FACTORS INFLUENCING
HIGH SCHOOL LEARNERS’ ACCEPTANCE OF MARKETING MESSAGES
VIA SHORT MESSAGE SERVICE (SMS)

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January 2007
DECLARATION

I, Hui WANG hereby declare that:

• the work in this dissertation is my own original work;

• all sources used or referred to have been documented and recognized; and

• this dissertation has not been previously submitted in full or partial fulfillment of the requirements for an equivalent or higher qualification at any other recognized education institution.

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Hui WANG

January 2007
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ABSTRACT

Cell-phones and the Short Message Service (SMS) have become an important part of people's lives, with significant implications for communication and information transmission. The SMS, based on its versatility as a personal and direct medium of communication, provides an excellent means of marketing and also a possible avenue to the Nelson Mandela Metropolitan University (NMMU) for marketing its programmes. However, the success of such mobile (SMS) marketing depends largely on its acceptance by high school learners.

The objective of this study was to determine whether Port Elizabeth’s high school learners are likely to accept marketing messages of the NMMU via SMS. This objective was achieved with the relevant literature study and empirical study. The literature study provided an overview of mobile marketing, mobile advertising and a detailed discussion of the SMS as a marketing tool. The various factors that might influence cell-phone users' acceptance of mobile marketing were also reviewed. The relevance of these factors to mobile (SMS) marketing was tested using a model developed by Bauer, Barnes, Reichardt and Neumann (2005: 186) as the basis.
The empirical data were collected by means of a survey, and using a self-administered questionnaire. Based on a systematic sampling, 480 respondents from 17 feeder schools of the NMMU in Port Elizabeth were selected, 417 completed the questionnaire.

The empirical findings showed that most Port Elizabeth’s high school learners owned a cell-phone, their most used form of SMS was text messaging and that they are keen to receive study information from the NMMU.

The data of the current study did not fit the model proposed by Bauer et al (2005: 186, as shown in Figure 1.1), and also did not fit a modified model (see Figure 3.1). Hence, further analysis and manipulation of the data resulted in a more appropriate model (see Figure 5.7).

The study proposes that, Port Elizabeth’s high school learners currently display some acceptance of mobile marketing. The NMMU can consider developing and using mobile (SMS) marketing for promoting its study programmes to high school learners, although it can still not be used as the major marketing instrument. It should be effective if used with push advertising, in conjunction with other media and through capitalizing on the influence of reference groups.
KEYWORDS

• Advertising

• High school learners

• Mobile marketing

• Nelson Mandela Metropolitan University (NMMU)

• Promotion

• Short message service (SMS)
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CHAPTER 1
INTRODUCTION AND RATIONALE OF THE STUDY

1.1 REASONS FOR THE STUDY

The 21st century is characterised by rapidly developing mobile technologies and an increase in use of information and communications technologies. The cell-phone is an important and highly interactive mobile medium that enables the recipient of a message to reply to it immediately (Bauer, Barnes, Reichardt & Neumann 2005: 182). Furthermore, it appears that cell-phone users always carry their mobile phone within reach and regard it as an important part of their daily lives. In addition, the Short Message Service (SMS) has become an important part of people’s lives, with significant implications for communication and information transmission.

The cell-phone is the fastest-growing segment of the telecommunications industry (Over 2.1 billion mobile subscribers worldwide 2005: ¶1). Within just one decade, the number of people communicating by cell-phone has increased significantly. In 1997, only 215 million people were using mobile communication devices worldwide; by 2001 this had grown to 961 million, and by 2003 to 1.16 billion (Bauer et al 2005: 181).
Mobile subscribers in Africa have increased by over 1000 percent between 1998 and 2003 to reach 51.8 million in 2003 and 113.55 million in 2005 (Does mobile technology hold the key ... 2004: ¶1). The latest report from Portio Research, ‘Opportunities in the African Mobile Sector’, predicts that the African continent will see significant growth in mobile subscribers between 2006 and 2011, adding 265 million new subscribers during this period to reach a total of 378 million by the end of 2011 (African continent fastest mobile growth market 2006: ¶1, ¶2).

Over the years, South Africa has also experienced significant growth in the cellular industry. The country has three cellular operators, namely Vodacom, MTN and Cell C. According to the report ‘Statistics of cellular in South Africa’ (2005: ¶1, ¶2, ¶11), South Africa had 18.7 million users as of June 2004, with 19 million potential users by 2006. Together the three Global System for Mobile Communications (GSM) networks cover more than 71 percent of the population in South Africa.

With the increased number of cell-phone users over the world, Short Message Service (SMS) has also gained popularity. SMS is a technology that allows for the sending of short text messages on certain cell-phones. SMS messages can be sent or received concurrently, even during a voice or data call (Turban & King 2003: 335-336).
SMS has clearly shown that mobile technologies can create many convenient benefits, for example, at present, cell-phone users can send text messages and even pictures to any other person, and use the SMS service to access information on share prices, sports, news, advertisements, as well as to download music, games, photos and ring-tones.

Because cell-phone users can transmit SMS messages quickly and cheaply, about 78 percent of cell-phone users with SMS-capable handsets use the service, with each user sending an average of 15 messages per week (Antoine 2004: 3). In 2002, the total number of SMS messages sent globally totalled 670 billion and this figure is expected to rise to 2.6 trillion by 2007 (Bauer et al 2005: 181).

In Africa, approximately 95 percent of all mobile subscribers are on pre-paid subscriptions; while in South Africa, more than 90 percent of all new connections are pre-paid customers (African continent fastest mobile growth market 2006: ¶6; Statistics of cellular in South Africa 2005: ¶6). This indicates a strong future for P2P (person to person) SMS and SMS-based services in South Africa, similar to what happened the world over, particularly since an estimated 30 percent of all cell-phone users in South Africa already regularly use the SMS facility (Sukazi 2002: ¶14).
Moreover, cell-phone and SMS messages have become a very popular source of data information among young people. Approximately 97 percent of younger users (15 to 24 years old) use SMS, each sending about 24 messages a week (Antoine 2004: 3). The widespread availability and use of cell-phones and SMS among young people is expected to provide more opportunities for promoting activities such as those of educational institutions, via SMS, as discussed below.

Cell-phones and SMS could be used for teaching, learning and empowerment of students within and outside the school context. Leinonen (2006: ¶1-3) mentions a project, which includes the design, development and piloting of prototype applications where multimedia and language technologies (voice, text, images) are used via the mobile phone as tools in the learning process. Furthermore, the University of South Africa (UNISA) is currently implementing a mobile communication service whereby UNISA students will be able to receive and send SMS messages in connection with the events of the university (Madiope, Monyela & Heerden 2005: 41). The Nelson Mandela Metropolitan University (NMMU) currently does not make use of mobile communication media.

The SMS provides an excellent means of marketing. Based on its greater versatility as a personal and direct medium, SMS can help build the
relationship between the brand and the consumer, providing a direct line of two-way communication and offering businesses an economic, effective and reliable way to communicate with customers and employees alike (Madden 2002: 12, Barbieri 2002: 3). This could also be true of the NMMU in building the relationship between its brand and its customers.

In addition, mobile advertising as an important component of mobile marketing, provides potential for personalization, because mobile devices usually carry the user’s assigned identity (Haghirian, Madlberger & Tanuskova 2005: 2). It thus provides a potential useful avenue to the NMMU for marketing their programmes to potential students.

However, mobile advertising can only be effective if consumers permit the continuous reception of advertising messages on their cell-phones. Thus the potential and success of mobile marketing as a new instrument of commercial communication depends largely on its acceptance by consumers (Bauer et al 2005: 182-183).

A number of factors, or “consumer-based acceptance drivers” can influence the acceptance of mobile marketing. According to Bauer et al (2005: 182-186), these factors include: innovativeness (IN), existing knowledge (EK), information seeker-behaviour (IS) and attitude toward advertising (ATA).
• Innovativeness (IN): Consumers who are 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 in Bauer et al 2005: 184).

• Existing knowledge (EK): A consumer’s existing knowledge determines his ability to understand the features and usage of an innovation (Bauer et al 2005: 184). Thus, existing knowledge could influence the acceptance of the SMS usage among high school learners.

• Information seeker-behaviour (IS): Personal relevance of advertising messages also depends on the individual’s propensity to receive information (Bauer et al 2005: 184). An individual’s propensity to search and use SMS advertising messages, as well as a high degree of information sensitivity, can determine cell-phone users’ attitude toward SMS marketing.

• Attitude toward advertising (ATA): Consumers are likely to be highly familiar with traditional advertising and are expected to hold a stable and consistent attitude toward advertising in general (Bauer et al 2005: 185). SMS as a mobile marketing instrument is an innovation of marketing means, of which only few consumers have significant levels of experience. Because of the lesser experience with mobile marketing, attitudes may be less stable and be dependent on stronger attitude toward advertising in general.
A second set of factors that could influence the acceptance of mobile marketing and in particular SMS marketing, are called “innovation-based acceptance drivers” and include: perceived utility (PU) and perceived risk (PR) (Bauer et al 2005: 185-186).

- Perceived utility (PU) is influenced by perceived utility of information (PUinf), perceived entertainment utility (PUent) and perceived social utility (PUsoc). These three categories of utility or purpose, were identified by Katz, Haas and Gurevitch (in Bauer et al 2005: 185) as follows:
  - needs related to strengthening information, knowledge and understanding (PUinf);
  - needs related to strengthening aesthetic, pleasurable and emotional experience (PUent); and
  - needs related to strengthening contact with family, friends, and the world (PUsoc).

- Perceived risk (PR): Consumers are unlikely to accept mobile advertising if they perceive the risk in receiving advertising messages via SMS to be too high. The risk associated with mobile marketing is mainly perceived as one of data security (Bauer et al 2005: 185). The characteristic of the mobile medium 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 hand (Bauer et al 2005: 185-186).
In addition to the above factors, the researcher, for the purposes of the current research, proposes the addition of a fourth category of perceived utility, namely study information (PUstu). This pertains to:

- needs specifically related to strengthening communication with educational institutions (PUstu).

Figure 1.1 provides a summary model of “consumer acceptance of mobile marketing”. Figure 1.1 shows that the consumer acceptance construct is influenced by “attitude toward the act (Aact)” and “behavioural intention (BI)” as discussed above. These two factors are additionally connected by a causal relationship in which “attitude toward the act” predicts “behavioural intention” (Bauer et al 2005: 183). If a positive attitude toward SMS marketing for example exists among high school learners, it is expected to result in a higher behavioural intention to accept SMS marketing messages. Additionally, Shimp and Kavas (in Bauer et al 2005: 183) suggested a causal relationship between the subjective perception of social norms (SN) and the attitude toward an act. A positive subjective perception of social norms in the adoption of SMS marketing by high school learners is therefore expected not only to produce a higher behavioural intention to adopt SMS marketing, but also to produce a more positive attitude toward SMS marketing.
The model depicted in Figure 1.1 furthermore incorporates the Theory of Reasoned Action (TRA). According to Kassarjian and Robertson (1991: 332), the TRA focuses on the links between attitude and intention (which mediates behaviour) and between norms and intention. These two links determine whether the formation of intention is primarily attitudinal or normative. Intention represents the person’s subjective estimate of the likelihood that he or she will engage in the behaviour under study. (Kassarjian & Robertson 1991: 332-334).
The TRA therefore provided some important direction for this model (Bauer et al 2005:183). Kassarjian and Robertson (1991: 334) believe that the process begins with beliefs, moves through attitude and intention, and ends in behaviour. The TRA deviates from “classical” attitude theory only in that it explicitly incorporates normative influences into the overall model. For testing mobile marketing acceptance, overall acceptance should be forecasted by measuring the attitudes toward acceptance (Bauer et al 2005:183).

1.2 MAIN PROBLEM STATEMENT AND SUB-PROBLEMS

The NMMU’s traditional marketing instruments are still the printed advertisement, the newspaper advertisement and “open-day” events on different campuses. However, faced with the digital age and the popularity of the cell-phone as a communication tool among young people who use SMS mostly as a P2P communication, the problem driving this research is to determine whether high school learners as potential students are likely to accept marketing messages of the NMMU via SMS. Therefore, the research question of this research study is:

“Are high school learners’ likely acceptance of mobile marketing of such a nature that the NMMU can consider marketing their study programmes via SMS”?
The main problem of this research can be further classified into several sub-problems as follows:

- What, according to literature, is mobile marketing?
- What role does SMS play as a mobile marketing tool?
- What factors, according to literature, affect consumers’ acceptance of mobile marketing?
- Which of these factors are likely to influence Port Elizabeth high school learners’ acceptance of mobile marketing via SMS?
- Are high school learners in Port Elizabeth likely to accept marketing of the NMMU programmes via SMS?

1.3 THE RESEARCH HYPOTHESES

The model of consumer acceptance of mobile marketing as proposed by Bauer et al (2005: 186), will serve as a basis for measuring high school learners’ likely acceptance of SMS marketing by the NMMU. The following sets of assumptions and hypotheses are thus proposed:

- Behaviour (B) is determined by behavioural intention (BI), and the behavioural intention is in turn postulated to be a function of social norms (SN) and the individual’s attitude toward the act (Aact) (Bauer et al 2005: 183). In the current study, “attitude toward the act” is represented by “attitude toward mobile (SMS) marketing. Thus the hypotheses about
acceptance as the main driver of successful SMS marketing include:

H\textsubscript{1.0}: There is a positive relationship between the attitude toward SMS marketing and the behavioural intention to adopt SMS marketing.

H\textsubscript{1.1}: There is no relationship between the attitude toward SMS marketing and the behavioural intention to adopt SMS marketing.

H\textsubscript{2.0}: There is a positive relationship between the subjective perception of social norms concerning the adoption of SMS marketing and the behavioural intention to adopt SMS marketing.

H\textsubscript{2.1}: There is no relationship between the subjective perception of social norms concerning the adoption of SMS marketing and the behavioural intention to adopt SMS marketing.

H\textsubscript{3.0}: There is a positive relationship between the subjective perception of social norms concerning the adoption of SMS marketing and the attitude toward SMS marketing.

H\textsubscript{3.1}: There is no relationship between the subjective perception of social norms concerning the adoption of SMS marketing and the attitude toward SMS marketing.

• The hypotheses about consumer-based acceptance drivers include:

H\textsubscript{4.0}: There is a positive relationship between the degree of innovativeness and the individual’s knowledge about SMS communications.

H\textsubscript{4.1}: There is no relationship between the degree of innovativeness and the individual’s knowledge about SMS communications.
H₅.₀: There is a positive relationship between the existing knowledge about SMS communications and the attitude toward SMS marketing.

H₅.₁: There is no relationship between the existing knowledge about SMS communications and the attitude toward SMS marketing.

H₆.₀: There is a positive relationship between the information seeker’s behaviour and the attitude toward advertising in general.

H₆.₁: There is no relationship between the information seeker’s behaviour and the attitude toward advertising in general.

H₇.₀: There is a positive relationship between the attitude toward advertising in general and the attitude toward SMS marketing.

H₇.₁: There is no relationship between the attitude toward advertising in general and the attitude toward SMS marketing.

• The hypotheses about innovation-based acceptance drivers include:

H₈.₀: There is a positive relationship between the perceived utility of SMS marketing and the attitude toward SMS marketing.

H₈.₁: There is no relationship between the perceived utility of SMS marketing and the attitude toward SMS marketing.

H₈a.₀: There is a positive relationship between the perceived information utility of SMS marketing and the overall utility perception of SMS marketing.

H₈a.₁: There is no relationship between the perceived information utility of SMS marketing and the overall utility perception of SMS marketing.
H₈b.₀: There is a positive relationship between the perceived entertainment utility of SMS marketing and the overall utility perception of SMS marketing.

H₈b.₁: There is no relationship between the perceived entertainment utility of SMS marketing and the overall utility perception of SMS marketing.

H₈c.₀: There is a positive relationship between the perceived social utility of SMS marketing and the overall utility perception of SMS marketing.

H₈c.₁: There is no relationship between the perceived social utility of SMS marketing and the overall utility perception of SMS marketing.

H₈d.₀: There is a positive relationship between the perceived study utility of SMS marketing and the overall utility perception of SMS marketing.

H₈d.₁: There is no relationship between the perceived study utility of SMS marketing and the overall utility perception of SMS marketing.

H₉.₀: There is a negative relationship between the perceived risk of SMS marketing and the attitude toward SMS marketing.

H₉.₁: There is no relationship between the risk perceived of SMS marketing and the attitude toward SMS marketing.

The model of high school learners’ acceptance of SMS marketing is shown in Figure 1.2, which also provides a graphical summary of the hypotheses of this study.
FIGURE 1.2
MODEL OF HIGH SCHOOL LEARNERS’ ACCEPTANCE OF SMS MARKETING

IN=Innovativeness
EK=Existing Knowledge
IS=Information Seeker
ATA=Attitude toward Advertising
PU=Perceived Utility
PUinf=PU Information
PUent=PU Entertainment
PUsoc=PU Social
PUstu=PU Study
PR=Perceived Risk
ATMM= Attitude toward Mobile Marketing
(SMS Marketing)
SN=Social Norms
BI=Behavioural Intention

Source: Adapted from Bauer et al (2005: 186)

1.4 RESEARCH DESIGN AND METHODOLOGY

Apart from the literature study, an appropriate research design includes attention to sampling, data collection techniques (for example survey, observation or experiment) and the data collection instrument (Hair, Bush & Ortinau 2000: 37-40).
1.4.1 The choice of the research design

Hair et al (2000: 37) believe that most research objectives can be met by using one of three types of research design: exploratory, descriptive or causal.

• Exploratory research is used in instances where the subject of the study cannot be measured in a quantitative manner or where the process of measurement cannot realistically represent particular qualities.

• A descriptive research design specifies the methods for selecting the sources of information and for collecting data from those sources to describe something such as market characteristics or functions.

• Causal research is used to obtain evidence of cause-and-effect (causal) relationships. (Malhotra & Birks 2006: 63, 65, 69).

Descriptive research designs are particularly appropriate when the research objectives include the determination of the degree to which marketing (or decision) variables are related to actual marketing phenomena (Hair et al 2000: 38) as such information can provide decision makers with evidence that can lead to a course of action. In the current research the aim is to determine the degree to which selected factors could influence the acceptance of SMS marketing by high school learners. This knowledge can assist the NMMU in
deciding whether to consider mobile marketing, in particular the use of SMSs sent to prospective students.

1.4.2 The sample and the sampling method

Information about population parameters may be obtained by taking a census or a sample (Malhotra & Birks 2006: 357). Thus, sampling is a key component of any research design and is often used when it is impossible or unreasonable to conduct a census (Hair et al 2000: 327; Malhotra & Birks 2006: 356). A defined target population consists of the complete group of people or objects that are specifically identified for investigation according to the objectives of the research project. The researcher selects a relatively small number of elements from the larger defined group of elements and expects that the information gathered from this small group will allow judgments to be made about the larger group (Hair et al 2000: 327, 328).

Malhotra and Birks (2006: 362) differentiate between non-probability and probability sampling. Non-probability sampling relies on the personal judgment of the researcher rather than on chance to select sample elements. Non-probability samples may yield good estimates of the population characteristics, but they do not allow for objective evaluation of the precision of the sample results. In probability sampling, sampling units are selected by
chance. It is possible to pre-specify every potential sample of a given size that could be drawn from the population, as well as the probability of selecting each sample.

For the purposes of determining high school learners’ acceptance of mobile (especially SMS) marketing and advertising, the Grade 11 learners enrolled at feeder schools of the NMMU in Port Elizabeth thus served as the target population. The Grade 11 heads or teachers of 17 high schools was drawn by systematic sampling, requested to select every fifth learner on the alphabetical class list (20% of the total) who would then complete the questionnaire. Four hundred and seventeen useable questionnaires were received from 15 schools, giving a response of 86.9 percent.

1.4.3 Data collection and the data collection procedure

Survey and quantitative observation techniques are often associated with descriptive research designs (Hair et al 2000: 253; Malhotra & Birks 2006: 224). The survey is furthermore the overwhelming choice of researchers for collecting primary data, particularly in the case of marketing research (Aaker, Kumar & Day 1998: 217). Surveys can be designed to capture a wide variety of information on many diverse topics and subjects, and are often used to collect data on attitude or the respondent’s overall assessment of an object
(Aaker et al 1998: 217-218). This characteristic makes the survey a viable option for the current research.

There are many survey methods (Aaker et al 1998: 234). One method is the self-administered survey based on the use of self-administered questionnaires. According to Hair et al (2000: 261) and Aaker et al (1998: 250), a self-administered questionnaire is a structured data collection technique. Questionnaire can be delivered to the respondents by the interviewer, or interviewers can be stationed at entrances or other selected locations such as in a mall or other relevant sites, to reach the target population (Aaker et al 1998: 235).

A self-administered survey with a self-administered questionnaire was used in the current research. The survey was administered by the interviewer with the assistances of relevant Grade 11 teachers of each selected high school in Port Elizabeth.

1.4.4 The research instrument

Success in collecting raw data is more a function of correctly designing and administering a survey instrument, such as a questionnaire, than of relying on the communication and interpretive skills of an interviewer or observer (Hair et
al 2000: 253). Questionnaire construction involves taking established sets of scale measurements and formatting them into a complete instrument for communicating with and collecting raw data from respondents. (Hair et al 2000: 440).

The type of question format has to be decided upon by the researcher (Aaker et al 1998: 315). Possible formats include unstructured (open-ended) questions and structured (closed-ended) questions. Open-response questions can be used in conjunction with closed-response questions to provide additional information. Answers to open-response follow-ups can provide valuable guidance in the analysis of closed-response questions. (Aaker et al 1998: 315; Hair et al 2000: 441).

The questionnaire (See annexure B) for the current research consisted of both open- and close- ended questions, which sought information on the respondents’ biographics; measured their attitude towards SMS marketing; and determined their information requirements and preferences.

1.4.5 The data analysis

The raw data collected were edited, coded and captured in MS Excel, before being analysed. The help of a statistician at the NMMU was enlisted to do the
data analysis. This took the form of multivariate analysis technique and structural equation modelling (SEM).

Multivariate techniques differ from univariate techniques in that they shift the focus away from the levels (averages) and distributions (variances) of the phenomena, concentrating instead on the degree of relationships among these phenomena. Multivariate techniques are therefore concerned with the simultaneous relationships among two or more phenomena (Malhotra & Birks 2006: 437).

Structural Equation Modelling (SEM) is a powerful multivariate analysis technique that includes specialized versions of a number of other analysis methods as special cases (Structural Equation Modelling 2006: ¶1). It is a combination of multiple regression and factor analysis, and deals with measured and latent variables (Stoelting no date: ¶2). A key feature of SEM is that observed variables are understood to represent a small number of “latent constructs” that cannot be directly measured, only inferred from the observed measured variables (Schumacker 2006: ¶1).

In the current research, high school learners’ acceptance of mobile marketing as influenced by variables such as existing knowledge, attitude toward advertising, perceived utility, and perceived risk were measured.
1.5 THE DELIMITATION AND SCOPE OF THE RESEARCH

According to Leedy and Ormrod (2005: 284), delimitation of the research offers a restriction to ensure that the research topic is manageable. The exact boundaries of the problem must therefore be stated. This comprises both the geographical scope and the theoretical delimitation.

Geographically the research was limited to the learners from all feeder high schools of the NMMU in Port Elizabeth. Theoretically the research was focused on mobile marketing, marketing via SMS and consumer acceptance of SMS marketing.

1.6 DEFINITION OF IMPORTANT CONCEPTS

The major concepts to be used in this research are defined below.

- Marketing
  Marketing includes focusing on customer wants and needs so that the organisation can distinguish its product from its competitors’ offerings; integrating all the organisation’s activities, including production, to satisfy these wants; and achieving long-term goals for the organisation by satisfying customer wants and needs legally and responsibly (Lamb et al
For the purpose of this research, the NMMU is to offer higher educational products for satisfying potential consumers’ needs for further study.

- **Mobile phone communication**

  Mobile phone communication results from information carrying transmissions between a central transceiver to a mobile unit. Alternatively a mobile link can be established to a fixed point by interfacing the central transceiver with a public switched telephone network (Inman 2004: 58, 65).

- **Mobile marketing**

  Mobile marketing (MM) is any form of marketing, advertising or sales promotion activity aimed at consumers and conducted over a mobile channel. Mobile marketing is used in customer acquisition, customer relationship management and driving sales (Sinisalo, Salo, Leppâniemi & Karjaluoto 2005: 206). The attributes inherent in mobile marketing include personalisation, ubiquity, interactivity and localisation (Bauer et al 2005: 182).

- **Attitudes**

  Attitudes are mental states used by individuals to structure the way they perceive their environment and guide the ways they respond to it. Three
related components form an attitude: a cognitive or knowledge component, a liking or affective component, and an intentions or action component (Aaker et al 1998: 273).

• Subjective norm (social norms)

The subjective norm is intended to measure the social influences on a person’s behaviour. This recognizes that there are some situations where behaviour is simply not under the attitudinal control of the individual; rather, the expectations of relevant others are major factors in the ultimate behavioural performance. (Kassarjian & Robertson 1991: 332).

• Theory of Reasoned Action (TRA)

The basic proposition underlying the theory of reasoned action is that in order to predict a specific behaviour it is necessary to measure the person’s attitude toward performing that behaviour, not just the general attitude toward the object at which the behaviour is directed (Kassarjian & Robertson 1991: 332).

1.7 SIGNIFICANCE OF THE RESEARCH

Mobile applications provide end users with added values, including anytime, anywhere access and the ability to pinpoint users’ locations and flexibility in
arranging tasks. It is predicted that mobile users will increase dramatically in the near future and that the charges for mobile services will drop significantly (Siau, Nah & Sheng no date: ¶2).

Thus, the development of mobile technology and the uses of SMS marketing offer the NMMU another avenue for communicating with potential students. However, for the communication route between the NMMU and potential students to be effective, it is necessary to determine the factors that will influence learners’ acceptance of SMS messages as a form of marketing. This research attempts to achieve this goal.

1.8 CHAPTER OUTLINE

This dissertation is divided into six chapters. In Chapter 1, the researcher provides the details on the background, rationale and reason for the study, the research objectives to be achieved and the research design.

Chapter 2 discusses mobile marketing and mobile advertising, focusing on SMS as a marketing tool. Chapter 3 deals with the study of factors influencing consumers’ acceptance of mobile marketing, using the model of acceptance of mobile (SMS) marketing as a basis.
Chapter 4 provides a detailed description of the research design and methodology followed in the current research, while Chapter 5 reports the major findings resulting from the empirical study.

Chapter 6 consists of a synopsis of the study, presents the conclusions based on both the literature study and the findings of empirical study, and concludes with recommendations based on these conclusions.
2.1 INTRODUCTION

In Chapter 1 the researcher highlighted the importance of mobile technologies, especially the cell-phone, for future communication. With the significant growth of cell-phone use particularly among young people in South Africa, Short Message Service (SMS) as a marketing tool offers the NMMU a new useful marketing instrument for communicating with the target students. In order to assess the potential of the SMS as marketing tool, it is necessary to consider mobile marketing and SMS in more detail.

Chapter 2 provides an overview of mobile marketing and mobile advertising by discussing its main characteristics, obtaining permission, mobile advertising campaigns and forms and the limitations of mobile advertising. The five Cs of the mobile advertising value chain is also discussed. The foregoing addresses the first objective of the research, namely, “what, according to literature, is mobile marketing?”

Chapter 2 also provides a detailed discussion of the SMS as a marketing tool, by discussing the reasons for selecting SMS for marketing, incorporating SMS
in marketing and promotion, permission-based SMS and successful factors for SMS marketing. These discussions are linked to the second objective of the research, namely, “What role does SMS play as a mobile marketing tool?”

2.2 A DESCRIPTION OF MOBILE MARKETING

According to Shi (in Iddris 2006: 1), mobile commerce (m-commerce) can be defined as delivery of electronic commerce (e-commerce) capabilities directly into the consumers’ hands via wireless technology, in other words, the placement of a retail outlet into the customers’ hands anywhere. The recent increase of interest in mobile commerce is a result of the high degree of interest shown by consumers in accessing business service and information, and by the business community’s desire to reach out to end-users at all times and at all places (Iddris 2006: 1).

M-commerce, as one type of e-commerce, takes place in a wireless environment and makes it possible for businesses to directly reach end-users, irrespective of their location. M-commerce B2C (business-to-consumer) applications are concentrated in three areas: mobile retail shopping, mobile advertising, and mobile personalised customer services. (Iddris 2006: 1; Turban & King 2003: 334, 350).

Mobile marketing is also a very recent, but promising industry created by the
emergence and widespread adoption of wireless data networks, which enable the convergence of the Internet, e-business and the wireless world (Kalakota & Robinson in Iddris 2006: 1). The Mobile Marketing Association (in Karjaluoto, Leppdniemi & Salo 2004: 111) defines mobile marketing as "any form of marketing, advertising or sales promotion activity via mobile channel aimed at consumers".

Mobile marketing is a very important part of m-commerce applications, as mobile devices create an opportunity to deliver new services to existing customers and to attract new ones. Promotions and advertising through consumers' mobile devices, offer more room for customer and marketer dialogue given its potential for direct, targeted, personalised delivery than what traditional media such as television, newspapers or magazines do. (RegiSoft Corporation 2003: 3; Turban & King 2003: 334).

Mobile marketing can take place via the short message service (SMS), multimedia message services (MMS), wireless application protocol (WAP), Java, video and audio messaging (Mobile Marketing Association in Iddris 2006: 1). It uses mobile channels to provide end-users with location and time sensitive, personalized information that promote goods, service and ideas, for the benefits of the stakeholders (Iddris 2006: 1).
According to Iddris (2006: 23-26), the forms of mobile marketing include mobile advertising, mobile coupons, mobile alerts and mobile sponsorships. For the current study, it is focused on mobile advertising.

Mobile advertising, as a major form of mobile marketing, holds strong promises to become the best targeted advertising medium delivering new means of reaching users with messages other than traditional channels (Iddris 2006: 4). Mobile advertising messages can be very user-specific based on the information provided by the user at an earlier stage or by the history of the user's purchasing habits (Varshney & Vetter 2001: 3). Mobile advertising messages are carried out using mainly SMS (Iddris 2006: 4).

In addition, according to Iddris (2006: 21), mobile dialogue marketing campaigns can create better long-term relationships with the end-users. It can furthermore enhance the effectiveness of marketing by providing:

- a direct marketing channel to customers;
- a clean, uncluttered environment to maximize the impact of the marketing message;
- a context and time relevant marketing medium;
- an instant response mechanism delivering true one on one communication; and
• A digital medium enabling deep campaign measurement and analysis.

(Mobile marketing no date: ¶1-3).

Furthermore, mobile marketing can either be push-based, which refers to communication such as SMS and alerts sent to wireless devices, or pull-based, which refers to a user requesting information from a provider or advertiser (Karjaluoto et al 2004: 111).

In addition, there are two main mobile marketing tools: mobile messaging and a mobile campaign website. SMS text messaging is an additional communication channel for marketing campaigns that integrates easily into the media mix. Messaging is used for signing up for mail advertising, magazines, coupon delivery, simple campaign messages, and almost always links to campaign websites. (Mobile marketing in Japan … no date: 2).

Marketers are deploying mobile instruments to strategically drive customer acquisition, retention and improved relationships. Campaign tactics include an instant response mechanism to TV and poster campaigns, a direct medium to drive awareness in targeted demographics and an instant win for on-or-off pack promotions (Mobile marketing no date: ¶4). Therefore, Rao (2005: 31) believes that mobile marketing, advertising and commerce continue to make steady inroads into the consumer reference factors.
Moreover, the growing interest in Web services and remote resources accessible via the Internet, contributes to the convergence of SMS and Web channels. Corporate websites often serve as the primary point of contact, asking consumers for permission to receive an SMS and participate in campaigns. Consumers are also increasingly trending to increase Internet usage shape with the evolution of mobile marketing. Users can register for campaigns usually via mail registration or by direct access to a mobile Internet site. (Mobile marketing in Japan … no date: 2; Scharl, Dickinger & Murphy 2005: 160).

2.3 EMERGING TECHNOLOGIES WITH AN EFFECT ON MOBILE MARKETING

Mobile marketing possibilities are based on emerging technologies. These technologies, such as SMS, WAP and MMS, mobile mails and mobile video, are briefly described below.

- Short message service (SMS) is a digital cellular network feature, which allows users to send and receive short text and numeric messages to and from digital cell-phones over the Internet using e-mail and mobile phones based on public messaging gateways (Yunos in Iddris 2006: 3). Users can send plain-text messages to another mobile user by using the SMS protocol.
This will in effect facilitate viral marketing where the recipient of the advertising decides to send it onward to his or her friends (Iddris 2006: 3, 12).

Text messaging has the ability to immediately reach a customer anywhere and its low cost offers the ability to reach customers with a personally targeted message delivered “into their pocket in real time” (Hill 2006: ¶2).

- Wireless application protocol (WAP) is a technology that offers Internet browsing from wireless devices (Turban & King 2003: 336). WAP can thus be used as a channel of information between Internet and mobile devices. WAP enables the user to access e-mail, the latest news, sports and other events, irrespective of location or time (Iddris 2006: 2).

With WAP service consumers use the normal mobile network with a special Internet service provider (ISP) that offers mobile Internet facilities (Iddris 2006: 2). The use of advertisements in WAP can be based on voice, text, graphics and music. Upon reading the SMS marketing message, end-users can click on to an incorporated link within the message. This enables them to access a WAP site to view additional information about the offered product or service using a WAP micro site (RegiSoft Corporation 2003: 6).
• Multimedia messaging services (MMS), like most messaging, is person-to-person communication, with user-created content. Based on the SMS, the ability of MMS adds pictures and sounds. It has enhanced graphics and sound that incorporate images and jingles for introducing additional product or service, and it can also be used for the display of any number of new product lines in merchandising (Mattheus in Inman 2004: 82-83).

• Mobile mails are widely used for peer-to-peer messaging (Mobile marketing in Japan … no date: 1). Peer-to-peer networking were the first steps that enabled local area networking for personal computers. Cell-phone users can now pick up e-mails from a mail account on their cell-phone, making it a personal mobile e-mail conduit.

Mobile mails are regarded as an effective tool to enhance brand awareness, build or test customer loyalty, and develop or enhance demographic databases (Ahonen 2002: 96). For example, Japan has adopted the mobile mail and browser model for mobile campaigning and advertisement services.

• Mobile video currently still has relatively low penetration, but is projected to quickly become a part of the life of the mobile user (Watkins 2006: ¶7). One
of the big promises of 3G (third generation services) is video on the phone, which is understood by many to include video calling, television on the mobile phone and movies on the mobile phone (Ahonen 2002: 315).

2.4 THE USE OF MOBILE MARKETING AS FORM OF PROMOTION

According to Lamb, Hair and McDaniel (2004: 467), traditional elements in the promotion mix include advertising, public relations, sales promotion and personal selling. However, there have been major changes in the environment and in the way organizations communicate with their customers.

The mobile phone as a marketing medium provides a wide range of opportunities to marketers, marketing service providers and mobile operators. Mobile devices, as a new channel for advertising, have many new features and opportunities in comparison with the traditional media and many players are looking to benefit from them. (Karjaluoto et al 2004: 112; Nokia. 2005: 2).

No longer can the traditional promotional tools be assumed to be the most effective forms of communication. Advertising may be better for creating awareness, but mobile marketing seems to be more effective at promoting action and purchasing behaviour (Karjaluoto et al 2004: 112). “Each element of the promotion mix has strengths and weaknesses, and these tools are now
beginning to be used in combined ways to develop relationships with customers” (Karjaluoto et al 2004: 112).

According to Triki, Piquet and Trabelsi (2005: 4), mobile marketing messages can have different forms, as listed below.

- **Mobile coupons**: it offers three advantages namely targeting, time sensitivity and efficient handling.
- **Information services**: include news, weather, traffic, market rates or songs.
- **Mobile CRM (customer relationship management)**: such as receiving free newsletters, pictures, ring tones, bonus points and coupons.
- **Branding**: branding efforts have attempted to link images and emotions with a brand.
- **Entertainment services**: can be games and prizes which attract and increase customer loyalty.
- **Product launches**: mobile marketing supports product launches and special services.
- **Location based services**: that connect to a distinct location and are highly relevant for local advertising.

Mobile marketing messages via mobile telephony does not work alone, but they need and complement traditional media, such as television, the Internet and flyers. Marketers can use the other media to explain their services, and
then use mobile media to remind people to use it (Triki et al 2005: 4). Therefore, the mobile channel alone is not sufficient in many cases since it is important to integrate the mobile medium into the multi-channel marketing campaigns to get the most effective results (Karjaluoto et al 2004: 115). In addition, Karjaluoto et al (2004: 115) maintain that “mobile medium is growing in popularity step-by-step as the mobile marketing value chain members and mobile marketing success stories become available”.

2.5 MOBILE ADVERTISING

Mobile advertising requires a wireless network, mobile technology and infrastructure in order to be effective and efficient, as these technologies serve as the sound platform for implementation of wireless promotion and advertising (Netsize Guide in Iddris 2006: 2). Therefore, mobile advertising is defined as the usage of interactive wireless media (such as cell-phones) to transmit advertising messages to consumers in the form of time and location sensitive personalized information, with the overall goal of promoting goods and services (Parissa & Maria 2005: 2).

Knowing the current location of mobile users (using GPS) and their preferences or surfing habits, marketers can send user-specific advertising messages. This type of advertising can be performed by sending SMS
messages to a cell-phone to inform a user about various ongoing special sales in shops, malls and restaurants close to where a potential buyer is. (Turban & King 2003: 351).

2.5.1 The main characteristics of mobile advertising

Iddris (2006: 18-19) describes four distinctive characteristics of mobile advertising, namely: ubiquitous access, detailed user information, integrated response channel and a personal channel.

• Ubiquitous access

Cell-phone users always carry their mobile phones, have them on and they can be used almost anywhere (Marla & Ronald in Iddris 2006: 19). This is particularly prevalent among youth and teenagers who stay in touch with their peers via SMS. The cell-phone is therefore an obviously popular student communication tool and an ideal channel to reach them. This poses a challenge and an opportunity to advertisers. Based on the clear advantage of SMS such as being cost effective, quick and direct, educational institutions can effectively promote their study programmes to high school learners via SMS, since mobile communication are certainly a "new way to go" as a part of student life. (Iddris 2006: 19; Posthumus 2002: 14).
• Detailed user information

Mobile marketing campaigns can make use of detailed and individual information about each user (such as gender, age, usage profile). Businesses can build their CRM systems through integrating various billing, sales and contacts databases into the CRM. A personalized SMS campaign can rely upon the customer databases with enough active and potential clients to reach the target group profitably. Such a database can facilitate the launching of targeted campaigns for a particular product or service, which can then be tailored to suit the individual preference of the user. (Ahonen 2002: 80; Iddris 2006: 19; Scharl et al 2005: 167).

• Integrated response channel

Mobile devices make it possible to directly interact with the user, while also receiving a response from the user. This provides ability of two-way communication with customers, thus its ubiquity and interactivity can help other one-way communication media such as television, radio, print or packing to be interactive. Marketers can also measure the impact of their advertising campaigns and adapt their strategy accordingly. People usually carry their mobile devices with them almost all the time. Therefore the advertisings are delivered, read, and acted upon almost immediately. Retailers can thus receive the first feedback from their campaigns while they are still running, because mobile advertising has direct response and is

- Personal channel

The personal nature of a mobile device makes it possible to receive much more attention from its user. This is more powerful than other less personal media platforms if it is well managed. With mobile phones teenagers can take full control of communication without any limitations imposed by home phones or computers; hence they have freedom to get information that will meet their needs. (Iddris 2006: 19).

Therefore, unlike traditional media, mobile advertising has unique advantages since marketers are able to target customers, build a customer database and increase the customer-contact lifecycle by turning the customer into an active player rather than a passive viewer (RegiSoft Corporation 2003: 3).

2.5.2 Permission for mobile advertising

One of the major issues of one-on-one advertising is the flooding of users with unwanted advertising messages (Turban & King 2003: 186). This can be overcome by permission marketing. Tezinde, Smith and Murphy (in Bamba & Barnes 2005: 2) maintain that permission marketing refers to the asking of
consumers’ consent to receive commercial messages while giving the individual an opportunity to stop receiving them at any time.

Advertisers use permission advertising where users register with advertisers and agree to accept advertising (Turban & King 2003: 186). Customer preferences and provisioning requests are foremost in mobile marketing campaigns and it is essential that a customer will only receive relevant messages according to his or her requirements (RegiSoft Corporation 2003: 7). This approach can considerably reduce individuals’ privacy concerns; and can act as a trust-building alternative to more effective information control (Bamba & Barnes 2005: 2).

Therefore, the proper context within which mobile advertising can be well executed is permission-based. Permission-based mobile advertising can thus be described as any situation whereby end-users permit advertisers to reach them with their offerings. Combined with location information and targeted permission, mobile advertising can be an extremely powerful and activating marketing tool. (Ahonen 2002: 23; Iddris 2006: 5).
2.5.3 Mobile advertising campaigns

According to Turban and King (2003: 351) and Barnes (in Bamba & Barnes 2005: 2), mobile advertising campaigns are essentially of a pull, push or dialogue nature.

In pull mobile advertising the consumer requests additional information or a coupon/discount to be sent to their mobile device. This action is triggered by the consumer seeing an advertisement that the discount is available and acting on the information to request the discount or promotion by sending an SMS request with the coupon code. Subsequently, the user will receive the requested discount or information to his/her mobile device via SMS or other messaging services. (Bamba & Barnes 2005: 2; Iddris 2006: 5; RegiSoft Corporation 2003: 8-9)

In the case of push advertising, the marketer takes the initiative to send advertising messages to the consumer. The push-model includes SMS messages, e-mail, multimedia messages, cell broadcast, picture messages, surveys and any other pushed advertising or content. This raises the issue of consumers’ permission, since it is the marketer that initiates contact and communication. Push advertising can, however, also be solicited, by customers agreeing to have certain services or promotions pushed on them at
According to Karjaluoto (in Iddris 2006: 5), there is a strong assertion that in the future mobile advertising will be more in the form of dialogue, which implies bi-communication after "opt-in" and permission is received from the end-user. Dialogue campaigns as interactive mobile marketing refer to mobile advertising campaigns that involve the consumer in two-way communication via SMS. This can include a multitude of scenarios including votes, quizzes and other branding communication to find out information about customer preferences (RegiSoft Corporation 2003: 3, 9).

The dialogue campaign is different from pull and push campaigns in terms of duration and the intensity of interaction between the customer and the advertiser. Simple push and pull campaigns focus around a theme such as a game or raffle and may last only two to four weeks, while dialogue campaigns on the other hand span several months and can include various themes that build on one another. The main aim is to create long-term relationships with consumers in order to have full insight into the consumer's preferences. (Iddris 2006: 21-22). Table 2.1 summarises the characteristics of the said three types of mobile advertising campaigns.
### TABLE 2.1

**CHARACTERISTICS OF MOBILE ADVERTISING CAMPAIGNS**

<table>
<thead>
<tr>
<th></th>
<th><strong>Push Campaigns</strong></th>
<th><strong>Pull Campaigns</strong></th>
<th><strong>Dialogue Campaigns</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set-up</strong></td>
<td>Targeted SMS to user in existing company-owned or external database</td>
<td>Advertisements for mobile campaigns through non-mobile media types e.g. flyer or “on-pack” advertising or TV advertising</td>
<td>Continuous interaction between advertiser and user</td>
</tr>
<tr>
<td><strong>Opt-in</strong></td>
<td>Need to have explicit “opt-in” prior to sending out SMS</td>
<td>Users “opt-in” by calling the phone number</td>
<td>Generation of “opt-in” either through pull or push actions</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Single theme - Game, Raffle, Other</td>
<td>Single theme - Game, Raffle, Other</td>
<td>Multiple themes during the course of a campaign - Different games, Greetings, Other</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>Short duration (2-4 weeks)</td>
<td>Short duration (2-4 weeks)</td>
<td>Extended duration (Several months)</td>
</tr>
</tbody>
</table>

Source: Adapted from Jelassi & Enders (in Iddris 2006: 22)

Furthermore, according to Iddris (2006: 20), the level of activity can be described as the involvement exhibited by both the advertiser and the consumer throughout the period of the advertising campaign. Traditional advertising campaigns are in the form of television, radio, print advertisements and posters which still dominate the advertising industry. However, these campaigns have low levels of activity on both consumer and advertiser side since they consist of one-way and non-interactive advertisement (Iddris 2006: 20).
On the other hand, based on a two-way communication, mobile advertising campaigns can provide a continuously interactive mobile marketing. They require high levels of activity both from the consumer and the advertiser. High levels of activity from the advertiser’s side mean that the customer is reached proactively; high levels from the consumer’s side mean consumers can react actively to an advertisement or newspaper advertising through his or her cell-phone (Iddris 2006: 20).

Figure 2.1 illustrates that the differences between traditional and mobile advertising campaigns depend on the degree of active involvement of the advertiser and the customer.

**FIGURE 2.1**

ACTIVITY LEVELS OF TRADITIONAL AND MOBILE ADVERTISING CAMPAIGNS

<table>
<thead>
<tr>
<th>Level of Activity (Advertiser)</th>
<th>Mobile Push Campaigns</th>
<th>Mobile Dialogue Campaigns</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Traditional Campaigns without Interactive Elements • Television • Print • Radio • Poster or other</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Mobile Pull Campaigns</td>
<td></td>
</tr>
</tbody>
</table>

Source: Jelassi & Enders (in Iddris 2006: 20)
2.5.4 Forms of mobile advertising

Mobile advertising can take the form of competitions, location-based services and advertising, and mobile classified advertisements (Ahonen 2002: 165; Iddris 2006: 23-26).

2.5.4.1 Mobile competition advertising

Haig (in Iddris 2006: 23) maintains that competition is the most popular form of mobile advertising. It provides mobile users with a great incentive to make contact with a company. Competition therefore has a striking feature on the speed of the response rate. According to Grapevine (in Iddris 2006: 23), mobile competitions include:

- Simple entry. Simple entry enables consumers to enter a competition by simply SMSing a keyword associated with the brand to a competition number. It can be used with a conventional media campaign.
- Text win. Text win is the way that consumers can enter a branded competition through an SMS and win prizes. Entrants choose between answer options.
- Quiz. 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 them for branded prizes. Questions can be on the brand, event or promotion.

- SMS voting. An SMS voting competition provides an innovative way for viewers and listeners of traditional broadcast media such as television and radio to interact, to express an opinion or to vote on an issue whilst the broadcast is in progress.

The main advantage of competitions is that the prize provides users with a tangible reason to contact the relevant company (Iddris 2006: 23). Furthermore, IrstWap (in Iddris 2006: 23) believes that “there are many benefits from competition since it can reach a wide audience wherever they are and receive entries from hard-to-reach mobile customers”.

Running mobile competitions can provide some important marketing opportunities to marketers. Competitions can be used to:

- Launch a service. With the advantages of faster speed and personalized communication to reach target consumers, SMS text message competitions can provide a better way to launch a service than non-mobile media can do.
- Build a database. A strong cash incentive is required if a company wants to add new users to its existing database.
- Limit opt-outs. Companies will be in a position to limit the number of
subscribers wanting to “opt-out” if the necessary steps are taken to establish a pool of subscribers with the chance of winning a prize. (Iddris 2006: 23).

A mobile competition should however be relevant to the target audience and generate customers’ interest in the business and products that are offered, build some form of relationships with customers so that the company can send further advertising or invite customers to receive more promotions (Iddris 2006: 23-24).

2.5.4.2 Location-based service and advertising

Mobile devices are usually carried into different locations; technically, the service is location-based. In business terms, the location-based service (LBS) is an excellent mobile commerce opportunity area (May 2001: 20, 95). LBS have the role of supplying the user of these services with customised information according to their position (Iddris 2006: 24).

LBS connections to a distinct location are highly relevant for local advertising since a marketer can send advertisements to a registered customer when he/she passes the place of purchase, illustrating the time sensitiveness of this approach (Iddris 2006: 24).
Koeppel (in Iddris 2006: 24) classifies location-based mobile services into two broad categories of services, namely, pull and push services:

- Services in the pull category enable users to pull information wherever and whenever required.
- Services in the push category utilise the position of the mobile device to determine whether the user meets the criteria of a potential customer or service recipient.

Haig (in Iddris 2006: 24) argues that the most useful LBS are the information and offers outside the retail arena that alert subscribers. Such kinds of service provide customers with information they need. The potential customers could be greeted when they walk into a mall with various push advertisements. Similar ideas have been suggested for use when potential customers are close to stores and shops, possibly giving local maps and information on how to get to the store nearby (Ahonen 2002: 152).

In addition, one of the best opportunities for user acceptance of location-based advertising stems from mass audience events. The ideal effect of the mobile advertising starts from the mass event and location-based services. Even with current technology it is possible to isolate the audience to be approximately those at an event venue. Thus it will be easy to target the mobile advertising
only at people who are actually inside the event venue. (Ahonen 2002: 153).

For example, the high school learners can receive the NMMU’s SMS advertisements on their cell-phones when they are joining the open-day of the NMMU and are walking around the NMMU’s campus. High school learners who are outside NMMU’s grounds will not able to receive this SMS advertising.

2.5.4.3 Mobile classified advertising

Mobile classified advertising mirrors those in newspapers’ classified sections. The benefits or mobile classifieds for the media include the fact that the user gets to input the text of the advertisement directly, removing the service person from the costs. The benefits to the individual advertiser include the vast reach of the millions on mobile networks, and immediacy. (Ahonen 2002: 165).

2.5.5 The limitations of mobile advertising

According to Haghirian et al (2005: 3), the limitations of mobile advertising concern the usability of mobile services and technology.
Usability of mobile services and technology is one of the major hurdles marketing managers need to overcome in the future. Companies have to know what aspects of usability are important to users and how e-commerce related services could be adapted to the wireless environment. (Haghirian et al 2005: 3).

Technological limitations currently entail the difference between mobile and desktop computer-based features such as the size of the screen of the mobile device, display format and colour display. In addition, mobile devices are also limited in computational power, memory, battery life and bandwidth. (Haghirian et al 2005: 3).

2.5.6 Requirements for successful mobile advertising

According to Leppäniemi, Karjaluoto and Salo (2004: 94), two different and quite distinct industries, namely mobile advertising and telecommunications, have to be integrated into an advertising value chain. This value chain can be represented as the five Cs model.

The five Cs are content, cross-media marketing, campaign management, customer database and carrier cooperation (Leppäniemi et al 2004: 94), as shown in Figure 2.2 and thereafter discussed in more detail.
2.5.6.1 Content

Content is a key factor in creating mobile marketing communication that attracts users and keeps them coming back (Leppäniemi et al. 2004: 95). According to Barwise and Strong (in Iddris 2006: 6), advertisers need to be cautious about the content and the information when planning mobile advertisements in order to get end-user's attention. The information delivered to consumers via mobile devices needs to show qualitative features like accuracy, timeliness, and usefulness for the consumers (Leppäniemi et al. 2004: 95; Haghirian et al. 2005: 4).

2.5.6.2 Cross-media marketing

Cross-media marketing refers to the idea that mobile media do not work alone but need the traditional media in order to thrive. According to Paananen (in
Leppäniemi et al (2004: 95), mobile advertisers can use the other media to explain their service, and then use mobile media to remind people to use it, or point out new, better features. The effective utilisation of traditional media skills and advertising expertise provided by traditional advertising players is therefore decisive for the future success of mobile advertising (Leppäniemi et al 2004: 95).

2.5.6.3 Campaign management

According to Leppäniemi et al (2004: 95), mobile advertising technology that enables campaign execution is one of the main success factors in mobile advertising. There are two key components to this technology: the direct connections to the network operators which allow for message delivery and receipt; and a technology platform that builds the necessary layers of intelligence into the campaign, creating different campaign mechanics such as point collection, mobile coupons, and reporting on campaign progress. (Leppäniemi et al 2004: 95).

2.5.6.4 Customer database

Customer database refers to the fact that mobile marketing is permission-based. In most cases mobile advertising companies are prime
providers of mobile media sales, and act as aggregators of permission-based mobile numbers. (Leppäniemi et al 2004: 95).

2.5.6.5 Carrier cooperation

Carrier cooperation refers to the idea that carriers or network operators have expertise and knowledge of mobile service delivery. They control the distribution channel and location-based services by allowing for message delivery and receipt. Mobile advertising companies should partner network operators to deliver effective advertising to their customers. (Leppäniemi et al 2004: 95).

2.6 SHORT MESSAGE SERVICE (SMS) AS A MARKETING TOOL

“The future for mobile youth marketing is enormous. The cell-phone is the most important and personal device a teens carries” (McKinney in Ross 2004: 16). According to De Reyck and Degraeve (in Haghiran et al 2005: 2), mobile advertising messages are usually transmitted via SMS, and the receiver of mobile advertising messages is addressed specifically. Therefore, the introduction of the SMS technology could be a more direct and ideal means of communication between the educational institution and students.
Barnes, Scornavacca and Clickatell (in Sini salo et al 2005: 206) believe that the mobile channel, especially SMS, is seen as an immediate, automated, reliable, personal, discreet and customized channel allowing an efficient way to reach customers directly and providing cell-phone users with a direct call-to-action that would be almost impossible via other channels. Thus, SMS has been described as the “killer application” of mobile commerce and SMS advertising is growing rapidly (Rettie & Brum 2001: 4).

Barwise and Strong (in Bamba & Barnes 2005: 3) identify six ways of using SMS for advertising: brand building, special offers, timely media “teasers”, competitions, polls/voting, products, services and information requests. Key advantages are its intrusiveness, interactivity, immediacy and targeting by location (Rettie & Brum 2001: 5).

Furthermore, SMS is an extremely cost-effective, high-response-rate vehicle, which can help acquire and retain customers, sell and promote products, drive loyalty, and reinforce branding efforts. As a new medium, SMS has characteristics which include: high reach, low cost, and high retention. (Botha, Bothma & Geldenhuyys 2004: 163,164).
2.6.1 Reasons for selecting SMS as a marketing tool

According to Botha et al (2004: 164-166), the following are the reasons why SMS will be selected as the marketing tool for businesses to communicate with their customers. These include cost-effectiveness, reach, response, immediacy, automation, customisation, reliability, message reporting and personal and discreet.

2.6.1.1 Cost-effectiveness

SMS as a new communication medium is the most cost-effective way of communicating to any mobile audience. “Data are transmitted via mobile channels, and can be delivered to a handset at a fraction of the speed and cost of a voice call. In particular, the fact SMS can be sent out in bulk to large groups of recipients in a manual or automated manner further means that fewer resources are required to activate the communication”. (Botha et al 2004: 164).

2.6.1.2 High reach

More people can be reached via SMS than with e-mail or fax communications. “SMS is at the same time mobile, in the sense that recipients can be reached
wherever they are. In addition, using the correct gateway will allow for global reach, with the same features and delivery and cost as little as a local message”. (Botha et al 2004: 164).

2.6.1.3 High response

According to Botha et al (2004: 164), there is a high level of attention to any text message that is received by the individual. “Almost invariably, the whole message is read, which is really easy since the protocol is constrained to delivering 160 characters. These factors induce a higher than average response rate to a call to action, as there are high attention levels to incoming messages”. (Botha et al 2004: 164).

2.6.1.4 Immediacy

“SMS messages are pushed to the handset by the delivery network’s short message service centre (SMSC) and do not rely on the recipient retrieving them from a server”. It is an extremely reliable means of getting time-sensitive messages to recipients. It also is an effective way of communicating directly with the intended recipient as close to real time as possible. (Botha et al 2004: 165).
2.6.1.5 Automation

SMS can be automated as easily as automating the sending of an e-mail. “The business is able to automate or script the messages, which means that for example a bank can easily send automated balance updates, financial firm stock prices based on market movement, and so on”. (Botha et al 2004: 165). An educational institution can easily send information such as timetables, exam marks, important notices and campus news to students via SMS.

2.6.1.6 Customisation

“As with the automation of messages, SMS can also be customised, even if sent in bulk or by an application. This can be done with the use of SMS merger applications, or through existing database functions and queries, which are directed to the SMS gateway”. (Botha et al 2004: 166).

2.6.1.7 Reliability

SMS has excelled as a new acceptable communication medium. “Due to a continued increase in its reliability, with end-to-end solutions, providers committed to achieve 100 percent reliability, it is widely accepted as a new business communications channel”. (Botha et al 2004: 165).
2.6.1.8  Message reporting

SMS messages can be logged with a full message report. “Messages can be searched on the basis of date, content, destination number, and product or ID employed. This allows full tracking and reporting, which permits a business to exercise control”. (Botha et al 2004: 165).

2.6.1.9  Personal and discreet

The idea of one-on-one marketing is that businesses can create a personal profile of individual customers’ preferences and behaviours, and thereby tailor offers specifically for them (May 2001: 56). SMS is therefore different from other kinds of mass media and can be direct and private (Botha et al 2004: 166).

2.6.2  Incorporating SMS in marketing and promotion

According to Botha et al (2004: 166-168), incorporating SMSs in marketing and promotion concern factors such as content, client databases, sender ID branding and flash SMS. These factors are briefly discussed below.
2.6.2.1 Content is critical

With a limitation of only 160 characters, users are forced to think very clearly about how they are going to phrase their messages. This means that businesses can no longer have long-winded product descriptions, or large images to lend support to their messages. They need to be more creative in their thinking and descriptions. (Botha et al 2004: 166).

2.6.2.2 Client databases

One of the benefits of SMS as a marketing tool is that it does not always require marketers to possess a customer database or client list. Without a database, business can enable any website, for instance using Clickatell’s solutions, so that websites’ visitors can send SMS messages and spread its brand. Of course, with marketers’ own database there is virtually nothing that cannot be done. (Botha et al 2004: 167).

2.6.2.3 Sender ID branding

Using the sender ID branding feature means that there is inevitably more space for text in the body of the message. The advertiser does not have to include the message sender in the body text; this leaves more room for the important content. (Botha et al 2004: 167-168).
2.6.2.4 Flash SMS

Flash SMS is a specialised SMS feature that enables a standard text SMS to be delivered directly to the screen of the mobile device. It automatically appears directly on the screen. This way it can make the SMS less intrusive or disruptive than normal, and this is a powerful SMS protocol from important messages that do not need to be stored, but that should be read quickly. (Botha et al 2004: 168).

2.6.2.5 Other factors

According to Dickinger and Haghirian (2004: 6-8), the time and frequency of SMS transmission, and SMS direct and indirect impact are also important for incorporating SMSs in marketing and promotion.

• Time and frequency of SMS transmission

SMS messages are less intrusive than phone calls, as recipients can read the message at their leisure and choose whether to respond or not. Nevertheless, advertisers must consider the time and frequency of sending messages, based on both the target group and the topic. For example, the CEO (Chief Executive Officer) of the biggest mobile marketing company in the German speaking part of Europe, stressed that “messages should only
be sent between 9:00 and 19:30 on weekdays”. Thus, particularly, when addressing students, messages should not be sent before noon, because at this time students can either not be reached efficiently or might get into trouble receiving messages during their classes. (Dickinger & Haghirian 2004: 6).

- SMS direct and indirect impact

SMS usually urge the recipient to “act on the spot”. As almost all recipients read their SMS messages, it is imperative to induce the customer to act, such as attending the party that night (Dickinger & Haghirian 2004: 7).

Another important impact is the viral effect of appealing text messages. Recipients may forward messages to their friends, thus increasing the overall impact. This indirect impact effect is difficult to plan, as it depends on consumer trends. Viral effects amplify the success of an SMS marketing campaign. (Dickinger & Haghirian 2004: 7-8).

2.6.3 Permission-based SMS in marketing and promotion

According to Botha et al (2004: 169), to ensure using SMS to its full potential, marketers should practise permission-based marketing by means of the following guidelines:
• Offer the existing and prospective customers an incentive for volunteering to become part of marketers' database;

• Ensure that the information passed to the customer increases in value over time (for the customer);

• Constantly reinforce the incentive using new information from the customer (create a dialogue, not monologue);

• Increase the level of permission, reward to the customer for more information; and

• Turn the permission marketers have into a profitable situation for themselves and their clients. (Botha et al 2004: 169).

2.7 SUMMARY

This chapter reviewed mobile marketing and mobile advertising. Furthermore, it also discussed SMS as a marketing tool.

To be a successful mobile marketing has to be integrated with other media into multi-channel marketing campaigns. A key mobile marketing type is mobile advertising. Based on the customer permission, mobile advertising can be adopted as a push or pull model, as well as a dialogue campaign. Mobile advertising can provide a two-way communication with consumers. It thus has higher levels of activity for the advertiser and consumer than with
traditional advertising campaigns. Furthermore, five Cs mobile advertising value chain provides a management tool for mobile advertising players to build up a value chain for creating higher advertising value.

SMS plays an important role in mobile marketing campaigns. As a marketing tool it has the characteristics of high reach, low cost and high retention. When the marketer wants to incorporate SMS into his marketing and promotion, attention has to be paid to SMS content, client databases, sender ID branding and flash SMS, as well as to time and frequency, and direct and indirect impact of the message.

Although, mobile marketing, especially SMS offers great opportunity for business and reaching the youth, its success largely depend on the cell-phone user’s acceptance of mobile marketing. The next chapter focuses on the factors influencing the acceptance of mobile marketing.
CHAPTER 3

FACTORS INFLUENCING THE ACCEPTANCE OF MOBILE MARKETING

3.1 INTRODUCTION

In Chapter 2 the researcher provided a review of mobile marketing and SMS as a marketing tool. With the development of mobile technology, mobile marketing has become an important component of the promotion mix. SMS has the specific advantage of being cost-effective, high-reach and high response.

Although, mobile advertising allows marketers to exploit the medium’s unique features in order to customize their messages to consumers’ attributes (Parissa & Maria 2005: 2), the success of this marketing depends largely on its acceptance by consumers (Bauer et al 2005: 182). Chapter 3 provides a review of the model of consumer acceptance of mobile (SMS) marketing (as introduced in Chapter 1) and discusses the factors or drivers with an influence on this acceptance.

3.2 THE MODEL OF ACCEPTANCE OF MOBILE MARKETING

The model of consumer acceptance of mobile marketing was briefly described in Chapter 1. A slight adaptation of the model was suggested to bring it in line
with the focus of the current research. Figure 3.1 shows an illustration of the model, followed by a discussion of its elements.

**FIGURE 3.1**

**MODEL OF HIGH SCHOOL LEARNERS’ ACCEPTANCE OF MOBILE (SMS) MARKETING**

The theory of reasoned action (TRA) provides an important direction for this model. The TRA which has been developed by Fishbein and Ajzen (in Foxall, Goldsmith & Brown 2005: 109), is one of the most systematic and widely used approaches to attitude conceptualisation and measurement in marketing.
Apart from attitude, a person’s performance of a specific behaviour is also determined by his or her behavioural intention to carry out this behaviour. Behavioural intention is jointly determined by the “person’s attitude towards the behaviour and the subjective norms of important others concerning the behaviour in question” (Yan, Gong & Thong 2006: 18).

The TRA places attitudes within a sequence of linked cognitive constructs: beliefs, attitudes, intentions and behaviour, as well as includes the social aspects of attitude formation (Foxall et al 2005: 109). Figure 3.2 summarises the TRA.

**FIGURE 3.2**

THE THEOREY OF REASONED ACTION

![Diagram of the Theory of Reasoned Action](image)

Source: Adapted from Fishbein and Ajzen (in Foxall et al 2005: 110)

The acceptance of mobile (SMS) marketing for that matter is represented by the constructs “attitude toward the act of mobile (SMS) marketing (ATMM)” and “behavioural intention (BI)” (see Figure 3.1).
In addition, to attitude and behavioural intention, subjective norms (SN) can exert an influence on behavioural intention. According to Kassarjian and Robertson (1991: 332), the inclusion of the subjective norm leads to a more situation-specific attitudinal prediction by the TRA. The subjective norm is intended to measure the influences of social norms for example, friends’ or family members’ expectations of a person’s behaviour.

Attitude towards the act, behavioural intention and subjective norms are subsequently discussed in more detail.

3.2.1 Attitude toward the act

An attitude is “an enduring combination of motivational emotional, perceptual and cognitive processes with respect to some aspect of the environment”. It is the way consumers think and feel about and act towards some aspect of their environment such as a retail store, a television programme or a product such as a cell-phone (Neal, Quester & Hawkins 2004: 333), or a concept such as SMS marketing.

Attitudes are formed as the result of influences such as early experiences and family influences. Attitudes are also formed independently of a consumer’s own range of experiences, for example, “on the basis of what is
According to Neal et al (2004: 334-337), an attitude has three components: cognitive (beliefs), affective (feelings) and behavioural (response tendencies).

- The cognitive component of an attitude consists of a consumer's beliefs and knowledge about an object. The more positive the belief, the more favourable the overall cognitive component is presumed to be.

- Feelings or emotional reactions to an object represent the affective component of an attitude. Generally, feelings develop without cognitive information about the product; or may be the result of several evaluations of the product's performance on each of several attributes. While feelings are often the result of an evaluation of specific attributes of a product, they can precede and influence cognition. For example, a consumer may come to like a product through classical conditioning without acquiring any cognitive beliefs about the product.

- The behavioural component of an attitude is the tendency of the individual to respond in a certain manner towards an object or activity. The behavioural component provides response tendencies or behavioural intentions. Since behaviour is generally directed towards an entire object, it is less likely to be attribute specific than either beliefs or affects. (Neal et al 2004: 334-337).
Figure 3.3 illustrates a critical aspect of attitudes: all three components tend to be consistent. This means that a change in one attitude component tends to produce a related change in the other components, when all the components of an attitude are generally consistent, the overall attitude will be more favourable (Neal et al 2004: 334, 337).

FIGURE 3.3
ATTITUDE-COMPONENT CONSISTENCY

Source: Neal et al (2004: 337)

However, since the components of attitudes are often an integral part of a marketing strategy, it is important to be able to measure each component separately. The cognitive component is measured by the beliefs consumers have about an object; the affective or evaluative component relates to how consumers feel about the object; and finally, the behavioural component is often measured by the strength of behavioural intention about an object. (Neal et al 2004: 338-339).
Solomon (2004: 239) states that a consumer’s attitude towards an object \( A_0 \) will depend on the beliefs he or she has about several or many attributes of the object. According to Assael (1984: 187), the formulation of attitudes towards an object \( A_0 \) can be specified as:

\[
\text{Attitudes toward an object } \left( A_0 \right) = \text{The sum of beliefs about an object on various attributes } \left( b_i \right) \text{ times the value placed on each attribute } \left( a_i \right)
\]

Foxall et al (2005: 111) propose the following formula:

\[
A_{act} = \sum_{i=1}^{n} b_i a_i
\]

- \( b = \) belief, the subjective probability that performing the behaviour results in consequence \( i \).
- \( a = \) value and evaluation, or the subjective feeling of goodness or badness of consequence \( i \).
- \( n = \) number of relevant behavioural beliefs.

All the attributes are summed up to determine the favourable ability or unfavourable ability of the attitude towards the object (Assael 1984: 187).

Marketers are often keen to discover consumers’ attitudes towards their product offerings or the offering of their competitors (Evans, Jamal & Foxall 2006: 69). According to Fishbein (in Evans et al 2006: 71), attitude towards an “object” is predicated upon what consumers consider to be an appropriate range of beliefs about that object and how they evaluate these.
3.2.2 Behavioural intent

“The behavioural component of an attitude is the tendency of the attitude holder to respond in a certain manner towards an object or activity” (Neal et al 2004: 337). This is reflected in Figure 3.1 as BI. Fishbein and Ajzen (in Yan et al 2006: 18) state that “behavioural intention is a measure of the strength of the individual’s intention to perform a specific behaviour”.

Foxall et al (2005: 109) maintain that behavioural intentions are portrayed as a function of two other factors:

• the individual’s attitude toward behaving in a prescribed manner, and
• his or her subjective norm, such as the respondent’s beliefs about other people’s evaluations of his or her acting in this way, weighted by his or her motivation to comply with what they think.

3.2.3 Subjective norms

Many of the decisions made by consumers are taken within the environment of the family and are thus affected by the desires and attitudes of other family members (Evans et al 2006: 170), or are affected by what the consumers believe other people think they should do (Solomon 2004: 243). Fishbein and Ajzen (in Yan et al 2006: 18) believe that subjective norms refer to “the
person’s perception that most people who are important to him think he should or should not perform the behaviour in question”, they can also be termed “reference group” (Bearden & Etzel in Evans et al 2006: 171).

According to Park and Lessig (in Evans et al 2006: 172), reference group influence is manifested in three ways:

• An information influence, for example, when a consumer is considering buying a product and seeks information from family, friends and perceived experts. In doing so, the individual can also make inferences by watching the behaviour of others. This type of influence works in order to be able to make informed decisions.

• A utilitarian influence, which concerns a degree of conformity with the behaviour or norms of a group with which the consumer wants to identify. This influence works well if the individual perceives that his or her behaviour is visible or is known to others and that the significant others in the group can mediate rewards or even punishment.

• A value expressive influence, which occurs when consumers buy a brand or a product which they think will enhance their image among others in the group. This influence works particularly well when the individual likes those in the reference group. (Evans et al 2006: 172).
The reference group influence varies depending upon whether the product category or brand is a publicly consumed luxury, a privately consumed luxury, a publicly consumed necessity or a privately consumed necessity (Evans et al 2006: 172). Table 3.1 summarises the effects of reference group influences within different contexts.

**TABLE 3.1**

REFERENCE GROUP INFLUENCE ON CONSUMPTION

<table>
<thead>
<tr>
<th>Publicly consumed luxury</th>
<th>Privately consumed luxury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong reference group influence on ownership or specific brand (both the product and the brand are visible to others).</td>
<td>Strong reference group influence on product (everyone has it, so you have to have it), but a weaker influence on specific brand (because the brand consumption is hidden from public).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Publicly consumed necessity</th>
<th>Privately consumed necessity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak reference group influence on whether or not the product owned (because you have to have it as everyone has it) but strong influence on specific brand (because everyone will see it).</td>
<td>Weak reference group influence on ownership and on specific brand (neither product nor brand is visible to others).</td>
</tr>
</tbody>
</table>

Source: Adapted from Evans et al (2006: 173)

When children are of primary school age it is often school friends who become more important product influencers than parents (Evans et al 2006: 192). Teenagers in particular tend to buy a look, an identity and an attitude (Evans et al 2006: 180) to conform to the style and behaviour of their group.
3.3 CONSUMER-BASED ACCEPTANCE DRIVERS

Acceptances of new products or services are driven by a number of consumer-based factors (Bauer et al 2005: 183-185). These include: innovativeness (IN), existing knowledge (EK), information seeking (IS) and attitude towards advertising (ATA) (see Figure 3.1). These factors are now discussed in more detail.

3.3.1 Innovativeness

Mobile marketing is an innovative type of marketing instrument for reaching the mass market (Mobile marketing no date: ¶1). Acceptances of these marketing instruments are influenced by consumers’ degree of innovativeness. According to Foxall et al (2005: 39), the nature of consumer innovativeness includes two interrelated concepts:

- Innovation, which can be new products, new markets, new marketing channels, new processes or new marketing concepts. Innovation can also mean major breakthroughs or a stream of incremental changes. (Doyle & Bridgewater 1998: 1).

- Consumer innovativeness is the tendency to buy new products in a particular product category soon after they appear in the market or relatively earlier than most other consumers in the marketing segment (Foxall et al
2005: 40-41). It is also likely to apply to the use of innovative concepts, such as accepting marketing via SMS.

Innovativeness, unlike opinion leadership, is a behavioural variable (Assael 1984: 457). Innovativeness is thus an unobservable, continuous individual difference variable of the degree to which a person likes to try new things. It is comparable to any other consumer characteristic such as lifestyle, opinion leadership, and involvement. (Foxall et al 2005: 41; Solomon 2004: 192).

Im, Bayus and Mason (in Bauer et al 2005: 183) differentiate between innate innovativeness and actual innovativeness: innate innovativeness constitutes the innovativeness that is part of each individual's personality; while actual innovativeness refers to the actual adoption of a specific innovation by a particular individual.

The concept of innate innovativeness is highly relevant to the current study. Receiving marketing messages by SMS, particularly from educational institutions, is something new to many school children. Therefore, the innate innovativeness will be an important factor in influencing their acceptance of mobile marketing.
Steenkamp and Alii (in Roehrich 2002: 3) maintain that innate innovativeness is a “predisposition to buy new and different products and brands rather than remain with previous choices and consumer patterns”.

Roehrich (2002: 3-6) explain the forces of predisposition as follows:

- **Stimulation need**: need for stimulation may be perceived as an antecedent of new product acceptance and adoption, either directly or indirectly, through innovativeness.

- **Novelty seeking**: inherent novelty seeking is an “internal drive or a motivating strength” which motivates the individual’s search for new information.

- **Independence toward others’ communicated experience**: it occurs when an individual makes innovation decisions independently from the communicated experience of others.

- **Need for uniqueness**: the need for uniqueness pushes the individual to distinguish himself through the possession of rare items provided this is a socially acceptable behaviour.

Innovativeness can be measured by three criteria (Assael 1984: 457).

- **First, and most frequently**, it is simply measured by adoption at a given time. A survey is taken of those who have adopted the new product and are classified as innovators. Thus, consumer innovativeness in part accounts
for the timing of the decision to adopt an innovation. More innovative consumers are earlier to buy a new produce or service than less innovative consumers. Innovative consumers are usually very knowledgeable about the product area and make great use of speciality media in the product area. (Assael 1984: 457; Foxall et al 2005: 41).

• A second criterion used to identify innovators is the number of new products adopted. Such a criterion is useful in distinguishing between the product-specific and the generalised innovator. (Assael 1984: 457). For example, the innovator who is among the first to consider buying a cell-phone is also likely to be among the first to consider using SMS for mobile communication.

• A third criterion used to measure innovativeness is how consumers see themselves on the characteristic of innovative product usage. Such self-designating measures are used when the researcher wants to determine the orientation of the consumer to new products rather than measuring specific adoption. (Assael 1984: 457). For example, a cell-phone user may feel that using SMS only for personal communication is not enough; if they can receive more business information via SMS then it may be better.

The more innovative often display a strong personal interest in the product field, which links with “high-involvement” (Evans et al 2006: 248). “Involvement is commonly defined as the consumer’s personal interest in
buying or using an item from a given product field, an approach which nicely summarises the individual, experiential, and situational components of the relationship” (Evans et al 2006: 98). A person’s level of involvement depends upon personal relevance and the inherent interests, needs and values of the individual, with regard to the object of involvement (Evans et al 2006: 98).

Consumers’ motivation to process information is often conceptualised in terms of their involvement with the information stimuli (Evans et al 2006: 98). Table 3.2 illustrates the degree of involvement (more and less innovative) linked to the different types of learning and different levels of product knowledge.

**TABLE 3.2**

**HIERARCHY OF EFFECTS FOR DIFFERENT INVOLVEMENT LEVELS**

<table>
<thead>
<tr>
<th>More innovative (High-involvement)</th>
<th>Less innovative (Low-involvement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive learning</td>
<td>Passive learning</td>
</tr>
<tr>
<td>High product knowledge (may lead to a central route to persuasion of views attitude change)</td>
<td>Low product knowledge</td>
</tr>
</tbody>
</table>


Table 3.2 shows that more innovative (high-involvement) with a strong personal interest and cognitive learning lead to high product knowledge, and
further leads to a central route to persuasion, which “views attitude change resulting from a person’s diligent consideration of information that he or she feels is central to the true merits of a particular attitudinal position”. Such consumers pay strong attention to the product-related features and other relevant factual information and consciously elaborate potential outcomes (Evans et al 2006: 99).

However, innovativeness is secondary in explaining innovative behaviour and most of the explanatory power may come from the way the new product or new marketing instrument is perceived or from other intervening variables (Roehrich 2002: 14), such as existing knowledge. Existing knowledge is discussed in the next section.

3.3.2 Existing knowledge

Consumers are likely to conduct their behaviour according to their beliefs or knowledge (Kassarjian & Robertson 1991: 21). A consumer’s existing knowledge determines his or her ability to understand the features and usage of an innovation and see the value thereof (Bauer et al 2005: 184; Bennett 1998: 595).
Consumers often use existing knowledge to learn about innovative products or services. When evaluating a new product or service, “consumers try to form an evaluation of it by using their existing knowledge from multiple-product or service categories”. More specifically, “consumers use information from a familiar domain (a base) and transfer it to the new domain (the target)” (Saaksjarvi 2003: 93).

In the current research, knowledge or experiences of mobile communication could influence respondents’ attitude toward and acceptance of mobile marketing.

Furthermore, according to diffusion of innovation, an innovation “is usually adopted by only a few people, then later by more people at a greater rate” (Foxall et al 2005: 38). This happens because “individuals in the social system have different initial opinions or beliefs about the attributes of the innovation, as well as a greater uncertainty about the innovation”. There is therefore a need for additional information before the consumer can make a decision (Kassarjian & Robertson 1991: 475). Thus, with more existing knowledge, the innovation can more easily obtain acceptance by consumers.

According to diffusion theory, complexity refers to the perceived difficulty of learning to use and understand an innovation (Tisdell 2003: 11). The
complexity of the innovation results in a large number of feature and knowledge gaps (Hall & Andriani 2002: 38).

Sheth (in Bauer et al 2005: 184) believes that an innovation is perceived to be less complex if the consumer already possesses a certain amount of knowledge about the innovation itself or about a product similar to it. For the current research, mobile communication technology is the technological basis to support the use of mobile marketing. The existing knowledge of mobile communication in general will influence the acceptance of mobile marketing. In the technological market “innovativeness is characterised by extensive technical knowledge, confidence in independently operating new technology, and a willingness to learn about technological innovations”; and a more positive attitude towards technology is also apparent (Saaksjarvi 2003: 96). According to Bauer et al (2005: 184), the relationship between the perceived technological complexity of mobile communication and the attitude towards mobile marketing can also be negative even if there is a high existing knowledge of mobile communication among cell-phone users.

3.3.3 Information seeker-behaviour

Attitudes develop over time through a learning process affected by family influences, peer group influences, information, experiences, and personality.
Information is therefore an important attitude determinant factor. For the consumers, they may recognise a need and then search the marketplace for specific information (Solomon 2004: 297).

According to Assael (1984: 535), there are two ways to acquire information: from the environment (external), and from memory (internal). As consumers move into more extended decision-making, the relative importance of an external information search tends to increase (Neal et al 2004: 90).

External information includes marketing communications, friends and relatives, and neutral sources. The active information search means that the consumer seeks out advertisements, talks to friends and relatives, visits stores to inspect merchandise, and in some cases tests the product. (Assael 1984: 535).

Furthermore, according to Kroeber-Riel and Weinberg (in Bauer et al 2005: 184), an individual’s propensity to search for and use information is an important construct in the analysis and explanation of consumer behaviour. The propensity to search and use information will depend, among other things, upon individual and personal factors such as education, occupation and experience (Becker 1976: 77).
Because mobile marketing messages, especially the SMS advertising messages, can be precisely adapted to individual preferences, the personal relevance of advertising messages also depends on the individual’s propensity to receive information (Bauer et al 2005: 184). Further, the individual’s propensity for information-seeking behaviour can partly determine cell-phone user’s attitude toward mobile marketing.

According to Becker (1976: 77), there two main types of consumers at opposite ends of a continuum: consumers with high and those with low propensity to search for and use information.

The person with a high degree of information sensitivity might be called an information seeker (IS) (Becker 1976: 77). The profile of the information seeker indicates that information-seeking behaviour may be a function of knowing what to look for and where to look for it (Assael 1984: 540). In a sense the information seekers play the role of the "professional" consumer who appears more deliberate, searching and "rational" in the decision-making process than most "average" consumers (Becker 1976: 88).

Zuckerman (in Fiore, Lee, Kunz & Campbell 2001: 101) states that every organism has a preferred level of stimulation termed the optimum stimulation level. According to Optimum Stimulation Level (OSL) theory individuals strive
to achieve a certain level of stimulation and are intrinsically motivated to collect information (Bauer et al 2005: 184). Therefore, consumers with different OSL can create different degrees of propensity to search for and use information.

According to Raju (in Fiore et al 2001: 101), high OSL individuals have more positive responses towards new or external stimuli and situations than low OSL individuals; furthermore high OSL individuals are characterised as having a higher degree of exploratory tendency. These tendencies are motivated by variety seeking, curiosity and risk taking. Hoffman and Novak (in Bauer et al 2005: 184) believe that consumers with a high OSL aspire to a higher degree of stimulation, which they can reach by taking in external stimuli. A higher degree of exploratory tendency tends to exhibit a high propensity to search for and use information (Bauer et al 2005: 184).

If cell-phone users with a high OSL and a higher degree of exploratory tendency, they can have a high propensity to search for and use information. They may thus be classified as “information seekers”. This implies that, usually, information seekers with a high OSL may be likely to receive more external advertising stimuli such as SMS advertising messages and have a positive attitude toward advertising in general.
However the existence of dissonance among such customers is deduced from their tendency to seek further information (Foxall et al 2005: 122). According to Festinger (in Foxall et al 2005: 122), “cognitive dissonance is a condition reflecting a tendency towards mental unease which occurs when an individual holds two attitudes, ideas or beliefs which are not in harmony with each other”. Therefore, the relationship between the cell-phone user’s attitude towards advertising in general and their attitude towards mobile marketing is of considerable importance in determining their acceptance of mobile marketing as is described in the next section.

3.3.4 Attitude toward advertising

The attitude towards advertising (ATA) has been defined by Lutz (in Mehta & Purvis 1995: 3) as “a learned predisposition to respond in a consistently favourable or unfavourable manner to advertising in general”. Mehta and Purvis (1995: 1) believe that “the attitude towards advertising in general is expected to influence the success of any particular advertising”.

According to Bauer et al (2005: 185), there are two attitudes associated with cell-phone users: the attitude towards advertising in general and the attitude towards mobile marketing. The relationship of both attitudes is that mobile marketing can be considered to be a subset of all available instruments for
communicating advertising content because mobile advertising messages are usually delivered by using SMS to cell-phone users. Consequently, cell-phone users may be expected to hold a stable and consistent attitude toward advertising in general (Bauer et al 2005: 185).

Advertising in general can thus be a basic strength to influence consumers' attitude towards mobile marketing. In other words, for the current research, high school learners' cognitive dissonance of SMS advertising messages which may be possibly adjusted to be a consonance or harmony due to their attitude toward advertising in general.

Apart from consumer-based acceptance drivers, the attitude towards mobile marketing would also be influenced by innovation-based acceptance drivers. These acceptance drivers are discussed in the next section.

3.4 INNOVATION-BASED ACCEPTANCE DRIVERS

According to Foxall et al (2005: 51), after consumers become aware of an object such as brands, products or new marketing instruments, their decisions are guided by their perceptions or impressions of the object formed from the information they get about such objects. Perception is clearly important in determining cell-phone users’ attitude towards mobile marketing. Bauer et al
(2005: 185-186) maintain that innovation-based acceptance drivers for influencing the cell-phone users’ attitude towards mobile marketing will include both perceived utility (PU) and perceived risk (PR) (see Figure 3.1).

3.4.1 Perceived utility

“Perception of goods and services depends in part on the stimuli to which consumers are exposed and in part on the way these stimuli are given meaning by such consumers. The different perceptions of an object can account for different attitudes and behaviours toward this object”. (Foxall et al 2005: 52). Thus, Bauer et al (2005: 185) found that consumers will only accept mobile marketing if they perceive it to be a benefit in receiving advertising messages on their mobile phone. In the current study, perceived utility relevant to mobile marketing can be further divided perceived utility of information, entertainment, social events and study.

If cell-phone users have a high perceived utility of mobile marketing they may obtain more additional advertising stimuli and save more time by using their cell-phone, and thus their attitudes toward mobile marketing will be more positive. Mobile marketing as a new marketing instrument is based on the application of mobile communication technology that provides a possibility for achieving this expectation, because it is different from other traditional or
familiar marketing tools to provide end users with added values, including anytime, anywhere access, ability and flexibility in arranging tasks (Siau, Nah & Sheng 2006: 12).

Furthermore according to Bauer et al (2005: 185), the utility perception of mobile marketing as a prerequisite for the acceptance of mobile marketing is the uses and gratification approach. “Uses and gratifications theory argues that consumers are an active, goal-directed audience that draws on the mass media as a resource to satisfy their needs. The uses and gratifications approach emphasizes that media compete with other sources to satisfy needs, and that these needs include diversion and entertainment as well as information” (Solomon 2004: 256). Katz (in Bauer et al 2005: 185) also suggests similar categories of consumer needs, namely:

• “needs related to strengthening information, knowledge and understanding”;
• “needs related to strengthening aesthetic, pleasurable and emotional experience”; and,
• “needs related to strengthening contact with family, friends, and the world”.

In the current research, high school learners are the target cell-phone users and the NMMU is the sender of the message. Thus the “needs specially related to strengthening communication between an educational institution and high school learners” have considerable importance relating to the high
school learners’ further study. Also, according to the uses and gratification approach, the further study needs of high school learners can lead them to seek information via various media to gratify their needs. Thus, if they perceive the advantages of mobile communication and have a higher perceived utility for mobile marketing communication with the NMMU, they will have a higher overall utility perception of mobile marketing.

3.4.2 Perceived risk

Another important feature of consumer perceptions and their impact on decision-making involves the amount of risk that consumers perceive to be present in the decision process (Foxall et al 2005: 58). Risk can be financial, physical or social (Neal et al 2004: 475).

Perceived risk (PR) is commonly thought of as an uncertainty regarding possible negative consequences of using a product or service (Featherman & Pavlou 2002: 2). If the perceived risk of the object is low, it is more likely to be adopted, whereas a high level of perceived risk will generally have a lower adoption rate (Evans et al 2006: 245).

Perceived risk has been closely identified with innovativeness (Assael 1984: 169). According to Neal et al (2004: 475) and Assael (1984: 156-157), there is
a higher degree of risk associated with trying an innovation because consumers lack information and prior experience; moreover, the product may be technologically complex.

In an attempt to reduce risk the consumer tends to rely on sources of information with a high degree of credibility, such as friends who have purchased the product or used the service (Assael 1984: 157). In addition, technological innovations usually involve a substantial learning effort. Consumer education about a product or service is likely to reduce the perceived uncertainty of adopting an innovation, since education could serve as a means for companies to address potential adopter concerns about the perceived risk factors associated with the adoption of innovations (Saaksjarvi 2003: 98).

There are certain technical aspects of mobile service security, as shown in Figure 3.5. In this business chain, marketer such as the NMMU as advertising content provider who asks cellular company to provide the services and carrier for the data transfer; and the target consumers or advertising receivers such as high school learners as subscribers can obtain information on their cell-phone. During this process of data transfer, data will concern security risk of data transfer and access level security.
The risk associated with mobile marketing is mainly perceived to relate to data security (Bauer et al 2005: 185). The three interrelated issues of security, trust and privacy are often bundled together under the single heading of security (May 2001: 227).

Privacy concerns regulations which regulate the data processing in personal matters and the protection of the private life of the consumers in the sector of electronic communication (Triki, Piquet & Trabelsi 2005: 3). The ability of mobile network operators to track the activity and the location of users facilitates more than just benign, if irritating, personalised marketing messages (May 2001: 230). Therefore, by using the mobile medium it is
possible for marketers to reach consumers anytime and anywhere. Such a characteristic provides the basis that accounts for consumers’ fear of privacy violations (Bauer et al 2005: 185-186). The dread of unwanted messages (unwanted messages, commonly known as “spam”) and privacy fears may prevent consumers from registering for mobile or SMS advertising (Dickinger & Haghiran 2004: 7).

According to Bauer et al (2005: 186), risk perception can therefore strongly influence consumers’ willingness to adopt mobile marketing as an innovation. The negative relationship between risk perception and attitude towards mobile marketing among cell-phone users must be recognised.

3.5 SUMMARY

In this chapter the researcher discussed the factors that might influence cell-phone users’ acceptance of mobile marketing. Based on the TRA, a person’s behavioural intention is determined by his or her attitude towards the behavioural and subjective norms. Behavioural intention reflects the strength of the intention of a specific behaviour and attitude explains the feelings on performing the target behaviour. Furthermore, social norms influence a consumer’s behaviour by contact with the reference group.
Consumers’ attitude is an important variable for evaluating the effectiveness of advertising message and advertising campaigns. Therefore the focus has been on attitude towards mobile marketing as the central construct to determine the acceptance of mobile marketing among cell-phone users. The various factors such as innovativeness, existing knowledge, information seeker behaviour, attitude toward advertising, perceived utility and perceived risk are all relevant and were discussed in some detail.

Innovativeness depicts the degree to which a person likes to try new things. A high degree of innovativeness may lead consumers to willingly seek new experiences and receive a large amount of information about mobile communication.

Existing knowledge provides a basis for an individual to see the possibilities and the value of an innovation. Existing knowledge can create an opportunity for consumers to deal with a high degree of complexity in the innovation. Information seekers have a high propensity to search for and use information.

Advertisements are usually carried by various advertising medium. Attitudes toward advertising in general influence the ultimate advertising effectiveness. Mobile advertising as a new subset of all marketing instruments may cause cognitive dissonance in mobile marketing. However consumers that are highly
familiar with advertising in general can have a more stable attitude, therefore attitudes toward mobile marketing depend on attitudes toward advertising in general.

Consumers’ utility perception of marketing stimuli coincides with their needs or interests. Of importance would be cell-phone users’ needs for information, entertainment, social needs and needs to receive communication from educational institution linked to overall utility perception of mobile marketing.

In addition, perceived risk with interrelated issues of security, trust and privacy can play a strong role in changing consumers’ adoption decisions. Consumers may refuse to adopt an innovation if they are faced with more uncertainties or risks of an innovation.

The empirical study investigated the link of the foregoing factors to high school learners’ acceptance of mobile marketing. The next chapter focuses on the research methodology used in the empirical study.
CHAPTER 4
RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

In Chapter 3 the researcher provided a discussion of the factors likely to influence the acceptance of mobile marketing. Chapter 4 provides a detailed explanation of the research design and methodology followed in the empirical study of this research. This chapter describes the research design in terms of the categories of research, data collection method and data gathering techniques. Thereafter, the sampling methodology is described in terms of the target population, sampling frame, sampling method and sample size. The chapter also provides an explanation of the questionnaire design, validity and reliability, the data analysis procedure and method, as well as a description of the problems and limitations relevant to this research. The findings are reported on in Chapter 5.

4.2 OVERVIEW OF THE RESEARCH DESIGN

“A research design is the detailed blueprint used to guide a research study towards its objectives” (Aaker et al 1998: 71). The process of designing a research study involves many interrelated decisions. The most significant
decision is the choice of the research approach because it determines how the information will be obtained. Research approaches can thus be exploratory, descriptive and causal. (Aaker et al 1998: 71, 73).

After choosing the research approach, the next step is to select a means of gathering the data. According to McDaniel and Gates (2004: 29), there are three basic research methods: survey, observation and experiment.

Once the research approach has been chosen the researcher needs to identify the relevant target population. Thereafter, the question is whether to use a probability sample or a non-probability sample (McDaniel & Gates 2004: 30) and determine the sample size. This is followed by the data collection.

After the data collection, the researcher may use a variety of techniques to implement data analysis, such as descriptive data analysis and more complex multivariate techniques (McDaniel & Gates 2004: 31). The structural equation model (SEM) was especially useful for the multivariate data analysis used in this research. The elements of the research design are now discussed in more detail.
4.3 RESEARCH APPROACH

According to Hair et al (2000: 37), most research objectives can be met by using one of three types of research designs: exploratory, descriptive and causal.

4.3.1 Exploratory research

Exploratory research focuses on collecting either secondary or primary data and uses an unstructured format or informal procedures to interpret the data (Hair et al 2000: 37). It is useful for establishing priorities among research questions and for learning about the practical problems of carrying out the research (Aaker et al 1998: 73). Exploratory research is used when one is seeking insights into the general nature of a problem, the possible decision alternatives, and the relevant variables that need to be considered (Aaker et al 1998: 73). It is also often used simply to classify the problems or opportunities and it is not intended to provide conclusive information from which a particular course of action can be determined (Hair et al 2000: 37).

4.3.2 Causal research

According to Hair et al (2000: 38), causal research is designed for collecting raw data and creating data structures and information that will allow the
decision maker or researcher to model cause-and-effect relationships between two or more market (or decision) variables.

Causal research is most appropriate when the research objectives include the need to understand the reasons why certain market phenomena happen as they do. Therefore, causal research can be used to understand the functional relationships between the causal factors and the effect predicted on the market performance variable under investigation. Causal research offers an opportunity for identifying, determining and explaining causality among critical market factors. (Hair et al 2000: 38).

4.3.3 Descriptive research

According to Hair et al (2000: 38), descriptive research uses a set of scientific methods and procedures to collect raw data and create data structures that describe the existing characteristics (such as attitudes, intentions, preferences, purchase behaviours, evaluations) of current marketing mix strategies for a defined target population or market structure.

The major objective of descriptive research is to describe something, usually market characteristics or functions (Malhotra & Birks 2006: 65). Implicit in descriptive research is the fact that management already knows or
understands the underlying relationships among the variables in the problem (McDaniel & Gates 2004: 28).

A major difference between exploratory and descriptive research is that descriptive research is characterised by the prior formulation of specific research questions and hypotheses. Thus descriptive research specifies the methods for selecting the sources of information and for collecting data from those sources. (Malhotra & Birks 2006: 65-66).

In this study, descriptive research was selected to describe the underlying relationships between various influencing factors and attitudes towards mobile marketing among high school learners. The relevant hypotheses were provided in Chapter 1.

4.4 QUALITATIVE AND QUANTITATIVE RESEARCH

Primary data are raw data and structures of variables that have been specifically collected and assembled for a current information research problem or opportunity situation (Hair et al 2000: 39). Primary data are sourced by the researcher for the specific purpose of addressing the problem at hand and can take the form of qualitative or quantitative research (Malhotra & Birks 2006: 132).
Qualitative research encompasses a variety of methods that can be applied in a flexible manner to enable respondents to reflect upon and express their views or to observe their behaviour (Malhotra & Birks 2006: 133). Exploratory research designs tend to focus on the collection of detailed amounts of primary data from relatively small samples of subjects by asking questions or observing behaviour (Hair et al 2000: 216).

Quantitative research places a heavy emphasis on using formalized standard questions and predetermined response options in questionnaires or surveys administered to large numbers of respondents (Hair et al 2000: 216). Quantitative research might be used to find statistically significant differences between variables (McDaniel & Gates 2004: 66). It is more directly related to descriptive and causal research designs than to exploratory designs (Hair et al 2000: 216).

“The main goal of quantitative research is to provide specific facts that decision makers can use to:

- make accurate predictions about relationships between market factors and behaviours;
- gain meaningful insights into those relationships; and
- verify or validate the existing relationships” (Hair et al 2000: 216).
Quantitative research was useful for determining whether there were positive relationships between various influencing factors and attitudes towards mobile marketing. This approach allowed surveying large numbers of high school learners in Port Elizabeth, followed by a statistical analysis of the results.

4.5 DATA COLLECTION METHOD

Since this research was of a quantitative nature, a survey was deemed to play an important role in providing the necessary information. “Survey research is the use of a questionnaire to gather facts, opinions and attitudes; it is the most popular way to gather primary data” (McDaniel & Gates 2004: 99).

The major advantages of surveys are their ease of administering; and allowing for the collection and advanced statistical analysis of data. Surveys also allow researchers to tap into factors or concepts that are not directly observable (such as attitudes, feelings, preferences, personality traits) through both direct and indirect questioning techniques. (Hair et al 2000: 253-254).

4.6 DATA GATHERING TECHNIQUES

According to Malhotra and Birks (2006: 224), surveys often employ the use of structured questionnaires. A questionnaire is a set of questions designed to
generate the data necessary to accomplish the objectives of the research project (McDaniel & Gates 2004: 236). A questionnaire standardizes the wording and sequencing of questions and imposes uniformity on the data-gathering process (McDaniel & Gates 2004: 236).

Malhotra and Birks (2006: 224) maintain that any questionnaire has to meet three specific requirements.

• First, a questionnaire must translate the information needed into a set of specific questions that the respondents can and will answer.

• Secondly, a questionnaire must uplift, motivate and encourage the respondent to become involved in the data collection process, to cooperate and to complete the process.

• Thirdly, a questionnaire should minimize response errors (Malhotra & Birks 2006: 224).

In addition, according to Hair et al (2000: 261), a self-administered questionnaire is a data collection instrument in which the respondent reads the survey questions and records his or her responses. According to Aaker et al (1998: 250), self-administered questionnaires can be delivered by the interviewer and can be either picked up or mailed back later. In the current research, a self-administered questionnaire (see Annexure B) was used to obtain the data from the potential respondents (high school learners) in Port
Elizabeth. These respondents were selected according to the sampling design process discussed below.

4.7 SAMPLE SELECTION

According to McDaniel and Gates (2004: 270), “sampling refers to the process of obtaining information from a subset (a sample) of a larger group (population)”. Attention has to be paid to the steps of the sampling process, such as defining the target population, determining the sampling frame, selecting a sampling method and determining the sample size.

4.7.1 Target population

According to Malhotra and Birks (2006: 358), “a target population is the collection of elements or objects that possesses the information sought by the researcher and about which inferences are to be made”.

Defining the target population involves translating the problem definition into a precise statement of who should and should not be included in the sample (Malhotra & Birks 2006: 358). All Grade 11 learners enrolled at the feeder high schools of the NMMU in Port Elizabeth served as the target population. These included 76 high schools and 13252 Grade 11 learners.
4.7.2 Sampling frame

After defining the target population, the researcher must assemble a list of all eligible sampling units, referred to as a sampling frame (Hair et al 2000: 330). “A sampling frame is a representation of the elements of the target population; it consists of a list or set of directions for identifying the target population” (Malhotra & Birks 2006: 359). Thus, the sampling frame specifies a procedure that will produce a representative sample with the desired characteristics (McDaniel & Gates 2004: 274).

Identifying the sampling frame may simply mean specifying a procedure for generating such a list (McDaniel & Gates 2004: 274). Examples of a sampling frame include the telephone directory, an association directory listing the firms, a customer database, a mailing list on a database purchased from a commercial organisation, a city directory or a map (Malhotra & Birks 2006: 359). For the current research, a list of the feeder high schools was obtained from the NMMU.

4.7.3 Sampling method

According to McDaniel and Gates (2004: 276), the major alternative sampling methods can be grouped under two headings: probability sampling methods and non-probability sampling methods.
Non-probability samples are those in which specific elements from the population have been selected in a non-random manner. The researcher can arbitrarily or consciously decide which elements to include in the sample. Commonly used non-probability sampling techniques include convenience sampling, judgemental sampling, quota sampling and snowball sampling (Malhotra & Birks 2006: 362; McDaniel & Gates 2004: 276).

Probability samples, on the other hand are selected in such a way that every element of the population has a known non-zero likelihood for selection. Simple random sampling is the best-known and most widely used probability sampling method. Probability sampling methods also include systematic sampling, stratified sampling and cluster sampling. (McDaniel & Gates 2004: 276, 280).

Systematic sampling, which is often used as a substitute for simple random sampling (McDaniel & Gates 2004: 281), was used in the current research. “The sample is chosen by selecting a random starting point and then picking every \(i^{th}\) element in succession from the target population” (Malhotra & Birks 2006: 368). A systematic sample of high schools was drawn from the list of feeder schools. The starting point was randomly selected after which every fifth school on the list was selected. Thereafter, every fifth learner (such as 5th, 10th, 15th and 20th … ) on the alphabetical class list had to complete the questionnaire.
4.7.4 Sample size

According to Malhotra and Birks (2006: 360), sample size refers to the number of elements to be included in the study. The nature of the research has an impact on the sample size. Using qualitative research, the sample size is typically small; however for descriptive surveys larger samples are required (Malhotra & Birks 2006: 361).

As a descriptive study, the current research required a large sample. All the NMMU feeder high schools’ (76 schools) Grade 11 learners (13252 learners) located in Port Elizabeth, served as the target population for the current research. Based on the sampling frame (all these schools), twenty percent of the high schools (17 schools) were selected by using a systematic sampling method as explained earlier on. From these 17 schools, twenty percent of the Grade 11 learners of each school were selected as the target samples. Therefore, a total of 480 respondents from 17 high schools in Port Elizabeth were selected as the respondents for the empirical study.

Four hundred and seventeen questionnaires were returned from 15 of the 17 targeted schools (total of 480 Grade 11 learners), giving a response of 86.9 percent.
4.8 THE QUESTIONNAIRE

A questionnaire was used as a survey instrument in the current research. The questionnaire included a cover letter (see Annexure A) that briefly introduced the researcher, explained the purpose of the survey and provided an assurance of confidentiality. The questionnaire (see Annexure B) consisted of three sections. The next section explains the questions’ format, content of questions and pre-testing of the questionnaire.

4.8.1 Question format

According to Malhotra and Birks (2006: 335), questions may be unstructured or structured.

Unstructured questions are open-ended questions that respondents answer in their own words. They are also referred to as free-response or free-answer questions and there is no predetermined list of responses available to aid or limit the respondents’ answers (Hair et al 2000: 441; Malhotra & Birks 2006: 335).

Structured questions are close-ended questions and specify a set of response alternatives and the response format. A structured question may be
multiple-choice, dichotomous or a scale question (Malhotra & Birks 2006: 335). In general, structured questions are more popular than unstructured ones in self-administered questionnaires (Hair et al 2000: 441). Therefore, structured questions such as multiple-choice questions, dichotomous questions and itemised-rating scale questions were used in the questionnaire of the current study.

In multiple-choice questions, the researcher provides a choice of answers and respondents are asked to select one or more of the alternatives given (Malhotra & Birks 2006: 336). The response alternatives should thus include a set of all the possible choices. An example of a multiple-choice question in the questionnaire of this research is:

*What kind of information about further study would you like to receive (Tick all that apply)?*

- □ Information about the various courses offered by the NMMU
- □ Information about the NMMU’s “open-day” events
- □ Information about the application process
- □ Information about the different campuses
- □ Registration information
- ...
- □ Other information (please specify)

A dichotomous question has only two response alternatives, such as yes or no, or agree or disagree. Often, the two alternatives of interest are
supplemented by a neutral alternative, such as “no opinion”, “do not know”, “both” or “none” (Malhotra & Birks 2006: 336). A dichotomous question in the questionnaire of this research was:

*Are you a pre-paid cell-phone subscriber?*

☐ Yes ☐ No ☐ Do not have a cell-phone

In an itemised-rating scale, respondents are provided with a scale question that has a number or brief description associated with each category (Malhotra & Birks 2006: 304). The categories are ordered in terms of scale position and the respondents are required to select the specified category that best describes the object being rated (Malhotra & Birks 2006: 304). In the questionnaire of the current research, Likert scale rating questions were used to measure the relevant factors which influence high school learners’ attitudes towards mobile marketing. The Likert scale is a widely used rating scale that requires respondents to indicate a degree of agreement or disagreement with each of a series of statements about the stimulus objects. Typically, each scale item has five response categories, ranging from “strongly disagree” to “strongly agree”. Accordingly, a “strongly agree” response indicates a favourable statement and a “strongly disagree” response indicates an unfavourable statement (Malhotra & Birks 2006: 304-305). Examples of five-point Likert scale questions used in the current research were:
<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>I am usually among of the first to try out a new product.</em></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>2</td>
<td><em>I often try new products before my friends do.</em></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>3</td>
<td><em>I generally enjoy buying new products.</em></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

4.8.2 Purpose of the questions

Each of the three sections of the questionnaire had a specific purpose.

Section A contained nine questions (AQ1-9), which requested information on the respondents’ biographics, such as gender, age and school attended, as well as relevant information on their cell-phone usage status.

Section B comprised 32 five-point Likert-scale questions (BQ1-32) aimed at testing the hypotheses (see Chapter 1) of this research. Thus, the content of questions in this section embodied the model of high school learners’ acceptance of SMS marketing (see Figure 3.1).

Table 4.1 provides a summary of each influencing factor and its relevant hypothesis corresponding with the question number in Section B of the questionnaire.
TABLE 4.1

QUESTIONS OF SECTION B LINKED TO THE HYPOTHESES

<table>
<thead>
<tr>
<th>INFLUENCING FACTORS AND HYPOTHESES</th>
<th>QUESTION NUMBER IN SECTION B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovativeness (H_{4.0}, H_{4.1})</td>
<td>BQ1, BQ2, BQ3</td>
</tr>
<tr>
<td>Existing knowledge of mobile communication (H_{5.0}, H_{5.1})</td>
<td>BQ4, BQ5, BQ6</td>
</tr>
<tr>
<td>Information seeker-behaviour (H_{6.0}, H_{6.1})</td>
<td>BQ7, BQ8</td>
</tr>
<tr>
<td>Attitude towards advertising in general (H_{7.0}, H_{7.1})</td>
<td>BQ9, BQ10</td>
</tr>
<tr>
<td>Perceived information utility (H_{8a.0}, H_{8a.1})</td>
<td>BQ11, BQ12</td>
</tr>
<tr>
<td>Perceived entertainment utility (H_{8b.0}, H_{8b.1})</td>
<td>BQ13-16</td>
</tr>
<tr>
<td>Perceived social utility (H_{8c.0}, H_{8c.1})</td>
<td>BQ17, BQ18</td>
</tr>
<tr>
<td>Perceived study utility (H_{8d.0}, H_{8d.1})</td>
<td>BQ19, BQ20, BQ21</td>
</tr>
<tr>
<td>Perceived utility (H_{8.0}, H_{8.1})</td>
<td>BQ22, BQ23</td>
</tr>
<tr>
<td>Perceived risk (H_{9.0}, H_{9.1})</td>
<td>BQ24, BQ25</td>
</tr>
<tr>
<td>Social norms (H_{3.0}, H_{3.1})</td>
<td>BQ26, BQ27</td>
</tr>
<tr>
<td>Attitude towards mobile marketing (H_{1.0}, H_{1.1})</td>
<td>BQ28, BQ29</td>
</tr>
<tr>
<td>Behavioural intention (H_{2.0}, H_{2.1})</td>
<td>BQ30, BQ31, BQ32</td>
</tr>
</tbody>
</table>

Section C consisted of four structured questions (CQ1-4). CQ1 sought to determine whether Port Elizabeth high school learners wanted to receive study information from the NMMU. CQ2 dealt with the kind of information from the NMMU that were of interest to the respondents. CQ3 focused on the respondents’ medium choice when they wanted to obtain the NMMU’s information. CQ4 sought to determine the prize or other tangible benefits that would enhance the NMMU’s SMS advertising promotional effect among the respondents.
4.8.3 Pre-testing

According to Malhotra and Birks (2006: 345), “pre-testing refers to testing the questionnaire on a small sample of respondents to identify and eliminate potential problems”. Normally, all aspects of the questionnaire should be tested, including question content, wording, sequence, form and layout, question difficulty and instructions (Malhotra & Birks 2006: 345). Furthermore, “the pre-testing should help the researcher determine how much time respondents will need to complete the survey” (Hair et al 2000: 454).

An appropriate pre-testing involves a simulated administration of the survey to a small, representative group of respondents (Hair et al 2000: 454) drawn from the same population as the actual survey (Malhotra & Birks 2006: 345). “Ordinarily the pre-testing sample size varies from 15 to 30 respondents for the initial testing, depending on the heterogeneity of the target population” (Malhotra & Birks 2006: 346). However, “if the main purpose of the pre-testing is to check for specific wording problems, then only about ten respondents are needed in the pre-testing” (Hair et al 2000: 45).

For pre-testing the questionnaire of the current empirical study the main purpose was to test the wording and language of the questions and the learners’ ability to understand the questions. Eleven high school learners who
were representative of the population, participated in the pre-testing of the questionnaire. Based on their feedback, a few changes were made before the questionnaire was administered to the sample.

4.9 VALIDITY AND RELIABILITY

According to Malhotra and Birks (2006: 415), the quality of the measuring instrument and the data should be evaluated in terms of validity and reliability.

Reliability refers to the consistency with which a measure produces the same results with the same or comparable populations (McDaniel & Gates 2004: 125). Reliable instruments provide stable measures at different times under different conditions. Thus, reliability is the degree to which measures are free from random error and, therefore, provide consistent data. Furthermore, measurement reliability is a necessary condition for validity. There are three ways to assess reliability: test-retest, the use of equivalent forms and internal consistency (McDaniel & Gates 2004: 199, 200, 206). The different forms of reliability may not all be equally appropriate in a study. For this research, internal consistency was deemed more important since a number of constructs were measured and this needed to be done with a high degree of internal reliability.
Validity refers to the degree to which a measure reflects the characteristic of interest (McDaniel & Gates 2004: 125). It addresses the issue of whether what the researcher was trying to measure was actually measured, and it refers to the extent to which the measurement instrument and procedure are free from both systematic and random errors. Thus, a measuring device is valid only if differences in scores reflect true differences in the characteristic being measured rather than systematic or random errors. Validity can be examined from different perspectives, including face, content, criterion-related and construct validity. (McDaniel & Gates 2004: 125, 202).

For the current research, the questionnaire was developed based on the previous study by Bauer, Barnes, Reichardt and Neumann. The questions were scrutinized to ensure a high degree of face and content validity while construct validity was evaluated by means of factors analysis.

4.10 DATA ANALYSIS

Once data collection has been completed and the data have been captured, the next step is the analysis of the data. The purpose of data analysis is to interpret and draw conclusions from the mass of collected data (McDaniel & Gates 2004: 31). Analysis procedures can vary widely in sophistication and complexity, from simple frequency distributions (including percentages) to
sample statistics measures (such as means) to multivariate data analysis techniques such as factor analysis (Hair et al 2000: 42).

Frequency distributions and multivariate analyses formed part of the data analysis of the current study. Frequency distributions were mostly used to analyse the data from Sections A and C of the questionnaire, while multivariate analysis was applied to the data of Section B.

Structural equation modelling also formed part of the methodology. According to Stoelting (2006: ¶2, 7), the structural equation model (SEM), a multivariate analysis technique, is “a combination of multiple regression and factor analysis”; and “is used to find a model that fits the data well enough to serve as a useful representation of reality and a parsimonious explanation of the data”. Based on a large representative sample, factor analysis is used to establish what indicators seem to measure the corresponding latent variables represented by the factors (Garson 2006: 2). With the SEM the researcher can test whether variables are interrelated through a set of linear relationships by examining the variances and co-variances of the variables (Structural Equation Modelling 2006: ¶11).

The SEM approach was used for testing the hypotheses of the current research. The raw data collected were first edited, coded and captured in MS
Excel; and then analysed by using the SEPATH module in the statistical programme STATISTICA 7.1.

In addition, path diagrams play a fundamental role in structural modelling. They show variables interconnected with lines that are used to indicate causal flow. Each equation is represented on the diagram as follows: all independent variables have arrows pointing to the dependent variable. The weighting coefficient is placed above the arrow (Structural Equation Modelling 2006: ¶ 17, 19). The results of these analyses are shown in Chapter 5.

4.11 PROBLEMS OF THE RESEARCH

Two targeted schools chose not to participate in the research. However, since 417 useable questionnaires were received and deemed sufficient for attaining the objectives of the research, no further follow-ups were made.

4.12 SUMMARY

In this chapter, the researcher discussed the research design, research methodology (including the categories of research, data collection method and gathering techniques), sampling selection, questionnaire, reliability and validity, data analysis and the problems of the research.
For the purposes of this exploratory research study, quantitative data were collected by means of a self-administered questionnaire. Systematic sampling was used to draw a sample of 480 learners from 17 feeder schools of the NMMU in Port Elizabeth. The response rate was 86.9 percent resulting from 417 respondents from 15 schools who completed the questionnaire.

Structured questions including multiple-choice questions, dichotomous questions and rating scale questions were used in the questionnaire. Frequency distributions were used to analyse the data from Sections A and C, while multivariate analysis was applied to the data of Section B.

Structural equation modelling (SEM), a multivariate analysis technique, was used to analyse the data of Section B. The raw data were captured in MS Excel; and then analysed by using the SEPATH module in STATISTICA 7.1, a statistical programme. The findings are reported in Chapter 5.
CHAPTER 5
FINDINGS OF THE EMPIRICAL RESEARCH

5.1 INTRODUCTION

In Chapter 4, the researcher discussed the process of research design and the methodology, as well as the sample selection, questionnaire design and data analysis procedure and the method relevant to the current empirical study.

Chapter 5 reported on the findings of the empirical study. It commenced with reporting on the demographic details of respondents, and their cell-phone usage status (focusing on Section A of the questionnaire). This was followed by an account of the factors with an influence on the acceptance of marketing via SMS (focusing on Section B of the questionnaire). This section also related to the various hypotheses of the research. Thereafter, the information requirements and preferences for receiving the NMMU's marketing messages (questions in Section C) were dealt with.

5.2 DEMOGRAPHIC DETAIL OF RESPONDENTS

The demographic detail of respondents dealt with age, gender and population group.
Just over half (213 or 51.1%) of the 417 respondents were boys and 204 were girls. This is shown in Figure 5.1.

FIGURE 5.1
GENDER OF RESPONDENTS

All the respondents were in Grade 11 but their ages ranged from younger than 16 to 19 years and older. Figure 5.2 shows the age distribution of the respondents. The largest proportion of respondents (29.5%) was 18 years old.

FIGURE 5.2
AGE OF RESPONDENTS

The respondents were from four population groups (including Black, White, Coloured and Asian) as shown in Figure 5.3.
Figure 5.3 shows that blacks (80.3%) constituted the largest population group. This is in line with the NMMU’s population composition. In November 2006, the NMMU had 24300 students which consisted of 59.5% blacks, 25.7% whites, 12.2% coloureds and 2.6% other groups (Personal communication, Mrs B. Erickson, the NMMU, November 2006). Table 5.1 further shows the ethnic distribution of the respondents in terms of gender.

**TABLE 5.1**

**RESPONDENTS ACCORDING TO GENDER AND ETHNIC GROUP**

<table>
<thead>
<tr>
<th>POPULATION GROUPS</th>
<th>BOYS</th>
<th>GIRLS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>40.8%</td>
<td>39.5%</td>
<td>80.3%</td>
</tr>
<tr>
<td>White</td>
<td>2.6%</td>
<td>1.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Coloured</td>
<td>7.0%</td>
<td>7.6%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Asian</td>
<td>0.7%</td>
<td>0.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>All groups</td>
<td>51.1%</td>
<td>48.9%</td>
<td>100%</td>
</tr>
</tbody>
</table>
5.3 CELL-PHONE OWNERSHIP AND SUBSCRIPTION

Respondents’ cell-phone usage status, such as whether they owned a cell-phone and whether they were prepaid cell-phone subscribers, is summarised in this section.

The current and planned ownership of cell-phones amongst the respondents is shown in Figure 5.4.

**FIGURE 5.4**

CURRENT AND PLANNED OWNERSHIP OF CELL-PHONES

- Own cell-phone: 62.3%
- Do not own cell-phone: 37.7%
- No cell-phone, but will get one within the next 6 months: 23.3%
- No cell-phone, and will not get one within the next year: 14.4%

Figure 5.4 shows that 62.3% of the respondents currently owns a cell-phone. Of the rest of the respondents, 23.3% (97) will get one within the next six months, while 14.4% (60) are unlikely to own a cell-phone within the next year.
Table 5.2 shows the current and future ownership of cell-phones according to gender, age and population group. Table 5.2 shows that of the 260 respondents who owned a cell-phone, girls outnumbered the boys (54.6% compared to 45.4%). However, of 97 respondents that will get a cell-phone within the next 6 months, boys had a higher proportion (60.8%) than that of girls (39.2%). As well as, of 60 respondents who will not get a cell-phone within the next year, a higher proportion (60%) existed among boys than that of girls (40%).

**TABLE 5.2**

**CELL-PHONE OWNERSHIP**

**ACCORDING TO GENDER AND ETHNIC GROUP**

<table>
<thead>
<tr>
<th>CELL-PHONE OWNERSHIP</th>
<th>RESPONSENTS</th>
<th>RESPONSENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boy</td>
<td>Girl</td>
</tr>
<tr>
<td>Owned cell-phone (Total: 260)</td>
<td>45.4%</td>
<td>54.6%</td>
</tr>
<tr>
<td>No cell-phone but will get one within the next 6 months (Total: 97)</td>
<td>60.8%</td>
<td>39.2%</td>
</tr>
<tr>
<td>No cell-phone and will not get one within the next year (Total: 60)</td>
<td>60.0%</td>
<td>40.0%</td>
</tr>
<tr>
<td>Grand total</td>
<td>213</td>
<td>204</td>
</tr>
</tbody>
</table>

Table 5.2 also shows that, of the 260 respondents who owned a cell-phone, 75.8% were black; while non-blacks (including Whites, Coloureds and Asians) constituted 24.2% of the sample. However, in each group, non-blacks had a
higher proportion (76.8%) of cell-phone ownership than that of blacks (58.8%). Furthermore, within the next six months, 89.7% of 97 respondents who will get cell-phones, were black. Fifteen percent of the respondents, who will not get a cell-phone within the next year, were non-black respondents.

In addition, respondents were requested to indicate their subscription to a pre-paid service. Of the 260 respondents who currently owned a cell-phone, the majority (212 or 81.5%) were prepaid cell-phone subscribers. Table 5.3 shows this status according to gender and population group.

**TABLE 5.3**

CELL-PHONE SUBSCRIBER STATUS

<table>
<thead>
<tr>
<th>PREPAID CELL-PHONE SUBSCRIBER</th>
<th>RESPONDENTS</th>
<th>RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boy</td>
<td>Girl</td>
</tr>
<tr>
<td>Yes</td>
<td>81.5%</td>
<td>81.6%</td>
</tr>
<tr>
<td>No</td>
<td>18.5%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>260</td>
<td>260</td>
</tr>
</tbody>
</table>

Based on Table 5.3, there is almost no difference in the proportion of boys (81.5%) to girls (81.6%) who are prepaid cell-phone subscribers. However, more black respondents (82.7%) than non-blacks (77.8%) were prepaid subscribers.
5.4 SENDING AND RECEIVING OF SMS MESSAGES

This section reports on the number of SMSs sent and received each week by the respondents who owned cell-phones. Figure 5.5 illustrates the findings.

**FIGURE 5.5**

SMSs SENT AND RECEIVED PER WEEK

<table>
<thead>
<tr>
<th>Sending and receiving SMSs each week</th>
<th>Sending SMSs</th>
<th>Receiving SMSs</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>8.8%</td>
<td>1.2%</td>
</tr>
<tr>
<td>1-10 SMSs</td>
<td>70.0%</td>
<td>57.3%</td>
</tr>
<tr>
<td>11-20 SMSs</td>
<td>11.2%</td>
<td>23.8%</td>
</tr>
<tr>
<td>21-30 SMSs</td>
<td>3.8%</td>
<td>10.4%</td>
</tr>
<tr>
<td>31-50 SMSs</td>
<td>3.1%</td>
<td>3.1%</td>
</tr>
<tr>
<td>More than 50 SMSs</td>
<td>3.1%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

Figure 5.5 shows that only 23 (8.8%) of the respondents never send SMSs and three (1.2%) never receive SMSs. In addition, a large proportion (70.0%) of the respondents send from one to ten SMSs and 57.3% receive from one to ten SMSs each week. In the other categories, more respondents prefer to receive SMSs than to send SMSs. Almost double (23.8%) received from
11-20 SMSs each week compared to the 11.2% who sent 11-20 SMSs each week. More respondents received over 50 SMSs per week compared to those that sent this amount. Table 5.4 shows the distribution of SMS activity according to gender.

**TABLE 5.4**

SENDING AND RECEIVING SMSs ACCORDING TO GENDER

<table>
<thead>
<tr>
<th>WEEKLY SMSs</th>
<th>RESPONDENTS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sending SMS</td>
<td>Receiving SMS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boy</td>
<td>Girl</td>
<td>Boy</td>
</tr>
<tr>
<td>None</td>
<td>9.3%</td>
<td>8.5%</td>
<td>1.7%</td>
</tr>
<tr>
<td>1-10 SMSs</td>
<td>69.5%</td>
<td>70.4%</td>
<td>62.7%</td>
</tr>
<tr>
<td>11-20 SMSs</td>
<td>10.2%</td>
<td>12.0%</td>
<td>18.6%</td>
</tr>
<tr>
<td>21-30 SMSs</td>
<td>5.1%</td>
<td>2.8%</td>
<td>10.2%</td>
</tr>
<tr>
<td>31-50 SMSs</td>
<td>1.7%</td>
<td>4.2%</td>
<td>2.5%</td>
</tr>
<tr>
<td>More than 50 SMSs</td>
<td>4.2%</td>
<td>2.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Total</td>
<td>118 (100%)</td>
<td>142 (100%)</td>
<td>118 (100%)</td>
</tr>
</tbody>
</table>

Table 5.4 shows that about 80% of both boys and girls sent and received from one to 20 SMSs each week. However, fewer girls (52.8%) than boys (62.7%) received from one to ten SMSs per week. For the option of “11-20 SMSs”, proportion for girls (28.2% of 142 girls) was greater than that of the boys (18.6% of 118 boys).
Table 5.5 shows the SMS’s activity according to population group.

<table>
<thead>
<tr>
<th>WEEKLY SMSs</th>
<th>RESPONDENTS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sending SMS</td>
<td>Receiving SMS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>Non-black</td>
<td>Black</td>
</tr>
<tr>
<td>None</td>
<td>10.2%</td>
<td>4.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>1-10 SMSs</td>
<td>76.1%</td>
<td>50.8%</td>
<td>64.0%</td>
</tr>
<tr>
<td>11-20 SMSs</td>
<td>8.6%</td>
<td>19.0%</td>
<td>22.3%</td>
</tr>
<tr>
<td>21-30 SMSs</td>
<td>2.5%</td>
<td>7.9%</td>
<td>9.1%</td>
</tr>
<tr>
<td>31-50 SMSs</td>
<td>2.0%</td>
<td>6.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>More than 50 SMSs</td>
<td>0.5%</td>
<td>11.1%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total</td>
<td>197 (100%)</td>
<td>63 (100%)</td>
<td>197 (100%)</td>
</tr>
</tbody>
</table>

Table 5.5 shows that the highest proportion of blacks (76.1% and 64.0%) and non-blacks (50.8% and 36.5%) sent and received between one and ten SMSs per week. In each case blacks were more active than non-blacks. However, in all the other categories, non-blacks were more active than blacks. In the case of both categories “31-50 SMSs” and “more than 50 SMSs” per week, non-blacks’ activity (6.3%, 11.1%, 7.9% and 9.5%) were more than treble that of blacks (2.0%, 0.5%, 1.5% and 2.5%).
5.5 MOST USED FORM OF SMS

Findings in this section focus on the form of SMS most used by the respondents. Usually, short message services include many different forms such as text messages, photos, games, ring-tones, entertainment messages and advertisements. Figure 5.6 shows the purpose of the use of SMSs.

FIGURE 5.6
PURPOSE OF USE OF SMS

Figure 5.5 shows that, only 0.4% of the 260 respondents never use SMSs (both sending and receiving). The most-used form of SMS was “text messaging” (89.2% of the 260 respondents). Other forms of SMS were
seldom used, for example, photos (3.4%), games (0.8%), ring-tones (3.1%) and entertainment messages (3.1%). The form of SMS as an advertisement is shown to be zero. This indicates that not one of the respondents had experience of using SMS advertisements.

Table 5.6 provides a detailed account according to gender and population group of the use of various forms of SMS among 260 cell-phone owners.

**TABLE 5.6**

**FORMS OF SMS-USE ACCORDING TO GENDER AND ETHNIC GROUP**

<table>
<thead>
<tr>
<th>USED FORM OF SMS</th>
<th>RESPONDENTS</th>
<th></th>
<th>RESPONDENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boy</td>
<td>Girl</td>
<td>Black</td>
<td>Non-black</td>
</tr>
<tr>
<td>Do not use SMSs</td>
<td>0</td>
<td>0.7%</td>
<td>0</td>
<td>1.6%</td>
</tr>
<tr>
<td>Text messages</td>
<td>91.5%</td>
<td>87.3%</td>
<td>88.3%</td>
<td>92.1%</td>
</tr>
<tr>
<td>Photos</td>
<td>1.7%</td>
<td>4.9%</td>
<td>4.1%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Games</td>
<td>0.8%</td>
<td>0.7%</td>
<td>0</td>
<td>3.2%</td>
</tr>
<tr>
<td>Ring-tones</td>
<td>1.7%</td>
<td>4.2%</td>
<td>3.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Entertainment messages</td>
<td>4.2%</td>
<td>2.1%</td>
<td>4.1%</td>
<td>0</td>
</tr>
<tr>
<td>Advertisements</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118 (100%)</strong></td>
<td><strong>142 (100%)</strong></td>
<td><strong>197 (100%)</strong></td>
<td><strong>63 (100%)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>260</strong></td>
<td></td>
<td><strong>260</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.6 shows that, of the 260 respondents who owned a cell-phone, text messages was used most by boys and girls, and by black and non-black groups. Further, proportionately more girls liked to use SMS for transmitting photos (4.9% of 142 girls) and for ring-tones (4.2% of 142 girls) than did boys (only 1.7% of 118 boys). However, boys took a greater interest in entertainment messages (4.2%) than did girls (2.1%). In addition, these
three forms of SMS had a higher proportion of use by blacks (4.1%, 3.6% and 4.1% respectively) than by non-black respondents (1.6%, 1.6% and 0 respectively).

5.6 FACTORS WITH AN INFLUENCE ON MOBILE MARKETING

The 32 five-point Likert scale questions in Section B (BQ1-32, see Annexure B) of the questionnaire measured the influence of factors relevant to respondents’ attitudes toward mobile marketing. This section reports on the results of the testing of the model (see Figure 3.1) of the structured equation modelling (SEM) and provides an analysis of mean scores of the relevant factors.

5.6.1 Testing of the model

The original model (see Figure 1.1) proposed by Bauer et al (2005: 186) and the modified model of high school learners’ acceptance of mobile (SMS) marketing (see Figure 3.1, in which a new construct of perceived study utility [Pustu] was added) were fitted to the data resulting from Section B. The results from a variety of goodness-of-fit tests are shown in Table 5.7.
Table 5.7 shows that the results were unsatisfactory for both the original and the modified model, as they did not meet the criteria.

An inspection of the correlation among all the items seemed to indicate that the lack of fit could be due to the high correlation across the different constructs included in both the original and the modified models. Since these models did not fit the data adequately, the hypotheses as set out in Table 4.1 (and as discussed in Chapter 1) could not be tested.

The data were then used to build and test a more adequate model. This was accomplished by splitting the data into two halves, using one half as the training data and the other half as the test data.
Use was made of factor analysis and oblique rotation to develop a useful measurement model. The constructs identified by this process were examined and used to build a structural model in a stepwise manner by initially starting with a model based on theory (also using Bauer et al's model) and adjusting it until it fits the data.

In the attempt to identify a more appropriate model for the current study, focusing specifically on high school learners' acceptance of SMS marketing messages, the data was hence factor analysed using Principal Axis Factoring as method of extraction, followed by an oblique rotation (Direct Quartimin). This was done to ensure that the measurement part of the model had an acceptable degree of construct validity, in other words, that constructs were measured by the appropriate items. By collectively using Kaiser's "eigen values greater than one" rule, the scree plot and the proportion of variance explained, it was suggested that seven or eight factors should be extracted. These two solutions were scrutinized to find the optimum one. The eight-factor solution seemed appropriate and Table 5.8 shows the final rotated factor matrix.

Table 5.8 shows that Behavioural Intention (BI) was omitted from the analysis since it was deemed to be the ultimate dependent variable. Perceived Risk (PR) was ignored due to its very low loadings. IN3 was omitted due to a high loading on another factor. The ATMM items did not load strongly where they
### TABLE 5.8
DIRECT QUARTIMIN ROTATED FACTOR MATRIX

<table>
<thead>
<tr>
<th></th>
<th>Factor1</th>
<th>Factor2</th>
<th>Factor3</th>
<th>Factor4</th>
<th>Factor5</th>
<th>Factor6</th>
<th>Factor7</th>
<th>Factor8</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN1</td>
<td>0.039</td>
<td>-0.049</td>
<td>0.037</td>
<td>0.077</td>
<td>0.038</td>
<td>0.575</td>
<td>0.044</td>
<td>0.001</td>
</tr>
<tr>
<td>IN2</td>
<td>0.027</td>
<td>0.025</td>
<td>-0.015</td>
<td>-0.050</td>
<td>-0.002</td>
<td>0.678</td>
<td>0.000</td>
<td>0.008</td>
</tr>
<tr>
<td>IN3</td>
<td>-0.057</td>
<td>0.063</td>
<td>-0.064</td>
<td>0.107</td>
<td>-0.127</td>
<td>0.356</td>
<td>0.481</td>
<td>-0.007</td>
</tr>
<tr>
<td>EK1</td>
<td>0.071</td>
<td>0.693</td>
<td>-0.005</td>
<td>0.042</td>
<td>0.091</td>
<td>0.000</td>
<td>0.053</td>
<td>-0.185</td>
</tr>
<tr>
<td>EK2</td>
<td>0.036</td>
<td>0.767</td>
<td>-0.050</td>
<td>0.048</td>
<td>-0.020</td>
<td>-0.028</td>
<td>0.022</td>
<td>0.076</td>
</tr>
<tr>
<td>EK3</td>
<td>0.024</td>
<td>0.554</td>
<td>0.169</td>
<td>0.004</td>
<td>0.127</td>
<td>0.157</td>
<td>-0.119</td>
<td>0.126</td>
</tr>
<tr>
<td>IS1</td>
<td>0.094</td>
<td>0.037</td>
<td>0.729</td>
<td>0.063</td>
<td>-0.014</td>
<td>-0.019</td>
<td>-0.025</td>
<td>0.076</td>
</tr>
<tr>
<td>IS2</td>
<td>-0.075</td>
<td>-0.042</td>
<td>0.702</td>
<td>0.019</td>
<td>0.012</td>
<td>0.027</td>
<td>0.126</td>
<td>-0.080</td>
</tr>
<tr>
<td>ATA1</td>
<td>0.011</td>
<td>0.043</td>
<td>0.214</td>
<td>-0.020</td>
<td>0.029</td>
<td>0.005</td>
<td>0.593</td>
<td>0.022</td>
</tr>
<tr>
<td>ATA2</td>
<td>0.066</td>
<td>-0.059</td>
<td>0.236</td>
<td>-0.182</td>
<td>0.241</td>
<td>0.026</td>
<td>0.495</td>
<td>-0.087</td>
</tr>
<tr>
<td>PUinf1</td>
<td>0.736</td>
<td>-0.010</td>
<td>0.010</td>
<td>0.058</td>
<td>-0.037</td>
<td>-0.028</td>
<td>0.019</td>
<td>-0.075</td>
</tr>
<tr>
<td>PUinf2</td>
<td>0.733</td>
<td>0.180</td>
<td>-0.054</td>
<td>-0.007</td>
<td>-0.034</td>
<td>0.013</td>
<td>0.004</td>
<td>0.051</td>
</tr>
<tr>
<td>PUent1</td>
<td>0.821</td>
<td>-0.036</td>
<td>0.074</td>
<td>-0.054</td>
<td>0.085</td>
<td>0.084</td>
<td>-0.029</td>
<td>0.041</td>
</tr>
<tr>
<td>PUent2</td>
<td>0.604</td>
<td>0.168</td>
<td>0.030</td>
<td>0.089</td>
<td>-0.107</td>
<td>-0.047</td>
<td>0.050</td>
<td>0.151</td>
</tr>
<tr>
<td>PUent3</td>
<td>0.392</td>
<td>0.090</td>
<td>0.054</td>
<td>0.096</td>
<td>0.096</td>
<td>0.196</td>
<td>-0.219</td>
<td>-0.103</td>
</tr>
<tr>
<td>PUent4</td>
<td>0.487</td>
<td>0.054</td>
<td>-0.075</td>
<td>0.105</td>
<td>-0.001</td>
<td>0.004</td>
<td>0.163</td>
<td>-0.266</td>
</tr>
<tr>
<td>PUsoc2</td>
<td>0.433</td>
<td>0.061</td>
<td>0.095</td>
<td>0.263</td>
<td>0.077</td>
<td>0.079</td>
<td>0.000</td>
<td>-0.204</td>
</tr>
<tr>
<td>PUstu1</td>
<td>0.073</td>
<td>0.058</td>
<td>0.023</td>
<td>0.738</td>
<td>-0.036</td>
<td>0.037</td>
<td>-0.030</td>
<td>-0.028</td>
</tr>
<tr>
<td>PUstu2</td>
<td>-0.085</td>
<td>0.056</td>
<td>0.038</td>
<td>0.833</td>
<td>-0.007</td>
<td>0.043</td>
<td>-0.045</td>
<td>-0.013</td>
</tr>
<tr>
<td>PUstu3</td>
<td>0.106</td>
<td>-0.040</td>
<td>0.019</td>
<td>0.598</td>
<td>-0.133</td>
<td>0.116</td>
<td>0.099</td>
<td>0.076</td>
</tr>
<tr>
<td>SN1</td>
<td>-0.082</td>
<td>0.055</td>
<td>0.027</td>
<td>0.009</td>
<td>0.620</td>
<td>0.060</td>
<td>0.027</td>
<td>-0.021</td>
</tr>
<tr>
<td>SN2</td>
<td>-0.019</td>
<td>0.143</td>
<td>0.032</td>
<td>0.012</td>
<td>0.627</td>
<td>-0.025</td>
<td>-0.007</td>
<td>-0.004</td>
</tr>
<tr>
<td>ATMM1</td>
<td>0.204</td>
<td>-0.065</td>
<td>-0.095</td>
<td>0.342</td>
<td>0.334</td>
<td>0.021</td>
<td>0.182</td>
<td>(0.223)</td>
</tr>
<tr>
<td>ATMM2</td>
<td>0.364</td>
<td>-0.049</td>
<td>-0.038</td>
<td>0.237</td>
<td>0.295</td>
<td>0.060</td>
<td>-0.025</td>
<td>(0.236)</td>
</tr>
</tbody>
</table>

IN=Innovativeness  
EK=Existing Knowledge  
IS=Information Seeker  
ATA=Attitude toward Advertising  
PU=Perceived Utility  
PUinf=PU Information  
PUent=PU Entertainment  
PUsoc=PU Social  
PUstu=PU Study  
SN=Social Norms  
ATMM=Attitude toward Mobile Marketing

should have (the loadings in brackets are where they should be). However, since the reliability of this construct was 0.737 (correlation between ATMM1 and ATMM2 was 0.584), it was deemed to still be a reliable construct.
Therefore, based on Table 5.8, the measurement model seemed to have a high degree of construct validity.

The internal reliability of these eight constructs, as measured by the Cronbach Alpha coefficient, is given in Table 5.9.

**TABLE 5.9**

**CRONBACH ALPHA COEFFICIENTS**

<table>
<thead>
<tr>
<th>Construct</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Training data set</td>
</tr>
<tr>
<td>Innovativeness (IN)</td>
<td>0.63</td>
</tr>
<tr>
<td>Existing knowledge (EK)</td>
<td>0.79</td>
</tr>
<tr>
<td>Information seeker (IS)</td>
<td>0.75</td>
</tr>
<tr>
<td>Attitude towards advertising in general (ATA)</td>
<td>0.73</td>
</tr>
<tr>
<td>Perceived utility of information, entertainment and social (PUies)</td>
<td>0.87</td>
</tr>
<tr>
<td>Perceived study utility (Pustu)</td>
<td>0.81</td>
</tr>
<tr>
<td>Social norms (SN)</td>
<td><strong>0.65</strong></td>
</tr>
<tr>
<td>Attitude toward mobile (SMS) marketing (ATMM)</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Table 5.9 shows that, the reliability coefficients were generally acceptable. The majority were greater than 0.70 and only two constructs in the training data set and three in the test data set did not reach the level of 0.70.

These eight constructs together with BI (internal reliability of 0.68 in training data and 0.71 in test data) were used to build the structural model as shown in Figure 5.7 (namely, ATMM [SMS-Marketing] model below). Note that this model is quite different from the original model of Bauer et al (2005: 186) in the sense that there were many more relationships added.
The results of both the training data and test data from a variety of goodness-of-fit tests of the final ATMM (SMS-Marketing) model are shown in Table 5.10. Table 5.10 shows that the first four values associated with the training data set still did not reach the condition of the criteria. However, although a generally accepted value for NFI and NNFI is 0.90 or above to indicate good fit, this may be too strict and values of 0.85 or above are also deemed to indicate an acceptable fit (Hinken 1995: 967-988).
Table 5.10 also shows that the value of RMSEA was 0.052 (Training data set).

According to Browne and Cudeck (1993: 136-162) a close fit of a model is demonstrated by an RMSEA value of approximately 0.05. Therefore, the results (indicated in Table 5.10) showed that the final model fitted the data quite well. This was true for both the training and test data sets, although, as can be expected, the fit of the model with the training data was slightly better.

Also in the final ATMM (SMS-Marketing) model, the exogenous constructs were correlated. The correlations among the exogenous constructs are shown in Table 5.11.

### TABLE 5.10

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>CONDITION</th>
<th>VALUE (Final model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joreskog GFI (GFI)</td>
<td>&gt; 0.9</td>
<td>0.859</td>
</tr>
<tr>
<td>Joreskog AGFI (AGFI)</td>
<td>&gt; 0.9</td>
<td>0.826</td>
</tr>
<tr>
<td>Bentler-Bonett Normed Fit Index (NFI)</td>
<td>&gt; 0.9</td>
<td>0.807</td>
</tr>
<tr>
<td>Bentler-Bonett Non-Normed Fit Index (NNFI)</td>
<td>&gt; 0.9</td>
<td>0.898</td>
</tr>
<tr>
<td>Bentler Comparative Fit Index (CFI)</td>
<td>&gt; 0.9</td>
<td>0.911</td>
</tr>
<tr>
<td>Steiger-Lind RMSEA Index (RMSEA)</td>
<td>&lt; 0.08</td>
<td>0.052</td>
</tr>
</tbody>
</table>

* Statistically significant at 5% level

### TABLE 5.11

<table>
<thead>
<tr>
<th>Variable</th>
<th>IS</th>
<th>IN</th>
<th>SN</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN</td>
<td>0.26*</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>0.39*</td>
<td>0.46</td>
<td>1.000</td>
</tr>
</tbody>
</table>

* Statistically significant at 5% level
5.6.2 Detailed results of the final ATMM (SMS-Marketing) model

The final ATMM (SMS-Marketing) model (see Figure 5.7) consisted of nine factors. Twenty-six items were attributed to these factors. The path coefficients in this model are shown in Table 5.12.

**TABLE 5.12**

PATH COEFFICIENTS OF ATMM (SMS-MARKETING) MODEL

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>Training</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Innovativeness (IN)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BQ1: I am usually among of the first to try out a new product.</td>
<td>0.72</td>
<td>0.99</td>
</tr>
<tr>
<td>BQ2: I often try new products before my friends do.</td>
<td>0.62</td>
<td>0.36</td>
</tr>
<tr>
<td><strong>Factor 2: Existing knowledge of mobile communication (EK)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BQ4: I have a very good knowledge about cell-phones.</td>
<td>0.79</td>
<td>0.61</td>
</tr>
<tr>
<td>BQ5: In comparison to my circle of friends I am an expert in cell-phone usage.</td>
<td>0.79</td>
<td>0.69</td>
</tr>
<tr>
<td>BQ6: In my circle of friends I am usually the first who knows about the latest cell-phones.</td>
<td>0.67</td>
<td>0.67</td>
</tr>
<tr>
<td><strong>Factor 3: Information seeker-behaviour (IS)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BQ7: I enjoy reading different advertisements and then compare them.</td>
<td>0.72</td>
<td>0.64</td>
</tr>
<tr>
<td>BQ8: I tend to read a lot of different advertisements because it is interesting.</td>
<td>0.83</td>
<td>0.63</td>
</tr>
<tr>
<td><strong>Factor 4: Attitude towards advertising in general (ATA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BQ9: Advertising is a good thing.</td>
<td>0.73</td>
<td>0.73</td>
</tr>
<tr>
<td>BQ10: I like advertisements.</td>
<td>0.79</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Factor 5: Perceived utility (information, entertainment and social) (PUies)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BQ11: Receiving advertising messages via the cell-phone keeps me up-to-date with the latest information.</td>
<td>0.72</td>
<td>0.71</td>
</tr>
<tr>
<td>BQ12: I like to receive unique information via my cell-phone.</td>
<td>0.81</td>
<td>0.78</td>
</tr>
<tr>
<td>BQ13: I find receiving advertising messages via the cell-phone exciting.</td>
<td>0.82</td>
<td>0.73</td>
</tr>
<tr>
<td>BQ14: It is fun to receive advertising messages directed to me personally.</td>
<td>0.72</td>
<td>0.72</td>
</tr>
<tr>
<td>BQ15: I enjoy participating in SMS competitions.</td>
<td>0.57</td>
<td>0.45</td>
</tr>
<tr>
<td>BQ16: I find SMS messages entertaining.</td>
<td>0.55</td>
<td>0.46</td>
</tr>
<tr>
<td>BQ18: By using advertising messages received via cell-phone, I can demonstrate my use of new ideas and technology to my friends.</td>
<td>0.67</td>
<td>0.67</td>
</tr>
<tr>
<td><strong>Factor 6: Perceived study utility (PUstu)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BQ19: I think SMSs received from my school that will help me in my studies will be useful.</td>
<td>0.82</td>
<td>0.82</td>
</tr>
</tbody>
</table>
BQ20: SMSs can lead to better communication between my school and me. 0.83 0.87
BQ21: I think SMS advertisements from universities can be a convenient way of receiving study information. 0.67 0.63

**Factor 7: Social norms (SN)**

<table>
<thead>
<tr>
<th>BQ26: If I use SMS advertising, most of the people who are important to me will regard me as clever.</th>
<th>Training</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.70</td>
<td>0.70</td>
<td></td>
</tr>
</tbody>
</table>

| BQ27: Most of the people who are important to me think that SMS advertising is useful. | 0.67 | 0.61 |

**Factor 8: Attitude towards mobile (SMS) marketing (ATMM)**

<table>
<thead>
<tr>
<th>BQ28: Receiving SMS advertising messages via the cell-phone is a good thing.</th>
<th>Training</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.72</td>
<td>0.74</td>
<td></td>
</tr>
</tbody>
</table>

| BQ29: I like receiving SMS advertising messages via my cell-phone. | 0.75 | 0.77 |

**Factor 9: Behavioural intention (BI)**

<table>
<thead>
<tr>
<th>BQ30: I am likely to use information received by SMS.</th>
<th>Training</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.74</td>
<td>0.79</td>
<td></td>
</tr>
</tbody>
</table>

| BQ31: I will think about using marketing information received by SMS. | 0.62 | 0.57 |

| BQ32: I will definitely use SMS marketing messages in the future. | 0.53 | 0.56 |

All these coefficients are statistically significant at the 5% level.

In Table 5.13 the partial effects in the structural model are given.

**TABLE 5.13**

PARTIAL EFFECTS OF THE FACTORS OF THE FINAL ATMM (SMS-MARKETING) MODEL

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>PARTIAL EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EK influences PUies</td>
<td>0.35* 0.35*</td>
</tr>
<tr>
<td>PUies influences Pustu</td>
<td>0.58* 0.35*</td>
</tr>
<tr>
<td>PUies influences ATMM</td>
<td>0.39* 0.52*</td>
</tr>
<tr>
<td>Pustu influences ATMM</td>
<td>0.40* 0.22*</td>
</tr>
<tr>
<td>IS influences ATA</td>
<td>0.65* 0.70*</td>
</tr>
<tr>
<td>ATA influences ATMM</td>
<td>-0.001 0.08</td>
</tr>
<tr>
<td>SN influences PUies</td>
<td>0.20* 0.60*</td>
</tr>
<tr>
<td>SN influences Pustu</td>
<td>0.13 0.36*</td>
</tr>
<tr>
<td>SN influences ATMM</td>
<td>0.37* 0.23</td>
</tr>
<tr>
<td>SN influences BI</td>
<td>0.24* 0.35*</td>
</tr>
<tr>
<td>ATMM influences BI</td>
<td>0.70* 0.52*</td>
</tr>
</tbody>
</table>

* Statistically significant at 5% level
Table 5.13 shows that, of the results of training data set, the factor of “attitude towards mobile marketing” had the largest partial effect (0.70) on influencing respondents’ behavioural intention. The factor of “information seeker” with the second-largest partial effect (0.65) influences the factor of “attitude toward advertising in general”. However, the factor of “attitude toward advertising in general” only had a partial effect of zero (-0.001) to influence respondents’ attitudes toward mobile marketing. Figure 5.8 illustrates the full model, namely, the measurement and structural model combined, with all path coefficients (only coefficients of the training data are provided). The significant coefficients (at 5% level) are indicated in red.

**FIGURE 5.8**

**PATH COEFFICIENTS AND THE PARTIAL EFFECTS OF THE MODEL**
The total effects of both training data and test data of the final ATMM (SMS-Marketing) model are shown in Table 5.14, which impacts on the ultimately dependent variable, namely factor of “behavioural intention”.

**TABLE 5.14**

TOTAL EFFECTS OF CONSTRUCTS ON BEHAVIOURAL INTENTION

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>SUM OF PARTIAL EFFECTS</th>
<th>TOTAL EFFECT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information seeker-behaviour (IS)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$0.65 \times (-0.001) \times 0.70$</td>
<td>-0.0005</td>
</tr>
<tr>
<td>Test</td>
<td>$0.70 \times 0.08 \times 0.52$</td>
<td>0.029</td>
</tr>
<tr>
<td><strong>Attitude toward advertising in general (ATA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$(-0.001) \times 0.70$</td>
<td>-0.0007</td>
</tr>
<tr>
<td>Test</td>
<td>$0.08 \times 0.52$</td>
<td>0.042</td>
</tr>
<tr>
<td><strong>Innovativeness (IN)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$0.35 \times 0.61 \times 0.39 \times 0.70 = 0.058$ + $0.35 \times 0.61 \times 0.58 \times 0.40 \times 0.70 = 0.035$</td>
<td>0.093</td>
</tr>
<tr>
<td>Test</td>
<td>$0.11 \times 0.35 \times 0.52 \times 0.52 = 0.010$ + $0.11 \times 0.35 \times 0.35 \times 0.22 \times 0.52 = 0.002$</td>
<td>0.012</td>
</tr>
<tr>
<td><strong>Existing knowledge (EK)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$0.61 \times 0.39 \times 0.70 = 0.167$ + $0.61 \times 0.58 \times 0.40 \times 0.70 = 0.099$</td>
<td>0.266</td>
</tr>
<tr>
<td>Test</td>
<td>$0.35 \times 0.52 \times 0.52 = 0.095$ + $0.35 \times 0.35 \times 0.22 \times 0.52 = 0.014$</td>
<td>0.109</td>
</tr>
<tr>
<td><strong>Perceived utility of information, entertainment and social (PUies)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$0.39 \times 0.70 = 0.273$ + $0.58 \times 0.40 \times 0.70 = 0.162$</td>
<td>0.435</td>
</tr>
<tr>
<td>Test</td>
<td>$0.52 \times 0.52 = 0.270$ + $0.35 \times 0.22 \times 0.52 = 0.040$</td>
<td>0.310</td>
</tr>
<tr>
<td><strong>Perceived study utility (PUstu)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$0.40 \times 0.70$</td>
<td>0.280</td>
</tr>
<tr>
<td>Test</td>
<td>$0.22 \times 0.52$</td>
<td>0.114</td>
</tr>
<tr>
<td><strong>Attitude toward mobile (SMS) marketing (ATMM)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$0.70$</td>
<td>0.700</td>
</tr>
<tr>
<td>Test</td>
<td>$0.52$</td>
<td>0.520</td>
</tr>
<tr>
<td><strong>Social norms (SN)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>$0.24$ + $0.37 \times 0.70 = 0.259$ + $0.20 \times 0.39 \times 0.70 = 0.055$ + $0.13 \times 0.40 \times 0.70 = 0.036$</td>
<td>0.590</td>
</tr>
<tr>
<td>Test</td>
<td>$0.35$ + $0.23 \times 0.52 = 0.120$ + $0.60 \times 0.52 \times 0.52 = 0.162$ + $0.36 \times 0.22 \times 0.52 = 0.041$</td>
<td>0.673</td>
</tr>
</tbody>
</table>
Table 5.14 shows that, with the training data, “attitude toward mobile marketing” had the strongest total effect (0.70) on behavioural intention. In addition, although “social norms” had only a small direct influence on the behavioural intention, it indirectly influenced “attitude towards mobile marketing”. It therefore had a total effect (0.59) on the behavioural intention. Due to the smallest partial effect (-0.001) of “attitude toward advertising in general”, the total effects were almost zero on behavioural intention by both “information seeker-behaviour” (-0.0005) and “attitude towards advertising in general” (-0.0007). Furthermore, the findings of training data and of the test data were very similar.

5.6.3 Analysis of mean scores of the factors

As a further analysis, mean scores were obtained from each of the factor items linked to Section B of the questionnaire. This section reports on the findings with respect to the three factor parts based on the modified model of high school learners’ acceptance of mobile (SMS) marketing (see Figure 3.1).

5.6.3.1 Mean scores of consumer-based acceptance drivers

Consumer-based acceptance drivers include innovativeness (IN), existing knowledge of mobile communication (EK), information seeker-behaviour (IS)
and attitude towards advertising in general (ATA). In Section B of the questionnaire, the above four factors were measured by questions one to ten (BQ1-10). The analysis of the mean scores of these factors is shown in Table 5.15.

TABLE 5.15
MEAN SCORES OF CONSUMER-BASED ACCEPTANCE DRIVERS

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>MEAN SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovativeness (IN)</td>
<td>3.37</td>
</tr>
<tr>
<td>BQ1: I am usually among of the first to try out a new product.</td>
<td>3.07</td>
</tr>
<tr>
<td>BQ2: I often try new products before my friends do.</td>
<td>3.18</td>
</tr>
<tr>
<td>BQ3: I generally enjoy buying new products.</td>
<td>3.85</td>
</tr>
<tr>
<td>Existing knowledge of mobile communication (EK)</td>
<td>3.12</td>
</tr>
<tr>
<td>BQ4: I have a very good knowledge about cell-phones.</td>
<td>3.53</td>
</tr>
<tr>
<td>BQ5: In comparison to my circle of friends I am an expert in cell-phone usage.</td>
<td>2.90</td>
</tr>
<tr>
<td>BQ6: In my circle of friends I am usually the first who knows about the latest cell-phones.</td>
<td>2.92</td>
</tr>
<tr>
<td>Information seeker-behaviour (IS)</td>
<td>3.71</td>
</tr>
<tr>
<td>BQ7: I enjoy reading different advertisements and then compare them.</td>
<td>3.53</td>
</tr>
<tr>
<td>BQ8: I tend to read a lot of different advertisements because it is interesting.</td>
<td>3.88</td>
</tr>
<tr>
<td>Attitude towards advertising in general (ATA)</td>
<td>4.23</td>
</tr>
<tr>
<td>BQ9: Advertising is a good thing.</td>
<td>4.31</td>
</tr>
<tr>
<td>BQ10: I like advertisements.</td>
<td>4.14</td>
</tr>
</tbody>
</table>

Table 5.15 shows that all the mean scores of the four factors were higher than 3.0 (on a 5-point scale), which indicates they all obtained agreement from the respondents. “Attitude towards advertising in general” had a higher score (4.23) than the other three factors, with “existing knowledge of mobile communication” at the lowest (3.12).
5.6.3.2 Mean scores of innovation-based acceptance drivers

Innovation-based acceptance drivers include perceived utility (PU) and perceived risk (PR). Perceived utility could be further divided into perceived utility of information (PUinf), entertainment (PUent), social event (PUsoc) and study (PUstu). Questions 11 to 25 in Section B of the questionnaire dealt with these factors. The analysis of the mean scores of these factors is shown in Table 5.16.

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>MEAN SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived information utility (PUinf)</td>
<td>3.34</td>
</tr>
<tr>
<td>BQ11: Receiving advertising messages via the cell-phone keeps me up-to-date with the latest information.</td>
<td>3.39</td>
</tr>
<tr>
<td>BQ12: I like to receive unique information via my cell-phone.</td>
<td>3.29</td>
</tr>
<tr>
<td>Perceived entertainment utility (PUent)</td>
<td>3.36</td>
</tr>
<tr>
<td>BQ13: I find receiving advertising messages via the cell-phone exciting.</td>
<td>3.18</td>
</tr>
<tr>
<td>BQ14: It is fun to receive advertising messages directed to me personally.</td>
<td>3.54</td>
</tr>
<tr>
<td>BQ15: I enjoy participating in SMS competitions.</td>
<td>3.07</td>
</tr>
<tr>
<td>BQ16: I find SMS messages entertaining.</td>
<td>3.64</td>
</tr>
<tr>
<td>Perceived social utility (PUsoc)</td>
<td>3.45</td>
</tr>
<tr>
<td>BQ17: I forward SMS messages I like to my friends.</td>
<td>3.63</td>
</tr>
<tr>
<td>BQ18: By using advertising messages received via cell-phone, I can demonstrate my use of new ideas and technology to my friends.</td>
<td>3.26</td>
</tr>
<tr>
<td>Perceived study utility (PUstu)</td>
<td>3.63</td>
</tr>
<tr>
<td>BQ19: I think SMSs received from my school that will help me in my studies will be useful.</td>
<td>3.58</td>
</tr>
<tr>
<td>BQ20: SMSs can lead to better communication between my school and me.</td>
<td>3.65</td>
</tr>
<tr>
<td>BQ21: I think SMS advertisements from universities can be a convenient way of receiving study information.</td>
<td>3.67</td>
</tr>
</tbody>
</table>

TABLE 5.16

MEAN SCORES OF INNOVATION-BASED ACCEPTANCE DRIVERS
### Table 5.16

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>MEAN SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived utility (PU)</td>
<td>3.51</td>
</tr>
<tr>
<td>BQ22: Advertising messages that match who I am and what I like, are useful.</td>
<td>3.65</td>
</tr>
<tr>
<td>BQ23: I can benefit from advertising messages received on my cell-phone.</td>
<td>3.37</td>
</tr>
<tr>
<td>Perceived risk (PR)</td>
<td>3.24</td>
</tr>
<tr>
<td>BQ24: There is a risk of personal information being misused when companies send me SMSs.</td>
<td>3.02</td>
</tr>
<tr>
<td>BQ25: It is possible that I may receive SMSs about products I am not interested in.</td>
<td>3.45</td>
</tr>
</tbody>
</table>

Table 5.16 shows that all of the factors were agreed on by the respondents (all mean scores were higher than 3.0 on a 5-point scale). “Perceived study utility” with the highest mean score (3.63) played an important role in perceived utilities. Furthermore, “perceived risk” had the lowest mean score (3.24).

#### 5.6.3.3 Mean scores of other factors

Acceptance as the main driver of successful mobile marketing also included factors such as social norms (SN), attitude toward mobile marketing (ATMM) and behavioural intention (BI). These factors were measured by questions 26 to 32 in Section B of the questionnaire. Their analysis of the mean scores is shown in Table 5.17.

Table 5.17 shows that there is almost no difference between the mean scores of three factors (3.39, 3.45 and 3.46). Just a slightly higher mean score (3.46) of agreement was obtained by “attitude toward mobile (SMS) marketing”.

TABLE 5.17

MEAN SCORES OF OTHER FACTORS OF THE MODEL

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social norms (SN)</strong></td>
<td>3.39</td>
</tr>
<tr>
<td>BQ26: If I use SMS advertising, most of the people who are important to me will regard me as clever.</td>
<td>3.38</td>
</tr>
<tr>
<td>BQ27: Most of the people who are important to me think that SMS advertising is useful.</td>
<td>3.39</td>
</tr>
<tr>
<td><strong>Attitude towards mobile (SMS) marketing (ATMM)</strong></td>
<td>3.46</td>
</tr>
<tr>
<td>BQ28: Receiving SMS advertising messages via the cell-phone is a good thing.</td>
<td>3.53</td>
</tr>
<tr>
<td>BQ29: I like receiving SMS advertising messages via my cell-phone.</td>
<td>3.38</td>
</tr>
<tr>
<td><strong>Behavioural intention (BI)</strong></td>
<td>3.45</td>
</tr>
<tr>
<td>BQ30: I am likely to use information received by SMS.</td>
<td>3.40</td>
</tr>
<tr>
<td>BQ31: I will think about using marketing information received by SMS.</td>
<td>3.34</td>
</tr>
<tr>
<td>BQ32: I will definitely use SMS marketing messages in the future.</td>
<td>3.61</td>
</tr>
</tbody>
</table>

5.7 INFORMATION REQUIRED FROM THE NMMU AND THE RESPONDENTS’ MEDIA PREFERENCES

The questions in Section C (CQ1-4, see Annexure B) of the questionnaire focused on the respondents' information requirements of the NMMU and their preferred source of information.

5.7.1 Respondents’ information requirements

Question one in Section C (CQ1) examined how many respondents wanted to receive further study information from the NMMU. Most respondents (345 or 82.7%) wanted to receive further information from the NMMU, whereas only 72 respondents (17.3%) did not. Figure 5.9 illustrates this result.
Of the 345 respondents who answered “yes”, Question two in Section C (CQ2) measured what kind of study information respondents wanted to receive from the NMMU. Figure 5.10 shows the results.

Figure 5.9: Proportion of the Respondents Requiring Information

![Figure 5.9: Proportion of the Respondents Requiring Information](image)

- Blue: Want to receive information from the NMMU
- Yellow: Do not want to receive information from the NMMU

Of the 345 respondents who answered “yes”, Question two in Section C (CQ2) measured what kind of study information respondents wanted to receive from the NMMU. Figure 5.10 shows the results.

Figure 5.10: Type of Study Information Sought by Respondents

![Figure 5.10: Type of Study Information Sought by Respondents](image)
Figure 5.10 shows that information about scholarships or bursaries was desired by the largest proportion (86.7%) of learners. This was followed by information about courses (85.5%) and fees (83.8%). Less than 50 percent of the respondents wanted information about societies. Table 5.18 lists the types of information according to the number of respondents who indicated that they wanted such information.

### TABLE 5.18

**INFORMATION PREFERRED BY RESPONDENTS**

<table>
<thead>
<tr>
<th>INFORMATION OPTIONS</th>
<th>RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choices by 250 and more respondents</td>
<td></td>
</tr>
<tr>
<td>Information about scholarships / bursaries</td>
<td>299 or 86.7%</td>
</tr>
<tr>
<td>Information about the various courses offered by the NMMU</td>
<td>295 or 85.5%</td>
</tr>
<tr>
<td>Information about fees</td>
<td>289 or 83.8%</td>
</tr>
<tr>
<td>Registration information</td>
<td>278 or 80.6%</td>
</tr>
<tr>
<td>Information about the application process</td>
<td>269 or 78.0%</td>
</tr>
<tr>
<td>Choices by 200-249 respondents</td>
<td></td>
</tr>
<tr>
<td>Information about study loans</td>
<td>236 or 68.4%</td>
</tr>
<tr>
<td>Information about the NMMU’s “open-day” events</td>
<td>233 or 67.5%</td>
</tr>
<tr>
<td>Information about sport facilities</td>
<td>232 or 67.2%</td>
</tr>
<tr>
<td>Information about library services</td>
<td>207 or 60.0%</td>
</tr>
<tr>
<td>Choices by under 200 respondents</td>
<td></td>
</tr>
<tr>
<td>Information about the different campuses</td>
<td>190 or 55.1%</td>
</tr>
<tr>
<td>Information about residence accommodation</td>
<td>182 or 52.8%</td>
</tr>
<tr>
<td>Information about societies</td>
<td>163 or 47.2%</td>
</tr>
</tbody>
</table>

5.7.2 Respondents’ preference of promotional medium

The 345 respondents who wanted to receive any further study information from the NMMU, had to indicate the medium through which they wanted to be
informed, namely “brochures”, “SMSs” or “talks” (see Question 3 in Section C of the questionnaire). Figure 5.11 illustrates the respondents’ preferences.

**FIGURE 5.11**

**RESPONDENTS’ PROMOTIONAL MEDIA PREFERENCES**

![Bar chart](chart.png)

Figure 5.11 shows that *brochures* as a media source were most preferred for application processes of the NMMU; *SMSs* were most preferred for information about the NMMU’s “open-day” events. Talks by the NMMU staff were the most preferred instrument to obtain information about scholarships or bursaries. Table 5.19 provides a summary of 12 information source options listed according to the number of responses.
### TABLE 5.19

**INFORMATION SOURCE OPTIONS**

**ACCORDING TO NUMBER OF RESPONSES**

<table>
<thead>
<tr>
<th>MEDIUM PREFERENCES</th>
<th>INFORMATION SOURCE ORDER LIST</th>
<th>RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brochures</strong></td>
<td>Information about the application process</td>
<td>117 or 33.9%</td>
</tr>
<tr>
<td></td>
<td>Information about the various courses</td>
<td>115 or 33.3%</td>
</tr>
<tr>
<td></td>
<td>Registration information</td>
<td>108 or 31.3%</td>
</tr>
<tr>
<td></td>
<td>Information about the different campuses</td>
<td>97 or 26.1%</td>
</tr>
<tr>
<td></td>
<td>Information about scholarships / bursaries</td>
<td>91 or 26.4%</td>
</tr>
<tr>
<td></td>
<td>Information about study loans</td>
<td>91 or 26.4%</td>
</tr>
<tr>
<td></td>
<td>Information about library services</td>
<td>86 or 24.6%</td>
</tr>
<tr>
<td></td>
<td>Information about fees</td>
<td>80 or 23.2%</td>
</tr>
<tr>
<td></td>
<td>Information about sport facilities</td>
<td>74 or 21.4%</td>
</tr>
<tr>
<td></td>
<td>Information about the NMMU’s “open-day” events</td>
<td>72 or 20.9%</td>
</tr>
<tr>
<td></td>
<td>Information about residence accommodation</td>
<td>71 or 20.6%</td>
</tr>
<tr>
<td></td>
<td>Information about societies</td>
<td>60 or 17.4%</td>
</tr>
<tr>
<td><strong>SMSs</strong></td>
<td>Information about the NMMU’s “open-day” events</td>
<td>138 or 40.0%</td>
</tr>
<tr>
<td></td>
<td>Information about fees</td>
<td>119 or 34.5%</td>
</tr>
<tr>
<td></td>
<td>Information about the application process</td>
<td>91 or 26.4%</td>
</tr>
<tr>
<td></td>
<td>Registration information</td>
<td>91 or 26.4%</td>
</tr>
<tr>
<td></td>
<td>Information about study loans</td>
<td>91 or 26.4%</td>
</tr>
<tr>
<td></td>
<td>Information about scholarships / bursaries</td>
<td>90 or 26.1%</td>
</tr>
<tr>
<td></td>
<td>Information about the various courses</td>
<td>86 or 25.5%</td>
</tr>
<tr>
<td></td>
<td>Information about sport facilities</td>
<td>87 or 26.2%</td>
</tr>
<tr>
<td></td>
<td>Information about residence accommodation</td>
<td>83 or 24.1%</td>
</tr>
<tr>
<td></td>
<td>Information about library services</td>
<td>82 or 23.8%</td>
</tr>
<tr>
<td></td>
<td>Information about the different campuses</td>
<td>74 or 21.4%</td>
</tr>
<tr>
<td></td>
<td>Information about societies</td>
<td>69 or 20.0%</td>
</tr>
<tr>
<td><strong>Talks</strong></td>
<td>Information about scholarships / bursaries</td>
<td>147 or 42.6%</td>
</tr>
<tr>
<td></td>
<td>Information about fees</td>
<td>134 or 38.8%</td>
</tr>
<tr>
<td></td>
<td>Registration information</td>
<td>124 or 35.9%</td>
</tr>
<tr>
<td></td>
<td>Information about the various courses</td>
<td>120 or 34.8%</td>
</tr>
<tr>
<td></td>
<td>Information about study loans</td>
<td>116 or 33.6%</td>
</tr>
<tr>
<td></td>
<td>Information about the application process</td>
<td>115 or 33.3%</td>
</tr>
<tr>
<td></td>
<td>Information about the different campuses</td>
<td>115 or 33.3%</td>
</tr>
<tr>
<td></td>
<td>Information about library services</td>
<td>115 or 33.3%</td>
</tr>
<tr>
<td></td>
<td>Information about sport facilities</td>
<td>115 or 33.3%</td>
</tr>
<tr>
<td></td>
<td>Information about societies</td>
<td>109 or 31.6%</td>
</tr>
<tr>
<td></td>
<td>Information about residence accommodation</td>
<td>97 or 28.1%</td>
</tr>
<tr>
<td></td>
<td>Information about the NMMU’s “open-day” events</td>
<td>83 or 24.1%</td>
</tr>
<tr>
<td><strong>Do not want information</strong></td>
<td>Information about societies</td>
<td>107 or 31.0%</td>
</tr>
<tr>
<td></td>
<td>Information about residence accommodation</td>
<td>94 or 27.2%</td>
</tr>
<tr>
<td></td>
<td>Information about sport facilities</td>
<td>69 or 20.0%</td>
</tr>
<tr>
<td></td>
<td>Information about library services</td>
<td>63 or 18.3%</td>
</tr>
<tr>
<td></td>
<td>Information about the different campuses</td>
<td>59 or 17.1%</td>
</tr>
<tr>
<td></td>
<td>Information about the NMMU’s “open-day” events</td>
<td>52 or 15.1%</td>
</tr>
<tr>
<td></td>
<td>Information about study loans</td>
<td>47 or 13.6%</td>
</tr>
<tr>
<td></td>
<td>Information about the various courses</td>
<td>22 or 6.4%</td>
</tr>
<tr>
<td></td>
<td>Information about the application process</td>
<td>22 or 6.4%</td>
</tr>
<tr>
<td></td>
<td>Registration information</td>
<td>22 or 6.4%</td>
</tr>
<tr>
<td></td>
<td>Information about scholarships / bursaries</td>
<td>17 or 4.9%</td>
</tr>
<tr>
<td></td>
<td>Information about fees</td>
<td>12 or 3.5%</td>
</tr>
</tbody>
</table>
Question four in Section C (CQ4) of the questionnaire sought to determine whether a prize or other tangible benefits provided with SMS NMMU advertisements would attract more attention among the respondents. The results are shown in Figure 5.12.

**FIGURE 5.12**

LIKELIHOOD OF PRIZE OR TANGIBLE BENEFITS ATTRACTING MORE ATTENTION TO SMS ADVERTISEMENTS

![Pie Chart](image)

- **51.3%**: Definitely will influence respondent to pay more attention to SMS advertising
- **44.9%**: Might or might not influence respondent to pay more attention to SMS advertising
- **3.8%**: Definitely will not influence respondent to pay more attention to SMS advertising

Figure 5.12 illustrates that, of the 345 respondents who like to receive information from the NMMU, over half respondents (177 or 51.3%) thought that the prize or other tangible benefits would definitely influence them to pay more attention to the SMS advertising; whereas only 13 (3.8%) respondents thought it definitely would not. The rest of the respondents were unsure about the issue.
5.8 SUMMARY

This chapter reported on the empirical findings of the research. The report commenced with a discussion of the age, gender and ethnic group of the respondents. This was followed by the discussion of their cell-phone ownership and subscription type, weekly sending and receiving of SMSs and their most used form of SMSs.

Thereafter, the results of the testing of the model were reported and then a more appropriate model (see Figure 5.7) for the current study was identified and discussed.

Chapter 5 also listed the mean scores of the factors comprising the model. All factor mean scores were higher than 3.0 on a 5-point scale.

The chapter was concluded by a discussion of the respondents’ media preferences when seeking information on various NMMU-related issues. Most respondents (82.7%) wanted to receive more information from the NMMU, particularly about scholarships or bursaries. SMSs were most preferred for information about the NMMU’s “open-day” events. It was also found that over half the respondents would pay more attention to the NMMU’s SMS advertisements if a prize or other tangible benefit is offered.
The next chapter contains a synopsis of the study and the conclusions of the findings of the empirical study, as well as recommendations pertinent to the research.
CHAPTER 6
SYNOPSIS, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

Chapter 5 reported on the findings of the empirical study. Chapter 6 provides a synopsis of the study, followed by the conclusions based on the findings of the study (focusing on respondents' cell-phone usage status, the results of testing the models, mean scores of the influencing factors of mobile [SMS] marketing, as well as the information requirements and media preferences of the respondents). The conclusions lead to the recommendations for the research.

6.2 SYNOPSIS OF THE STUDY

The purpose of this study was to determine Port Elizabeth's high school learners' likely acceptance of mobile (SMS) marketing by the NMMU. In an attempt to achieve this purpose, Chapter 1 provided an overview of the background and the rationale for the study, the research problem, sub-problems and the research hypotheses. In addition, the research design for this study was also briefly explained, followed by a description of the scope of the research and an explanation of its significance.
The next two chapters provided reports on the literature study related to the topic. Chapter 2 provided a detailed review of mobile marketing and mobile advertising. It commenced with a description of mobile marketing which is “any form of marketing, advertising or sales promotion activity via mobile channels aimed at consumers” (The Mobile Marketing Association in Karjaluoto et al 2004: 111). This was followed by discussions on the possibilities of mobile marketing based on emerging technologies and the use of mobile marketing as a form of promotion.

Chapter 2 also focused on mobile advertising and SMS as a marketing tool. The discussions on mobile advertising covered the main characteristics of mobile advertising and permission for mobile advertising, as well as mobile advertising campaigns, forms, limitations and requirements. Chapter 2 presented the reasons for selecting SMS as a marketing tool, the factors to be considered in incorporating SMS in marketing and promotion, and the guidelines for permission-based SMS marketing and promotion.

Because the success of SMS is largely dependent on consumers’ acceptance of mobile marketing, Chapter 3 discussed the elements, which could have an influence on consumers’ acceptance of mobile marketing. A model developed by Bauer et al (2005: 186) and adapted to high school learners’ acceptance of mobile (SMS) marketing formed the core of the discussion. Attitude towards
the act of mobile (SMS) marketing and subjective norms and their influence on behavioural intention were the core elements of the model.

Chapter 3 also discussed consumer-based acceptance drivers (including the factors of innovativeness, existing knowledge, information seeking and attitude towards advertising in general) and innovation-based acceptance drivers (including the factors of perceived utility and perceived risk).

A detailed discussion of the research design and methodology was provided in Chapter 4, comprising a discussion of the categories of research, data collection methods and data gathering techniques, sampling methodology, questionnaire design, validity and reliability, as well as the data analysis procedure and method. Descriptive research with a quantitative approach was selected to determine the underlying relationships between the various influencing factors and attitudes towards mobile marketing among high school learners.

Using a self-administered questionnaire (see Annexure B), surveys were chosen to obtain the data for this study. The sampling process included defining the target population, determining the sampling frame, selecting a sampling method and determining the sample size. The questionnaire design was described in terms of question forms and purpose, as well as pre-testing
of the questionnaire. Furthermore, the data analysis techniques that were used in this study (such as SEM) were also discussed in Chapter 4.

The findings of the empirical study were reported in Chapter 5. The chapter commenced with a discussion of the demographic details of respondents and their cell-phone usage status. This was followed by the results of testing the model. Through the testing of the model, a more appropriate model (see Figure 5.7) for the current study was identified, and then the detailed results of the final ATMM (SMS-Marketing) model were provided. In addition, Chapter 5 also reported on the mean scores of all the items of the questionnaire. The final section of this chapter reported on the findings of information required from the NMMU and the respondents’ media preferences.

6.3 CONCLUSIONS

This section contains the conclusions drawn from the literature study and the empirical study. The findings are arranged according to the respondents’ status of cell-phone ownership, subscription and use of SMSs; testing of the model and the influencing factors; and lastly, the information requirements and preferences of the respondents.
6.3.1 Cell-phone ownership, subscription and using of SMS

As discussed in Chapter 1, three cellular operators (Vodacom, MTN and Cell C) cover more than 71% of the population in South Africa. According to the findings, 62.4% of the respondents currently owned a cell-phone and 23.3% would also get one within the next six months. This indicates that the cell-phone ownership among Port Elizabeth’s high school learners is almost similar to that of the general population in South Africa. In addition, more girls owned cell-phones than boys. Almost 59% of the black respondents and 77% of the non-black respondents owned a cell-phone. Therefore, proportionately fewer blacks than non-blacks owned a cell-phone.

More than 80% of the respondents who owned a cell-phone were prepaid cell-phone subscribers. There was almost no difference between the number of boys and girls who were using a prepaid subscription. However more blacks than non-blacks were prepaid subscribers.

Chapter 1 revealed that approximately 97% of younger users send about 24 messages per week (Antoine 2004:3). The current study showed that about 80% of both boys and girls sent and received from one to 20 SMSs each week, with more SMSs received than sent. This means that cell-phones are a popular communication tool among high school learners.
In addition, the results showed that text messaging was the most used form of SMS among high school learners. They, however, lack experience in receiving SMS advertisements. This shows that, although the cellular operators have provided many forms of SMS, text messages still play an important role in young people’s communication. There is, however, scope for SMS advertising.

6.3.2 Testing of the model and the influencing factors

As discussed in Chapter 5 (Section 5.6.1), the data in the current study did not fit the Bauer et al’s model of mobile marketing (see Figure 1.1) or the modified model (see Figure 3.1). This could mean that the South African data were different from those of other countries; that a model for mobile marketing is not necessarily applicable to SMS marketing, or that the age and experience of respondents could play a role. Both the original model and the modified model were thus not appropriate for use in further factor analysis of this study. Therefore, the hypotheses of the research as presented in Chapter 1, could also not be tested based on these data. A more appropriate model thus had to be developed, as discussed below.

The data from the current study were split into two halves: training data and test data. Based on the training data, a more appropriate and final ATMM
(SMS-Marketing) model applicable to high school learners (see Figure 5.7) was built, which was different from the original model and added many more relationships. Thereafter, the test data were used to test this final model. All path coefficients and partial effects of the factors of this final model were shown in Tables 5.12 and 5.13.

Based on Table 5.13, the relationships between various factors can be concluded on as follows:

- “Innovativeness” (IN) had a positive influence on “existing knowledge” (EK), however it was very low (0.11). Therefore, its total effect on behavioural intention appeared to be weak.
- “Existing knowledge” (EK) had a positive influence (0.35) on “perceived utility of information, entertainment and social events” (PUies).
- “Perceived utility of information, entertainment and social events” (PUies) had positive influences on both “perceived study utility” (PUstu) (0.35) and “attitude towards mobile marketing” (ATMM) (0.52).
- “Perceived study utility” (PUstu) also had a positive influence (0.22) on “attitude towards mobile marketing” (ATMM).
- “Information seeker-behaviour” (IS) had a very positive influence (0.70) on “attitude towards advertising in general” (ATA).
- “Attitude towards advertising in general” (ATA) had the lowest positive influence (0.08) on “attitude towards mobile marketing” (ATMM). For this
reason, the total effects on behavioural intention of IS and ATA were very
low.

- “Social norms” (SN) with a partial effect of 0.60, strongly influenced
  “perceived utility of information, entertainment and social events” (PUies);
  SN also had three direct influences on “perceived study utility” (PUstu) at
  0.36, “attitude towards mobile marketing” (ATMM) at 0.23 and “behavioural
  intention” (BI) at 0.52. Therefore, the total effect of SN indirectly influencing
  behavioural intention was very positive.

- “Attitude toward mobile marketing” (ATMM) had a direct and positive
  influence (0.52) on behavioural intention. This can thus indicate that
  cell-phones can be categorized as highly personal communication tools.

The above conclusions show that positive relationships existed between the
various constructs in the final ATMM (SMS-Marketing) model. This means that,
based on the positive attitude towards mobile (SMS) marketing, Port
Elizabeth’s high school learners can be assumed to have a behavioural
intention towards using mobile marketing. This offers an opportunity for the
NMMU to develop a new mobile marketing channel of SMS for promoting its
study programmes to high school learners enrolled at their feeder schools.

The total effects of the constructs on behavioural intention were shown in
Table 5.14. Based on the test data, the full model with all path coefficients and
the partial effects of the final ATMM (SMS-Marketing) model are illustrated in Figure 6.1.

**FIGURE 6.1**

ALL PATH COEFFICIENTS AND THE PARTIAL EFFECTS OF THE MODEL BASED ON TEST DATA

6.3.3 Conclusions based on the mean scores of the factors

In this section, conclusions will be discussed based on the findings of the mean scores of the factors as presented in Chapter 5 (Section 5.6.3). This consists of three parts, namely, consumer-based acceptance drivers, innovation-based acceptance drivers and other factors.
6.3.3.1 Consumer-based acceptance drivers

- Innovativeness (IN)

In Chapter 3 it was stated that innovativeness could be measured by timing of the adoption of new products; the number of new products adopted; and how consumers see themselves on the characteristic of innovative product usage. The results as shown in Table 5.15 indicated that Port Elizabeth’s high school learners were fairly innovative consumers (Factor score of 3.37 on a 5-point scale). This means, they agreed that they tend to be the first to try out a new product or to try any new product before their friends do, and enjoy buying new products. However, to be regarded as real innovators, a higher score would have been expected. New products or new marketing instruments might thus only be considered by high schools learners once they had time to learn about them.

- Existing knowledge of mobile communication (EK)

As discussed in Chapter 3, a consumer’s existing knowledge determines his or her ability to understand the features and usage of an innovation (Bauer et al 2005: 184). Therefore high school learners’ existing knowledge of mobile communication will influence their acceptance of mobile (SMS) marketing. Based on Table 5.15, the results of the empirical study seemed to show that the respondents had rather limited knowledge of mobile
communication (Factor score of 3.12 on a 5-point scale). Existing knowledge will thus influence their propensity to use SMS marketing.

• Information seeker-behaviour (IS)

Chapter 3 described a person with a high degree of information sensitivity as an information seeker (Becker 1976: 77). The results from the current study showed that respondents could be regarded as information seekers (Factor score of 3.71 on a 5-point scale). Chapter 3 also showed that the profile of the information seeker indicates that information-seeking behaviour may be a function of knowing what to look for and where to look for it (Assael 1984: 540). This means Port Elizabeth’s high school learners had the ability to seek information or advertisements relative for their needs, and they had a tendency to take note of advertisements that interest them. The NMMU could capitalise on this behaviour.

• Attitude towards advertising in general (ATA)

In Chapter 3 it was reasoned that “the attitude towards advertising in general is expected to influence the success of any particular advertising” (Mehta & Purvis 1995:1). The results as shown in Table 5.15 indicated that the respondents had a positive attitude towards advertising in general (Factor score of 4.23 on a 5-point scale), and that advertising was generally accepted by the high school learners. This provides a basis for the
acceptance of mobile marketing. It also implies that the high school learners might accept the NMMU’s mobile (SMS) marketing messages, particularly together with other traditional advertising media, such as television, radio, newspapers, magazines, direct mail and outdoor advertising.

6.3.3.2 Innovation-based acceptance drivers

- Perceived utility (PU)

Chapter 3 showed that a high perceived utility of mobile marketing could lead to a more positive attitude towards mobile marketing. The results of the current study as shown in Table 5.16, indicated that respondents perceived mobile marketing to have some utility (Factor score of between 3.30 and 3.70 on a 5-point scale). Currently mobile marketing is still a new marketing instrument, which will have to be supplemented by more conventional marketing instruments when marketing educational services.

Chapter 3 also showed that, based on the uses and gratification theory, consumers’ perceived utility must coincide with their needs or interests. Perceived utility of mobile marketing can thus be further divided on cell-phone users’ needs for information, entertainment, social needs and needs to receive communication from an educational institution. The results as shown in Table 5.16 indicated that, of the four needs, perceived study
utility was the most important and gained most agreement from the respondents.

- Perceived risk (PR)
  As discussed in Chapter 3, if the perceived risk of adopting and using the object is low, it is more likely to be adopted, whereas a high level of perceived risk will generally have a lower adoption rate (Evans et al 2006: 245). Risk perception could thus influence consumers’ willingness to adopt mobile marketing (Bauer et al 2005: 186). Table 5.16 showed that perceived risk had a factor score of 3.24 (on a 5-point scale), the lowest score of all the innovation-based acceptance drivers. The risk of having personal information misused attracted a score of 3.02 (on a 5-point scale), while the score for receiving unwanted information equalled 3.45 (on a 5-point scale). The relative low score associated with perceived risk should therefore not deter learners from using mobile marketing as information source.

6.3.3.3 Other factors

Apart from consumer-based acceptance drivers and innovation-based acceptance drivers, other factors include “social norms”, “attitude towards mobile (SMS) marketing” and “behavioural intention”.
• Social norms (SN)

As explained in Chapter 3, Fishbein and Ajzen (in Yan et al 2006: 18) maintain that subjective norms refer to “the person’s perception that most people who are important to him think he should or should not perform the behaviour in question”. These people can also serve as a reference group (Bearden & Etzel in Evans et al 2006: 171). Table 5.17 showed that social norms attracted a factor score of 3.39 (on a 5-point scale). This means that the reference group (such as family and friends) would have a positive influence, although not strong, on the respondents’ use of mobile marketing. Therefore, Port Elizabeth’s high school learners may consider using more mobile advertising since such behaviour is deemed acceptable by family and friends.

• Attitude towards mobile (SMS) marketing (ATMM)

Attitude towards an “object” is affirmed upon what consumers consider to be an appropriate range of beliefs about that object and how they evaluate these beliefs (Fishbein in Evans et al 2006: 71). The findings reported in Table 5.17 showed a factor score of 3.46 (on a 5-point scale) for “attitude towards mobile (SMS) marketing”. This indicates that Port Elizabeth’s high school learners have a fairly positive attitude towards SMS marketing. This would allow the NMMU to develop and use mobile (SMS) advertising in its marketing campaign.
• Behavioural intention (BI)

Chapter 3 also stated that “behavioural intention is a measure of the strength of the individual’s intention to perform a specific behaviour” (Fishbein and Ajzen in Yan et al 2006: 18). Thus, a positive measured result of behavioural intention should prefigure a performance of the specific behaviour. The results as shown in Table 5.17 indicated that the respondents agreed that they “will definitely use SMS marketing messages in the future” (Item score of 3.61 on a 5-point scale); “are likely to use information received by SMS” (Item score of 3.40 on a 5-point scale); and would “think about using marketing information received by SMS” (Item score of 3.34 on a 5-point scale). Therefore, based on this behavioural intention, the learners are likely to make use of information conveyed by SMS.

6.3.4 Respondents’ information requirements and preferences

Figure 5.9 showed that, of the 417 respondents, most respondents (82.7%) would like to receive further study information from the NMMU. This indicates that most high school learners in Port Elizabeth had a need for further study and were possibly interested in receiving the NMMU’s information. Most high school learners in Port Elizabeth can therefore be the NMMU’s potential target population.
Among the various options of information wanted from the NMMU, information about scholarships or bursaries was chosen by most (86.7%) of the respondents. This means respondents were most concerned with financial assistance pertaining to their further study at university. Thereafter, the introduction of the NMMU’s various courses, information on the fees, registration information and the application process, were most valued. Therefore, the NMMU should concentrate on providing potential students with more information on these five aspects.

The respondents could also select different media sources (including brochures, SMSs and talks) as a means of obtaining information. The findings showed that brochures might be more clear and specific to show the information about the application process. SMS should be most appropriate to convey information about the NMMU’s “open-day” events and fees. Even information on the application process, could be made available via SMS. Talks by the NMMU staff could be used for information about scholarships or bursaries. As the high school learners did not want information about societies of the NMMU, it would be a waste of money to concentrate on such information. The NMMU can therefore choose different media to better fit the different information needs of the respondents.
Furthermore, as presented in Chapter 2, the main advantage of competitions is that a prize would provide users with a tangible reason to contact the relevant company (Iddris 2006: 23). Based on the findings as shown in Figure 5.11, only a few (3.8%) respondents would not be motivated by a prize or other tangible benefits. This means most respondents can possibly be influenced to pay more attention to the NMMU’s SMS advertising if a prize or other tangible benefits are attached to the message.

6.4 RECOMMENDATIONS

Based on the conclusions of the study, the following recommendations can be made.

- The NMMU can consider developing and using mobile advertising in its marketing campaign, since a large proportion of high school learners in Port Elizabeth own a cell-phone. The NMMU should ensure that the content, wording and timing of SMS advertising meet high school learners’ personal characteristics, especially those of black learners.
- The NMMU should consider using a push mobile advertising campaign rather than pull or dialogue advertising, since most high school learners were prepaid cell-phone subscribers. They might be more prepared to receive and read SMS messages than to send messages to ask for information.
• Text messaging should be regarded as a major form for the content of SMS advertising. There is no urgent need to include other forms of content such as pictures.

• Port Elizabeth’s high schools learners did not seem to be at the forefront of innovation. It may thus take a bit longer for them to get used to SMS advertising by tertiary institutions. The NMMU has to take this into account when designing their promotional campaigns.

• Port Elizabeth’s high school learners had limited existing knowledge of mobile communication. The NMMU should consider using mobile advertising with a low technological complexity of mobile communication, while also using traditional communication media, such as radio, newspapers and direct mail.

• Port Elizabeth’s high school learners could be regarded as information seekers. They are thus likely to be open to marketing messages of the NMMU. The NMMU could capitalise on this characteristic.

• Port Elizabeth’s high schools learners scored fairly high on the issue of “study related utility” of a cell-phone. Thus, the NMMU could provide study information via cell-phones to students.

• Without permission, mobile advertising cannot be a powerful and activating marketing tool. Therefore, the NMMU needs to consider developing a permission-based mobile advertising strategy for communicating with high school learners.
• The NMMU could consider creating an awareness among high school learners’ family and friends, as high school learners will be open to the influence of these reference groups.

• Most high school learners want to receive study information from the NMMU, particularly about scholarships or bursaries, courses offered by the NMMU, fees, registration information and the application process. The NMMU should therefore focus on these categories of information in their promotion.

• The SMS is suitable for conveying information about the NMMU’s “open-day” events, fees and application process.

• High school learners have little need to receive information about societies of the NMMU, irrespective of medium of communication used. The NMMU could consider informing students about societies once they have enrolled at the university.

• An appropriate prize or other tangible benefits should be offered with the SMS advertising (such as a small discount of tuition fees) as this will attract more attention.

In summary, Port Elizabeth’s high school learners currently display some acceptance of mobile marketing. The NMMU can consider developing and using mobile (SMS) marketing for promoting its study programmes to high school learners, although it can still not be used as the major marketing
instrument. It should be effective if used with push advertising, in conjunction with other media and through capitalising on the influence of reference groups.
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Upper Saddle River, New Jersey: Pearson Education.


Dear High School Learner

I am studying towards an M-Tech degree in Marketing at the Nelson Mandela Metropolitan University (NMMU). As part of my studies, I am investigating the acceptance of mobile marketing among high school learners in Port Elizabeth for determining whether the NMMU should develop the Short Message Services (SMS) as a new marketing instrument to promote its study programmes to high school learners.

Kindly assist me by spending 10 minutes on completing the attached questionnaire, and please return the completed questionnaire to the deliverer. The information you provide will be kept strictly confidential and only aggregate figures will be reported.

Thank you for your time and your efforts.

Yours sincerely

Hui WANG
ANNEXURE B: QUESTIONNAIRE

SECTION A:

Please provide the details as required or make a “✓” to indicate your choice.

1. What is the name of your school:

2. Are you a boy or girl?  □ Boy  □ Girl

3. How old are you?  □ Younger than 16  □ 16  □ 17  □ 18  □ 19 and older

4. Which population group do you belong to?  □ Black  □ White  □ Coloured  □ Asian  Other: …………………

5. Do you have a cell-phone?  □ Yes  □ No, but will get one within the next 6 months  □ No, and will not get one within the next year

6. Are you a pre-paid cell-phone subscriber?  □ Yes  □ No  □ Do not have a cell-phone

7. How many SMSs do you send each week?  □ Do not have a cell-phone  □ None  □ 1-10 SMSs  □ 11-20 SMSs  □ 21-30 SMSs  □ 31-50 SMSs  □ More than 50 SMSs

8. How many SMSs do you receive each week?  □ Do not have a cell-phone  □ None  □ 1-10 SMSs  □ 11-20 SMSs  □ 21-30 SMSs  □ 31-50 SMSs  □ More than 50 SMSs

9. Which form of SMS do you use most?  □ Do not have a cell-phone  □ Do not use SMSs  □ Text messages  □ Photos  □ Games  □ Ring-tone  □ Entertainment messages  □ Advertisements  □ Other, please describe …………………………………………………………………………………………………………………
SECTION B:
Listed below are statements describing yourself. Please indicate how strongly you agree or disagree with each statement by ticking either 1, 2, 3, 4, or 5 to indicate your choice.

1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree

<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am usually among of the first to try out a new product.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>2</td>
<td>I often try new products before my friends do.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>3</td>
<td>I generally enjoy buying new products.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>4</td>
<td>I have a very good knowledge about cell-phones.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>5</td>
<td>In comparison to my circle of friends I am an expert in cell-phone usage.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>6</td>
<td>In my circle of friends I am usually the first who knows about the latest cell-phones.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>7</td>
<td>I enjoy reading different advertisements and then compare them.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>8</td>
<td>I tend to read a lot of different advertisements because it is interesting.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>9</td>
<td>Advertising is a good thing.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>10</td>
<td>I like advertisements.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>11</td>
<td>Receiving advertising messages via the cell-phone keeps me up-to-date with the latest information.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>12</td>
<td>I like to receive unique information via my cell-phone.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>13</td>
<td>I find receiving advertising messages via the cell-phone exciting.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>14</td>
<td>It is fun to receive advertising messages directed to me personally.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>15</td>
<td>I enjoy participating in SMS competitions.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>16</td>
<td>I find SMS messages entertaining.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>17</td>
<td>I forward SMS messages I like to my friends.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>No.</td>
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<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree</td>
<td>Agree</td>
<td>Strongly agree</td>
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</tr>
<tr>
<td>18</td>
<td>By using advertising messages received via cell-phone, I can demonstrate my use of new ideas and technology to my friends.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>19</td>
<td>I think SMSs received from my school that will help me in my studies will be useful.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>20</td>
<td>SMSs can lead to better communication between my school and me.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>21</td>
<td>I think SMS advertisements from universities can be a convenient way of receiving study information.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>22</td>
<td>Advertising messages that match who I am and what I like, are useful.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>23</td>
<td>I can benefit from advertising messages received on my cell-phone.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>24</td>
<td>There is a risk of personal information being misused when companies send me SMSs.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>25</td>
<td>It is possible that I may receive SMSs about products I am not interested in.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>26</td>
<td>If I use SMS advertising, most of the people who are important to me will regard me as clever.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>27</td>
<td>Most of the people who are important to me think that SMS advertising is useful.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>28</td>
<td>Receiving SMS advertising messages via the cell-phone is a good thing.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>29</td>
<td>I like receiving SMS advertising messages via my cell-phone.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>30</td>
<td>I am likely to use information received by SMS.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>31</td>
<td>I will think about using marketing information received by SMS.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>32</td>
<td>I will definitely use SMS marketing messages in the future.</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>
SECTION C:

1. Do you want to receive information from the Nelson Mandela Metropolitan University (NMMU) about what they have to offer regarding further studies?
   □ Yes (if yes, answer the rest of the questions in Section C)
   □ No (if no, you do not have to answer any more questions. Thank you for your time.)

2. What kind of information about further study would you like to receive (Tick all that apply)?
   □ Information about the various courses offered by the NMMU
   □ Information about the NMMU’s “open-day” events
   □ Information about the application process
   □ Information about the different campuses
   □ Registration information
   □ Information about fees
   □ Information about scholarships / bursaries
   □ Information about study loans
   □ Information about library services
   □ Information about residence accommodation
   □ Information about sport facilities
   □ Information about societies
   □ Other information (please specify)
3. How would you prefer to receive information on the following?

*(On each of the items please tick ONLY one of the four options)*

<table>
<thead>
<tr>
<th>Questions</th>
<th>Brochures</th>
<th>SMS</th>
<th>Talks</th>
<th>Don't want information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information about the various courses offered by the NMMU</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about the NMMU’s &quot;open-day&quot; events</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about the application process</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about the different campuses</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Registration information</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about fees</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Scholarship / bursary information</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Study loan information</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about library services</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about residence accommodation</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about sport facilities</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
<tr>
<td>Information about societies</td>
<td>Brochures</td>
<td>SMS</td>
<td>Talks</td>
<td>Don't want information</td>
</tr>
</tbody>
</table>

4. If the NMMU provides SMS advertising with a prize or other tangible benefits (such as a discount on fees), will this influence you to pay more attention to their SMS advertising? *(Tick only one answer.)*

- □ It definitely will
- □ It might or might not
- □ It definitely will not

Thank you for your cooperation.