80% of respondents have positive attitude towards mobile advertising. The average respondents score on overall attitude is 3.8 ($\alpha=.85$). These results showed that there is a promising future for mobile advertising in Sudan. Research applying the Fishbein and Ajzen theory of reasoned action model demonstrated that a positive attitude is a strong predictor of future use intentions and that the stronger the intention to perform a behavior the more likely an individual is to perform the behavior (Ajzen and Fishbein 1980).
**Research Question Two:** What are the most important factors affecting positive or negative attitudes towards mobile advertising in Sudan?

This research recognized that there are many factors that could affect the acceptance of mobile advertising in Sudan. The finding of the survey from the exploratory study on mobile marketing, together with an examination of the literature and an empirical study in the Sudanese context suggest that perceived usefulness (PU) of mobile marketing is the main driver of consumer attitudes toward behavioral intentions to receive messages. The effect of PU on attitude is greater than the effect of the other proposed factors, namely innovativeness, attitude towards advertising in general, and subjective norms. The role of subjective norms showed more significance via attitude towards mobile marketing than directly affecting behavior intention. These findings are in line with several technologies acceptance studies (Bauer et al, 2005; Nysveen et al, 2005) (see Table 6.27).

This research contributes to the literature on consumer attitudes and intentions toward mobile marketing in several ways.
- First, the results underscore the importance of perceived usefulness of the mobile marketing as the main driver of consumer attitudes toward advertising. In the literature, perceived usefulness has been found to explain a considerable amount of variance of attitude and intention (Davis, 1989; Davis & Venkatesh 1996; Gefen & Straub 2000), and that its effect is typically stronger than the effect of perceived ease of use (Davis 1989).

- Second, this research showed that perceived innovativeness is positively associated with the attitude toward advertising and the intention to receive messages. This finding confirms the previous findings of the role of innovativeness as a driver of consumer attitudes and intention in electronic channels (Brouhaha et al 2006; Yang et al. 2005).

- Third, this research showed that attitude towards advertising in general is positively associated with the attitude toward advertising and the intention to receive messages. This finding confirms the previous findings of the role of attitude towards advertising in general as a driver of consumer
attitudes and intention in electronic channels (Drossos et al 2007).

- Fourth, the results contribute to the theory of reasoned action by confirming the links between attitude-intention and social influence-intention. This proves the validity of the theory of reasoned action for research in the area of mobile marketing in Sudan.

**Research Question Three:** How does gender, age, level of education affect consumers’ responses to mobile advertising in Sudan?

The findings show that only age has a moderating effect on attitude towards mobile marketing, a result is consistent with finding of past research, as younger consumers are more likely to adopt (Rogers 2003). This effect is expected to be stronger in high-tech categories such as telecommunication services that usually have a higher complexity. The results showed no moderating effect of gender and education level on attitude towards mobile advertising and behavior intention.
**Research Question Four:** How do marketers perceive mobile advertising in Sudan?

The results show that most of the managers saw SMS advertising as a new promising, cost effective and high reach marketing tools.

**Research Question Five:** What are the most important factors associated with the success of mobile advertising messages?

The findings indicate that content, cost, acceptance, reach & permission as well as the messages frequency factor are critical to ensure the success of SMS based campaigns. Table 7.1 provides a summary of the research questions and the associated results.
Table 7.1:  
Research Question Summary

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How do consumers perceive mobile advertising in Sudan?</td>
<td>Consumers perceive mobile marketing positively</td>
</tr>
<tr>
<td>2. What are the most important factors affecting positive or negative attitudes towards mobile advertising in Sudan</td>
<td>Perceive utility &gt; Social Norms &gt; Attitude towards Advertising &gt; Innovativeness</td>
</tr>
<tr>
<td>3. How does gender, age, level of education affect consumers’ responses to mobile advertising in Sudan?</td>
<td>Gender has effect on consumer attitude gender; level of education has no moderating effect on consumer attitude or intentions.</td>
</tr>
<tr>
<td>4. How do marketers perceive mobile advertising in Sudan?</td>
<td>SMS advertising as a new promising, cost effective and high reach marketing tools</td>
</tr>
<tr>
<td>5. What are the most important factors associated with the success of mobile advertising messages?</td>
<td>Content &gt; Cost &gt; Acceptance &gt; Reach &amp; permission &gt; Frequency</td>
</tr>
</tbody>
</table>
7.3. **Summary of the Results of the Hypothesis Test:**

The hypotheses of this research were assumed as a part of the task of providing answers to the research questions and the research problem of the study. These hypotheses are embedded in the research model in Figure 4.3. and Table 4.1, as shown in chapter four.

This section interprets the hypotheses, discusses the findings of test results for each of the hypotheses tested and implications of the findings from Mobile advertising adaptation. The section ends with an overall conclusion on hypotheses tested in the study.

Eight hypotheses have been tested and the results are summarised in Table 7.2. Some hypotheses have sub hypotheses; hypothesis: H1, H3, H4 and H6, H7, H8a) are supported, but other hypotheses (H2, H5a, H5b, H8b, H8c, H8d, H8e, H8f) are not supported.

Table 6.31 gives summary results of the research hypothesis testing, with full description of each hypothesis, the expected outcome and the actual outcome.
Table 7.2.
Summary Results for the Research Hypothesis Test

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Expected Outcome</th>
<th>Actual Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Personal innovativeness will positively influence the attitude toward mobile marketing</td>
<td>significant</td>
<td>supported</td>
</tr>
<tr>
<td>H2: The Prior knowledge about mobile communications will significantly influence the attitude toward mobile marketing</td>
<td>significant</td>
<td>Not supported</td>
</tr>
<tr>
<td>H3: The attitude toward advertising in general will positively influence the attitude toward mobile marketing</td>
<td>significant</td>
<td>supported</td>
</tr>
<tr>
<td>H4: Perceived utility of mobile marketing will significantly influence consumer's attitude towards mobile marketing.</td>
<td>Significant</td>
<td>Supported</td>
</tr>
<tr>
<td>H5a: Perceived Risk of mobile marketing will negatively influence consumer's attitude toward mobile marketing.</td>
<td>Significant</td>
<td>Not supported</td>
</tr>
<tr>
<td>H5b: consumer choice and control of mobile marketing will negatively influence consumer's attitude toward mobile marketing.</td>
<td>Significant</td>
<td>Not supported</td>
</tr>
<tr>
<td>H6: subjective norms concerning the adoption of mobile marketing positively influence consumer behavioral intention to adopt mobile marketing</td>
<td>Significant</td>
<td>supported</td>
</tr>
<tr>
<td>H7: Attitude toward mobile marketing positively influences consumer behavioral intention to adopt mobile marketing.</td>
<td>Significant</td>
<td>Supported</td>
</tr>
<tr>
<td>H8a: The influence of independent variables on attitude towards mobile marketing is moderated by age.</td>
<td>Significant</td>
<td>Supported</td>
</tr>
<tr>
<td>H8b: The influence of independent variables on attitude towards mobile marketing is moderated by gender.</td>
<td>Significant</td>
<td>Not supported</td>
</tr>
<tr>
<td>H8c: The influence of independent variables on attitude towards mobile marketing is moderated by education level</td>
<td>Significant</td>
<td>Not supported</td>
</tr>
<tr>
<td>H8d: The influence of independent variables on behavior intention is moderated by age.</td>
<td>Significant</td>
<td>Not supported</td>
</tr>
<tr>
<td>H8e: The influence of independent variables on behavior intention is moderated by gender</td>
<td>Significant</td>
<td>Not supported</td>
</tr>
<tr>
<td>H8f: The influence of independent variables on behavior intention is moderated by education level</td>
<td>Significant</td>
<td>Not supported</td>
</tr>
</tbody>
</table>
7.4. Implications of the Research Findings:

Theoretical implications:

This research has proved the validity of the theory of reasoned action for research in the area of mobile marketing and contributes to the literature on consumer attitudes and intentions toward mobile marketing in several ways. Firstly, our results underscore the importance of perceived usefulness of communication as the main factor of consumer attitudes toward advertising. In the literature, perceived usefulness has been found to explain a considerable amount of variance of attitude and intention (Davis et al, 1989; Davis & Venkatesh 1996; Gefen & Straub 2000), and that its effect is typically stronger than the effect of other constructs. The empirical results also imply that social norms only have a slight direct influence on behavioral intention, but are a strong indirect determinant via personal attitude towards the act. The research found no empirical support for a significant influence of two constructs "Existing knowledge about mobile communications" and "perceived Risk" on the attitude toward mobile marketing. These results contribute to the theory of reasoned
action by confirming the links between attitude-intention, reference
group influence-intention and intention-use.

**Managerial Implications:**

The implications of the findings and conclusions are that, companies need to play a leading role in influencing the perceptions, and thereby the attitudes and behavior of current and potential mobile users. The outcomes of this study have two practical implications for marketers and organizations venturing into marketing in Sudan and similar developing countries.

First, the research provides a general guide, on user behavior, for marketing managers in organizations before they make major investments in new technology. The results underline the importance of precisely embodying mobile marketing messages and campaigns according to consumer utility and information requirements. Only if mobile marketing messages are designed creatively and are useful, or if they provide a high information value, will consumers develop a positive attitude towards mobile marketing leading to the behavioral intention to use mobile marketing services.
Second, this study serves as a tool for understanding user acceptance of mobile marketing applications such as SMS. More specifically, the research has produced a validated instrument to measure the acceptance of the mobile marketing applications currently in place. The findings have implications for anticipating future user problems and determining ways to improve user acceptance and usage, as well as determining why the technology is being used.

Risk perception in the context of mobile marketing mainly results from the fear of data misuse and the reception of unwanted mobile marketing messages. Clearly, the establishment of a well-founded basis of trust for mobile marketing as a generic form of marketing communication has to be a major goal for all advertising companies. This is the prime prerequisite for consumers’ willingness to permit the reception of advertising messages on their mobile phones and to provide personal data for the personalization of those messages. Thus, it is a prerequisite for the consumer acceptance of mobile marketing.
7.5. **Recommendations and Future Research Directions:**

The conclusions elaborated above have not only delivered valuable implications for marketing practitioners, but also revealed some major recommendations directions for future research on mobile marketing:

- This research has examined the consumer perception and acceptance of mobile marketing which is still in an embryonic stage of commercial deployment in Sudan, where most consumers have not yet had the chance to adopt and use it as an innovation. Thus, future research is needed to empirically measure adoption and use of mobile marketing after its actual use.

- In this research, mobile marketing has been limited to Short Message Service (SMS), as it is the only medium of mobile advertising used in Sudan, there are other interesting research avenues to pursue. Moreover, the area of mobile marketing is huge and within it exist a variety of mobile advertising tools. Therefore, it is recommended that future research provides specific examination of new advance advertising tools such
as Multimedia Messaging Service (MMS) and mobile internet.

- Further research is also needed on the concept of permission marketing. Although this concept appears to be a prime prerequisite for mobile marketing acceptance, the ideal way of implementing this idea needs to be identified. Research in this context should reveal how consumers prefer to provide permission and profile information.

- The area of Location Based Services (LBS) has potentially a great future, but the privacy issue seems to impede its evolution. An exploratory study on LBS in regard to mobile marketing with a focus on how it could be used by marketers would be a suitable start.

- The area of viral marketing in the mobile space is very interesting. More research is needed into what influences make a campaign viral. Some indications pointed that the mobile media is great for making a campaign viral [Barwise et al., 2001].
• The research concerning industry perspective was conducted at a singular point in time and consisted of only one round of data collection. The results were drawn solely from the interviewees’ perspectives and thoughts. Future research should widen the scope of the research in order to provide results that are indicative of a broader range of organizations. A longitudinal study is also suggested in order to understand the sustainability of the Success Factors and how they may change over time. Future research could also investigate business and revenue models of SMS based campaigns.

Finally, The key findings from this research together with the Mobile Advertising Acceptance Model generated, with or without the impact of moderators, should provide valuable information not only at the industry level in Sudan but also at the national level, and may be applied to other similar countries as well.
Appendixes

Appendix I: Reference

Appendix II: Research Questionnaire

- Pre-test questionnaire -Arabic version
- Pre-test questionnaire -English version
- Main Study questionnaire: Arabic Version
- Main Study questionnaire: Arabic Version

Appendix III: Questionnaire Coding Sheet

Appendix IV: Managers Interview

- Arabic language
- English language
Appendix I: References


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Appendix II

Research Questionnaire

Pre-test questionnaires: Arabic version

السلام عليكم ورحمة الله وبركاته

الموضوع: استبيان لبحث علمي بعنوان مستقبل وفعالية الإعلان عن طريق الهاتف النقال

يهدف البحث موضوع هذا الاستبيان لدراسة وتحقيق مدى تقبل الاعلان عن طريق الهاتف النقال (الموبايل) في السودان وذلك كمطلب من ليل درجة الدكتوراه في إدارة الأعمال بكلية الدراسات العليا - جامعة الخرطوم. تحت إشراف الدكتور أحمد خليفة.

تفضلتم بالإجابة على الاستمارة أعلاه بدقة تساهم في صحة نتائج هذا البحث وتساعد على التطور العلمي والاكتنيمي في التسويق. علماً بأن المعلومات الواردة في هذا الاستبيان لن تستخدم إلا لأغراض البحث العلمي فقط وستعامل بسرية تامة.

مع فائق الشكر والتقدير لمجهودكم

الباحثة
الجزء الأول: معلومات شخصية:

1. العمر: □ 18-25 □ 26-35 □ 36-45 □ أكثر من 45

2. الجنس: □ ذكر □ أنثى

3. المستوى العلمي: □ ثانوي □ جامعي □ فوق جامعي □ أخري

4. الوظيفة: □ طالب □ موظف □ أعمال حرة □ عامل □ أخري

5. حالتك الاجتماعية: □ أعزب □ متزوج □ أخري

6. هل لديك هاتف نقال: □ نعم □ لا

7. هل تستخدم (ن) الإنترنت: □ نعم □ لا

8. استخدم الإنترنت في: □ البيت □ العمل □ مقيمي الإنترنت □ طريق الموبايل

الجزء الثاني:

1. أي خدمات الموبايل تستخدم بانتظام: (يمكن اختيار أكثر من إجابة)
   - أ. المكالمات
   - ب. الرسائل القصيرة
   - ج. الرسائل المصورة (المتيميديا)
   - د. الإنترنت
   - ه. الألعاب:

2. ما مدى معرفتك باستخدام الرسائل القصيرة:
   - أ. أنا خبير في استخدام الرسائل القصيرة
   - ب. أنا متوسط الخبرة في استخدام الرسائل القصيرة
   - ج. أنا قليل الخبرة في استخدام الرسائل القصيرة
   - د. لا استخدام الرسائل القصيرة أبدا

3. أي من استخدامات الرسائل القصيرة تستخدم باستمرار:
   - أ. الاشتراك في خدمة الأخبار
   - ب. تبادل أرقام الهاتف والمعلومات الشخصية
   - ج. الدردشة مع الأصدقاء والعائلة
   - د. تبادل النكات والتسليحة

4. هل سبق واستلمت ما تعتبره (من وجهة نظرك) رسالة إعلانية عن طريق الموبايل؟
6. أوافق على استقبال رسائل إعلانية فقط في:
أ. مقابل خصم على المنتجات المعلن عنها
ب. مقابل رصيد مجاني
ج. مقابل رسائل قصيرة مجانية
d. مقابل معلومات عن المنتجات والخدمات التي تنساني
ه. بدون أي مقابل

7. إذا كنت موافقًا (موافقة) على استقبال رسائل إعلانية عن طريق الموبايل فما هو عدد الرسائل التي تعتمد (تتلقى) انة مناسب من وجهة نظرك:
أ. رسالة واحدة يومياً
ب. رسالتين يومياً
ج. ثلاث رسائل يومياً
d. يمكنني أن استقبل أي عدد من الرسائل

الجزء الثالث:
إلى أي مدى توافق (توافقين) على ما جاء في العبارات التالية:

1. عادة ما أكون من أوائل المستخدمين لأي منتجات جديدة تظهر في الأسواق
   □ أوافق بشدة □ موافق □ محايد □ لا موافق □ لا أوافق بشدة

2. عادة ما أكون أول المجربين للمنتجات الجديدة قبل أصدقاءي
   □ أوافق بشدة □ موافق □ محايد □ لا موافق □ لا أوافق بشدة

3. عموما استمتع بشراء المنتجات الجديدة
   □ أوافق بشدة □ موافق □ محايد □ لا موافق □ لا أوافق بشدة

4. لي معرفة عميقة عن الاتصالات عن طريق الموبايل
   □ أوافق بشدة □ موافق □ محايد □ لا موافق □ لا أوافق بشدة

5. مقارنة بإصدقاءي أعتبر أكثرهم خبرة في الاتصالات عن طريق الموبايل
   □ أوافق بشدة □ موافق □ محايد □ لا موافق □ لا أوافق بشدة

네용 확인
□ 없음

5. 휴대전화를 통해 수신할 수 있는 메시지에 대해 승인합니다 (승인):
   a. 일정한 할인 혜택을 제공하는 상품
   b. 보유 휴대폰의 잔액
   c. 단축 메시지
   d. 제품 및 서비스 정보 알림
   e. 아무 답변도

7. 다음을 허용할지 결정: (허용)
   a. 하루에 한 메시지
   b. 하루에 두 메시지
   c. 하루에 세 메시지
   d. 하루에 여러 메시지
   e. 몇 일 동안 메시지 최대 수

부록:

이제까지까지, 어떤 것으로 적용할지 결정: (적용)

1. 일반적으로 조심스러운 사용자로 제품 및 서비스 정보를 게시하는 경우
   □ strongly agree □ agree □ neutral □ disagree □ strongly disagree

2. 일반적으로 제품 시승자가 되는 경우
   □ strongly agree □ agree □ neutral □ disagree □ strongly disagree

3. 제품 및 서비스 정보를 읽는 경우
   □ strongly agree □ agree □ neutral □ disagree □ strongly disagree

4. 정보가 충분한 경우
   □ strongly agree □ agree □ neutral □ disagree □ strongly disagree

5. 제품 및 서비스 정보에 대한 조언을 읽는 경우
   □ strongly agree □ agree □ neutral □ disagree □ strongly disagree


335
لا أوافق بشدة لا أوافق محايد لا أوافق

6. في دائرة أصداقتي عادة ما أكون أولهم معرفة بأحدث أنواع الموبايل

لا أوافق بشدة محايد لا أوافق

7. استمتع بقراءة الإعلانات المختلفة بغض المقارنة

لا أوافق بشدة محايد لا أوافق

8. عادة ما أقرأ كمية من مختلف الإعلانات فقط من أجل التغيير

لا أوافق بشدة محايد لا أوافق

9. عموما أجد الإعلانات شي جيد

لا أوافق بشدة محايد لا أوافق

10. أحب الإعلانات

لا أوافق بشدة محايد لا أوافق

11. اعتقد أنه يمكنني الحصول على معلومات قيمة عن الخدمات والمنتجات عن طريق الرسائل الإخبارية في الموبايل

لا أوافق بشدة محايد لا أوافق

12. اعتقد أن الإعلانات المفصلة وفقا لمواصفاتي الشخصية تكون مفيدة

لا أوافق بشدة محايد لا أوافق

13. اعتقد أن الرسائل الإخبارية عن طريق الموبايل مسلية

لا أوافق بشدة محايد لا أوافق

14. اعتقد أن المشاركة في المسابقات الإخبارية عن طريق الموبايل مسلية

لا أوافق بشدة محايد لا أوافق

15. يمكنني الاستفادة من الرسائل الإخبارية عن طريق الموبايل

لا أوافق بشدة محايد لا أوافق

16. أخشي من الاستعمال السني للمعلومات الشخصية عند الاشراك في خدمة التسويق عن طريق الموبايل

لا أوافق بشدة محايد لا أوافق

17. أخشي من ورود الرسائل غير المرغوب فيها عند الاشراك في خدمة التسويق عن طريق الموبايل

لا أوافق بشدة محايد لا أوافق
18. أوبق على استلام الرسائل الإعلانية فقط في حالة اذن مسبق مني أولاً
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق جاهز (شاملة) لاستلام الرسائل الإعلانية عن طريق الموبايل فقط في حالة انه
يمكنني إيقافها مث ما رغبت في ذلك
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

19. أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
الناس للإمساك ذكي
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
سرير الأشخاص المقربون إلى استخداممن لها على أنها شي مفيد
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
سرير الأشخاص المقربون إلى استخداممن لها على أنها شي قيم
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

20. أوبق جاهز نحو استقبال الرسائل الإعلانية عن طريق الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أجنبية (شاملة) لاستخدام الرسائل الإعلانية عن طريق الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

21. أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

22. أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

23. سوف اقرأ كل الرسائل الإعلانية التي استلمها عن طريق الموبايل في المستقبل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

24. سوف أقدم معلوماتي الشخصية بغرض استقبال الرسائل الإعلانية عن طريق الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

25. سوف أقرأ كل الرسائل الإعلانية التي استلمها عن طريق الموبايل في المستقبل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق

26. سوف أقرأ كل الرسائل الإعلانية التي استلمها عن طريق الموبايل في المستقبل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
أوبق أنتي إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبايل
أوبق بشدة لا أوبق مماد لا أوبق لا أوبق
Pre-test questionnaire: English Version

Part One : Profile:
1. Age: ☐ 18-25  ☐ 26-35  ☐ 36-45  ☐ 45+
2. Gender: ☐ Male  ☐ Female
3. Occupation:  ☐ student  ☐ Employee  ☐ Business Man/woman  ☐ Others
4. Education:  ☐ Undergraduate  ☐ Graduate  ☐ Postgraduate  ☐ Others
5. Marital status:  ☐ Single  ☐ Married
6. Do you have mobile phone:  ☐ Yes  ☐ No
7. Do you have access to internet:  ☐ Yes  ☐ No
8. If yes : Do you have internet connection :  ☐ at home  ☐ at work  ☐ internet café  ☐ mobile internet

Part two: SMS Usage
1. Which of the following mobile services do you use regularly (you can choose more than one answer)
   ☐ Voice call
   ☐ SMS
   ☐ MMS
   ☐ Internet
   ☐ Games
2. How long have you been a regular user of SMS?
   □ Expert in using SMS
   □ More than 6 month
   □ Less than 6 month
   □ I do not use SMS

3. Which of SMS services do you use regularly:
   □ Information about news
   □ To send personal and contact information
   □ To chat with friends and family
   □ To exchange jokes and funny stuff

4. Have you ever receive advertising through SMS,
   □ No           □ Yes     specify____________________

5. Do you agree to receive advertising text message sent to your mobile
   □ Yes           Mobile no. __________________________
   □ No           Because: ____________________________

6. How many messages do you believe will be suitable for you per day?
   □ Less than 2 per day   □ 2-4 per day   □ more than 4   □ any number

1. I accept receiving advertising messages to my mobile only if:
   □ In exchange of discount on the advertised product or services
   □ In exchange of free credit
   □ In exchange of Free SMS
☐ In exchange of information on product or services that based on my personal profile and preferences
☐ Without any exchange

Part Three:
To what extent do you agree in the following statement concerning receiving SMS advertising?

1. Innovation:
   A. Usually I am among of the first to try out a new product.
   Strongly disagree 1 2 3 4 5 Strongly disagree
   B. Often I try new products before my friends do.
   Strongly disagree 1 2 3 4 5 Strongly disagree
   C. Generally, I enjoy buying new products.
   Strongly disagree 1 2 3 4 5 Strongly disagree

2. Existing Knowledge
   a. I have a profound knowledge about mobile communications.
   Strongly disagree 1 2 3 4 5 Strongly disagree
   b. In comparison to my circle of friends, I am an expert in mobile communications.
   Strongly disagree 1 2 3 4 5 Strongly disagree
   c. In my circle of friends, I am usually the first who knows about the latest mobile phones.
   Strongly disagree 1 2 3 4 5 Strongly disagree

3. Information seeker
   a. I enjoy reading different advertising for the sake of comparison.
   Strongly disagree 1 2 3 4 5 Strongly disagree
   b. I tend to read a lot of different advertising just for the sake of a change of pace.
   Strongly disagree 1 2 3 4 5 Strongly disagree

4. Attitude Towards Advertising in General
a. Generally I find advertising a good thing.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

b. I like advertising.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

5. Perceived Utility

a. I think through advertising messages via the mobile phone I can receive valuable and information about product and services.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

b. I think advertising messages customized to my profile are will be useful.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

c. I feel advertising messages via the mobile phone will be entertaining.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

d. Participating in an SMS advertising lottery is fun.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

e. I can benefit from advertising messages via the mobile phone.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

6. Perceived Risk

a. I think there is a risk of personal data being misused when using mobile marketing services.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

b. I think there is a risk of receiving unwanted SMS-messages when using mobile marketing services.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

c. I will only be prepared to receive mobile advertising massages, if I had provided my permission first.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

d. I will only be prepared to receive mobile advertising massages if I can stop receiving it at any time.
<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

7. **Social Norms**
   a. If I use mobile marketing services most of the people who are important to me will regard me as clever.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

   b. If I use mobile marketing services most of the people who are important to me will regard it as useful.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

   c. If I use mobile marketing services most of the people who are important to me will regard it as valuable.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

8. **Attitude Towards Mobile Advertising**
   a. I feel positively about receiving advertising messages via mobile phone.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

   b. I appreciate receiving advertising messages via the mobile phone.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

9. **Behavioral Intention**
   a. My general intention to use mobile marketing services is very high.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

   b. I am willing to receive mobile marketing messages in the future.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

   c. I will read all the advertising messages I receive in the future.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>

   d. I will provide my personal profile in order to receive advertising message.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
</table>
بسم الله الرحمن الرحيم

السيدة / السيد:

السلام عليكم ورحمة الله وبركاته

الموضوع: استبيان لبحث علمي عنوان مستقبل وفعالية الإعلان عن طريق الهاتف النقال

يهدف البحث موضوع هذا الاستبيان لدراسة وتقييم مدى قبول الإعلان عن طريق الهاتف النقال (الموبايل) في السودان وذلك كمتطلب لتنفيذ درجة الدكتوراه في إدارة الأعمال بكلية الدراسات العليا - جامعة الخرطوم. تحت إشراف الدكتور / أحمد حمزة خليفة.

تفضلكم بالإجابة على الأسئلة الواردة أدناه بدقة تساهم في صحة نتائج هذا البحث وتساعد على التطور العلمي والاكاديمي في التسويق. علمًا بأن المعلومات الواردة في هذا الاستبيان لن تستخدم إلا لأغراض البحث العلمي فقط وستتعامل بسرية تامة.

مع فائق الشكر والتقدير لجهودكم

الباحثة

Main Study questionnaire: Arabic Version
1. الجزء الأول: معلومات شخصية:

1.1. العمر: □ 18-25 □ 26-35 □ 36-45 □ أكثر من 45

1.2. الجنس: □ ذكر □ أثلى

1.3. المؤهل العلمي: □ تأهي □ جامعي □ فوق جامعي □ أخرتي___

1.4. الوظيفة: □ طالب □ موظف □ أعمال حرة □ عامل □ أخرى___

1.5. الحالة الاجتماعية: □ أعزب □ متزوج □ أخرتي________

1.6. هل لديك هاتف نقال: □ نعم □ لا

1.7. هل تستخدم (هي) الإنترنت: □ نعم □ لا

1.8. استخدام الإنترنت في: □ البيت □ العمل □ مقهى الإنترنت □ عن طريق الموبايل

2. الجزء الثاني:

2.1. كم من الوقت تقضيه (عدد الساعات) التي تقضيها:

<table>
<thead>
<tr>
<th></th>
<th>في مشاهدة التلفزيون</th>
<th></th>
<th>في الاستماع للراديو</th>
<th></th>
<th>في قراءة الصحف</th>
<th></th>
<th>في تصفح الإنترنت</th>
<th></th>
<th>هاتفك النقال مفتوح</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2</td>
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<td>5</td>
<td></td>
</tr>
</tbody>
</table>

2.2. فيما عدا المكالمات، أي من خدمات الموبايل تستخدم بانتظام: (يمكن اختيار أكثر من إجابة)

(1) الرسائل القصيرة (SMS)
(2) الرسائل المتعددة (MMS)
(3) الإنترنت (WAP)
(4) الألعاب (GAMES)

2.3. منذ متى تستخدم الرسائل القصيرة في الهاتف النقال:

<table>
<thead>
<tr>
<th></th>
<th>أقل من ستة أشهر</th>
<th></th>
<th>أكثر من سنة</th>
<th></th>
<th>لا استخدمها بانتظام</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

2.4. أي من استخدامات الرسائل القصيرة تستخدم باستمرار:

(1) الاشتراك في خدمة الأخبار
2.5 عندما تصلك رسالة قصيرة على هاتفك النقال:
1) تقرأها بالكامل
2) تقرأها ثم تمسحها
3) تمسحها دون أن تقرأها

2.6 عندما تصلك رسالة قصيرة على هاتفك النقال
1) تقرأها بمجرد وصولها
2) تقرأها عندما تكون رسائلك الواردة قليلة
3) تقرأها عندما تجد وقتا لذلك
4) ترسلها لصديق

2.7 هل سبق واستلمت ما تعتبره (من وجهة نظرك) رسالة إعلانية عن طريق الموبايل؟
نعم □
لا □

2.8 إذا كنت موافق (موافقة) على استقبال رسائل إعلانية عن طريق الموبايل فما هو عدد الرسائل التي تعتقد (تعتقدين) أنه مناسب من وجهة نظرك:
1) رسالة واحدة يوميا
2) رسالتين يوميا
3) ثلاث رسائل يوميا
4) يمكنني أن استقبل أي عدد من الرسائل

2.9 أوقف على استقبال الرسائل الإعلانية فقط في:
1) مقابل خصم على المنتجات المعلن عنها
2) مقابل رصيد مجاني
3) مقابل معلومات عن المنتجات والخدمات التي تناسبني بدون أي مقابل
4)
الجزء الثالث:

إلى أي مدى توافق (توفيقين) على ما جاء في العبادات التالية:

1. عادة ما أكمل من أوائل المستخدمين لأي منتجات جديدة تظهر في الأسواق
   □ أوافق بشدة □ مهيد □ لا أوافق

2. عادة ما أكمل أول المجرمين للمنتجات الجديدة قبل أصدقائي
   □ أوافق بشدة □ مهيد □ لا أوافق

3. عموما استمتع بشراء المنتجات الجديدة
   □ أوافق بشدة □ مهيد □ لا أوافق

4. أوقات بندة □ مهيد □ لا أوافق

5. مقارنة بأصدقائي أتعد أكثر من خبرة في الاتصالات عن طريق الموبايل
   □ أوافق بشدة □ مهيد □ لا أوافق

6. في دائرة أصدقائي عادة ما أكمل أولهم معرفة بأحدث أنواع الموبايل
   □ أوافق بشدة □ مهيد □ لا أوافق

7. عموما أجد الإعلانات غير جيدة
   □ أوافق بشدة □ مهيد □ لا أوافق

8. أحب الإعلانات
   □ أوافق بشدة □ مهيد □ لا أوافق

9. اعتقد أنه يمكنني الحصول على معلومات قيمة عن الخدمات والمنتجات عن طريق الرسائل الإعلانية في الموبايل
   □ أوافق بشدة □ مهيد □ لا أوافق

10. اعتقد أنه يمكنني الحصول على معلومات خصومات والتخفيفات عن الخدمات والمنتجات عن طريق الرسائل الإعلانية في الموبايل في وقت حدوثها
    □ أوافق بشدة □ مهيد □ لا أوافق

11. اعتقد أن الرسائل الإعلانية عن طريق الموبايل مسلية
     □ أوافق بشدة □ مهيد □ لا أوافق

12. اعتقد أن المشاركة في المسابقات الإعلانية عن طريق الموبايل مسلية
     □ أوافق بشدة □ مهيد □ لا أوافق

13. اعتقد أن الرسائل الإعلانية المفصلة حسب مواصفاتي واحتياطيتي الشخصية تكون مفيدة
     (مثال: إعلانات إعدادات خلال الإقامة وعدد التوجيه للممارسة)
     □ أوافق بشدة □ مهيد □ لا أوافق

14. اعتقد أن الإعلانات المفصلة وفقا لمواصفاتي الشخصية تكون مفيدة
     □ أوافق بشدة □ مهيد □ لا أوافق

15. اشتهي من الاستعمال السببي للمعلومات الشخصية عند التشريحة في خدمة التسوق عن طريق الموبايل
     □ أوافق بشدة □ مهيد □ لا أوافق

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16. أخشي من ورود الرسائل غير المرغوب فيها عند الاشتراك في خدمة التسويق عن طريق الموبيل
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

17. أوقع على استلام الرسائل الإعلانية فقط في حالة إذا كان مسبق مني أو لا
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

18. أكون جاهزاً (باجرة) لاستلام الرسائل الإعلانية عن طريق الموبيل فقط في حالة
- يمكنني إيقافها متي ما غبت في ذلك
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

19. اعتقد أنه إذا استخدمت خدمة التسويق عن طريق الرسائل الإعلانية في الموبيل
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

20. لسح الرسائل الإعلانية من استخدامها لها على أنها شيء مفيد
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

21. لسح الرسائل الإعلانية من استخدامها لها على أنها شيء مفيد
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

22. لسح الرسائل الإعلانية من استخدامها لها على أنها شيء مفيد
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

23. اعتقد أن الإعلانات عن طريق الموبيل فكرة جيدة
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

24. سوف أقرأ كل الرسائل الإعلانية التي استلمها عن طريق الموبيل
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

25. سوف أقرأ كل الرسائل الإعلانية التي استلمها عن طريق الموبيل
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

26. سوف أقرأ كل الرسائل الإعلانية التي استلمها عن طريق الموبيل
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □
- لا أوافق □ | موافق □ | محايد □

هل توافق (ي) على استلام رسائل إعلانية عن طريق الهاتف النقال:
- نعم □
- لا □
- أذكر السبب من فضلك □

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Main Study questionnaire: English Version

Part One: Profile:
10. Age: □ 18-25 □ 26-35 □ 36-45 □ 45+
11. Gender: □ Male □ Female
12. Occupation: □ student □ Employee □ Business Man/woman □ Others
13. Education: □ Undergraduate □ Graduate □ Postgraduate □ Others
14. Marital status: □ Single □ Married
15. Do you have mobile phone: □ Yes □ No
16. Do you have access to internet: □ Yes □ No
17. If yes: Do you have internet connection:
   18. □ at home □ at work □ internet café □ mobile internet

Part two: SMS Usage
7. Which of the following mobile services do you use regularly (you can choose more than one answer)
   □ Voice call
   □ SMS
   □ MMS
   □ Internet
   □ Games
8. How long have you been a regular user of SMS?
   - Expert in using SMS
   - More than 6 month
   - Less than 6 month
   - I do not use SMS

9. Which of SMS services do you use regularly:
   - Information about news
   - To send personal and contact information
   - To chat with friends and family
   - To exchange jokes and funny stuff

10. How many messages do you believe will be suitable for you per day?
   - Less than 2 per day
   - 2-4 per day
   - More than 4
   - Any number

2. I accept receiving advertising messages to my mobile only if:
   - In exchange of discount on the advertised product or services
   - In exchange of free credit
   - In exchange of Free SMS
   - In exchange of information on product or services that based on my personal profile and preferences
   - Without any exchange
<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. Usually I am among of the first to try out a new product</td>
<td></td>
<td></td>
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<tr>
<td>Q2. Often I try new products before my friends do</td>
<td></td>
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<tr>
<td>Q3. Generally, I enjoy buying new products</td>
<td></td>
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<tr>
<td>Q4. I have a profound knowledge about mobile communications</td>
<td></td>
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<tr>
<td>Q5. In comparison to my circle of friends, I am an expert in mobile communications</td>
<td></td>
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<tr>
<td>Q6. In my circle of friends, I am usually the first who knows about the latest mobile phones</td>
<td></td>
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<tr>
<td>Q7. Generally I find advertising a good thing</td>
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<tr>
<td>Q8. I like advertising</td>
<td></td>
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<tr>
<td>Q9. I think through advertising messages via the mobile phone I can receive valuable and information about product and services</td>
<td></td>
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<tr>
<td>Q10. I think through advertising messages via the mobile phone I can get timely information about sales and discount on product and services</td>
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<tr>
<td>Q11. I feel advertising messages via the mobile phone will be entertaining</td>
<td></td>
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<tr>
<td>Q12. Participating in an SMS advertising lottery is fun.</td>
<td></td>
<td></td>
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<tr>
<td>Q13. I Think advertising messages customized to my profile will be useful</td>
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<tr>
<td>Q14. I can benefit from advertising messages via the mobile phone</td>
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<tr>
<td>Q15. I Think there is a risk of personal data being misused when using mobile marketing services</td>
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<tr>
<td>Q16. I think there is a risk of receiving unwanted SMS-messages when using mobile marketing services</td>
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<td></td>
</tr>
<tr>
<td>Q17. I will only be prepared to receive mobile advertising massages, if I had provided my permission first</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q18. I will only be prepared to receive mobile advertising massages if I can stop receiving it at</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q19. If I use mobile marketing services most of the people who are important to me will regard me as clever
Strongly disagree 1 2 3 4 5  Strongly disagree

Q20. If I use mobile marketing services most of the people who are important to me will regard it as useful
Strongly disagree 1 2 3 4 5  Strongly disagree

Q21. If I use mobile marketing services most of the people who are important to me will regard it as valuable
Strongly disagree 1 2 3 4 5  Strongly disagree

Do you agree to receive advertising text messages sent to your mobile
☐ Yes  Mobile no. ________________________________
☐ No  Because: ________________________________
## Appendix III

### Questionnaire Coding Sheet

<table>
<thead>
<tr>
<th>Code</th>
<th>Ques. No.</th>
<th>Statement</th>
<th>Value</th>
<th>measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>age</td>
<td>1.1</td>
<td>Age</td>
<td>2 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Gender</td>
<td>1.2</td>
<td>Gender</td>
<td>2 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Educatio n</td>
<td>1.3</td>
<td>Education</td>
<td>4 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Occupation</td>
<td>1.4</td>
<td>Occupation</td>
<td>4 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Material Status</td>
<td>1.5</td>
<td>Maternal Status</td>
<td>3 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Mobile usage</td>
<td>1.6</td>
<td>Do you have mobile phone:</td>
<td>2 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Internet usage</td>
<td>1.7</td>
<td>Do you have access to internet</td>
<td>2 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Internet access</td>
<td>1.8</td>
<td>If yes : Do you have internet connection</td>
<td>4 option</td>
<td>nominal</td>
</tr>
<tr>
<td>Media Exposure</td>
<td>2.1</td>
<td>How many hours you spend on those media</td>
<td>5 options</td>
<td>nominal</td>
</tr>
<tr>
<td>Mobile service</td>
<td>2.2</td>
<td>Which of the following mobile services do you use regularly</td>
<td>4 options</td>
<td>nominal</td>
</tr>
<tr>
<td>experience</td>
<td>2.3</td>
<td>How long have you been a regular user of SMS?</td>
<td>3 options</td>
<td>nominal</td>
</tr>
<tr>
<td>SMS Service</td>
<td>2.4</td>
<td>Which of the following SMS services do you use regularly</td>
<td>4 options</td>
<td>nominal</td>
</tr>
<tr>
<td>Readership</td>
<td>2.5</td>
<td>When you receive SMS Message in your mobile you</td>
<td>3 options</td>
<td>nominal</td>
</tr>
<tr>
<td>Readership Speed</td>
<td>2.6</td>
<td>When you receive SMS Message in your mobile you</td>
<td>4 options</td>
<td>nominal</td>
</tr>
<tr>
<td>SMS Ad.</td>
<td>2.7</td>
<td>Do you ever receive SMS advertisement in you mobile</td>
<td>2 options</td>
<td>nominal</td>
</tr>
<tr>
<td>Message number</td>
<td>2.8</td>
<td>How many messages do you believe will be suitable for you per day?</td>
<td>4 options</td>
<td>nominal</td>
</tr>
<tr>
<td>Reward</td>
<td>2.9</td>
<td>I accept receiving advertising messages to my mobile only if:</td>
<td>4 options</td>
<td>nominal</td>
</tr>
<tr>
<td>IN1</td>
<td>3.1</td>
<td>1. Usually I am among of the first to try out a new product</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>IN2</td>
<td>3.2</td>
<td>2. Often I try new products before my friends do</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>IN3</td>
<td>3.3</td>
<td>3. Generally, I enjoy buying new products</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>EK1</td>
<td>3.4</td>
<td>4. I have a profound knowledge about mobile communications</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>EK2</td>
<td>3.5</td>
<td>5. In comparison to my circle of friends, I am an expert in mobile communications</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>EK3</td>
<td>3.6</td>
<td>6. In my circle of friends, I am usually the first who knows about the latest mobile phones</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>ATA1</td>
<td>3.7</td>
<td>7. Generally I find advertising a good thing</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>ATA2</td>
<td>3.8</td>
<td>8. I like advertising.</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td>PU1</td>
<td>3.9</td>
<td>9. I think through advertising messages via the mobile phone I can receive valuable and information about</td>
<td>5 points</td>
<td>scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PU2</strong></td>
<td>3.10</td>
<td>10. I think through advertising messages via the mobile phone I can get timely information about sales and discount on product and services</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>PU3</strong></td>
<td>3.11</td>
<td>11. I feel advertising messages via the mobile phone will be entertaining</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>PU4</strong></td>
<td>3.12</td>
<td>12. Participating in an SMS advertising lottery is fun.</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>PU5</strong></td>
<td>3.13</td>
<td>13. I think advertising messages customized to my profile will be useful</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>PU6</strong></td>
<td>3.14</td>
<td>14. I can benefit from advertising messages via the mobile phone</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>PR1</strong></td>
<td>3.15</td>
<td>15. I think there is a risk of personal data being misused when using mobile marketing services</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>PR2</strong></td>
<td>3.16</td>
<td>16. I think there is a risk of receiving unwanted SMS messages when using mobile marketing services</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>Cont1</strong></td>
<td>3.17</td>
<td>17. I will only be prepared to receive mobile advertising messages, if I had provided my permission first</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>Cont2</strong></td>
<td>3.18</td>
<td>18. I will only be prepared to receive mobile advertising messages if I can stop receiving it at any time</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>SN1</strong></td>
<td>3.19</td>
<td>19. If I use mobile marketing services most of the people who are important to me will regard me as clever</td>
<td>5points scale</td>
<td></td>
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<tr>
<td><strong>SN2</strong></td>
<td>3.20</td>
<td>20. If I use mobile marketing services most of the people who are important to me will regard it as useful</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>SN3</strong></td>
<td>3.21</td>
<td>21. If I use mobile marketing services most of the people who are important to me will regard it as valuable</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>ATMA</strong></td>
<td>3.22</td>
<td>22. I feel positively about advertising messages via mobile phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.23</td>
<td>23. I think mobile advertising is good</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B1</strong></td>
<td>3.24</td>
<td>24. I am willing to receive mobile marketing messages in the future</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>B11</strong></td>
<td>2.25</td>
<td>25. I will read all the advertising messages I receive in the future</td>
<td>5points scale</td>
<td></td>
</tr>
<tr>
<td><strong>B111</strong></td>
<td>3.26</td>
<td>26. I will provide my personal profile in order to receive advertising message</td>
<td>5points scale</td>
<td></td>
</tr>
</tbody>
</table>
Appendix IV
Managers Interviews - Arabic

المقابلة

الجزء الأول: معلومات الشخصية:
1. الاسم:
2. التعليم والمؤهلات:
3. الوظيفة:
4. نبذة عن الشركة:

الجزء الثاني: النشاط التسويق:

1. الوسائل التسويقية المستخدمة حالياً ولماذا:
i. التلفزيون
ii. الراديو
iii. المطبوعات
iv. اللوحات الإعلانية
v. الموبايل
vi. الإنترنت

2. الأسباب:
i. القدرة على الوصول للشريحة المعنية
ii. القدرة على الوصول إلى شريحة كبيرة في منطقة كبيرة
iii. فعاليتها (تأتي بنتائج جيدة)
iv. التكلفة مناسبة
v. القدرة على الإبداع في تصميم الإعلان
vi. المنافس يستخدم هذه الوسيلة
الجزء الثالث: التسويق عن طريق الرسائل القصيرة

1. ماذا يعني مفهوم التسويق عن طريق الموبايل؟

2. هل استخدمت التسويق عن طريق الموبايل من قبل وما هي الظروف التي استخدمتها ولماذا

3. ما الذي شجعك على استخدام هذه الوسيلة

4. هل استخدمت التسويق عن طريق الرسائل القصيرة بصورة منفردة؟ مع أي وسيلة ولماذا؟

5. هل تعتقد أن التسويق عن طريق الرسائل القصيرة يمكن أن يستخدم كوسيلة منفردة للإعلان؟ ولماذا

6. من واقع خبرتك في مجال التسويق وفي مقارنة للوسائل الإعلانية المختلفة أي الوسائل تجدها أكثر فاعلية من حيث النتائج ولماذا:
   i. التلفزيون
   ii. الراديو
   iii. المطبوعات
   iv. اللوحات الإعلانية
   v. الموبايل
   vi. الإنترنت

7. ما الوسائل الإعلانية التي استخدمتها في آخر حملة إعلانية للشركة؟

8. هل سبق إن استخدمت الرسائل القصيرة في إدارة علاقات العملاء

9. هل تتي هي استخدام الرسائل القصيرة عن طريق الموبايل في المستقبل
10. ما هو مستقبل التسويق عن طريق الموبايل من وجهة نظرك؟

11. ما هي اهم طرق التسويق عن طريق الموبايل؟

12. ما هي العقبات التي تعترض انتشار التسويق عن طريق الموبايل؟

13. ما هي اسباب وعوامل التي تساعد على انتشار التسويق عن طريق الموبايل؟

14. اختر اهم خمس عوامل لنجاح التسويق عن طريق الرسائل القصيرة مرتبة حسب أهميتها من وجهة نظرك:

<table>
<thead>
<tr>
<th>الترتيب</th>
<th>العامل</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attitude (إيجابية نظرة المستهلك)</td>
</tr>
<tr>
<td>2</td>
<td>Complementary</td>
</tr>
<tr>
<td>3</td>
<td>Content: concise informative, entertaining</td>
</tr>
<tr>
<td>4</td>
<td>Cost</td>
</tr>
<tr>
<td>5</td>
<td>Credibility (درجة الوثوق بالمصدر)</td>
</tr>
<tr>
<td>6</td>
<td>Permission</td>
</tr>
<tr>
<td>7</td>
<td>Frequency</td>
</tr>
<tr>
<td>8</td>
<td>Personalization</td>
</tr>
<tr>
<td>9</td>
<td>Reach</td>
</tr>
<tr>
<td>10</td>
<td>Incentive</td>
</tr>
</tbody>
</table>
Managers Interviews - English

Part 1:
Background information of the company and the interviewee:
1. The name of the interviewee

2. Education and occupation of the interviewee
3. The name of the company
4. A short overview of the company and its activities

Part 2:
1. Marketing and marketing communications in general:
Current marketing communications activities:

2. Marketing communications mix:
and media mix:
- TV
- Radio
- Printed
- Outdoors
- SMS

3. The marketing communications channels used in the company

4. why? (reasons for using the media they employed)
1. Its targeting capability; that is, its ability to reach a specific audience
2. ability to reach a large audience or people living in a broad geographic area
3. while effectiveness (e.g., "it gets results
4. cost effectiveness/media
5. a medium's creative capabilities (e.g., "visual impact" or "lets me say more") as the primary reason for using it,
6. ability to generate awareness
7. "tradition," competitors use it

Part 3:
2. What Mobile Marketing mean to you?
3. Do you use mobile marketing and what form of mobile marketing you use (Experiences of mobile marketing - advertising in general)? Why?
4. Do you use mobile marketing -The concept of SMS as advertising tool- as a sole media or complemented to other media?
5. Do you believe SMS can be used as a sole media or complemented to other media? why
6. As a marketing expert what media you believe to be result effective and why?
7. What media you used in your last campaign?
8. Do you ever use SMS in CRM?
9. Do you intend to use SMS advertising in future
10. What is the future of mobile marketing?
11. What is the important mobile marketing tool?
12. What obstacles you face when using mobile marketing?
13. What are the success factors that help the diffusion of mobile marketing?
14. From the Table below what they believe to be the top five Success Factors of mobile marketing?

<table>
<thead>
<tr>
<th>Success Factor</th>
<th>Definition</th>
<th>Your Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance</td>
<td>Consumers present a favorable attitude towards mobile marketing.</td>
<td></td>
</tr>
<tr>
<td>Complementary</td>
<td>SMS is used in conjunction with other media in order to strengthen advertising campaign.</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>The content of the message. It should be entertaining, informative and be relevant to the target audience and not irritating.</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>The cost of running a campaign. It usually can be justified due to campaigns’ ability to reach customers.</td>
<td></td>
</tr>
<tr>
<td>Credibility</td>
<td>The consumers’ perception of truthfulness and believability of advert in general. It also can be understood as brand trust regarding the organization sending the message.</td>
<td></td>
</tr>
<tr>
<td>Permission</td>
<td>Customers give permission to receive messages from the campaign operator</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>The number of advertising messages received per day.</td>
<td></td>
</tr>
<tr>
<td>Personalization</td>
<td>Users receive personalised advertising customised to their profile.</td>
<td></td>
</tr>
<tr>
<td>Reach</td>
<td>The number of consumers that can be reached through a campaign.</td>
<td></td>
</tr>
<tr>
<td>Incentive</td>
<td>Benefit such as price discounts derived from direct marketing programs.</td>
<td></td>
</tr>
</tbody>
</table>