

The relationship between content providers and users in mobile television

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To God my Father, You are my source of inspiration and motivation.

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Abstract

Mobile television (TV) is a relatively new and unknown field of communication. Thus, role players in this field of communication find themselves in a new context for relationship. This raises the question as to what the key challenges in the relationship between content providers and users in mobile TV involve. More specifically, the following questions should be answered. Does mobile TV display particular characteristics of new media? If so, then how could content providers meet the challenge of understanding the user profile in mobile TV as a new medium? Also, how could content providers meet the challenge of adapting content provision according to the user experience of mobile TV as a new medium? This research paper explores these questions through means of an explorative literature study of relevant sources. Firstly, it provides a conceptual framework of mobile TV as well as an understanding of mobile TV within the greater context of new media. Secondly, it presents a means to understand the user profile in mobile TV as a new medium. Lastly, it presents practical aspects that need to be considered when providing content for mobile TV as a new medium. The findings of the study can be summarised as follows: (a) Mobile TV portrays particular new media characteristics, such as, digitalisation, interactivity, hypertext, dispersal and virtuality. (b) A market-led approach should be employed in order to understand the user profile. (c) Mobile TV content production should be integrated into the production process with the requirement that it is of a high quality and meets the technical and feasible limitations of the medium.

Key words

Mobile television (TV), new media, content provider, users, user profile, mobile TV content

Die verhouding tussen gebruikers en verskaffers van inhoud in mobiele televisie

Opsomming

Mobiele televisie (TV) is 'n taamlike nuwe en onbekende kommunikasieveld. Verskillende rolspelers word in nuwe verhoudings teenoor mekaar geplaas. In hierdie verband kan pertinente vrae oor veral die verhouding tussen gebruikers en verskaffers van inhoud gevra word. Byvoorbeeld, watter gemeenskaplike kenmerke bestaan tussen mobiele TV in die besonder en nuwe media in die algemeen? Hoe moet inhoudvoorsieners te werk gaan om die teikenmark te verken en te verstaan? En, op welke wyse moet verskaffers mobiele TV se inhoud aanpas vir hierdie medium? Hierdie vrae word deur middel van 'n eksploratiewe literatuurstudie ondersoek; eerstens deur mobiele TV in die konseptuele raamwerk van nuwe media te plaas, tweedens aan die hand van 'n metode om die gebruikersprofiel te verstaan, en laastens word riglyne aangebied ten opsigte van die aanbieding van inhoud. Die ondersoek se bevindings kan soos volg saamgevat word: (a) Mobiele TV voldoen aan tipiese vereistes van nuwe media soos digitalisasie, interaktiwiteit, hiperteks, verspreidheid en virtualiteit. (b) 'n Markgeoriënteerde benadering moet gevolg word om die verbruikersprofiel te verstaan. (c) Wat inhoud betref, moet mobiele TV geïntegreer word in die produksieproses met dien verstande dat inhoud van hoë kwaliteit gelewer word binne die tegniese beperkinge en benuttingsmoontlikhede van die medium.

Sleutelterme

Mobiele televisie (TV), nuwe media, inhoudvoorsieners, gebruikers, gebruikersprofiel, mobiele TV inhoud

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Chapter 1

Introduction

In the 1980's people questioned the value of carrying a telephone around with them (Yeates, 2005). Today, people worldwide depend on their hand-held devices for communication, messaging, personal organization and entertainment (Andersson, Freeman, James, Johnston & Ljung, 2006:1). In this regard, the use of mobile media is not uncommon to most people. However, the range of mobile media is still increasing. According to Andersson *et al.* (2006:44) music and television (TV) are probably the last media to be mobilized. Thus, mobile TV is mostly an unknown territory for all role players. As stated by Clark (2006:4) "Right now it's much virgin territory, with all sorts of visions in play."

Numerous media and telecommunication companies have pioneered the market, keen to discover which possibilities are viable and profitable and which are not (Anon, 2006d:10; Fry, 2005a:66,70). According to Paul Jacobs, Chief Executive Officer (CEO) of QUALCOMM, a technology enabler in the wireless communication industry (QUALCOMM, 2006), "We don't know what's going to work (with regard to mobile TV)... we've got to experiment and get them (mobile TV offerings) out there" (Morris, 2006).

Amongst the excitements of the new, still infant field of mobile TV (Andersson *et al.*, 2006:44; Clark, 2006:4) and the urge to "get them out there" (Morris, 2006), there lies a caution for content providers to stop and consider key challenges that they face in their relationship with users of mobile TV. This is partly motivated by the argument that mobile TV will not be successful simply due to it being the latest technology - it must meet the needs of its users (Andersson *et al.*, 2006:44; Lewis, Selén & Warnecke, 2004:2).

This concept of adapting service and/or product delivery to suite the user is not new to most business industries. However, the mobile communications industry is said to have been very poor at understanding its users. This is due to past experience in this and the related information technology industry, where performance has often exceeded anticipation. As a result, providers have had to struggle with keeping up with demand. They have not been challenged with a need to understand users or a need to find optimal ways of providing content. Thus, to a large extent, there are now discrepancies in these regards in the relationship between content providers and users in the mobile communications industry (Andersson *et al.*, 2006:33; Watkins, 2006:24).

The range of services, content and applications in the mobile communications industry is expanding rapidly. When voice and Short Message Services (SMS's) were the only services available, industry players only required a basic understanding of users in order to survive and thrive in the industry. With far more multimedia possibilities available today, users have a complex range to choose from and industry players must learn what services, content and applications appeal to which users. Without such an understanding, mobile industry players may have unrealistically high expectations for large-scale success for their newest deliveries, which possibly are products of genius in their field. However, technical success does not equate market success. Thus, there is a need to gain market understanding (Andersson *et al.*, 2006:44; Watkins, 2006:24).

The challenge to adapt content provision to the user experience in mobile TV is as vital as the challenge to gain market understanding. Simply diverting the usual TV content to a mobile device display will not necessarily succeed. For one, the screen is smaller (Andersson, *et al.*, 2006:129; Anon., 2006e:25). The content must be adapted by, for example, including more close-ups and limited movement. Content duration should also be shorter and its message more to the point (Anon., 2006e:25; Fitchard, 2006:38). Also, the content should not be considered as replacing traditional TV content, but rather as complimentary – as additional content that contributes to the traditional content using traits, such as mobility, interactivity and personalization, which are unique to the nature of mobile TV (Andersson *et al.*, 2006:20,43-44; Kapko, 2007:27).

It is a futile exercise to adapt content provision to parameters set by the nature of mobile TV without attempting to gain a market understanding. The opposite is also true: it is useless to attempt to gain a market understanding without also adapting content provision according to parameters set by the nature of mobile TV (O'Halloran, 2005:23). To understand the parameters set by the nature of mobile TV requires an understanding of mobile TV in the context of the greater media category of new media. This is thus also a key challenge in the relationship between content providers and users in mobile TV.

Given the fact that mobile TV is a fairly new and relatively unknown field of communication (Andersson *et al.*, 2006:44), the question arises as to what the key challenges in the relationship between content providers and users in mobile TV involve. More specifically, the following questions should be answered:

- Does mobile TV display particular characteristics of new media?
- What is the user profile in mobile TV as a new medium?

- How could content providers adapt content provision according to the user experience of mobile TV as a new medium?

Thus, the main objective of this report is to explore key challenges in the relationship between content providers and users in mobile TV as a new medium. This requires the following:

- An exploration of whether mobile TV displays particular characteristics of new media
- A discussion on a means to gain an understanding of the user profile in mobile TV as a new medium
- An exploration of ways in which content providers can adapt content provision according to the user experience of mobile TV as a new medium

This report follows the course of a literature study. Considering the infancy of the field of mobile TV, published resources on the subject are minimal. Thus, certain authors, such as Andersson *et al.* (2006), are relied on to a great extent in this report. There are, however, sufficient examples and commentary from authoritative sources in the industry of mobile TV to support the study. Where applicable, reference is made in this regard. From the explorative literature study presented, the above research objective can be addressed.

In terms of new media, resources are prolific. However, the context of this study does not require a comprehensive discourse on the subject of new media. The discourse is kept within the boundaries of the essential characteristics of new media and related application of these characteristics in terms of mobile TV.

In addition to this introductory chapter, this research report is structured into the following sections. Chapter 2 provides a conceptual framework of mobile TV and new media. This includes a brief technological background to mobile TV as well as a description of fundamental concepts relating to it. Secondly, it provides a framework of new media through outlining essential characteristics. These characteristics are considered in the light of mobile TV with the objective of determining whether mobile TV can be seen as a form of new media.

Chapter 3 deals with the challenge to understand the user profile in mobile TV. To this end, lessons learned from past experiences in the fields of telecommunication and TV are presented. More importantly, a market-led approach is proposed along with a practical means to understand the user profile in mobile TV.

Chapter 4 addresses the challenge to adapt content provision in mobile TV. It is explained how mobile TV content production is integrated into the TV production process. Practical factors to enhance content provision in mobile TV are then discussed.

Chapter 5 provides a conclusion to the study. It presents a review of the spinal aspects, indicates how the study addresses the main study objective and proposes possibilities for further research.

Chapter 2

Mobile TV and new media: a conceptual framework

In basic terms, mobile TV refers to TV distribution on a mobile device (Andersson *et al.*, 2006:20; Hilton, 2006:18). Thus, a background of the subject under consideration requires a brief overview of the technological development of TV and the mobile device. Also, as stated in the introduction, it is necessary to explore mobile TV in the light of new media to determine whether it can be described as such. If it can be described as such, then this holds certain implications with regards to the nature of mobile TV. In turn, this then influences user understanding and content provision in mobile TV. Thus, an exploration of mobile TV in the light of new media is vital in a discussion on the relationship between content providers and users in mobile TV.

2.1 Technological origins of mobile TV

Mobile TV has origins in the field of television. The term “tele” means “at a distance”, thus television or TV refers to “vision at a distance” (Manovich, 2001:169). The invention of TV was the result of a collaboration of inputs from various people working alone and together. These inputs began with the origins of electronic communication in general - Joseph Henry and Michael Faraday’s pioneering work in electromagnetism in 1831 (About Inc., 2006b). Numerous British, French, American, Russian and German scientists suggested techniques for transmitting images over the air between 1890 and 1920. In 1926, Scottish inventor, John L. Baird showed live TV pictures in London (Merham, 1998:209). This led to the introduction of the first regularly scheduled TV service by the British Broadcasting Company (BBC) in England in 1936 and the debut of commercial TV in the United States of America (US) on April 30, 1939 (Bell, 1966:13).

Due to political restrictions, TV was only welcomed in South Africa in the early 1970’s and the South African Broadcasting Corporation began a regular service in 1976 (Merham, 1998:211-212). This was after the so-called “golden years” of TV between 1952 and 1960 during which TV grew into a mass medium in other parts of the world. The introduction of colour TV, the invention of the videotape, the establishment of major programme formats and the success of TV news are some of the landmarks of this period. During the 1960’s and 1970’s, various programme delivery systems were developed. These gained widespread use during the 1980’s and include satellite transmission, cable TV and video cassette players (Merham, 1998:209).

Digital TV is now replacing analogue TV. A fully digital system was demonstrated in the US in the 1990s (Microsoft Corporation, 1993-2006). Certain countries have set dates when all TV broadcasters will have to "switch-off" analogue and only broadcast digital TV. The United Kingdom (UK) purposes to convert all analogue TV transmissions to digital by the year 2012 (Department for Culture, Media and Sport, 2001-2006). The US Congress has made February 2009 the date by which all broadcasters must switch off analogue TV. US Republican politician, Joe Barton, has called this a "great technical revolution". More than 60% of US households already watch digital TV. For those who don't have a digital TV set to do so, the US government plans to give financial aid towards helping them purchase a digital TV set (BBC, 2006a).

High Definition TV (HDTV) is also becoming more widespread, although it had already been demonstrated in 1981. HDTV gives 1080 interlaced or 720 progressive lines of detail on its screen as compared to the previous standard of 480 interlaced lines, thus producing a much sharper picture (Kessler, 2006). In 1995, the Digital Video Disc was introduced (Bellis, 2006), enhancing storage capacities for video distribution. The digital characteristic of TV is discussed in more detail in section 2.4.1.1 of this report.

Once TV had been introduced commercially, it took over 25 years for it to achieve 25% penetration worldwide (Andersson *et al.*, 2006:2). On the other hand, the mobile telephone took about 13 years to achieve 25% penetration worldwide (Andersson *et al.*, 2006:2). Sharing the "tele-" origin, mobile telephony has been in commercial use since 1979 when the first commercial cellular telephone system began operation in Tokyo. In 1983, a commercial analogue cellular service began operation in Chicago (About Inc., 2006a).

Developments in technology have increased the feasibility and usage of mobile telephony. In the early 1990's, second generation digital mobile systems (2G) were introduced. These improved on previous analogue systems as they allowed higher capacity, smaller phones and better standby times. These systems only facilitated voice and used Short Message Services (SMS) to alert users once new voicemails had arrived. In the late 1990's, device manufacturers started promoting ring-tone downloads via SMS, leading to a new range of services. By the year 2000, already 500 million SMS's were being sent per day globally (Andersson *et al.*, 2006:4).

The "mobile telephone" can no longer be named by these terms, considering that technological developments, such as third generation digital mobile systems (3G), the Internet Protocol Multimedia Subsystem (IMS) and the more recent fourth generation digital mobile systems (4G), have enabled a multimedia use of the device (Andersson *et al.*, 2006:4,6; Ken, 2006:10).

According to Andersson *et al.* (2006:141), the device is evolving towards being capable of virtually handling all communication needs by using a wide range of media formats. For this reason it is referred to as the “mobile device” in this report.

2.2 Converging fields

In 1966, Bell (1966:13), at the time Chairman of the Department of Business Management at Merrimack College in Massachusetts, noted that “screen size has been a major product variable” in the TV industry. Forty years later, this statement could not be more relevant. Developments in digital TV and mobile device systems have enabled TV to enter what is possibly one of the smallest screens yet in widespread TV viewing.

Fundamental to TV viewing on a mobile device is the convergence of the mobile and TV industries (Lewis *et al.*, 2004:2; O'Halloran, 2006a:19). TV and telephony share a common origin in that they are both communication forms “at a distance” (Manovich, 2001:169). However, TV has primarily been treated as a mass media (Mersham, 1998:207), while mobile communication has been treated as part of the telecommunication industry (Andersson *et al.*, 2006:4). The basic and main operation of the telecommunication industry has been voice service. As already mentioned, SMS was introduced next. Later other services were introduced, such as, the Multimedia Messaging Service (MMS) and wireless Internet, which enabled services like email and web browsing (Andersson *et al.*, 2006:4,6,10).

The TV industry has had as its main focus video transmission. Now, video transmission is possible via telecommunication means on a telecommunication device. This convergence not only entails industrial convergence, but also convergence in services, in devices and in networks. Convergence in services refers to the ability of a user to, for example, play a game on their mobile device against a friend playing the same game on their TV set. Convergence in device refers to using one device for various services, such as using a mobile device for both TV viewing and voice conversations. Convergence in networks refers to, for example, using the same telecommunication network for both mobile voice and mobile TV services (Andersson *et al.*, 2006:6-7; Anon., 2006d:13; Taylor, P., 2007:10-11).

With this convergence in the TV and telecommunication industries, comes the challenge for role players, who previously worked in separate industries, to cooperate in a merged industry field. Questions arise as to who - referring to telecommunication network providers and TV content

providers - will get what slice of the revenue (Andersson *et al.*, 2006:259; Jenkins, 2005:54-55). Also, what business models should be employed (Andersson *et al.*, 2006:180; Anon., 2006d:10)? Although the relationship between content providers and network providers is not the focus of this report, these questions are worth mentioning as they influence content delivery to users.

2.3 Role players in mobile TV

The focus of this report is on key challenges in the relationship between content providers and users in mobile TV. In order to understand the roles of these parties in the context of mobile TV, it would be helpful to view them in terms of a simplified representation of the communication process. There are various models that represent the communication process. These include the basic linear model, the interactional model and the transactional model (West & Turner, 2006:7-13). Fundamental to these models are the components of sender, message, channel and receiver. The sender encodes the message, selects the channel and transmits the encoded message through the channel to the receiver who decodes the message. The channel is subject to various interferences, such as noise, obstacles, number of links, deletions, additions and so forth (Casstevens, 1979:33,35; West & Turner, 2006:8). Then, as proposed in the transactional model, there may be an opportunity for feedback. This is a message sent from the original receiver to the original sender in response to the original message (Casstevens, 1979:33,35; West & Turner, 2006:10). This is a very simplified description of communication, however, it forms a basis for understanding the roles at play here.

Content providers refer to those parties who produce and provide content distributed to mobile devices (Andersson *et al.*, 2006:127). These providers may, for example, sell their content to a network operator who then resells it to users or they may sell content directly to users through a channel provider (Andersson *et al.*, 2006:180-181; Fry, 2005a:71). On the other hand, the content provider and the network operator may be the same party where the operator produces and distributes his own content. Thus, the content providers can be seen as the senders in mobile communication, since they have a message or messages in the form of content that they want to send.

The sender is responsible for choosing the channel. In the context of mobile TV, this channel is mobile TV and the mobile network through which it functions. Here network operators provide the channel and are responsible for ensuring minimum interference in content delivery, whether

they deliver the content themselves or provide a secure platform for content providers to deliver content (Andersson *et al.*, 2006:180-181).

The user is the receiver in mobile communication. However, feedback from the user to the sender will reverse the roles and renew the process. This feedback may not necessarily be in the form of mobile TV. It may be a response from the user to express user satisfaction or dissatisfaction through means of, for example, an email message via the mobile device and its related network. The possibility for interactive use of mobile TV allows for more feedback than in traditional TV viewing. This is discussed in more detail in section 2.4.1.2.

In addition to the basic components of sender, message, channel and receiver, there are other factors such as context and fields of experience that influence the communication process (West & Turner, 2006:9,12). Such factors are not discussed here, as a simple description of the communication process is sufficient to set the stage for the discussion on the relationship between content providers and users in mobile TV.

It is important to note that many mobile devices are equipped with a video camera, making it possible for mobile device users to create their own content and distribute it via a telecommunication network. During October 2006, a pupil at a Port Elizabeth school recorded two Grade 11 girls in a brawl. The fight was filmed in three “chapters” using a mobile device camera. Each chapter was sold separately for R5 and they reportedly sold like “hot cakes” (Spoormaker, 2006). Besides the ethical questions this raises, which are not the focus of this discussion, this demonstrates how the lines between content providers and users have become blurred in a sense. When referring to “content provider” in this report, reference is made to commercial and institutional content providers rather than users who produce their own content, as in the example given. Where this is not the reference, it is specified.

A further note of importance with regards to this report is that in employing the term “user”, reference is being made to both customer and client in mobile TV. The user can be said to purchase a product when buying mobile TV content, making him or her a customer (Hornby, 2001:288). On the other hand, the user can be said to make use of a service when using a mobile TV network, making him or her a client (Hornby, 2001:288). Whether considered as a customer or a client, this party remains a user and is referred to as such in this report.

2.4 The greater context of new media

As mentioned in the introduction, mobile TV should be considered against the backdrop of broader current media. Media and communications have been developing continuously, with each separate medium developing at its own pace (Lister, Dovey, Giddings, Grant & Kelly, 2003:10). However, according to Lister *et al.* (2003:10), changes in media have been so rapid since the 1980s that there seems to be a clear break from media preceding this period. This is one reason for the use of the term new media to describe certain current media.

The term new media can refer to a whole range of diverse practices, processes and instruments (Lister *et al.*, 2003:9). It can involve a rapidly changing set of formal and technological experiments as well as a complex set of interactions between new technological possibilities and established media forms (Lister *et al.*, 2003:10).

According to Chun (2006:9), the term new media is a stopgap. In other words, a term that relieves us from thinking of the reality it describes. This is perhaps due to the generality and abstractness of the term. The term new media avoids purely technical and formal definition, thus people use the term to refer to a range of phenomena. Someone may use the term to describe the Internet, while another may use it to refer to mobile games (Lister *et al.*, 2003:11).

The term new media carries a sense of “newness” or novelty. It is often used to refer to “most recent” or “cutting edge” media. This is worth noting in the context of this discussion, since (as mentioned in the introduction) it is often the “newness” of their service or product that mobile communication industry players focus on, instead of attaining an understanding of the user profile and preference. Many people who have a modernist belief in social progress may be favourable of the term “new media” as it denotes increased productivity, educational opportunity and creativity (Lister *et al.*, 2003:11). However, using the term new media in the sense of the novelty of the medium is misleading. A medium may appear to be new, while it is only a configuration or new version of something that already exists. In this light, mobile TV could simply be considered as an extension of existing TV. Also, novelty wears off as a new medium becomes familiar in everyday use (Lister *et al.*, 2003:38). Thus, novelty in itself is not a sufficient motivation for identifying a medium as part of new media.

It is apparent that although the term “new media” carries certain connotations, it is difficult to define it according to fixed parameters. Also, various scholars and media theorists define it by

different terms. Chun (2006:9) seems to advocate that discussions on new media should unsettle, rather than settle, our thoughts on the subject. Manovich (2001:27) lays certain principles for defining new media as opposed to old media. He qualifies his discussion by stating that not every new media object obeys these principles. Manovich (2001:27) states, "They should be considered not as absolute laws but rather as general tendencies of a culture undergoing computerization." Thus, this report by no means attempts to establish fixed ideas and concepts regarding mobile TV in terms of new media. However, if mobile TV is to be understood in the light of current media as a whole, a framework of new media is a necessity.

In order to set a conceptual framework of new media in relation to mobile TV, particular characteristics of new media need to be outlined. Also, it must be determined whether mobile TV shares some of these characteristics to the extent that it can be described as a new medium. Lister *et al.* (2003:13-37) outline five concepts that can be used to define new media, namely, digitality, interactivity, hypertext, dispersal and virtuality. In addition, Lister *et al.* (2003:12) also describe six specific constituent parts within new media. These defining concepts and constituent parts are by no means absolute in this dynamic field. However, they are employed here in order to indicate essential characteristics of new media. Although they are outlined by a certain group of authors, namely, Lister *et al.* (2003:12-37), various other authors reiterate the aspects. Where applicable, reference is made in this regard.

2.4.1 Five defining concepts of new media

Lister *et al.* (2003:13) emphasise that the defining concepts of new media are experienced traits of new media technologies and directions in which they have developed rather than prescriptions of what should constitute a new medium. Thus, to identify mobile TV as a new medium is to explore whether its proven traits coincide with and how its development identifies with these characteristics. Following is such an exploration.

2.4.1.1 Digitality

The first of the defining concepts of new media is *digitality* (Lister *et al.*, 2003:14-17). New media are sometimes referred to as digital media, although many avoid such terminology to describe this larger group of media, as it is purely technical (Lister *et al.*, 2003:11). However, digitality is a basic concept in the development of the broader category of new media. Digitality can be understood as referring to "media that use computers" (Lister *et al.*, 2003:14). This

coincides with how Manovich (2001:19) describes the new media revolution - as “the shift of all culture to computer-mediated forms of production, distribution, and communication”. To describe new media in terms of “computer-mediated communication” (Lister *et al.*, 2003:11) is not sufficient for understanding digitality within the current context. It would be better understood by examining how digital differs from analogue (Lister *et al.*, 2003:14).

Analogue originates from the Greek word *analogos*, which describes an equality of ratio or proportion in mathematics. In other words, a series of transcriptions – of comparable arrangements of parts – that brings the message to the user. In analogue, one set of physical properties can be stored in another analogous form that is subject to technological and cultural coding that allows the original properties to be reconstructed for the audience. This reconstruction involves the creation of a new object as determined by the laws of physics and chemistry (Lister *et al.*, 2003:14). For example, in the analogous print process, discrete, movable pieces of metal type are used to reconstruct a message originally handwritten on paper into a typeset, several edited artefacts and eventually a printed book format. In digital print, the same words can be typed and edited in a word processing program without having to do physical type manipulation. This information can be printed with a computer printer, saved in digital format or distributed digitally via a computer network (Lister *et al.*, 2003:15).

In digital, rather than transferring one object into another comparable object, physical properties of input data, light and sound waves are converted into numbers. This primarily involves the laws of mathematics rather than physics or chemistry as in analogous mediation (Lister *et al.*, 2003:15). Digital refers to assigning numerical values to phenomena, whether using the decimal system (0-9) or binary numbers (0 and 1). The digital mediation referred to here is that of converting data into binary numbers, which results in strings of on and off pulses, which is the basis of computer mediation (Lister *et al.*, 2003:16).

Digitality holds important benefits for new media. Media texts that are digitally encoded are in a sense “dematerialised” by separating them from their physical form as, for example, photographic print or book. The “dematerialised” data that represents them can be compressed into very small spaces, enabling the storage of massive amounts of data. According to van Dijk (1999:17), the huge storage potential of new media is one of its strong qualities. This data can be accessed at very high speeds and in non-linear ways. Also, it can be manipulated much more easily than analogous forms (Lister *et al.*, 2003:16).

Digital mediation was first practiced in scientific, military and corporate establishments and only later in the communication and entertainment industries (Lister *et al.*, 2003:16). As mentioned in section 2.1, digital TV is now replacing analogue TV in numerous countries. Whereas analogue TV transmits conventional electronic TV signals, digital TV transmits TV via data-carrying signals, which consist of binary codes as explained above (Federal Communications Commission [FCC], 2006a). Digital TV may also refer to the process by which digital TV receivers convert conventional electronic analogue signals into digital codes that are sampled, stored, processed and then retrieved. However, when referring to digital TV in this report, reference is made to the actual transmission and reception of digital signals, not the conversion of analogue signals by the receiver (Microsoft Corporation, 1993-2006). Fully digital transmission not only delivers higher TV quality, but also allows for multicasting, interactive capabilities and distribution across many more platforms than previously possible (FCC, 2006b).

Due to digitalisation across tele-, data and mass communications arenas, a uniform binding structure has evolved (van Dijk, 1999:29). This enables previously distinct industries to converge – a concept discussed in section 2.2 as being important in enabling mobile TV. Van Dijk (1999:33) states, “Nowadays, the biggest concentrations of computer equipment are to be found not in computer centres, but in modern telephone exchanges.” Van Dijk (1999:33) continues to explain that due to digitality, telephony is adapted to carry more information than simply speech or text; it now carries data and images. Thus, digitality, as a predecessor of convergence, is an important part of the development of mobile TV. Mobile TV is characterised by digitality.

2.4.1.2 Interactivity

The second defining concept of new media as outlined by Lister *et al.* (2003:19-23) is *interactivity*. Ideologically, the term refers to the ability of a user to engage on a greater level with media texts, have a more independent relation to sources of knowledge, have individualised media use and have greater choices. Functionally, it refers to the user’s ability to intervene in and change the images and texts that they access (Crawford, 2005:10; Fry, 2005b:71; Lister *et al.*, 2003:20).

Manovich (2001:56) argues that the term interactivity is too broad to be useful. He raises the question of whether even the oldest of media cannot be considered interactive. For example, classical art is interactive in the sense that missing details cause the viewer to imaginatively fill in the missing information and thus interact with the painting. As a more recent example, even

analogue TV can be interactive in the sense that viewers of programs like Big Brother are invited to interact by voting for the participant of their choice via SMS (Roscoe, 2004:4). Thus, interactivity in itself is not a distinct characteristic of new media. However, increased capacity for interactive media use is a distinct characteristic of new media. The definition of interactivity provided by Lister *et al.* (2003:20) does qualify this by referring to “more” and “greater” engagement and choice.

As mentioned in section 2.4.1.1, digital TV enables interactive capabilities. For example, BBC now offers BBCi, an interactive service. By pressing the red button on the remote control at any time, a user is offered the possibility of viewing extra news stories, checking weather forecasts, shopping, playing games and using emails on their digital TV screen (BBC, 2006b).

Interactive TV is also available on the mobile device. In 2005, Swedish telecommunication supplier Ericsson and the Norwegian Broadcasting Corporation (NRK) conducted the world's first live trial of interactive mobile TV. The interactive options include the capability for users to vote, chat and communicate with a TV presenter while watching a TV show at the same time on the mobile device (Downing, 2005). The company Ericsson (2006a:2) views this ability for users to interact with a show in an entirely new way as a means for creating a much richer TV experience in the mobile channel.

Another mobile TV solution that is related to interactivity is video-on-demand. With this service, users can access recorded and archive TV material at any time. This is related to the process of time-space distantiation apparent in new media development. On the one hand, time and space have been extended through access to networks, such as the global Internet and large telecommunication networks. Information can be stored and accessed whenever by whomever, even across geographical borders and generations. In this regard, time and space seem to have lost relevance. On the other hand, time is compressed and space contracted in that data is accessed at high speeds and a world of information can be stored in a small space – drawing people into a small, “global village”. In this regard, time and space seem to be growing in importance, as users can be more selective and critical (van Dijk, 1999:20,155).

According to van Dijk (1999:155), “the technological capabilities of bridging space and time enable people to be more selective in choosing coordinates of space and time than ever before in history.” According to Södergård (2003), the concepts of time and space have become more flexible in mobile TV, as mobile TV makes it possible to be connected almost everywhere. Thus, regardless of whether we are dealing with an extension or a compression and contraction of

time and space in new media, the aspects of time and space are now, more than ever, at the mercy of the user. This allows for greater interaction.

Ericsson (2006b) offers mobile video-on-demand along with enhanced program guide features. This is another example of the interactive use of mobile TV. From what has been said, it is apparent that mobile TV also displays the characteristic of interactivity (Lewis, *et al.*, 2004:1-2).

2.4.1.3 Hypertext

The third defining concept of new media as described by Lister *et al.* (2003:23-30) is *hypertext*. Castells (2004:10) describes hypertext in the context of the Internet as the potential ability to link up everything digital from everywhere and to recombine it. Lister *et al.* (2003:24) describe hypertext as “a work which is made up from discrete units of material in which each one carries a number of pathways to other units.” Hypertext is commonly considered in the context of Internet protocols and markup languages, such as Hypertext Transfer Protocol (HTTP) and Extensible HyperText Markup Language (XHTML), which make it possible to interconnect, create and access content and applications on the World Wide Web (WWW) (Encyclopaedia Britannica Inc., 2006; World Wide Web Consortium [W3C] HTML Working Group, 2002).

Adaptations have been made to these markup languages and protocols to make web-based applications possible on mobile devices. For example, XHTML Basic is a markup language that can be used to create content so that it is available across devices, such as desktops, TV and mobile devices (McCarron & Ishikawa, 2006). Since mobile media and applications are still under development, certain standards in content creation and delivery have not yet been set. A discussion on this topic would be comprehensive considering that various mobile media and application companies have adapted distinct standards. Such a discussion is not attempted here. The technological aspect is mentioned here to show that mobile media and applications are part of a web of media and applications based on the principles of hypertext.

The principle of hypertext originates from the idea of organising information in a similar way to the operation of the human mind (Lister *et al.*, 2003:25). It involves externalising the mental process of reflection, problem solving, recall and most importantly, association (Manovich, 2001:61). Hypertext is a non-hierarchal file system. In a hierarchal system, every object has a distinct and well-defined place. In a non-hierarchal order, every object is of equal importance as any other object and everything is, or can be, connected to everything else (Manovich,

2001:16). Hypertext is also non-linear. Since information is ordered as a web of trails and associations, associated objects need not be accessed in a particular order (Lister *et al.*, 2003:26; Shapton, 2006:14).

The application of hypertext to methods of organisation on all mediated forms is known as hypermedia (Lister *et al.*, 2003:26). In hypermedia, individual media elements, such as images and text, retain an individual identity and are wired together into more than one object by means of hyperlinks. This forms a network of information that users are able to create, manipulate and/or examine through interconnected relational links (Manovich, 2001:40-41). Thus, hypertext is vital for interactivity as discussed in section 2.4.1.2.

Orange France employed an advanced interactive League 1 Soccer mobile TV application during February this year (2006). This application integrated up-to-the-minute text updates and video game highlights during the match, daily updates and videos during the tournament and advertising between videos. Companies Bluestreak and PacketVideo delivered this application solution to Orange France. They believe that the mobile TV navigation interface they provide is user-friendly and easy to navigate (Anon., 2006b). This is an example of hypermedia in that various media, such as text and video can be accessed in different formats and viewed as individual objects, yet they are interlinked and easily accessed through a navigation interface that does not specify a particular order or rank in use. Thus, mobile TV also employs the characteristic of hypertext in principle and in operation.

2.4.1.4 Dispersal

Dispersal is the fourth defining concept of new media as described by Lister *et al.* (2003:30-34). Dispersal refers to the way in which the production and distribution of new media have become decentralised, highly individuated and knit into everyday life (Smith, 2005:83). This is a result of changes in the consumption and production of media texts (Lister *et al.*, 2003:30).

Media production and consumption in the twentieth century were primarily mass production and mass consumption orientated. Traditional TV is described in section 2.2 as a form of mass media (De Beer, 1998:7). Through traditional TV and other forms of mass communication, such as traditional newspapers, people (mass communicators) communicate to relatively large, heterogeneous and anonymous collections of individuals and groups (mass communication audiences) (De Beer, 1998:7).

Mass communicators typically form part of a large, complex and often monopolizing media organisation. De Beer (1998:9) states, "It is virtually impossible for individuals to run a modern mass communication medium on their own." In such mass media, messages are composed with inputs from various people and done so in a meticulous manner as to suite a large majority of people. Media communicators and media receivers are clearly distinct from one another (De Beer, 1998:9). The communication is "one to many" with basically no room for feedback or interaction (Lister *et al.*, 2003:31).

New media, on the other hand, need not be produced by a central organisation. It may be produced by independent producers, whether professionals or persons with the basic tools and know-how. For instance, any person with a computer, a network connection to the Internet and the basic skills can produce their own "home page". The operation and content of this "home page" is under the control of the home producer. The "home page" can be published and accessed on the global Internet, yet made according to individual taste. It is not necessarily made to appeal to masses of people, though it has the ability to reach masses of people (Lister *et al.*, 2003:31-33).

Australian mobile content companies, TigerSpike and Intrazaar have built their business on content produced by users. The companies receive content in the form of video clips, still images and audio files created by users using a range of tools, including mobile devices. They then publish this content to other media, such as websites, mobile devices and digital billboards (Anon., 2006c). This is an example of the dispersal of media production.

The dispersal of media production benefits independent mobile TV producers in that they need not rely on a large media organisation to survive (Kenny, 2006:36). Reference is made to this subject in the discussion on the convergence of the TV and telecommunication fields in section 2.2. There are various business models that content providers could employ, for instance, independent content producers may sell their content to a large mobile TV organisation, but they need not (Andersson *et al.*, 2006:180). They can sell their content directly to users through a channel provided by a channel operator. According to Andersson *et al.* (2006:181), many mobile operators consider such an arrangement a challenge and key factor in the future success of their business. In this arrangement, the channel provider offers a range of related services, such as identity management, digital rights management and even self-service portals, service creation toolsets, test mechanisms and so forth. Alternatively, independent producers can make use of bit pipe providers whose focus is primarily on providing best

technical offerings, such as best coverage and lowest latency (Andersson, *et al.*, 2006:181; Anon., 2006d:10).

As mentioned, dispersal leads to highly individuated media (Lister *et al.*, 2003:30). As discussed in the introduction, a proliferation of services has developed in the mobile industry. At a stage, media were limited to a small number of network TV stations and a few large publishing companies (Lister *et al.*, 2003:30). Today, countless providers deliver media options over various platforms, one being mobile media. Then, there are a range of mobile media and applications. Due to this proliferation, users have greater choice and are able to select what is most suited to their individual needs (Andersson *et al.*, 2006:44; Plawutsky, 2006:27).

The dispersal of new media relates to the process of time-space distantiation as both involve a proliferation of media. As discussed in section 2.4.1.2, time-space distantiation involves the spread and contradicting simultaneous compression of media that leads to greater interactivity and choice (van Dijk, 1999:20,155).

According to De Beer (1998:6), mass communication is a pervasive social force in everyday life - it meets you at the breakfast table in the form of the newspaper and follows you until the late night movie on TV. The measure to which mass media were a part of everyday life as described by De Beer (1998:6) is minimal as compared to the use of new media in everyday life today. According to Lister *et al.* (2003:30), the proliferation of media and communication opportunities currently available offers a future where there are "no 'media free' zones in everyday life."

Gary Forsee, president and CEO of Sprint Nextel, a mobile service provider in the US, claims that their service offerings give users power to harness business information and personal entertainment easily and inexpensively, so that "they will one day wonder how they lived without" (Anon., 2006f). Mobile TV is already a part of everyday life for many. In South Korea, over one million people have added watching mobile TV to their media usage (Taylor, R., 2006). From the above discussion, it is apparent that mobile TV also shares in the new media characteristic of dispersal.

2.4.1.5 Virtuality

The fifth of the defining concepts of new media as identified by Lister *et al.* (2003:34-36) is *virtuality*. The term has been applied to different media and technologies as well as aspects of everyday life that are simulated in post-modern culture, such as, shopping over the Internet. Lister *et al.* (2003:35) describe two specific points of reference for virtuality or virtual reality.

Firstly, virtual reality may be understood as the experience of immersion in an environment constructed with computer graphics and digital video with which the user can interact to some extent. These experiences may be used for training, design, research, film animation and games (Van Dijk, 1999:47). An extreme example of this would be a person wearing a headset with LCD screens and a body suit that provides tactical and positioning feedback for this person to experience a computer-generated world (Lister *et al.*, 2003:35). Virtual reality experiences need not be as extreme as this. For example, the US Marine Corps have used military simulators, much like computer games, to give soldiers group-combat training (Sikorovsky, 1996) and the Virtual Training Company offers software training where users are taught by tutors through QuickTime media (Virtual Training Company, 2006).

Secondly, virtual reality can be understood as the space where participants feel themselves to be in online communication (Lister *et al.*, 2003:35). Mirzoeff (1999:91) describes this as the space that "comes into being when you are on the phone: not exactly where you happen to be sitting, nor wherever the other person is, but somewhere inbetween". This can be applied to mobile TV. The world you see is somewhere between where the content provider originally created it and where you are. If it is a simulated image made from computer graphics, animation or special effects, then it is a metaphorical place or space created. Thus, mobile TV can also be seen as a type of virtual environment in the telecommunication network.

2.4.2 Constituent parts in new media

Lister *et al.* (2003:12) also provide a schema of specific constituent parts within new media. Breaking the greater category of new media into separate parts aids in describing and managing this broad term. These specific parts are as follows.

Firstly, *new textual experiences* refer to new kinds of genre, textual form, entertainment, pleasure and patterns of media consumption. This would include, for example, hypertexts, computer games and special effects cinema (Lister *et al.*, 2003:12). In mobile TV, content must be adapted to the mobile device screen. This will inevitably lead to content producers developing new genres, such as the mobisode (Fitchard, 2006). The mobisode is an adaptation of the traditional TV episode and is specifically suited in format to mobile TV. The mobisode can be seen as a new textual experience.

Secondly, *new ways of representing the world* refer to media that offer new representational possibilities and experiences, which are not always clearly defined. This would include, for example, virtual environments and screen-based interactive environments (Lister *et al.*, 2003:12). As discussed in sections 2.4.1.2 and 2.4.1.5, mobile TV has certain virtual and interactive characteristics. Thus, it can be seen as a new way of representing the world.

Thirdly, *new relationships between subjects (users) and media technologies* refer to changes in how subjects use and receive image and communication media in everyday life as well as the meanings that are invested in media technologies (Lister *et al.*, 2003:12). It is stated in section 2.4.1.4 that mobile TV has already become a part of everyday life for many. It can be added that this can possibly lead to invested meanings and significance in mobile TV for users. For example, research by Quaestor Research and Marketing Strategies (Goldie, 2006) indicates that most children in the UK have an “emotional attachment” towards their mobile devices and feel that having TV available on their mobile devices gives them a sense of freedom. They attach the meaning of freedom in life to their use of mobile TV. Thus, it can be said that mobile TV allows for new relationships between its subjects and it as a media technology.

Fourthly, *new experiences of the relationship between embodiment, identity and community* refer to shifts in the personal and social experience of time, space and place on a local and global scale. This influences how users experience themselves and their place in the world (Lister *et al.*, 2003:12). Mobile TV can be seen as such an experience in terms of time-space distanciation, as discussed in section 2.4.1.2. Through access to a local telecommunication network, a mobile user forms part of what could be referred to as a global telecommunication society.

Fifthly, *new conceptions of the biological body's relationship to technological media* refer to challenges to received distinctions between the human and the artificial; nature and technology; body and technological prosthesis; and the real and the virtual (Lister *et al.*, 2003:12). As

discussed in section 2.4.1.5, the concept of virtuality can be found in mobile TV. Thus, to some extent, mobile TV also embodies a new conception of the biological body's relationship to technological media.

Lastly, *new patterns of organisation* refer to changes in the wider alignment and integration in media culture, industry, economy, access, ownership, control and regulation (Lister *et al.*, 2003:12). Mobile TV necessitates the integration or convergence of the telecommunication and TV industries, as discussed in section 2.2 (Andersson *et al.*, 2006:3). Thus, mobile TV also involves new patterns of organisation.

2.4.3 Mobile TV as a new medium

The specific constituent parts of new media embrace several of the defining concepts discussed. The purpose in describing the constituent parts is not to repeat these aspects, but to reiterate that mobile TV does indeed embody certain characteristics of new media. Some characteristics are, however, more apparent than others. Digitality, for example, may be relatively easy to comprehend in terms of mobile TV. Digitality is a basic technological development that enables certain mobile TV applications (Lister *et al.*, 2003:14-17; Van Dijk, 1999:33). On the other hand, virtuality can be seen as more abstract in the sense that it can describe an intangible space (Lister *et al.*, 2003:35).

According to Lister *et al.* (2003:37), not all of the qualities that they describe will be present in all examples of new media. Also, these qualities will be found in differing degrees and mixes. The qualities of digitality, interactivity, hypertextuality, dispersal and virtuality are present to some extent in mobile TV. There is also potential for mobile TV to develop further in some of these aspects. However, the purpose here is not to predict or prescribe what mobile TV should or could be in terms of new media. This discussion mainly focuses on what mobile TV has proven itself to be.

Besides sharing the defining concepts of new media (Lister *et al.*, 2003:13), mobile TV also fits in with the description of the constituent parts of new media (Lister *et al.*, 2003:12). Thus, according to the above-mentioned characteristics of new media and the corresponding descriptions of mobile TV, mobile TV can be considered as a new medium. This carries certain implications for the relationship between content providers and users in mobile TV. For one, it demands that content providers gain a renewed understanding of users. Secondly, it

necessitates that content providers adapt content according to a new user experience in mobile TV as a new medium.

2.5 Summary

This chapter provides a conceptual framework of mobile TV and new media. From a technological viewpoint, mobile TV has origins in TV and telephony. The development of mobile TV requires a merging in the fields of TV and telecommunication in terms of industry as well as services, devices and networks. The role players in mobile TV, namely, content providers, channel providers and users, are described according to the basic components of the communication process. Essential characteristics of new media are outlined. It is indicated that mobile TV shares these characteristics and can thus be considered as a new medium.

From the given framework of mobile TV and its position in the greater context of new media, two key challenges emerge in the relationship between content providers and users in mobile TV. Firstly, content providers are challenged with the need to gain a greater understanding of users in mobile TV as a new medium. Secondly, they are challenged with the need to adapt content according to the nature of mobile TV as a new medium. The first-mentioned challenge is the subject of chapter 3, while the second-mentioned challenge is the subject of chapter 4.

Chapter 3

The challenge to understand the user profile in mobile TV

As mentioned in the introduction and referred to in the previous section of this report, various factors at play in mobile TV as a new medium challenge content providers to gain a greater understanding of the user profile. It is stated in section 2.4.1.1 that due to digitalisation, the telecommunication and media industries are now converging on a uniform platform. This enables a greater spectrum of services and media. Also, it allows for a greater capacity for storage, distribution and choice (Andersson *et al.*, 2006:44; Shapton, 2006:14; Van Dijk, 1999:17,29).

Interactivity allows for greater user participation, which can result in a richer user experience, as discussed in section 2.4.1.2 (Ericsson, 2006a; Lister *et al.*, 2003:19-23). Hypertext in mobile TV allows for association in mobile media application use, as discussed in section 2.4.1.3. This forces us to consider mobile media use in terms of a broader network of media (Anon., 2006b; Lister *et al.*, 2003:26). Dispersal allows for more independent and smaller-scale content producers of more individuated content that permeates the every day lives of users, as discussed in section 2.4.1.4 (Lister *et al.*, 2003:30). Virtuality brings the user into an intangible world created during the interaction between users and content, as discussed in section 2.4.1.5 (Lister *et al.*, 2003:35).

Key adjectives that recur when discussing these factors in mobile TV as a new medium are the words “greater” and “more” - greater choice, greater participation, more association and more individuation. These factors in mobile TV demand a greater understanding of users. This chapter proposes a means of understanding the user profile in mobile TV.

Considering that the field of Mobile TV is in its beginnings, there is much hype and speculative writing, but little to be found in terms of concrete findings. For this reason, this chapter relies heavily on a discussion by Andersson *et al.* (2006:33-63). As leading employees in the telecommunication company Ericsson, this group of authors rely on their years of experience and expertise as well as concrete research conducted by Ericsson.

3.1 An old approach, but a new challenge in mobile TV

Understanding media users is not a new approach. For example, it is suggested through the uses and gratifications approach. Mass communication authors such as Katz, Blumler & Gurevitch (1975:19-32) expanded on this approach in the early 1970's. This approach focuses on what society does with media in contrast with preceding approaches that focused on what media do to society (De Beer, 1998:21). The approach assumes that users actively select media that meet their goals and gratify their needs. From this viewpoint, media suppliers are more apt to gratify the needs and goals of media users once they understand what these needs and goals are. The approach also assumes that media compete with other entertainment and information sources to gratify user needs. Furthermore, audiences alter media to meet their needs more easily and are aware of these needs. Thus, they can give specific reasons for using a certain medium (Katz *et al.*, 1975:21-22).

Although the uses and gratifications approach was developed in the context of mass media (De Beer, 1998:21), it focuses on the way in which *individuals* use mass communication (Katz *et al.*, 1975:21). Considering that new media is more dispersed, diverse and individuated than mass media, the uses and gratifications theory would possibly be even more fitting as a basis for studying individual usage of new media, such as mobile TV. A comprehensive discussion on the uses and gratifications theory as applied to new media is not attempted here. Rather, it is mentioned to indicate that even in mass media, media players have been aware of the necessity to understand users - even individual users in the mass audience. As mentioned in the introduction, most media players have attempted such an understanding in order to succeed in the media industry. However, telecommunication players have not always met this challenge, as their success has been dependent on delivering best technologies and has often times outweighed expectations. Now that the industries are converging, as discussed in section 2.2, the field is becoming more complex. Telecommunication players must now also meet this challenge to survive (Andersson *et al.*, 2006:33,44).

3.2 Lessons learned from past experiences

In an attempt to understand users in mobile TV, it would be helpful to review past experiences in the mobile and TV industries and to learn from these. As stated in section 2.1, it took up to 13 years for mobile phones to achieve 25% penetration and almost double this time, almost 25 years, for TV to achieve 25% penetration (Andersson *et al.*, 2006:2). This is partly due to initial high costs and technical limitations. Also, some considered TV to be an "evil box" (Mersham,

1998:211), while the mobile phone was seen by some as an invasion of privacy and peace. It has taken time to change negative attitudes. Today, many consider TV to be a companion and the mobile phone as a necessity without which they feel "naked" and vulnerable. From this, mobile TV enthusiasts can learn that humans are creatures of habit. It takes time to change attitudes and behaviours. To encourage such change, there should be clear advantages and the potential to meet specific needs (Andersson *et al.*, 2006:34).

As discussed in section 2.1, the SMS has achieved outstanding success (Andersson *et al.*, 2006:4). It was created almost as an afterthought without the initial function of personal messaging, TV interaction, ticket booking and the many more ways in which people worldwide use it today. A large part of the success of SMS is due to the adoption by younger users. Before SMS, business users had been the main users of mobile devices and telecommunication suppliers thought this group would be the first adopters of mobile services and media, such as SMS. However, youth were the first adopters and pioneers of SMS. In hindsight, SMS is suited to youth in that it is a cheaper alternative in communication and can be sent from the most basic mobile devices. Also, while many adults initially found it difficult to type an SMS, youth adopted quickly and found it to be a means to differentiate from the adult society (Andersson *et al.*, 2006:34-35). From this, mobile TV players can learn to beware of preconceived ideas. Although it is paramount to base content and applications on present user understanding, continuous monitoring is necessary to adapt to a flexible market and match ideas, applications and content accordingly.

Another lesson can be learnt from the success that Nokia has had in providing ringtones and logos that can be sent between mobile devices using a standard text message. These ringtones and logos allow users to individualise the appearance of their mobile devices and to exchange and share them as a way to increase peer-group identity. The lesson learned here is that there is a market for fashion- and image-oriented appearance and personalization (Andersson *et al.*, 2006:35-36; Muir & Crystal, 2005:130, 143). In applying this understanding, content may be more successful if it is associated with existing popular media content, such as Big Brother, a popular TV episode or a popular movie. It may also be more successful if it addresses a specific identity, whether a popular identity or even an ethnic identity. For example, content could be made to appeal to Formula 1 fans or to a specific ethnic group that is known to make use of mobile media and applications.

Surveys conducted in the US by the Solutions Research Group and Telephia indicate that African Americans and Hispanics are early adopters in mobile use (Cellular-news, 2005;

Cellular-news, 2006a). Thus, mobile content that reinforces their ethnic culture, perhaps in specific music taste or comedy, would most likely sell well among them. The success in ringtones and logos teaches that it is not enough to promote mobile TV on the basis of technology. Rather, mobile TV suppliers should find an interested public and promote characteristics that interest that specific public (Andersson *et al.*, 2006:36).

Lastly, mobile TV players can learn from past experience with MMS. With MMS, users can send pictures, text, audio or video clips between mobile devices. An MMS is about 14 times the size of an SMS, although it only costs three to four times the price of an SMS (James, I., 2005:31). From the viewpoint of mobile service providers, this is then a bargain offer. However, since the introduction of MMS in 2002, many users still send significantly more SMS's than MMS's (Andersson *et al.*, 2006:41). From the viewpoint of users, an SMS has higher value, because it meets their basic communication needs in a simple and cheap way. There are few times that they actually need to send an MMS to convey what a simple SMS can quite easily convey. However, there are times when an MMS is more applicable. For example, it may be used to significantly enhance emotion to be conveyed by sending a picture of a child or a pet rather than describing the child or pet in an SMS (Andersson *et al.*, 2006:42).

Thus, MMS is complimentary to SMS rather than a replacement of SMS. This can be applied in the Mobile TV industry as well. For most users, Mobile TV will not be a replacement of traditional TV, but rather an added benefit (O'Halloran, 2006a:19). Mobile TV providers should create and market it as such. Research conducted in the US by Telephia (Cellular-news, 2006a) indicates that primetime viewing for mobile TV is from noon to 4pm and during commuting hours between 4pm and 8pm. During the regular TV primetime hours of 8pm to 11pm, the percentage of mobile TV viewers drops to a low 9%. This confirms that mobile TV viewing is in most cases not a replacement of traditional TV viewing. It compliments traditional TV in that it meets a viewing need that cannot be fulfilled by traditional TV viewing – TV viewing while on the move.

3.3 A market-led approach

The above lessons underline the need for mobile TV providers to understand the user profile. This requires that a market-led approach be employed in place of a technology-led approach. This market-led approach entails matching a company's offering with the needs of the market. This is a cyclical process that starts and ends with users. Firstly, research and analysis must be conducted to acquire an understanding of users. Next, this understanding is used to identify and develop mobile applications and content suited to specific user groups and competitive in the

market. Thirdly, the mobile offering is marketed to the specific user groups using aspects that attract them as understood from the original analysis. Fourthly, sales personnel persuade people to buy the offerings. The process does not end here. The market should be monitored continuously and current findings should be compared with previous findings. This will aid in determining the success of the offering as well as in identifying any unexpected negative developments, which can then be acted on (Andersson *et al.*, 2006:44-45).

The market-led approach does not guarantee success, but it does increase the chances of success in the market (Andersson *et al.*, 2006:45). In an explanation on market-led strategic change, Piercy (2002:387) states, "The simple truth is that in sector after sector the writing is on the wall – companies which do not achieve value superiority in the eyes of their customers will fall by the wayside." Fundamentally, marketing is about adding value for users (Piercy, 2002:386). Thus, it is imperative for mobile TV providers to determine what type of mobile TV content will be of value to the mobile TV market if they are to succeed. Andersson *et al.* (2006:46-63) suggest a means of understanding the mobile TV market based on research conducted annually over a 6-year period in 30 countries among 30 000 telecommunication users by Ericsson's Consumer and Enterprise Lab. Following is a discussion on this means.

3.4 Market Segmentation

A potential market may include an entire population or even all the people of the world. However, the chances that the population of the entire world will adopt mobile TV are slim considering that telecommunication infrastructure and devices may not be available in certain countries, especially developing countries. The market that is referred to here is the "addressable" market. In the context of mobile TV, this includes all those people who have access to mobile devices capable of displaying mobile TV content (Andersson *et al.*, 2006:46).

Ericsson's Consumer and Enterprise Lab conducted research among telecommunication users in general – not only those whose mobile devices are capable of displaying mobile TV. However, the findings remain applicable to this discussion in that the research is based on the basic values and attitudes that telecommunication users hold with regards to technology and technological change (Andersson *et al.*, 2006:47; Ericsson, 2004:5).

Although the telecommunication industry changes rapidly, the values and attitudes that people attach to technology and technological change are relatively constant and applicable to a wide

range of applications and content in this industry sector. These values and attitudes are used as a means to segment the telecommunication market for this study. Market segmentation is necessary in order to identify user groups most likely to adopt certain content and services. It provides some indication of where the money is – an important factor for content and service providers (Andersson *et al.*, 2006:47; Ericsson, 2004:5).

To begin with, six driving forces that determine and shape people's values and attitudes towards technology, telecommunications and the market for mobile applications are identified. These are connectivity, innovation, social awareness, stimulation, social status and tradition (Andersson *et al.*, 2006:47).

Connectivity refers to the need to stay in touch. This need can be fulfilled by the most basic functions of a mobile device. It is particularly evident in the fast paced, stressful and increasingly anonymous societies of technologically developed countries where there is a vacuum in opportunities to initiate and maintain long-term relationships and a need for a sense of security. Connectivity is a higher driving force among women than among men – and more so among women between the ages of 20 and 39 years (Andersson *et al.*, 2006:47).

Technology *innovation* is a driving force behind world economics as well as the lives of ordinary people. Generally conceived as a positive force, it is higher in developed countries and regarded as a significant force by a quarter to a third of people worldwide. Those most driven by innovation tend to be well-educated, young and active people. These people are trendsetters; tend to adopt new mobile products and services first; and act as opinion leaders to whom others look for direction. They can also generally afford new products (Andersson *et al.*, 2006:48).

People for whom *social awareness* is a driving force are more concerned with social issues than with fulfilling their own individual needs. This force has grown in recent years due to concerns such as globalisation and corporate scandals. Social awareness is more of a driving force among women, parents and people over the age of 40. These people tend to perceive technology as a necessity in their daily lives, but only when it has clear benefits. They are not the earliest to adopt technology and they have average mobile use. Their opinion has standing in public, thus they play an important part in validating technology in the greater market (Andersson *et al.*, 2006:48).

Stimulation as a driving force is in essence what social awareness is not. Stimulation drives people to be self-oriented, want instant gratification and seek diversion from their seemingly dull lives through new experiences, adventure and excitement. This accounts for a small group of mobile device users. However, this small group has a high usage of the mobile device and is thus a vital market segment. They tend to use the device for personal conversations and services such as downloading music, sending messages and playing games. This group of people are predominantly under the age of 29 and are mostly single (Andersson *et al.*, 2006:48).

Users driven by *social status* are particularly aware of their social and financial success and want to be noticed for it. They are highly interested in mobile applications and content, especially when they are visible and incorporate recognized brands. They have average usage of mobile devices, although those of them who do use the device tend to do so for longer time periods and more frequently than average users. They are not early adopters and often lack in technical knowledge (Andersson *et al.*, 2006:49).

For those users who are driven by *tradition*, technology is mostly seen in a negative light. To them, it causes more problems than it solves. However, they do consider mobile devices to have positive value when they function as important communication links and provide a sense of safety and security. These people are often price-sensitive and rarely use all the features of the mobile device. Tradition is a strong driving force in countries that are developing and where religion has an important role in society (Andersson *et al.*, 2006:49).

Using these six driving forces, Ericsson has built a market segmentation model known as the Take Five model (Lewis *et al.*, 2004:5). This model is based on a graph referred to as the MarketReality™ Monitor. As shown in figure 3.1, the vertical axis records the user's attitudes to change. Those toward the top of the vertical axis are those most open to and enthusiastic about change, new ideas, higher technology and future developments. They are marked by exploration. Those toward the bottom prefer things to remain the way they are in order to maintain a safe life in which technology is avoided as unnecessary or harmful. They prefer stability (Andersson *et al.*, 2006:49).

The horizontal axis represents people's personal values, their relationships to others and their reasons for adopting technology. Those further to the right are more self-oriented, live for the moment and seek new experiences for their own instant gratification. Those to the left are more

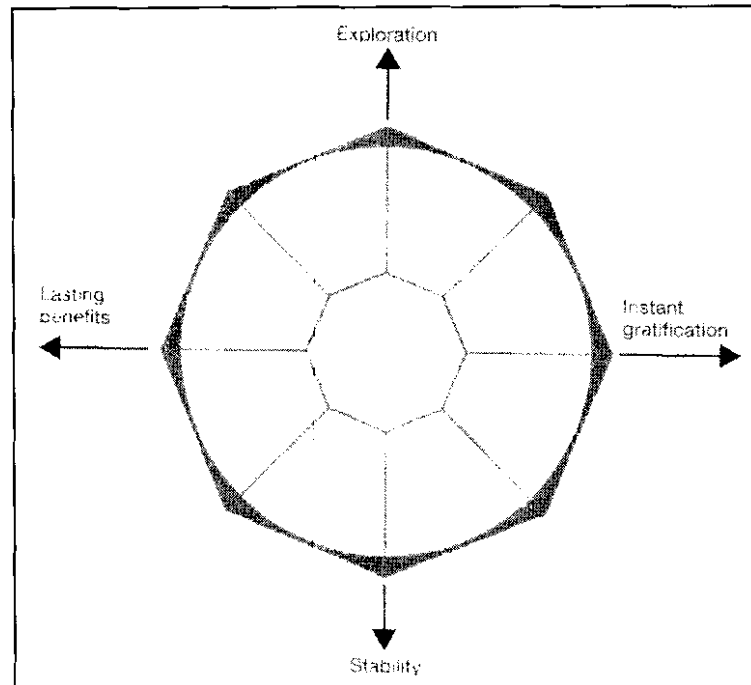


Figure 3.1 The MarketReality™ Monitor (Andersson *et al.*, 2006:50)

focused on the lasting benefits of mobile devices as a means to achieve a greater good for their family, friends, environment or society in general (Andersson *et al.*, 2006:49).

The six driving forces can be mapped onto the MarketReality™ Monitor as illustrated in figure 3.2. People driven by innovation, stimulation and social awareness are more open to exploration. People driven by tradition and social status prefer stability. People driven by stimulation and social status are more concerned with instant gratification, while people driven by social awareness and tradition are more concerned with lasting benefits. Connectivity is a common driving force for all attitudes and values and thus lies in the centre of the Monitor (Andersson *et al.*, 2006:49-51).

As suggested in the name "Take Five Model", five basic user segments can be identified. These five groups include: Pioneers, Materialists, Sociables, Achievers and Traditionalists. Each of these segments has distinct characteristics based on the six driving forces mapped according to people's attitude to change and their personal values, regard for relationship and adoption of technology. Those who lead the way in adopting new technology are the *Pioneers*. They are interested in technology for the sake of technology and like to experiment with it. They also inspire others to use it (Andersson *et al.*, 2006:51; James, I., 2006:7; Lewis *et al.*, 2004:5).

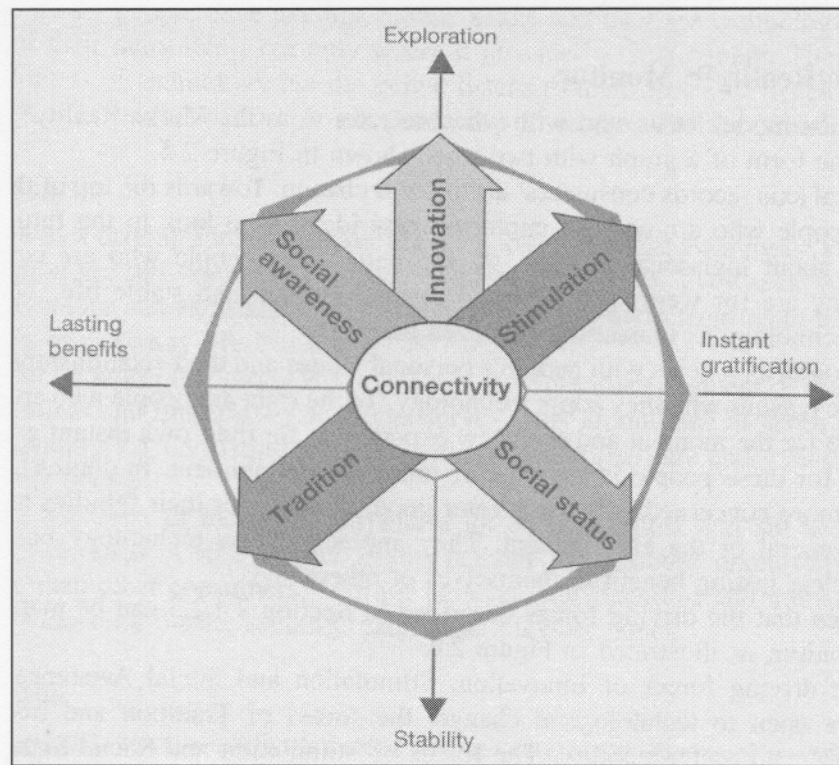


Figure 3.2 The six driving forces mapped onto the Monitor (Andersson *et al.*, 2006:50)

The *Materialists* are self-oriented and slightly less explorative. Driven by “fun”, they find ringtones, icons and games appealing. The *Sociables* have a positive attitude towards new technology, provided that it has clear benefits and usefulness. Much like the *Sociables*, *Achievers* are self-oriented. However, they prefer traditional status symbols, such as designer clothing. Driven by recognition, they use their mobile devices to impress others. However, they seldom use all of the features of a mobile device. Lastly, *Traditionalists* use mobile devices as a means of security and only in absolute necessity (Andersson *et al.*, 2006:52).

The five segments described can be divided further, resulting in nine user segments. In the Pioneer and Materialist segments, important differences can be found between young people and adults. Young Materialists are significantly more explorative and driven by instant gratification than adult Materialists. Young Pioneers are slightly more driven by instant gratification than adult Pioneers. Among the Sociables and Achievers, education and employment are found to be distinguishing factors. In both of these segments, those who are well educated and/or in managerial positions are generally more exploratory and more self-oriented than those with a more basic education or occupation (Andersson *et al.*, 2006:52). This segmentation is indicated in figure 3.3.

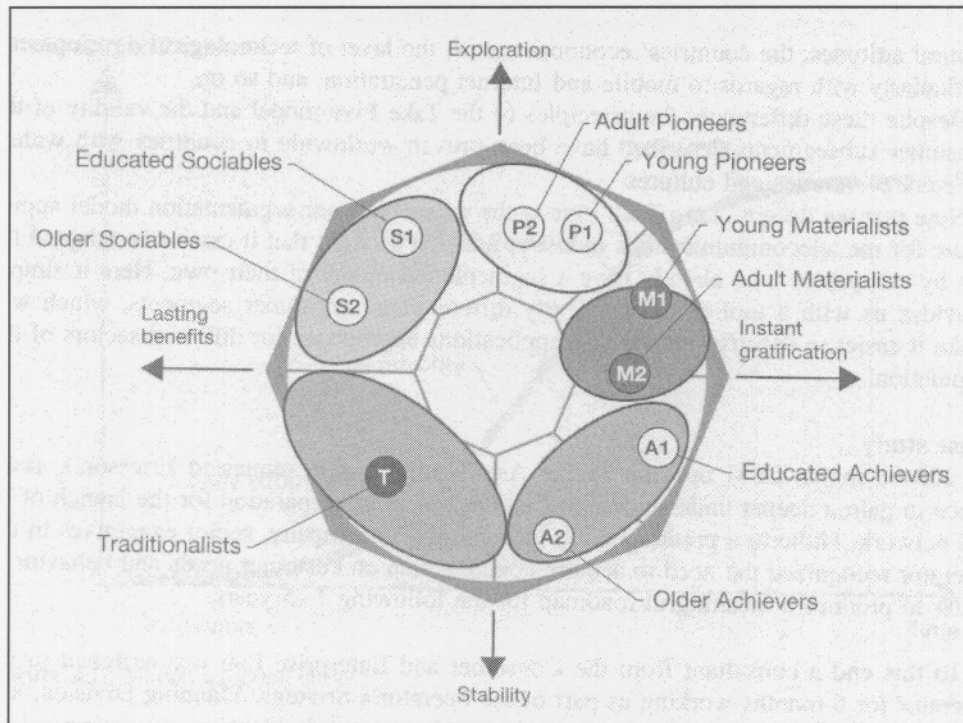


Figure 3.3 Take Five in the MarketReality™ Model (Andersson *et al.*, 2006:53)

3.5 Market segmentation applied in mobile TV

Although this segmentation model is subject to the cultural attitudes, economic status and level of technological development in distinct countries, its validation has been proven worldwide. It can also be applied to sectors beyond the telecommunications sector and customised to suite the requirements of a specific company (Andersson *et al.*, 2006:54). In the context of this report, it is given as a demonstration of how mobile TV content providers can meet the challenge of understanding mobile TV users in order to deliver successful material. To this end, the segmentation model must be applied in some way.

As mentioned in section 3.4, the purpose of segmentation is to identify what offerings appeal to which segments. From this understanding, an offering should be made to target those segments that are most likely to adopt the offering first and to act as opinion leaders in influencing others to adopt the offering. In this way, profit returns can be greater at a faster rate (Ericsson, 2004:5). Andersson *et al.* (2006:54) explain this by introducing the market adoption curve. According to the market adoption curve, any product or service follows a classic S-curve. It has a slow start, followed by accelerated growth to reach mass-market penetration, after which it subsides while the market saturates. This is illustrated in figure 3.4.

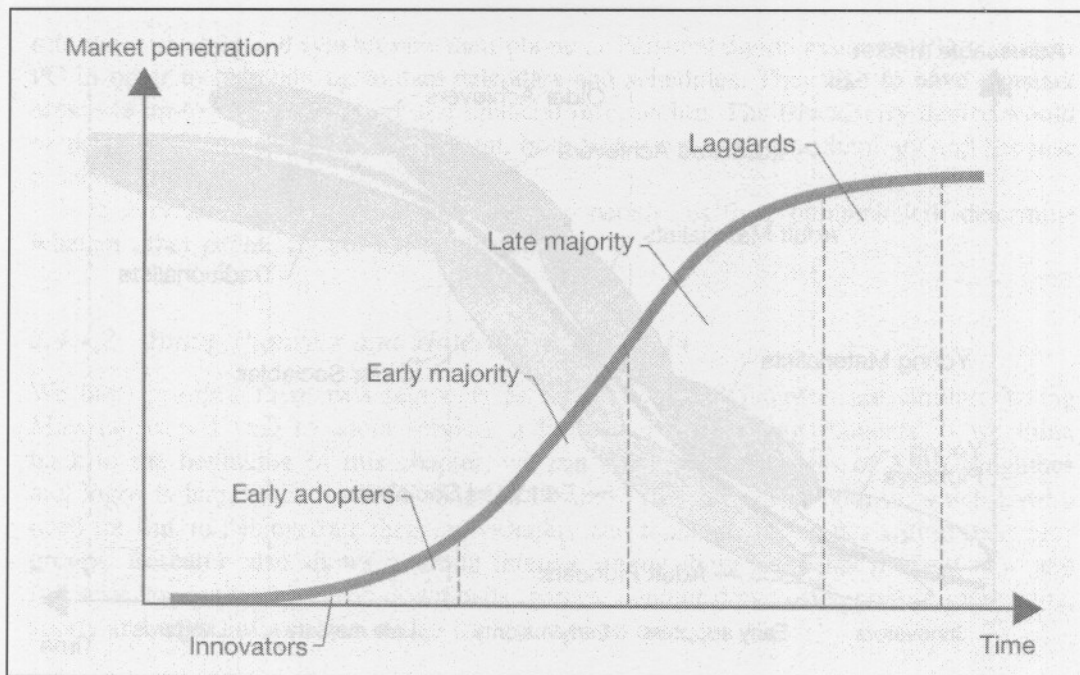


Figure 3.4 Market adoption curve (Andersson *et al.*, 2006:55)

The adoption process does not occur randomly. Rosenberger (1998) puts it this way, "An adoption curve is best defined as an individual's tendency to lead or follow; to be the first on the block, or to keep up with the Jones". In other words, certain people are bound to adopt first and to lead the way. These people are known as innovators. Next, the early and late majority break through into the mass market. Lastly, laggards tag along as the market saturates and subsides (Andersson *et al.*, 2006:55; Duncan quoted by Smith, 2005:80). Each of these groups can be discussed in more detail, however this is not necessary here. Applicable to this discussion is the application of the Take Five segmentation model to the adoption curve. This can be seen in figure 3.5.

According to their researched characteristics and as seen in figure 3.5, the young and adult Pioneers are the earliest adopters. The young Materialists and educated Sociables adopt soon after. The adult Materialists and older Sociables follow next, tagged along by the rest who adopt based on recommendations from earlier adopters (Andersson *et al.*, 2006:56).

From the explanation of the segmentation model on the adoption curve it is apparent that a best approach for mobile TV content providers to meet the market would be to target early adopters first. Adult Pioneers are first in terms of adoption. This group are interested in better organizing and automating their lives. They desire seamless and synchronized connectivity between applications and content. The content provider should aim to impress them, as their opinions have a strong influence on whether other people adopt the content use. Mobile TV content likely

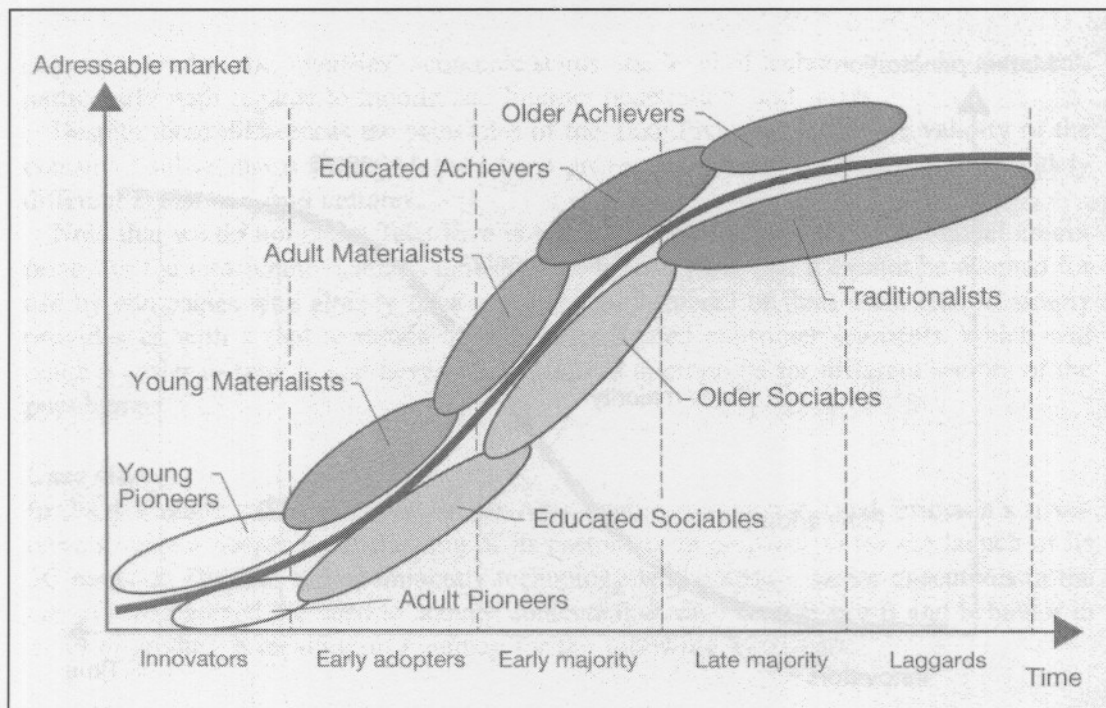


Figure 3.5 Take Five on the market adoption curve (Andersson *et al.*, 2006:56)

to fall in their interest would include up-to-date news, sport and financial information (Andersson *et al.*, 2006:56; Lewis *et al.*, 2004:8). This has been proven in the mobile TV industry. For example, consumer research conducted by Telephia in the first and second quarters of 2006 indicates that news and information are the most popular type of content among mobile TV users in the US (Anon., 2006a).

Young Pioneers and young Materialists are very similar in their needs and interests, although young Pioneers are a little faster in adopting than young Materialists are. Considering that these two groups are interested in most things new and fun, mobile TV news, sports and entertainment, such as mobisodes and movie trailers would most likely go down well with them (Lewis *et al.*, 2004:8,12). At the MIPCOM conference 2006, an international audiovisual content market (Reed Exhibitions, 2006), the senior executive of SFR Vodafone in France (SFR, 2006), Hala Baviere, stated that her network is focusing on attracting younger users through mobile TV music content (Stuart, 2006).

Like adult Pioneers, educated Sociables are very interested in new technology. However, it should be well designed, easy to use and it should enhance their relationships (Andersson *et al.*, 2006:57). For example, the mobile TV content should be offered along with easily navigable TV guides.

3.6 The business market

In their discussion on market segmentation, Andersson *et al.* (2006:57-63) differentiate between the individual user market as is described above and the business market. Following is a brief description of the business market in mobile media and applications.

The majority of working people do not consider mobile TV as able to help them to work more effectively or efficiently. They rate mobile voice; organisational tools such as automated calendars and mobile email; and mobile access to the company intranet as more helpful to them (Andersson *et al.*, 2006:62). Thus, in the context of mobile TV content, this does not appear to be a promising market. However, one lesson discussed in section 3.2 is that of avoiding preconceived ideas in this rapidly developing mobile industry. Thus, possibilities for mobile TV use in the business market should be explored.

Due to the diversity in applications, industries, companies and working roles, it is impossible to identify a generic “early adopter” in business segments as is possible in the individual user market. A more fitting approach is to identify needs to be met. These needs depend on aspects such as the size, employee roles and the type of industry of the business. There are three basic business size categories: Small office/Home office (SoHo), small, medium and large businesses. SoHo businesses consist of fewer than nine employees. Small businesses have more than nine, but less than 50 employees. Medium businesses have more than 50, but less than 250 employees. Large businesses employ more than 250 people (Andersson *et al.*, 2006:59-60).

Since SoHo businesses employ so few people, they can almost be treated as individual users and commonly purchase media through retail outlets or online. Large businesses usually have well established communication structures and established service and content provider relationships. Small to medium businesses are much the same, however, their budget is considerably smaller and they seek easier, more customized solutions. Regardless of business size, the rule-of-thumb is to reach key decision makers. In a smaller business this may be the manager or owner. In a larger business this could be the IT or telecommunication manager, financial manager, service provider or the CEO of the company. The main motivation should be how the mobile offering will contribute to the bottom line – profit (Andersson *et al.*, 2006:59-60).

Mobile content is likely to be most applicable in a business with employees whose roles require mobility. However, a highly mobile construction worker is unlikely to have a need for mobile TV to enhance work efficiency. On the other hand, managers, knowledge workers and field service staff, for example, who often work away from the office may find mobile TV to be beneficial to their jobs (Andersson *et al.*, 2006:61).

Another aspect to consider in terms of employee role is who is responsible for paying for the mobile TV content. It is more likely that a company will pay for the mobile bills of more senior employees and that the majority of employees will be required to pay their own mobile phone bills. Those required to pay their own bills will most likely be less interested in mobile TV. Also, those most likely to adopt a new mobile media or application are those employees who already use mobile media and applications in their jobs (Andersson *et al.*, 2006:61).

In terms of the type of business segment, six broad categories can be identified. These are: transport and distribution; utilities; business and professional services; financial services; healthcare; and retail. *Transportation and distribution* mainly involve goods delivery and collection. The *utility* industry involves services such as water and electricity provision and maintenance. The *business and professional services* industry includes specialist staff, such as consultants and computer IT staff. The *financial services* industry includes, for example, banks and insurance agents. The *healthcare* industry includes, for example, hospitals, pharmacies, doctors and emergency personnel. The *retail* industry includes, for example, retail outlets and sales personnel (Andersson *et al.*, 2006:62-63).

In terms of mobile TV, the transportation and distribution sector could, for example, benefit from real-time mobile TV traffic surveillance. Business, professional and financial services could, for example, benefit from up-to-date stock market and other mobile TV news content. Most of these business sectors, especially the retail sector, could benefit from mobile TV advertising and sponsorship options that would help in increasing business marketing and sales. Companies could also use mobile TV as a tool in internal communication. Telecom Italia has launched "noi.tv", a corporate mobile TV service specifically designed for its own employees (Telecom Italia, 2005).

3.7 Summary

Mobile TV content providers will not succeed without a renewed understanding of the user profile. Vital lessons can be learned from past experiences. For example, change in user attitude takes time, but can be hastened by addressing specific needs and providing clear advantages. Preconceived ideas should be avoided and continuous market monitoring is a necessity. Offerings should be promoted on the basis of user interests and not technological characteristics. Lastly, mobile TV should be considered as complimentary and not as a replacement to traditional TV.

A market-led approach is needed. This requires that content delivery begins and ends with gaining an understanding of the market. This understanding can be done by segmenting individual users according to their attitudes and values with regard to technology and technological change in the telecommunication sector. Those who tend to be more enthusiastic towards technology and technological change are more likely to lead in mobile TV content adoption. If they are impressed, they will quickly inspire others to adopt mobile TV as well, which will aggravate mass-market penetration. Thus, content should be made to impress these aggravators. Mobile TV usage in the business arena does not seem promising, however there are possible Mobile TV applications that could succeed in this sector.

Once mobile TV content providers are familiar with user requirements, content creation according to these requirements must ensue. Content provision in mobile TV requires new parameters for content providers and thus poses a new challenge. This is the subject of the following chapter.

Chapter 4

The challenge to adapt content provision in mobile TV

A main motivation for understanding users, as already explained, is to know how to present content that will be of value to them. This is a greater challenge in mobile TV as compared to traditional TV in that in the context of new media, the mobile TV field is by nature more complex through aspects such as digitality, interactivity, hypertext, dispersal and virtuality (Lister *et al.*, 2003:13-37). This complexity is increased by limitations in mobile TV streaming and inadequacies in mobile devices (Andersson *et al.*, 2006:127-128). According to Andersson *et al.* (2006:126), "The customer experience is everything". These authors advocate that the biggest challenge in terms of this experience is to ensure that users continue to value the experience so much so that it overcomes any added complexity (Andersson *et al.*, 2006:127; Watkins, 2006:25). Van Welie (2006:8) claims that the value users associate with mobile TV is not simply based on it being new technology: "TV is all about content" – even in mobile TV, "Content is still king" (Kapko, 2007:27; Van Welie, 2006:8). Following is a discussion on aspects that will increase the value of content in the mobile TV user experience.

4.1 The content production process

The content production process in traditional TV involves three basic steps, namely, development, production and post-production. Companies with existing content that enter the mobile TV arena commonly start by converting existing TV content into mobile TV content. This may work, but it will not necessarily deliver the maximum valued experience. For this reason, companies increasingly include mobile TV content creation in the regular process (Andersson *et al.*, 2006:118-119).

Mobile TV content producers often begin integration near the end of the process in the *post-production* stage. This stage involves editing and sound mixing. Editors, for example, use more close-ups in their editing to make the footage more suitable to the mobile device screen. Mobile TV content adaptation could begin earlier in the *production* stage. This involves building sets, staffing, scheduling and shooting. For example, a separate set could be built or specific angles shot for the mobile TV content. When mobile TV content creation is integrated from the start of the creation process, it means that it is *developed* separately from scratch. In other words, the content is conceptualised and the story written specifically for mobile TV (Andersson *et al.*, 2006:118-119).

MTV Networks have taken three approaches in making compelling content for mobile TV. Firstly, they have reshaped their most popular programming to suite mobile TV. Secondly, they have created additional content, so-called "added value", for those popular programmes. This includes behind the scenes, previews, out-takes and other such material that is often given with movies in DVDs. Lastly, they have created original programming by coming up with new ideas and new programmes from scratch (Kelly, 2006).

There is a need for both the "good-old familiar TV" that users know and understand as well as for newly created content made for mobile (Orgad, 2006). Research conducted in Finland during 2003 indicated that users felt as if something was missing when the mobile TV guide excluded regular TV programmes (Södergård, 2003). According to Dr Orgad, from the London School of Economics and Political Science, mobile TV will have to be built on existing channels, programmes and ways of watching TV (Cellular-news, 2006b). This does not mean that it will not be adapted to suite a mobile device. Rather, it means that existing programming plays an important role in establishing new multimedia mobile TV.

In most cases, regular TV programming carried over into mobile TV will need to be adapted. In addition to this content, new content will need to be made specifically to suite the new context of mobile TV (Van Welie, 2006:7,9). In certain aspects, this requires a new approach to content provision in mobile TV.

4.2 Factors that enhance content provision in mobile TV

Following is a discussion on factors that deserve attention in content provision in the context of mobile TV. These aspects can be applied practically. Examples are provided where applicable to better illustrate such application.

4.2.1 Keep the quality high

Quality is fundamental to mobile TV content in the same way it is to traditional TV content. Mobile TV production is a creative process. Those involved in producing it should be talented and skilled. Also, the picture and sound material used should be of high quality (Andersson *et al.*, 2006:127). Industry experts and pilot studies have indicated that high-quality picture and sound is one requirement in users' willingness to watch mobile TV (Kapko, 2007:27; Large,

2005:68; Orgad, 2006:5). Senior director of business development for Qualcomm MediaFLO Technologies, Omar Javaid, claims that in mobile TV, there is an expectation for a certain quality, a certain performance and a certain user experience. When you as mobile TV provider do not deliver this, "you're dead" (O'Halloran, 2006b:12-13).

4.2.2 Consider time

Mobile TV programming should be shorter in length. TV networks are accustomed to producing longer length programming, however mobile TV is more suited to "snackable" size content. The average length of an individual programme watched on mobile TV is less than five minutes (Orgad, 2006:7). Reasons for this include: users' attention span is more limited in mobile TV; the battery length of the mobile device is limited; longer length TV is not suited to limitations in video streaming; and users of mobile devices are more accustomed to instant gratification (James, H., 2006). Also, users do not necessarily watch content from beginning to end (Orgad, 2006:7).

Due to the shortness in content, there is no time for scriptwriters to "flesh out" in programming, there's not much room for dramatic licence and there's no room for subtlety (Fitchard, 2006:38). Segmented content, such as mobisodes, need to follow an overall storyline, yet be self-contained in only a few minutes (Smith, 2005:80). Directors and writers cannot include too much detail in a mobisode, resulting in a simplified premise with an extremely heightened sense of drama, since a climax must be reached soon in each series (Fitchard, 2006:42).

This does not mean that longer length programming is not viable. Sprint, a US mobile operator, offers services that allow subscribers to access full-length Hollywood movies. However, these movies need not be watched in their entirety. Users can watch them in chapters, pause, skip forward or skip backward in the content and even resume watching a movie at the exact point that they last shut it down. This offering has proven viable, considering that from the launch of their mSpot Movies service in December 2005, subscriber growth has averaged more than 30 percent each month (Radelet, 2006). As another example, the movie Kung Fu Hustle was provided in ten segments for mobile TV in China (Orgad, 2006:9). Thus, shorter programming is more suitable for Mobile TV and longer programming can be provided if segmentation is allowed.

In addition to length, time is also an important factor in mobile TV content in that the content can be timely or timeless. Both have value. Certain content is relevant for the moment. For example, stock price news, current sports games or other significant events are of most value when they are viewed in real-time. Also, content should be fresh. For example, news content should be updated regularly to ensure that users download mobile TV content frequently. If they find that news is not updated regularly, they are unlikely to download it as often. "Older" mobile TV material can be made available through an archival service, which would be of value to users interested in accessing previous broadcasts or programming that they were unable to view during the time of its relevance. Certain programming, such as narratives or documentary programming, need not be watched in real-time. Such archival and other "any time" viewing material can be made available in mobile TV through video-on-demand services, as discussed in section 2.4.1.2 as a characteristic of new media interactivity (Andersson *et al.*, 2006:129; Van Welie, 2006:8). According to Dr Orgad (2006:7), one of the important features of user's experience in mobile TV will be the ability to "get it now". This is the main advantage of video-on-demand services. Users can determine their own viewing schedules. This ability to view mobile TV material at a time determined by the viewer also relates to the new media quality of hypertext in that material need not be accessed in a particular order, as discussed in section 2.4.1.3.

4.2.3 Make it suite a small screen

Another important factor to consider in creating mobile TV content is the limited screen size of a mobile device. As mentioned in section 4.1, regular TV content could be compressed to fit the mobile TV screen, but this does not always produce the best-valued user experience (Andersson *et al.*, 2006:129). According to Megan Goodwin-Patel from Interactive Digital Rights Management, wide camera angles and too much movement are no-nos in mobile TV. She even suggests that mobile TV content providers may need to use specific "mobile cameras" to ensure that they have a feel during the production stage of what content will work best on a mobile device (Anon., 2006e:25).

Due to smaller screen size, detail is more important in mobile TV than in traditional TV (Andersson *et al.*, 2006:129; Anon., 2006 2:27). For example, when filming a protest for a news insert, a wide shot of the protesting crowd will not appear as powerful on a small mobile device screen as on a larger traditional TV screen. Close ups of the faces of angry protesters and of banners would be more appealing to viewers.

MobiTV, the first mobile TV provider and the winner of the 2005 Emmy award from the Academy of Television Arts and Sciences for achievement in industry development, provides a wide range of content, including Comedy Time (MobiTV, 2006). Stand-up acts or sketches shown on Comedy Time for Mobile TV are shot in extreme close-ups, yet not too close in order to avoid showing disembodied heads. Also, there's not much room for scenery or props, although some context is included. For example, their hip-hop themed call-in show "Free Stylin" is shot in the set-up of a small basement (Fitchard, 2006:37-38).

The use of more close-ups also has implications for actors as they have to use smaller body movement and still be very expressive. In addition, there cannot be too many actors included in one shot (Fitchard, 2006:38). In addition to using more close-ups, directors in mobile TV also employ more medium shots, zoom lenses and panning shots as cinematic techniques that enable efficient movement of camera within limited spaces. Directors tend to depend more on visual spectacle than on conventional narrative (Orgad, 2006:7).

Due to smaller screen size in mobile TV, MTV is changing the way they subtitle programming. They're using slightly different wording that's shorter, sharper and typed in bigger fonts (Kelly, 2006).

It must be added that mobile device screens will not necessarily remain as small as they are (Jenkins, 2005:52). Mobile device manufacturers, such as Nokia, are already developing mobile devices better suited to mobile TV viewing (Nokia, 2006). However, until the mobile device screen is enlarged significantly without prohibiting the mobility of the device, these aspects discussed with regards to small screen size will remain relevant.

4.2.4 Include interactive options

A key aspect discussed in section 2.4.1.2 with regards to mobile TV as a new medium is its interactive ability. According to Van Welie (2006:8), mobile TV is not simply "normal TV made small", because its greater interactive capabilities differentiate it from normal TV. This is partly due to the mobile device being a multimedia, interactive device (Orgad, 2006:7). However, an even greater interactive benefit is its mobility. Van Welie (2006:8) envisions that mobile TV be combined with Location Based Services or any other mobile services that allow location specific content. For example, while a tourist enters a certain geographic area, their location can be detected and content made available accordingly. This may include a televised tour in hotels or

educational programmes about the sites they can visit. Travelling business people can benefit from this by using it to better understand the local conditions and customs of the places that they visit (Orgad, 2006:6; Plawutsky, 2006:27).

Other interactive options, such as voting, chatting, accessing TV guides and requesting video-on-demand, are mentioned in section 2.4.1.2. Studies in the field of mobile TV show that users do have a need to be engaged in such ways in mobile TV. However, such interaction must be motivated by attractive content – fresh, rewarding and shorter (Orgad, 2006:7). This reiterates the importance of the above-mentioned aspects of quality, timeliness and length in mobile TV.

4.2.5 Make it personal

It is stated in section 2.4.1.4 that individuated media use is a trait of mobile TV as a new medium (Crawford, 2005:10; Lister *et al.*, 2003:30; Plawutsky, 2006:27). In general, communal TV viewing in the context of the family is giving way to more private, individualised and personalised TV viewing. Add to this the fact that users consider the mobile device to be a very personal and private device. The result: mobile TV is “an enhanced personal and intimate viewing experience” (Orgad, 2006:11).

This personalisation is an important benefit to mobile TV users. For example, users may simply want to watch alone or the regular TV set may already be occupied and they don't want to watch the particular content showing so they opt for viewing their own choice of content on a mobile device (Orgad, 2006:11). Mobile TV is expected to be a major contributor in the process of people becoming personalised communication centres – able to receive content when and where they choose, to suite their fancy. With the variety of media available, it is possible for users to choose more specific content. This poses a challenge for content providers to provide content that meets more specific user needs – to target market segments, as discussed in chapter 3 (Orgad, 2006:7).

In addition, personalisation in mobile TV also refers to the desire of mobile TV users to customise content received and make their own content, as mentioned with regards to mobile TV role players in section 2.3 (Orgad, 2006:7). Applications, such as YouTube or See Me TV, allow users to upload and broadcast user-made videos from their mobile phone to the Internet. In just over 20 months YouTube managed to attract 23.7 million visitors (King, 2006). There is a possibility that YouTube content will be made available to mobile TV users through Verizon

Communications, a wireless network operator in the US (Park, 2006; Verizon Wireless, 2006). This means that a large amount of user-made content will be placed on the broadcasting platform.

According to BBC Executive Producer, Matthew Postage, mobile TV plays an important role in the progress from a one-way to a two-way relationship between broadcasters and audiences – in a personalised and immediate sense. He claims that it poses a challenge to broadcasters to manage this cultural shift (Orgad, 2006:6). This not only poses a challenge to broadcasters, but also to content providers. In traditional mass media TV, content provision and broadcasting were mainly under the power of large monopolizing companies, as discussed in section 2.4.1.4 with regards to the new media trait of dispersal (De Beer, 1998:9). However, in new media TV, content production is open not only to independent professional producers, but also to amateurs. As a result, the variety and availability of content is bound to increase (Lister *et al.*, 2003:31-33). This reinforces the need for content providers to understand users in order to produce content targeted at a specific user group. Mobile TV content providers will most likely fail if they shoot in the air, they must aim for the bull's eye.

4.2.6 Capitalize on convergence

As discussed in section 3.2 with regards to lessons learned from past experiences, mobile TV should be seen as complimentary to rather than as a replacement of traditional TV. They are not two entirely separate media. According to Cyriac Roeding, vice president of Wireless, CBS Corporation, mobile TV and traditional TV are completely different instruments with different capabilities and different usage situations, but not different audiences. He predicts a "broader TV ecosystem" where mobile TV and traditional TV are converged and connected to the wired and wireless Internet (Fitchard, 2006:43). Content created for mobile TV should promote traditional TV content and visa versa. In much the same way, mobile TV content and traditional TV content should promote Internet content (Anon., 2005:18).

Fitchard (2006:43) predicts that programming will at some point be launched simultaneously across both traditional TV and mobile TV networks and that the distinction between the two will "simply cease to exist". This is important for mobile TV content production as it means that programming made for the mobile device can develop into something for the traditional TV arena and visa versa. CNN receives the same news, but places it on different platforms - website, traditional TV and mobile TV. This is best stated by Van Welie (2006:9), "In a world of convergence and mobile, content is shared, available in different places and different times, and

suitable for the medium it is displayed on.” This aspect of convergence is also discussed in section 2.2.

This convergence also means that content providers in mobile TV may have to think further than mobile TV. As discussed with regards to hypermedia in section 2.4.1.3, different media content can be associated with one another. For example, using the interactive capability of the mobile device, users can be given the option to buy a movie ticket via wireless media after watching a movie trailer and electronic sales coupons can be bought after a commercial (Orgad, 2006:13). Viewers of a traditional TV programme can have the option of downloading the programme onto their mobile devices after its real-time broadcast. Mobile device logos and ringtones can be made from the theme songs of mobisodes or jingles of popular brand name products (Ogard, 2006:13). Just as people eat different snacks and meals throughout the day, so users “eat” different types of media snacks and meals throughout the day (Van Welie, 2006:8). Mobile TV should add to this variety in the converging media field.

4.2.7 Make the most of mobility

One of the most unique characteristics of mobile TV is its mobility (Lewis *et al.*, 2004:12). This characteristic is mentioned in section 3.2 as an aspect that differentiates mobile TV from traditional TV, thus enabling it to compliment rather than replace traditional TV. People are no longer restricted to watching TV in a particular place where a TV set is located. Research indicates that users are most likely to watch mobile TV when travelling between home and work on trains, buses and other forms of transportation in the late afternoon and early morning. Since most viewing is done while travelling to and from work, mobile TV is most popular during weekdays rather than on weekends (Ogard, 2006:10).

Users may also use mobile TV to kill idle time, such as when waiting at a bus stop or in a queue. Students, homemakers and workers may use mobile TV during breaks from study, during breaks from housework, while overseeing children, when spending time with friends or during lunchtime. Users even use mobile TV at home, when the regular TV set is occupied or when they have better viewing options available on mobile TV (Ogard, 2006:10). This aspect of mobility gives users greater flexibility, a feeling of independence, a sense of control and security and a feeling of being a “part of” through location-free access to content such as world-breaking news and popular content (Orgad, 2006:5).

According to filmmaker Don Faller, whose company produced a series of shorts for Motorola, "The great thing about the small screen is that it's exciting, liberating. People like the fact that they can carry it with them" (Jamgerchinova, 2006). Mobile content producers should also like the fact of mobility, because it opens new environments and new demands for TV viewing not possible with traditional TV. For example, commuters may miss certain programming on traditional TV while on their way home from work. Mobile TV is the ideal opportunity to present commuters with the option of beginning to watch this content while still commuting. If they miss the programming altogether, then they should be able to access it through their mobile device on-demand in their own time.

4.2.8 Benefit from branding

Another aspect to remember with regard to producing mobile TV content is that people tend to perceive branded products to be of higher quality and value than similar and cheaper products (Andersson *et al.*, 2006:128; Anon., 2006d:11). For example, names such as CNN, National Geographic and MTV carry a certain established user value perception and are already available in mobile TV. According to Fitchard (2006:40), although there is plenty of room in mobile TV for established and new media brands, it will eventually be the established entertainment brands that draw people to mobile TV.

Content producers could apply this principle by using a well-known telecommunication channel provider or by relating mobile content with an established name through advertising. There is good news for those content producers who do not want to depend on the perceived value related to branding. Although users seek branding, they may not end up watching only the branded material. For example, users may request a specific familiar TV channel. Often, these users do not end up watching the familiar channel that they originally requested (Fitchard, 2006:42). Thus, branding often acts as a means of attracting users, especially those driven by social status, as discussed in section 3.4. Mobile TV is still young and everything done in the field is an experiment, which helps to see the way forward (Ahuja quoted by Stuart, 2006). Aspects such as branding are yet to prove their standing. For now, it could be a good entry point for content providers who prefer to stay on the safe, traditional side.

4.3 Summary

To ensure a more valued user experience in mobile TV, content provision should be adapted to suite the medium. This is done by integrating the creation of mobile TV content into the traditional TV production process of development, production and post-production. Quality remains a vital aspect in determining the value of mobile TV content. Other aspects to consider in content provision include content length, timeliness or timelessness, screen size limitations, interactive capabilities, personalisation, convergence across media fields, mobility and branding in mobile TV.

To adapt content provision to suite mobile TV is only one challenge in the growing field of mobile TV as a *new medium*. It hinges on the challenge to gain a greater understanding of users in mobile TV, as discussed in chapter 3. These two challenges in turn rely on understanding mobile TV in the light of new media characteristics, as discussed in chapter 2.

Chapter 5

Conclusion

This research report addresses key challenges in the relationship between content providers and users in mobile TV. The subject is approached from the premise that mobile TV is a fairly new and unknown field of communication. Thus, role players find themselves in a new context for relationship. Although the field of mobile TV is in its infancy, numerous mobile TV content providers are eager to enter the market. For such pioneering parties, it is mostly an experiment of feasibility and profitability. These parties have little guarantee of success and are cautioned to consider key challenges that they face in their relationship with users.

The telecommunication industry is marked by unanticipated success in past offerings. However, the market has changed due to an increase in mobile offerings. This increase in offerings as well as the convergence of the telecommunication and TV industries demands that content providers gain a greater understanding of the market in order to survive and succeed. Also, content provision must be suited to the nature of mobile TV. To better understand the nature of mobile TV and the context in which content providers and users stand, mobile TV is evaluated in chapter 2 in terms of the greater context of new media.

The term new media is broad in that it encompasses a wide range of media. Also, there is a lack in consensus regarding fixed rules for its definition. However, particular characteristics can be identified based on experienced traits and the development of the media field. These characteristics are used as a conceptual framework within which mobile TV is evaluated. It is found that mobile TV displays each of the following characteristics to some extent: digitality, interactivity, hypertext, dispersal and virtuality. Also, mobile TV falls within constituent parts of the broad category of new media through the nature of the experiences, representations, relationships, conceptions and patterns that it portrays in terms of its users and their relationship towards technology and the world.

The presence of new media characteristics in mobile TV places the onus on content providers to understand users in a more refined manner, as is discussed in chapter 3. Without such an understanding, it is difficult to link the complexity of the market with the complexity of the offering. One way of understanding users is to examine past experiences. Considering the infancy of mobile TV, the trail of history from which to gain insight is rather short. However, lessons can be learned from experiences in the related fields of TV and telecommunications.

For example, there should be clear user benefits in the content offering, continuous monitoring of the market, promotion based on user interests and the presentation of mobile TV as an addition to rather than as a replacement of traditional TV.

Mobile TV content providers can base their study of the user profile on the relatively constant attitudes and values that people hold with regards to technology and technological development. Such a study should begin and end the process of content provision to ensure that specific market segments are targeted with offerings that interest them. This is known as a market-led approach. Innovative segments should be targeted first as they tend to have a persuasive influence that will encourage market penetration. This will facilitate greater market penetration in a shorter space of time. In turn, this faster penetration will improve the likelihood of market success for content providers.

Armed with an improved understanding of users, content providers are better fit to adapt content to the market. Content should not only suite the market, but also the means; as is discussed in chapter 4. Factors to enhance success in content provision through the mobile TV means can be based on a consideration of the technical and feasible limitations of the mobile TV medium and drawn from examples set by pioneers in the short life of mobile TV. These factors are practical in nature. One fundamental factor carried over from traditional TV is a high regard for quality. Then, there are also factors relating to time, screen size, interactive options, personalization, convergence, mobility and branding.

Mobile TV is currently only emerging. What is stated and concluded in this report is of value to the extent of knowledge that is currently available on the subject. However, the essential benefit of this study is the fundamental conceptual framework of new media. By means of understanding mobile TV in terms of a broader category of media, it is possible to draw from aspects within this greater category in order to better understand the largely unknown field of the medium at hand – that of mobile TV. This then sheds light on key challenges in the relationship between content providers and users in mobile TV.

Indeed, mobile TV is a form of new media. The nature of mobile TV lends itself towards this category of media. It is due to this nature that content providers and users find themselves in an arena of media with different parameters to traditional TV and the previous more basic telecommunication offerings. The challenges that arise from such a changed arena should not be seen in a negative light. Rather, the key challenges related to understanding the user profile and adapting content provision in mobile TV present exciting opportunities. Content providers

are given a new field for market penetration. Users are presented with improved and increased media options.

With developments in the field of mobile TV and the greater context of new media, such opportunities are likely to increase. These opportunities will in turn pose more challenges in the relationship between content providers and users in mobile TV. Although the opportunities should be seen in a positive light, content providers and users should remain cautious of over-estimating these opportunities. They should continue to employ care in considering the ensuing challenges and related implications. This will increase the chances of success in the mobile TV industry.

The findings of this report establish an understanding of mobile TV within the framework of new media, which sets a platform for further explorative studies concerning the corresponding nature of these fields. It would be beneficial to conduct studies at later stages in the development of mobile TV to evaluate the relevancy of the current findings in the later growth stages of the medium. Also, at such later stages, more would have been written, said and researched on the subject. As a result a broader viewpoint could be examined. At this stage of development there is much speculation in the industry. It would be of value to examine, at a later stage, to what extent such expectations would have been met.

To a large extent, this research report treats role players in mobile TV according to the traditional definitions of the roles of content provider and user as defined by the communication process. In other words, the content provider is seen as the sender and the user as the receiver in communication with the possibility of feedback, which to some extent allows for a reversal of roles. However, the primary approach is to treat content providers and users as distinct entities. There are exceptions in this report where the function of users in content provision is discussed. From these exceptions, the possibility of a converged role seems to come to the fore. Further studies in the area of mobile TV could address the existence of such a provider/user role as well as the challenges posed by such a role for the role players in the industry.

As explained in this conclusion, this research report has addressed the main objective to explore key challenges in the relationship between content providers and users in mobile TV as a new medium. It has provided an exploration of whether mobile TV displays particular characteristics of new media and has proven that this is the case. It has presented a discussion on a means to gain an understanding of the user profile in mobile TV as a new medium. It has

presented an exploration of ways in which content providers can adapt content provision according to the user experience of mobile TV as a new medium.

It is further stated in this conclusion that challenges in mobile TV lead to opportunities, which in turn lead to further challenges. Thus, content providers and users in mobile TV should avoid over-estimating opportunities and continue to consider key challenges in their relationship. Also, subjects for further study in mobile TV and the greater context of new media are suggested.

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