[1]CHAPTER 12
MEASURING MEDIA AUDIENCES

Elirea Bornman

THIS CHAPTER

This chapter is about some of the practises of audience research and, in particular, the methodologies and techniques employed in measuring the audiences of different broadcasting, print and outdoor media, the cinema as well as new media such as the internet. It furthermore gives attention to audience measurement in South Africa. It furthermore gives a glimpse of some of the problems associated with and criticism on audience measurement. The relevance of audience measurement for academic researchers is illustrated by means of a case study.

The most important topics dealt with in this chapter are:

- Reasons for audience measurement
- Key concepts in audience measurement
- Research questions in audience measurement
- Methodologies and techniques in measuring audiences for broadcasting media (radio and television), print and outdoor media, the cinema as well as new media such as the internet
- Audience measurement in South Africa
- Problems associated with and criticism on audience measurement

Learning outcomes

At the end of this unit, you should be able to:

- understand important concepts in audience measurement
- understand and interpret audience measurement statistics and data
- critically reflect on various audience measurement practises
- plan and conduct limited audience measurement studies

12.1 INTRODUCTION

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Imagine yourself that a newspaper, radio station or television channel has no audience. Does it deliver its message? Does it matter at all whether there is an audience or not? It matters of course! All activities of the media – both content-related as well as market-related – are focused on the audience (Webster, Phalen & Lichty 2006). Without the audience, all media-related activities become completely senseless.

The problem with media audiences is, however, that they are very hard to find. Audiences are mostly elusive, geographically dispersed, and hidden away in homes, businesses and/or motor vehicles. They remain largely unseen for those involved in the business of the media. It is only through research that the audience becomes visible (Webster et al 2006). A former director-general of the BBC, Michael Checkland (in Van Vuuren 1994:120), comments: "In the absence of research we know nothing about our customers. Maybe this is something unique to broadcasting. All we do is send invisible signals out into the ether. How do we know whether anyone receives them? The answer is audience research."

However, audience research − and audience measurement in particular − has become much more than merely satisfying the curiosity of broadcasters about their unseen audiences (Webster et al 2006). As early as the 1920s, AT&T in the USA started to charge clients a toll to make announcements over their station and found it to be an effective way to fund their medium. "Toll broadcasting" as this practice was initially called, led to the spread of commercial television, not only in the USA, but all over the world (Fourie 2003; Gane 1994). Public service broadcasting systems primarily regulated and funded by governments have been widely replaced by the dual system of the United States of America (USA) that entails a combination of both public service and commercial broadcasting. Deregulation and the dominance of the market-orientated paradigm has resulted in increasing pressure on both commercial as well as public service-oriented broadcasting media, as well as the print and other forms of mass media, to cover costs and/or to increase income by means of advertising revenue. Currently most media rely to a larger or smaller extent on sponsorship and/or advertising as a source of revenue. The media and marketing worlds have consequently become inextricably intertwined.

The need for audience measurement is currently largely a function of this changing media environment (Fourie 2003; Gane 1994). In the marketing industry, increased competition due to factors such as product deluge and saturated markets has created the need for more precise identification of market segments in order to target advertising to designated segments more efficiently (Buzzard 2002). The same efficiency is nowadays also sought in the media industry. Blanket targeting of undifferentiated mass audiences with the hope that somehow somewhere some media products will be acceptable for some or most people, is no longer possible. Precise targeting of products − also media products − has become essential for success. Media networks are consequently shifting away from the traditional idea of the mass audience − known as the lowest common denominator for programming – towards targeting smaller targeted audiences. This process of targeting precisely defined audiences is known as narrowcasting.

Audience research – empirical research aimed at uncovering the mysteries of the audience and its behaviour and to distil it into hard data − has thus become of crucial interest to all of those involved in the

media (Abelman & Atkin 2002). Audience measurement has furthermore become a complex and highly specialised industry in which millions are spent on an annual basis all over the world. Technological innovation is furthermore constantly transforming the possibilities for and practises of audience measurement.

Whatever your personal career goals in the media, you will need to achieve a theoretical as well as practical knowledge and understanding of audience research (Webster et al 2006). In this chapter we explore the practices of audience measurement (sometimes also called ratings research).

12.2WHO NEEDS INFORMATION ON AUDIENCES?

Various groups of people and/or institutions require detailed information about audience size and structure as well as audience use of and/or attitudes towards the media (Kent 1994):

- Programme and film producers, broadcast schedulers and newspaper and magazine editors all need to address a potential audience or "market" for their products with a suitable marketing mix. This means that product design, contents and specification (e.g. programme planning and development), pricing (e.g. charge for advertising slots), promotional activities as well as coverage (e.g. the area of broadcasting or physical distribution) need to be matched not only with the opportunities that exist in the market, but also with the organisation's capabilities and limitations. The same principle than for all kinds of human communication applies here (Mytton 1999). We speak, for example, differently to toddlers than to secondary school learners. Similarly, all aspects of media programming have to be matched to the target audience. This process of matching cannot find place without basic information on the size and structure of the audience as a whole as well as for individual channels, stations, programmes, newspapers or magazines. Programme schedulers furthermore need information on certain aspects of consumer behaviour (e.g. channel switching behaviour) and preferences for and attitudes towards particular programmes and/or contents.
- Media owners – Media owners typically operate in two different markets: the market of audiences for their particular media products, on the one hand, and the market of advertisers on the other to whom they hope to sell advertising opportunities for communicating with potential customers. In dealing with advertisers, they need to convince them that a particular medium will reach a particular audience in terms of both size and composition. In order to do that, detailed information on the audience is needed.
- Similarly, advertisers and sponsors, that is the buyers of opportunities in the media to market their products, need information in order to select media or a combination of media in which to advertise; the specific channel(s), station(s), newspaper(s) and/or magazine(s) to use; what type of messages or content to convey; and the best time, frequency and/or methodology to convey their messages.

- Advertising agencies, media consultants and/or market research agencies usually act on behalf of advertisers or sponsors. In order to provide specialist advice to their clients, they also need detailed information on audiences for all the media.
- Last, but hopefully not the least, are academic researchers and analysts. In the end, research on media audiences is necessary in order to test and develop theories on audience behaviour and media consumption.

12.3 WHICH QUESTIONS ARE ADDRESSED IN AUDIENCE RESEARCH?

From the preceding section the conclusion can be drawn that audience research today needs to address a variety of complex information needs of a wide range of interested parties with different motivations, interests and levels of sophistication. The following key research questions form the basis of most audience measurement endeavours (Webster et al 2006:31-39):

12.3.1 How many people are there in the audience?

This single factor – the size of the audience – mostly determines the value of a programme, station, channel and/or website to the media as well as advertisers. The measures of *coverage*, *audience share* and/or *audience ratings* are mainly used when referring to audience size (see section 10.4).

12.3.2 How often do people show up in the audience?

This factor relates to audience behaviour that underlies the size of the audience. It is necessary to obtain information on how individuals use the media over time. Firstly, it is for example necessary to establish whether two television soap operas with similar ratings are viewed by the same group of people or completely different groups of people (audience duplication). Advertisers also want to know how many different people are exposed to their message. *Coverage* (see section 10.4) is the measure most often employed in this regard. Another key factor is the frequency of exposure, namely the number of times that members of an audience see or hear a particular programme, read a particular newspaper or magazine, visits the cinema or a particular website. The frequency of exposure will determine, in the end, the number of times individuals are exposed to a particular message. The measure of *frequency* is used in this regard (see section 10.4).

12.3.3 Who are the members of the audience?

We emphasise in the introduction that the audience can no longer be regarded as a faceless mass (Ivala 2007). Nowadays most messages and programmes are targeting a specific kind of audience – a strategy called market segmentation. The need for information on the composition of the audience consequently does not lag far behind information on audience size. Audiences are usually segmented according to particular traits and characteristics. Researchers usually refer to these traits as *variables*. The SAARF Living Standard

Measure (LSM) is for, example, widely used in South Africa for market segmentation (see section 10.9). According to Webster et al (2006), audience attributes can be grouped into the following categories:

Demographic variables − Demographics most commonly reported in audience data are race, ethnicity, age, gender, income, education, marital status and/or occupation. Of these, age and gender are perhaps the most important. Broadcasters and advertisers, for example, often sell or buy programmes directed at pre-school children, teenagers, women or the whole family.

Geographic variables − Just as people differ with regard to demographic attributes, they also differ in terms of where they live. Geographic variables often used in audience research are country of residence, province, residential areas as well as rural versus urban areas. Newspapers, radio stations, television channels and other media are often directed at specific geographical areas. Living in particular residential areas can furthermore reflect a person's income, lifestyle and/or station in life. One can, for example, assume that people living in Waterkloof in Pretoria will have a relatively high income, fill important posts in government or the private sector and consequently uphold a particular lifestyle.

Behaviour variables − Behaviour variables distinguish between people on the basis of particular behavioural patterns. It is, for example, firstly important to know whether people listen to or watch particular channels, stations and/or programmes, read particular newspapers and/or magazines, visit particular websites and how often they do so. Other behaviour variables important to advertisers, in particular, are product purchase variables. As most advertisers want to reach the audience members that are most likely to buy their products, audiences are often also segmented into buyer-graphics.

Psychographics − Psychographics draw distinctions between people on the basis of particular psychological characteristics such as values, attitudes, motivations and/or preferences. According to Webster et al (2006), psychographic variables that have caught attention recently are audience loyalty, involvement and/or engagement. It has become important for media professionals as well as advertisers to know who are the people that are particularly loyal and/or committed to particular media products. It has, for example, been found that the fans of a particular programme will also be more attentive to the advertisements contained within it.

It can be concluded that the media − and all those involved − are complex institutions that use information in a variety of ways and for a multitude of purposes. With regard to academic research into the media, audience measurement can yield important insights into media consumption as well as the power and potential effects of the media.

12.4 KEY CONCEPTS IN AUDIENCE MEASUREMENT

The following concepts are fundamental to all aspects of audience measurement:

12.4.1 The concepts of "watching", "listening", "reading" and/or "visiting"

[watching, listening, reading and/or visiting]

At a glance it does not seem that there is much to ponder about these concepts (Kent 1994). However, there are two questions that both researchers as well as practitioners should consider:

- Precisely what kind of behaviour is involved in the activities "watching", "listening", "reading" and/or "visiting" (an internet website)?
- How long is it necessary to pursue with these activities in order to be considered, for example, to have "watched", to have "listened", to have "read" a newspaper, book or magazine and/or to have "visited" an internet website?

With regard to television audiences, "watching" may simply mean being in a room where a television set is switched on. Alternatively, it may entail claiming in a questionnaire or diary that watching has taken place. Where electronic devices such as peoplemeters are used (see section 10.7.3), the definition may change from mere presence in the room where a television set is switched on or to facing a television set. Similarly, the concept of "listening" can refer to claims to have listened to a particular programme for a particular period (sometimes a period is not even indicated). The possibilities of defining the "reading" of a newspaper or "visiting" an internet-website are even more endless.

Currently, most methods and techniques in audience measurement rely on respondents' own subjective definitions and whether they themselves believe that watching, listening, reading and/or visiting has taken place (Kent 1994; Van Vuuren 1994). However, variations in the definitions of these concepts make comparisons of audience sizes across methods, techniques and instruments extremely difficult, if not impossible. In the end all audience measures are dependent on the underlying definitions of these activities and audience measurements will vary accordingly.

[coverage]

12.4.2 Coverage or reach

As mentioned in section 5.3, coverage is an important indicator of audience size. Kent (1994) defines *coverage* − known in the USA as *reach* - as the proportion of the total number of unduplicated individuals or households reached by a particular medium or item of communication (e.g. a television or radio programme, newspaper report or advertisement). According to Du Plooy (2001), coverage is usually calculated as a percentage of the population. For example, if 600 households within a given target population are exposed to a particular radio programme, the reach is 60%.

Firstly, coverage is dependent on the definitions of the activities of "watching", "listening", "reading" and/or "visiting". Secondly, coverage is determined by who is included in the definition of the total potential audience of interest – the so-called universe or population. Webster et al (2006) point out that measurements of coverage are commonly based on the entire potential audience (or universe) for a particular medium. For one of the television channels of the SABC, the total population would be the numbers of households in South Africa with one or more television sets – it does not matter whether those sets are switched on or not. For MNet, the population would be the total number of subscribers. In the case of regional channels, the population would be those households in a particular region that have television sets.

It has furthermore to be borne in mind that populations can be composed of different building blocks or units of analysis. Whereas households equipped with television sets are commonly used as units of analysis in estimating television audiences, individual readers, radio listeners or individuals visiting an internet website are taken into account when newspaper, radio or Internet audiences are estimated. However, television channels might also use individuals as units of analysis when different groups of people are considered. Television ratings might, for example, draw a difference between men and women or different age groups. Depending on the definition of the population, it may or may not, for example, include children. Children, on the other hand, may be defined differently according to specific age ranges (e.g. 0- 5 years or 10-16 years of age).

Coverage furthermore takes on various forms for various media. The coverage of a television programme is, for example, determined by the size of its audience expressed as a percentage of the relevant population. For the print media, coverage is normally expressed as the average issue readership. In advertising, coverage is often measured in terms of the proportion of the population seeing at least one spot of an advertising campaign. With regard to the electronic media, coverage can also be attached to a particular time frame. The coverage of a television channel can, for example, be defined in terms of the percentage of the population watching the channel in a particular minute.

[audience share]

12.4.3 Audience share

The term "audience share" usually refers to radio and, in particular, to television programmes. A programme's share refers to the percentage of total *viewing* or *listening* households within the universe whose sets are tuned to that programme. Audience share consequently refers to a particular programme as well as to the programmes broadcast during a particular time slot such as prime time. For the calculation of share, the population (or universe) is therefore not the total number of households in a particular country, but the total number of households who actually watch television or listen to the radio during a particular time slot (the time slot when a programme of interest is broadcast). It is therefore necessary to have information on the total number of viewing or listening households in a particular population during particular time slots. Statistics on audience share are normally not used to sell advertising time, but play an important role in decisions on scheduling (Blumenthal & Goodenough 2006).

[audience ratings]

12.4.4 Audience ratings

As can be concluded from section 10.4.1, the term "ratings" is closely related to coverage or reach (Webster et al 2006). Audience ratings have become so common and popular that the term "ratings research" is often used as an umbrella term or shorthand title for audience measurement in general. However, it is important to keep in mind that the ratings of programmes is only one of a series of statistical summaries that can be derived from the data obtained through the data gathering instruments and procedures that we discuss in this chapter.

Similar to share, the term ratings represents a description of audience size (Webster et al 2006). Blumenthal and Goodenough (2006) define the ratings of a television programme as the percentage of total number of households in an area that have television sets that were tuned to the particular programme. Whereas audience share compare the appeal of all programmes broadcast within a particular time slot, audience ratings are used to compare all programmes broadcast in a more or less equal way. It is assumed that programmes that are likely to draw a large audience will be broadcast during more popular time slots.

According to Beville (1988), audience ratings are a powerful force within the media industry that determine the price of a particular programme and the payment that performers will receive. They are furthermore an important factor determining the price that advertisers will be willing to pay for advertising time in and around the time that the programme is broadcast. Ratings furthermore determine the rank order of stations or channels in a particular market as well as their monetary value if and when they are put up for sale. The compensation of key officials and their job security can also be affected by the ratings as well as their chances of being promoted or demoted. In the end, the simple push of a button as members of the audience switch on their sets or tune from one station or channel to another provides the single most important piece of information regarding audience behaviour.

Especially in the USA, audience ratings are the most visible component of audience research that hold a unique place in industry practice as well as in the public consciousness (Webster et al 2006). Audience ratings have virtually become part and parcel of popular culture. The Nielsen ratings in the USA are famous – or infamous – for serving as the "bullets" that killed programmes like Star Trek and Twin Peaks. However, the influence of ratings on the culture, content and business of television stretches much further than the mere power to stop the broadcasting of shows.

Table 1 South African programme ratings: 1 January 2008 to 22 May 2008

SAARF TAMS®

Position	Programme	Channel	AMR%
1	Generations	SABC1	22.0
2	Zome 14	SABC1	19.7
3	SAMA Awards 2008	SABC1	18.6
4	A drink in the passage	SABC1	16.9
5	Shakespear - Entabeni	SABC1	16.8
6	Shakespear – Izingane Zobaba	SABC1	16.6
7	Hopeville Mansiona	SABC1	16.5
8	MTN Africa Cup of Nations Ghana − South Africa vs Senegal	SABC1	16.1

9	Unsindiso	SABC1	10.6
10	The Vice Chancellor, the Chicken & the Mayor	SABC1	10.5
11	Stars of Mzansi Awards	SABC1	14.9
12	Zulu News	SABC1	14.9
13	The Fast and the Furious	e-TV	14.9
14	Twins of the Rain Forest	SABC1	14.1
10	Xhosa news	SABC1	13.7
16	The Basikol	SABC1	13.7
17	Zola 7	SABC1	13.7
18	The Rundown	e-TV	13.6
19	Jika Ma jika	SABC1	13.6
20	MTN Africa Cup of nations Ghana − D'Ivoire vs Nigeria	SABC1	13.5

Source: Milne (2008)

Notwithstanding the dominating role of ratings in the television industry, it has always to be borne in mind that audience research entails much more than mere ratings analyses. Some of the rich detail of audience research should emerge from the contents of this chapter, but also from the other chapters on audience research.

[frequency]

12.4.5 Frequency

As already discussed in section 10.3, it is not only important what proportion of the population have been reached by particular medium or communication item. In most cases it is also important to know how often people "watch", "listen", "read" and/or "visit". The concept *frequency* also has different meanings. *Frequency* may indicate the number of times an individual has watched a particular programme within a particular period (e.g. a two-week period) or the number of times an individual has seen a particular advertisement. Frequency multiplied by coverage gives the total number of possibilities and/or opportunities for a particular programme to have been watched or an advertisement to be seen. In combination, coverage and frequency forms the yardsticks with which the media industry evaluates its successes and failures. It furthermore represents the "currency" on which negotiations for the buying and selling of advertising opportunities are waged. Measurements of coverage and frequency are consequently one of the main aims of audience measurement endeavours.

12.5 ESTIMATING THE AUDIENCE

[population versus sample]

When researchers conduct research into media audiences, they are usually interested in an entire population or universe (Kent 1994; Webster et al 2006). The nature of the population can differ from study to study. Most audience research endeavours in South Africa are interested in the entire South African population. However, as already discussed in section 10.4, definitions of the population can vary from study to study and measure to measure. In most cases it is, however, logistically impossible to interview or to obtain data from every single member of the population. Researchers therefore need to *estimate* the audience from a subset that is called a *sample*. Sampling is widely used in scientific research in the social sciences. Audience

measurement endeavours are, however, often criticised due to the fact that the audience estimates that they produce are based on samples and not the whole population. However, without sampling, audience measurement becomes virtually impossible. The founder of one of the world's largest audience research organisations, Arthur Nielson, was fond to respond to criticism on the practise of sampling by saying: "If you don't believe in sampling, the next time you have a blood test, ask them to take it all out" (Webster et al 2006:113).

It is, however, in the end the quality of a sample that has a tremendous influence on the accuracy of the audiences measures obtained (Kent 1994; Mytton 1999; Webster et al 2006). Issues of sampling is discussed in more detail in chapter 13. Here it is suffice to point to the two big classes into which all samples are divided, namely probability (also called random samples) and nonprobability samples. The difference between these two classes lies in the way researchers identify and select members of the population to participate in the research. Probability samples make use of methods and techniques in which every member of the population has an equal or known chance of being selected. In contrast, nonprobability samples depend on happenstance or convenience in selecting participants (or respondents). In comparison to nonprobability samples, probability samples are usually extraordinarily expensive and time-consuming to construct and to execute. However, researchers have much more confidence in data obtained from probability samples. Furthermore, probability samples allows for generalisation or expanding the results to the population as a whole, while that is not the case with nonprobability samples.

Generally, audience measures will only be trusted and accepted if they are based on a probability sample − or a good approximation thereof. All trustworthy research organisations involved in audience measurement therefore strives towards employing probability sampling in their research endeavours. Their research and technical reports are also laced with the vocabulary related to probability sampling. In order to make sense of these reports, you will need to become familiar with the principles and terminology of probability sampling as discussed in chapter 13.

12.6 SOURCES OF ERROR IN AUDIENCE MEASUREMENT

A great concern for both the producers and users of audience research is the potential of error in the data. According to Webster et al (2006), the concept "error" as used in research should be understood differently from the normal understanding of mistakes being made. It rather refers to the extent to which the audience measures estimated on the basis of samples fail to reflect what is really happening in the population. Error therefore refers to the difference between what the audience estimates made to be the truth, and what the truth actually is. Sophisticated users of audience data need to understand the potential sources of error and how audience research organisations deal or do not deal with these.

The following sources of error are of particular relevance to audience measurement (Kent 1994; Webster et al 2006):

[sampling error]

12.6.1 Sampling error

Sampling error is perhaps the most abstract from all the sources of error. Basically, it recognises the fact that as long as we try to estimate what is true for a population from something that is less than the population, namely a sample, the chance exists that we can miss the mark. Even when we use large probability samples that are perfectly executed, they might fail to accurately represent the population from which they were drawn. This potential is inherent in the process of sampling. Sampling error is discussed in more depth in chapter 13.

[nonresponse error]

12.6.2 Nonresponse error

There are furthermore sources of error associated with the process of executing sampling designs. One of the most important is nonresponse error. Nonresponse error occurs because not everybody selected to participate in a study, will respond or cooperate. The possibility exists that a sample can become biased if those who do respond or participate, differ from those who do not want to or fail to participate. Some research designs are more prone to nonresponse error than others. Nonresponse error is also discussed in greater detail in chapter 13. When studying audience measurement reports, nonresponse error can be detected by comparing the original sampling design with the final realised sample. Research organisations involved in audience measurement should also report on the reasons for nonresponse and indicate the procedures that they followed to prevent or correct nonresponse error.

[response errors]

12.6.3 Response errors

Other sources of error are related to the research process itself. When asking people about their watching, listening, reading or visiting behaviour, their responses are based on their memory recall of their own behaviour. Memory is, however, subject to failure that can give rise to incorrect or incomplete responses. Problems related to memory recall and the steps that research organisations take to prevent it, will be addressed in the discussion of the methods and techniques employed in audience measurement. Response error can also occur when respondents and/or participants misunderstand instructions or questions (see the section on questionnaire design in chapter 13). When push-button metering systems are used, panellists can forget to push their buttons to register their own viewing or push the wrong buttons. Participants can furthermore be plainly dishonest or cheat intentionally.

[interviewer error]

12.6.4 Interviewer error

Interviewers can furthermore make mistakes when recording the responses of respondents and/or participants. The way in which interviewers understand or approach questions can furthermore influence respondents/participants to respond in a certain way and result in biased responses. The training of interviewers is also discussed in chapter 13.

[external sources of error]

12.6.5 Sources of error external to the research process

Measures can be biased by unusual promotional and publicity efforts on the parts of the media in order to rise their audience levels during measurement periods. For example, newspapers can run competitions offering exciting prizes that require readers to buy the newspapers every day during the period that audience surveys are conducted. There is little that researchers can do to address biased measures due to such efforts. However, measurements that are done on a continuous basis such as in the case of peoplemeters are less prone to such sources of error (see section 10.7).

Although those related to the media and advertising industries are often aware of the potential sources of error and bias in measurement data, these limitations are seldom considered in practise (Kent 1994). The daily pressures of running media and advertising businesses usually require some kind of yardstick in the form of audience data on which important decisions can be made. It is often assumed that, provided errors are relatively constant, that the figures provide a relatively balanced reflection of the situation as it really is. The fact that all audience measures, in the end, are mere estimates of the "truth" is often conveniently overlooked.

12.7 INSTRUMENTS FOR CAPTURING DATA ON AUDIENCES

In the beginning years of the development of the mass media no systematic audience research was done (Mytton 1999). The likes and dislikes of editors, media owners, channel managers and/or sponsors most often determined the contents of the media. It became, however, soon clear that information was needed that was independent of their own views or opinions. Some of the early forms of audience measurement entailed the counting of letters elicited by particular reports, articles or programmes. Other forms of "measurement" were no more reliable. In an attempt to determine audience size, broadcasters would draw a circle on a map with a radius reflecting what they thought the reach of the station to be and determine the number of people living in the area. However, these measures were meaningless as it is not a given fact that all these people were indeed members of the audience. A number of factors such as transmitter power, local geography, station programming, wavelengths, and numerous other factors are known to influence the size of the audience.

As the limitations of these ad-hoc methods of audience measurement have been realised, audience research has developed as a formal and systematic enterprise. The applications of audience data is endless (Mytton 1999). It is used to assist in the creative process of writing and/or programme-making. It provides a scientific basis for programming, policy and marketing decisions. It can be used to maximise the efficient and cost-effective use of scarce resources. It can be employed to determine the effectiveness of public advocacy campaigns. In the end, large amounts of money are spent on the basis of decisions informed by audience research and millions of lives are affected by these decisions (Webster et al 2006).

The high stakes in audience research implies that it not only needs to fulfil in a wide variety and complex information needs, but also has to provide highly accurate and precise information. Although the

practise of audience research is constantly changing, a number of instruments for capturing audience data have endured the test of time. Each of these instruments has unique applications within the media world and has certain advantages and limitations that should become clear in the following sections.

[surveys]

12.7.1Social surveys

Questionnaires are probably one of the oldest and well-known ways of investigating social phenomena such as media behaviour (Ivala 2007; Kent 1994; Mytton 1999; Webster et al 2006). Questionnaire surveys as a research methodology in media research is discussed in detail in chapter 13. Here it is suffice to explain briefly how surveys are employed in audience measurement and research.

A questionnaire is a self-report method and information can be gathered on any aspect on which questions can be asked to a respondent. Information can thus be gathered on demographic characteristics, print and electronic media usage patterns, lifestyle, values, attitudes, opinions as well as the products and services that people buy and use. These responses can provide a treasure trove of information to media researchers, practitioners and advertisers as particular demographics, media usage patterns, values, attitudes and opinions can be linked to particular patterns of product purchase and usage of particular services. The idea of a questionnaire is, in the end, that the questions put to each respondent are standardised so that exactly the same questions are put in a similar way to each respondent. These responses can then be counted up and/or compared.

Whether questionnaires are self-administered or completed by means of interviewers (see chapter 13), conventional paper-and-pen are most widely used in the media industry for completing questionnaires. Technological advances have, however, stimulated the development of new forms of surveying (Greenberg et al 2005). In conducting the All Media Products Survey (AMPS – see section 10.9.2), the South African Advertising Research Foundation (SAARF) replaced the traditional pen-and-paper methodology with Computer Assisted Personal Interviewing (CAPI) where fieldworkers capture responses by means of laptop computers that they carry with them (SAARF sa). Webster et al (2006) furthermore mention the advent of personal digital assistants (PDAs) which are pre-loaded with questionnaires and distributed to respondents. Respondents are required to carry the PDAs with them. At various times throughout the day the devices would ring, asking people to complete a short questionnaire. People could be asked to report their mood, where they are and to report on the media and/or promotions within the particular location (eg, at work, in the car, in a store, and so forth). After a couple of days the researchers reclaim the devices and the data can be read, captured and analysed. Online data gathering by means of web-based surveys are another new innovation available to media researchers (see chapter 13).

Telephone interviews have also been widely employed in media research, but have particular limitations especially in developing countries such as South Africa with low telephone densities (see chapter 13). However, two techniques associated with telephone surveys are of particular relevance to audience measurement (Webster et al 2006):

[telephone recall]

- The first, *telephone recall*, involves that respondents are phoned and requested to report on what they have seen or heard over a particular period of time. However, the quality of recalled information will be influenced by how far back a person is required to remember. The further certain events are removed from the present, the more the recalled information is subject to memory error. The salience of the behaviour in question, that is the relative importance or unimportance, also have an influence on the quality of responses. Important or regularly occurring patterns are better recalled than trivial or sporadic events.

[telephone coincidentals]

- *Telephone coincidentals* can overcome some of the problems of memory associated with telephone recalls. In these surveys people are asked questions about what they are seeing or listening to at the moment of the telephone call. As respondents can be expected to verify who is using what media at the particular time, problems of memory can be overcome and be reduced to a minimum. Thus telephone coincidentals have often been used as the yardstick against which other methods of audience measurement are evaluated. However, although telephone coincidentals are still being used in quality evaluations of other measures (see 10.8), they are no longer routinely employed in audience research. The problem is that this type of survey only provides a momental glimpse of media media usage. Thus, although it offers high quality information, it does not provide quantity of information on audience behavioural patterns over time. Secondly, there are practical limitations on where and when calls can be made. Much radio listening, for example, is done in cars where people cannot be reached by regular landline telephones. Also, while much television viewing is done late at night, it is regarded inappropriate to call people at late hours.

Whatever the method being employed, social surveys offer the media researcher the opportunities to investigate a wide range of issues – probably a larger variety of issues than any of the other methodologies or techniques employed in audience measurement. However, some of the disadvantages of social surveys have already been highlighted in the discussion of the methods of telephone recall and telephone coincidentals. The most important disadvantage is the relatively low accuracy in the reporting of actual behavioural patterns such as listening, viewing, reading or visiting websites (Wind & Lerner, 1979). This lack of accuracy can be ascribed to a variety of sources of error related to respondents (e.g. poor memory, forgetting, deliberate falsification of information, low awareness of the importance of particular information, reporting errors, etc), the nature of the questionnaire (e.g. ambiguous question formats, etc) as well as other aspects of the procedure (e.g. fieldworker/interviewer bias).

Due to the problems associated with memory error, in particular, social surveys on their own are no longer regarded as sufficient to provide in the need for high quality and precise information on audience behaviour for broadcast media. However, due to the versatility of social surveys, they are still widely used in combination with other measuring instruments and/or techniques.

[diaries]

12.7.2 Diaries

The diary is another self-report method widely employed in measuring audiences in an attempt to overcome the lack of accuracy associated with social surveys. Diaries are distinguished by the fact that they capture data on audience behaviour on an individual basis over a period of time (Kent 1994). In most cases respondents are instructed to record a particular form of behaviour (e.g. listening to the radio and/or watching television) every time that it occurs within a given period – often a week, two weeks or longer. Thus diaries record behaviour which is normally repeated at frequent intervals and which is difficult to recall correctly in a questionnaire survey. The focus of diaries is predominantly on behaviour – and the frequency of behaviour − and not on attitudes and/or other variables of interest. One of the reasons why attitudes are not measured in a diary is the fear that the mere act of recording one's attitudes could influence behaviour. If a respondent, for example, records a negative attitude towards a particular programme, he/she can stop watching the programme and/or switch channels or stations.

<Include examples of diary employed by SAARF>

Diaries may be sent to the respondent by post or delivered personally by an interviewer. At the end of the designated period, they can, again, be collected personally or sent back to the organisers of the research by post. As already mentioned, diaries are usually completed by individuals who record their own behaviour. However, it is also possible that a particular person (e.g. the housewife) is made responsible for recording the behaviour of the members of a household as a whole. That is particularly the case when researchers are interested in the media behaviour of young children that are not able to complete a diary by themselves.

Diaries can differ to the extent to which they are fully structured or pre-coded, semi-structured or unstructured. Structured diaries usually include lists of all the channels, stations and/or even programmes that can be received within a particular area. That will, however, imply that a number of versions of the diary have to be devised to make provision for regional differences within a country. Also, if programmes are pre-listed, last-minute schedule changes may be overlooked. In the case of unstructured diaries, respondents have to write in the names of channels, stations and/or programmes. In such a case one version of a diary can be used for the whole country, but more effort is required from the respondent in completing the diary. It furthermore implies the post-coding of diary entries that could add considerably to the time and effort of researchers.

Dairies used to record listening or watching behaviour, usually arrange entries by time segment on a daily basis, often in 10-minute or 30-minute periods. The time segments are usually indicated down the left side of the page, while channels, stations or programmes will be listed or entered across the breadth of the page. The respondent is requested to indicate all segments in which listening or watching had taken place. Dairies for the print media would resemble more of a product diary where a list of newspapers and/or magazines are provided and respondents have to mark off those that they had read. Alternatively, respondents could write in the names of newspapers or magazines that they had read on a particular day.

Diaries could also include additional aspects such as questions on household composition, region, stations and/or channels that can be received, and so forth.

According to Kent (1994) diaries act as a type of "reminder" to respondents that enhance the completeness and accurateness of reporting. The following potential sources of error have, however, to be kept in mind when employing diaries in audience research (Kent 1994; Webster et al 2006):

- The completion of diaries requires a certain level of literacy from respondents.
- Respondents can forget to record viewing, listening or reading behaviour – this could be a result of failure of completing diaries as they go along and trying to recall behaviour after a couple of days or even at the end of the period just before they need to submit the completed diaries. To the extent that diary entries are delayed, memory errors are more likely.
- The respondent can record behaviour, but make a mistake on the details due to faulty memory or erroneous recording.
- There is evidence that diary keepers are more diligent at the beginning of the recording period than towards the end. This so-called "diary fatigue" might depress viewing or listening levels at the end of the period. Viewing/listening late at night, of short duration and/or of less well-known programmes as well as viewing/listening of secondary sets (e.g. in the bedroom) also tend to be underreported.
- False information can deliberately be provided either by omission of some media use or making imaginary entries. However, Webster et al (2006) reports that most people have a sense of the importance of audience research and the way it can affect programming decisions and would therefore refrain from deliberately providing false information. On the other hand, some people might regard the completion of a diary as an opportunity to "vote" for particular programmes whether they are actually a member of the audience or not.
- When a housewife (or other household member) has to complete the diary on behalf of other household members, the person can be unaware of some media usage patterns of other members of the household (e.g. children can watch television without their parents being aware that they watch). It is consequently a known tendency that audiences of children programmes are usually underestimated in diary measures (Friedman & Ayer 1989).
- The increasing complexity of the media environment as well as audience fragmentation has made diary-based measurement problematic in recent years (Webster et al, 2006; Friedman & Ayer 1989). For example, a person watching a movie recorded by means of a video recorder (VCR) might find it difficult to remember on which channel the movie was originally broadcast. Also, if a person "jumped" about 40 channels before finally watching a programme, it would also be difficult to remember in the end which channel he/she finally really "watched". It is also easy to confuse channels such as the various international news channels. It is for these reasons

believed that diaries usually under-report the audience for satellite and cable television or independent radio stations/television channels.

- Lastly, Friedman and Ayer (1989) hold that the more entrenched a particular station or channel or other medium is in the minds of diary keepers, the more likely it is that they will be remembered when the diary keepers fill out their diaries.

These sources of error can be influenced by a number of factors such as the type of programme, newspaper or magazine; the frequency of media use; the position of a page in the diary; the position and prominence of the entry on a particular page; the complexity of the layout; the overall length of the diary; the workload involved in completing the diary, and the method of and nature of contact between the respondent and the researchers.

Despite the abovementioned limitations, diaries hold several advantages (Webster et al 2006):

- One of the most important advantages is that they are a relatively cheap method of data collection . Taking into account the wealth of information that can be obtained by properly completed diaries, no other method is as cost effective.
- Diaries hold the potential for the collection of very detailed information including demographics.
- Diaries are a non-intrusive method of data collection. They can be completed at respondents' convenience.

Similar to social surveys, diaries are nowadays often used in combination with other methods such as the more expensive metering techniques in audience research.

12.7.3 Metering devices

In recent decades, the drive towards obtaining precise audience data of a high quality has resulted in audience measurement been dominated by technological advances and, in particular, by the development of electronic metering devices (Buzzard, 2002; Gill, 2000; Webster et al 2006).

[set meters]

Set or household meters

Household meters have become one of the alternatives to diary-based audience measurement. The well-known Nielson Audimeter was one of the first electronic devices that were installed in homes to monitor radio listening. The next generation of meters − known as household or set meters − were developed for television. These are essentially small computers attached to one or all of the television sets in a home that records automatically whether a set is on or off and to which channel it is tuned. The information is stored in a special unit and can be retrieved via a telephone line and downloaded to a central computer. For years, set meters represented the full scope of electronic metering activity. As such, they had particular advantages above diary measurement of media usage patterns. These meters eliminated human memory error as viewing was recorded as it occurred. Even brief exposures could be detected. Respondents did not need to be literate

and “respondent fatigue” did not play a role. In fact, respondents did not need to do anything at all. As information was captured electronically, it could also be captured and processed much faster than pen-and-pencil questionnaires and diaries.

However, there were certain disadvantages to set meters. Firstly, they were expensive. It costs a lot to manufacture, install and maintain the electronic hardware to make the system work. According to Webster et al (2006), this limitation holds true for all types of electronic metering. Due to the costs involved, electronic media metering is only viable for relatively large media markets (such as a country) and not for local and/or regional markets. The most important disadvantage is, however, that set meters provide no information on the composition of the audience, that is the people who were watching, save from the known household characteristics. The lack of precise information on the nature of the audience that has become so vitally important to media people as well as advertisers caused set meters to be largely abandoned in favour of peoplemeters as we know it today. However, Webster et al points to the fact that set meters are not completely a thing of the past. Nowadays, digital video recorders (DVRs) have the ability to record exactly the activity on television sets on a moment-to-moment basis. The equipment used to receive pay television in homes can also track tuning. The implication is that a set meter can be placed in virtually every home with a television set in the near future. This could provide a broad database of television activity. However, information on the exact nature of the audience will still be lacking.

[peoplemeters]

Peoplemeters

Peoplemeters are currently the only electronic device that measures exactly who in a household is viewing a particular set. In the early 1980s the London-based research group AGB Research, nowadays known a Taylor Nelson Sofres (TNS), developed the first meters to gather information on who were viewing (Gill 2000). Thus the modern peoplemeter was born. The peoplemeter replaces the diary-keeping activity of recording television viewing behaviour with the simple push of a button on a special handset whenever a person enter or leave a room where a television set is switched on.

Basically, the device consists of a handset that consists of a number of push buttons. Every member of a household is assigned a number that corresponds with one of the push buttons on the handset. When a particular member of the household starts viewing, he or she is supposed to press the pre-assigned button on the handset and to press the button again when he/she leaves the room. The hand-held sets are more or less the size of other remote control devices. As in the case of household meters, data are retrieved via a telephone line. Most peoplemeters also include a display unit that shows which household members are registered to be watching. The display unit can also be used to prompt household members to check whether buttons have been pushed correctly.

Figure 1 Handset and display unit of the peoplemeter used in South Africa

Source: AGB Nielsen Media Research

Peoplemeters hold the following advantages above other methods of audience measurement:

- The most important reason for the widespread acceptance of the peoplemeter is that it is widely accepted that peoplemeters provide highly accurate information on audiences and their television usage patterns that are not subject to the deficiencies of diary-keeping and questionnaires (Gill 2000). Trust in the quality of information provided by peoplemeters are based on internal coincidental surveys that has become the standardised method of assessing the accuracy of peoplemeter data in most countries. This technique involves telephoning a sample of panel homes and enquiring who are watching television at the time of the call. The information obtained by means of the telephone coincidentals are then compared with the household viewing status as recorded by the peoplemeter at the time of the call. The results obtained by telephone recalls tend to be remarkably consistent indicating a push-button accuracy of around 90%. That means that around 90% of people who were said to be viewing at the time of the call indeed registered their viewing on the peoplemeter. Also, approximately 90% of the people who indicated not to be viewing at the time of the call were also not registered on the peoplemeter.
- No literacy is required in participating in people meter panels. Illiterate people as well as small children can therefore record their own viewing.
- Continuous measurement of viewing activity means that even short periods of viewing can be registered.
- The demographic data of household members are available and can be used in the analysis of the data.

However, high levels of accuracy in peoplemeter data are not a given fact. To achieve these levels of accuracy usually involves a considerable amount of effort from the organisation that conducts the peoplemeter research. Gill (2000) name the following factors that can influence the quality of peoplemeter data:

- Motivation of panel members − It is firstly necessary to motivate household to become members of a panel. As peoplemeters are usually installed in a household for several years, it is imperative to continuously motivate household members to keep pushing their buttons meticulously whenever they watch television. Incentives that can take a variety of forms such as cash payments and shopping vouchers can play an important role. However, incentives are seldom sufficient to keep panel members motivated. Ongoing contact between the organisers and panel members is essential and a communication strategy for interaction between the research organisation and panel members should be in place. Becoming a member of a panel is usually presented as becoming a member of a club. Newsletters, personalised mail, phone calls and visits from technicians and representatives of the panel operators all form part of the research strategy. In addition, panel members who are suspected of poor performance should be targeted more specifically to establish whether there is a problem that can be rectified and then to remind the household members to perform their button-pushing tasks.
- There exist a number of quality control checks that organisations can employ to detect households whose button-pushing activity is not satisfactory. Some of these are the following:
    - nil viewing, that is when no viewing is recorded in a household for several days
    - uncovered set tuning, where unexpected large amounts of set tuning is registered, while nobody is registered to be viewing
    - long viewing session where particular household members are registered as viewing for suspiciously long, unbroken periods
    - low cover, where cover analysis reveals that some household members are registered to be watching considerably less than what could be expected from that type of household
- The design of the handset – Response from household members is optimised when the response mechanism − that is the push-button handset as well as the display unit − is simple and easy to understand and to use. It is, in reality, due to the ease of use that peoplemeters have become the most important instrument for the capturing of television viewing. Most peoplemeter handsets contain the following:
    - A button dedicated to each household member – most handsets can register up to eight household members.
    - Button(s) for guests – nowadays most handsets have one or more buttons to make provision for the registering of the television viewing of guests.
    - Holiday – buttons are assigned to inform panel operators that household members are going away.
    - Audience appreciation – In some countries (eg the Netherlands and Denmark) buttons are assigned to allow household members to register their views and/or appreciation of particular programmes. This is done by prompting panel members who are viewing at a

particular time to score the programme they are viewing. However, there are several concerns about measuring appreciation in addition to viewing patterns. It is felt that the need to indicate appreciation adds to the task load of panel members and could affect their willingness to co-operate. It could also raise their awareness of their own viewing and, in the end, affect their viewing patterns. However, research has indicated that the task of providing views on programmes could serve as a motivational force that could encourage participation in the panel.

- The display unit as well as the prompt to remind viewers to push their buttons correctly should not intimidate panel members and/or disrupt their viewing. It should be kept in mind that panel members will be subjected to these prompts for several years. Various techniques are furthermore employed to make prompts relevant to panel members, eg the use of home language and personalised messages using a panel member's name.

Peoplemeter data are, however, not perfect. The following disadvantages and potential sources of error are associated with peoplemeters (Gill 2000; Webster et al 2006):

- As already mentioned, peoplemeters are expensive to manufacture, install and maintain.
- Although peoplemeters do not require literacy, analysts feel that they do require a degree of technological literacy.
- Similar to diaries, peoplemeters are believed to underrepresent the television viewing of children. It turns out that especially young children are not conscientious button pushers.
- As peoplemeters are installed in household for several years, there are concerns about button-pushing fatigue. As previously discussed, ongoing contact between the panel operating organisation and panel members is essential to keep household members motivated.
- The potential of button-pushing fatigue implies that panel samples should be changed frequently. Whereas peoplememters used to be installed in USA households for five years, doubts about the long-term diligence of panel households has resulted in Nielsen (the operating agency) changing their turnover of households to two years.
- Although methods of random sampling are employed in selecting panel households, participation in a panel remains voluntary. The question can be asked whether households which refuse to become members of a peoplemeter panel differ with regard to important characteristics from those who are willing to participate in such a panel.
- People meters focus on the household − the nuclear family − as the unit of analysis. Household peoplemeters are, however, unable to register individual viewing such as viewing in bedrooms and viewing at out-of-home venues (eg, at work, at the homes of friends, in bars or cafeterias). Household measures are also increasingly becoming inadequate to meet the needs of the emerging media and marketing arenas. As such, researchers were looking for instruments to obtain individualised information about the audience.

- Peoplemeters are currently mainly restricted to measuring television audiences.

The above shortcomings indicate that, although peoplemeters can be regarded as an improvement on questionnaires and diaries in measuring audience behaviour, they do not offer a final solution to all the needs for audience measurement. The technology of metering devices is, however, continuously developing in the quest for more precise information.

[portable personal meters (PPMs)]

Portable personal meters (PPM.s)

One of the most recent developments is the development of portable peoplemeters (PPMs) that overcome the housebound limitations of peoplemeters (Gill 2000; Smit 2006; Webster et al 2006). These individualised systems have the advantage that they can capture media usage away from home and can be employed to measure both television and radio usage. PPMs depend on the co-operation of broadcasters that need to imbed an inaudible code in the audio portion of their broadcasts. Each person selected for the sample or panel is requested to carry a pager-size device that is capable of capturing these audio codes. (In Switzerland PPMs take the form of wristwatches.) Whenever the person is within earshot of a particular broadcast, the metering device "hears" it and credits the person to be a member of the audience. At the end of a predetermined period, the panel members need to take their devices to docking stations where the data are automatically retrieved via telephone lines. PPMs have several advantages above household peoplemeters (Gill 2000; Webster et al 2006):

- No literacy is required.
- PPMs do not require any button pushing. Once a panel member has remembered to carry the PPM with him/her for the day, there are no other tasks to perform.
- PPMs can detect any television or radio content that emits the prearranged code. They can therefore track exposure to media with great precision.
- PPMs can capture out-of-home media use.
- PPS can capture multimedia. They could even be enabled to capture print media if these media could insert some kind of radio frequency in their publications.
- PPMs are cheaper than household peoplemeters as technicians do not need to visit a household to install them. The necessary hardware, that is the metering device, can simply be posted to members of the participating panel.
- Continuous measurement enables the capturing of very brief instances of exposure to media.
- The demographic characteristics of the participating panel are available.

PPMs are, however, also do not offer the final answer to audience measurement for the following reasons:

- The PPM devices are also expensive to manufacture.

- PPMs can easily be lost or stolen (under the misperception that it is a real watch, cellphone or other usable device). Due to the dangers of theft, PPMs are currently not regarded as suitable for use in South African.
- PPMs require co-operation from the media to embed the identifying codes.
- PPM samples need a higher turnover than household peoplemeter samples.
- PPMs may pick up signals in adjacent venues.

An important question that need to be asked furthermore is whether it can be assumed that viewing, listening and/or reading really take place when a person comes within earshot of the audio code detected by PPMs. In the case of questionnaires, diaries and peoplemeters, people have to consciously register and/or identify themselves as members of the audience. That is not the case with PPMs. The quality and intensity of audience-related behaviour can therefore not be established.

[passive meters]

What does the future hold?

The "holy grail" to which all organisations, researchers and engineers involved in audience measurement strive is the development of a so-called *passive peoplemeter*. Passive peoplemeters would require no effort from people at all. Although PPMs come close, people still need to carry them around and need to remember to do so. The ideal passive peoplemeter would furthermore be unobtrusive and be able to detect exactly which people are in the audience.

Several attempts have already been made towards the development of passive meters (Buzzard 2002). In April 1998, RD Percy announced his peoplemeter service in the USA that involves a passive infrared device that could detect how many people were in a room at a given time thus passively registering viewers. Percy's research focused on commercials and his ratings confirmed the worst fears of advertisers. He found that commercials were watched 17% less than the programmes on which they are aired because of channel switching and people leaving the room during the broadcasting of commercials. However, Percy's device met with resistance as the idea of en electronic peeper in people's homes invoke privacy issues. It was also pointed out that the device needs further validation to eliminate the possibility that household pets can be counted as members of the audience. It was furthermore felt that the presence of such an electronic peeper could cause people to alter their behaviour.

Other house-bound technologies have also been developed (Webster et al 2006). One of these involves a computerised "face recognition" device. This device translates a person's facial image into a set of distinguishing features that are stored in a data bank. The device then scans a particular field such as the field in front of a television set and compares the objects discerned with the features stored in the data bank. In this way family members are recognised and registered as members of the audience. However, similar to Percy's passive meter, this device is probably too intrusive.

Gill (2000) predicts that the future will probably see significant changes and innovative developments in the electronic measurement of listening and viewing behaviour. Buzzard (2002) uses the

term “peoplemeter wars” to depict the fierce competition in the peoplemeter market to come up with more and more advanced devices that will no longer rely on human memory and/or actions to provide in precise audience information.

12.8 MEASURING THE AUDIENCES FOR PARTICULAR MEDIA

[television audiences]

12.8.1 Measuring television audiences

As already mentioned in the introduction, the television industries all over the world have changed drastically with the introduction of commercial channels that are heavily dependent on advertising sales and changed the television airtime market to a supply-and-demand market. In these circumstances the need for much more detailed and precise audience measurements has arisen.

The measurement of television audiences has graduated from the conventional and relatively simple methods of surveys and diaries to metering (Kent 1994). The technical characteristics of the television medium lend itself per excellence to the use of meters. Meters furthermore have the potential to supply in both the detail and the precision required in the commercialised television industry. Thus peoplemeter panels have become the universal standard method for measuring television audiences in more than 70 countries around the world (Gill 2000; Webster et al 2006).

Panel research is a longitudinal research design in which a sample of units − households in the case of peoplemeters − is studied over an extended period of time (Danaher & Balnaves 2002; Kent 1994; Mytton 1999). According to Danaher and Balnaves (2002), there are two elements to peoplemeter panels: the people and the panel. Peoplemeters are installed in a panel of households for a number of years. Panels offer the potential for more sophisticated data capturing as in the case of once-off interviews (as in questionnaire surveys) as it enables the measuring of television viewing behaviour over time among the same people. Trends and changes in viewing behaviour can be recorded on the same continuous sample over time, in contrast with the disruptive effect of using different samples in a number of cross-sectional studies. It is furthermore possible to observe several aspects of viewing (eg, exposure and frequency of viewing and changes in television viewing behaviour) for individual respondents over time. Peoplemeters furthermore make the collection of continuous minute-by-minute data possible. With regard to the composition of peoplemeter panels, it is important that methods of probability sampling should be employed to ensure that a panel is representative of the television viewing public.

However, due to technological advancement in recent years, the well-established practice of metering television viewing by means of peoplemeter panels is facing a number of important challenges:

Improving cooperation and compliance in a world of deteriorating response rates

In recent years, it has become a well-known fact that the willingness to participate in questionnaire surveys has been constantly declining and is believed to continue to do so (Garland 2002). The same applies to participation in peoplemeter panels. New techniques have therefore to be developed to recruit new panel

members and to manage and maintain those households that are already participating in panels. Research into the development of passive meters are furthermore pursued to minimise the button-pushing burden on panel members (see section 10.7.3).

Measuring analogue versus digital signals

The capturing of the tuning of television channels has always been the most basic measurement function of metering devices (Garland 2002). With the advent of digital signals, the current basic technology is, however, no longer sufficient. Nielsen Media Research, one of the leading global audience measurement agencies, has therefore been establishing links with the leading digital standards organisations all over the world to ensure that digital broadcast standards will include channel and programme identification details that can be detected by means of peoplemeter technology. However, it can be assumed that analogue and digital television will co-exist for a long time and that some television operators will fail to imbed an identification signal in their broadcasts. Nielsen has consequently embarked on one of the world's most comprehensive approaches to channel detection. Where a broadcaster agrees to cooperate, Nielson will take the initiative to place an invisible or inaudible signal in the channel's video or audio stream to permit the measurement of the broadcasts. Even when no active code is embedded, digital broadcasts can be identified by taking the video or audio signatures collected by meters and matching them to a reference data base of all possible signatures. This combined methodology patented worldwide by Nielsen make the identification of channel-specific viewing possible within an analogue, digital or mixed analogue-digital environment possible even without the cooperation of operators.

Measuring increasing fragmented viewing

As the number of channels available has been steadily increasing, the number of channels watched by an individual has also been increasing but at a much slower rate. Currently, the average individual watches 10 to 15 channels per month (Danaher & Balnaves 2002; Garland 2002). However, the limitations of sample sizes have made the measurement of the audiences of small-share and niche channels less precise. In order to compensate for this problem, a range of low-cost metering technologies are being developed that can be used in large-scale samples or smaller customised samples for more specific applications. In future, these metering devices could make it possible for pay television services to conduct their own metering independent of national peoplemeter panels in future.

Time shift viewing

Video recorders (VCRs) have been in use for more than two decades. When firstly introduced, VCRs presented audience researchers with one of the most complex measurement problems (Danaher & Balnaves 2002; Garland 2002). They were initially gnored with the result that television viewing was underestimated. However, the more sophisticated modern peoplemeter can now pick the fingerprinting of programmes that

are recorded up. When they are played back, the peoplemeter can register the date, time and channel. In doing so, the additional audience for programmes and commercials is registered.

Another problem that confront media researchers is the possibility of "channel switching" made possible by remote control devices and the practises of "zapping" (fast-forwarding advertisements when watching recorded programmes) and "time shifting" (the possibility to move back to the beginning of a programme while it is broadcast) enabled by Personal Video Recorder (PVR) satellite decoders. Although PVR penetration is currently relatively low, it is believed that their use will grow rapidly when they are delivered as integral components of digital decoders. Agreements between the operators of PVR technology and major audience measurement organisations are, however, already in place to ensure that time shift activities could be captured from PVR devices.

The enhanced viewer

Digital television platforms allow viewer to enrich their television experience through features such as interactive television games (e.g. trying to answer quiz questions before the participants in the studio) or obtaining further information on programme or commercial contents (e.g. particular information about a rugby or soccer player or details about a new car). Broadcasters and platform operators are still learning on how these capabilities can engage the television viewer (Garland 2002). It is believed that an engaged viewer will spend more time with a programme or channel. However, in order to understand interactive behaviour, it is necessary to be able to collect interactive data by means of peoplemeter technology. In order to do so, research organisations need access to decoder technology. Co-operation with the manufacturers of digital decoders for a particular country is consequently necessary to ensure that it will be possible to identify and capture interactive television activity.

The conclusion can be drawn that with the advent of a variety of digital television platforms, it will not be possible to achieve comprehensive measurement of television audiences in the 21st century without significant investment in measurement science, measurement technology and industry partnerships (Garland 2002). It furthermore needs to be kept in mind that metering technologies on their own cannot fulfil in all the information needed by the television and advertising industries. As already indicated, meters can seldom provide in information on attitudes and psychographics. Therefore most countries currently use a combination of peoplemeter methdodology with more traditional methods such as surveys to obtain a wide spectrum of information on television audiences. The discussion of media measurement in South Africa should shed more light on how methodologies are combined.

[radio audiences]

12.8.2 Measuring radio audiences

The unique nature of the radio as a broadcast medium presents problems to audience research which are in many ways not only different to researching television audiences, but also make it relatively more complex and difficult (Twyman 1994). It is, in fact, the advantages of radio as a medium − the fact that the medium is

mobile and allows people to go on with their daily activities instead of requiring everything to come to a standstill − that make it difficult to measure radio listening:

- The way memory works make it difficult to recall radio listening. Normally, past events are retrieved from memory more easily if they are linked with some kind of association. These associations (also called "codes" or "labelling") link to the time and place that the event occurred, the uniqueness of the event, and habitual behaviour. However, as radio listeners are often mobile, as listening is often more casual than habitual and as radio programmes are often of an ongoing nature and not unique (eg. The morning and late afternoon programmes), it becomes difficult for people to code and thus to retrieve radio listening.
- It is also more difficult to identify the radio station listened to. Radio stations therefore need to establish a particular identity over and above their programme material and to repeat the name and/or identity of the station at regular intervals to ensure that people realise to which station they are listening.
- Radio listening often serve as a type of "companion" to other concurrent activities such as performing household tasks, driving to work, doing homework, and so forth. This is in stark contrast to other media such as television, film and print media where media behaviour is much more purposive (eg, a person plans to watch a particular television programme, goes to the cinema deliberately to see a particular film or buys a particular newspaper to read), involves being in the right place at the right time (sitting in front of television when a programme is broadcast and/or being at a cinema when a film is showing) as well as abandoning all other activities. Defining "listening" in the case of the radio consequently becomes very subjective. In the absence of clear defining criteria, people can exclude certain categories of radio listening. Research indicate, for example, that respondents tend NOT to report radio listening if they were doing something else at the time, were not paying full attention and/or when they themselves did not control tuning decisions (eg, somebody else turned the radio set on).
- As radio is a mobile medium, a lot of listening happens outside the home. It is consequently not really feasible to capture radio listening by means of household meters.

The following techniques are employed in measuring radio audiences (Twyman 1994):

- Systematic recalls and coincidentals as discussed in section 10.7.1.
- Surveys in which respondents are questioned with regard to what they usually listen to, when they usually listen and how often they listen to particular programmes, namely their radio listening habits.
- Diaries as discussed in section 10.7.2.
- Metering – As already indicated, audio metering was introduced before its applications for television. However, the growth in radio mobility (eg, the development of car radios, the explosion in the availability of small portables) and the rise of multi-set ownership led to the demise of these systems of radio metering. PPMs, on the other hand, could be employed in metering radio listening.

Various studies have been conducted to compare different techniques in measuring radio audiences. In most of these studies data obtained by means of coincidentals were taken as the standard to which the quality of data obtained by means of other techniques were compared (see section 10.7.1). A series of North American studies indicated that the exact way in which these techniques are applied, in interaction with local conditions, determine the levels of listening reported. An overview of research studies bring Twyman (1994) to the conclusion that levels of reported radio listening is depressed (lower) when compared to the standard where:

- There is sole reliance on memory and recall techniques such as in questionnaire surveys and systematic recalls.
- The reporting of radio listening needs to compete with other media – due to the purposive nature of other media such as television, radio listening is often overlooked when it happens parallel with other activities, is accidental or imposed by other people. If diaries are used to record radio listening, it is consequently better not to include other media also.
- There is less intensive questioning. In research conducted in Germany as reported by Franz (in Twyman 1994) recall techniques yielded similar results than diaries when respondents were required to reconstruct their previous day in great detail, recalling all activities and not only radio listening. This study demonstrates that if sufficient care is taken to reconstruct memory by means of intensive interviewing, then the responses on recalls can match the levels obtained by diaries and/or coincidentals.
- Questioning focuses on "usual habits". The problem is that radio listening is often casual and not based on habit to the same degree as television where people often follow a series or serials.

The conclusion can be drawn that the strength of radio as a broadcast medium of being receivable in a variety of contexts makes research difficult. Researchers therefore need to work harder and probably need to use a variety of methods such as intensive interviewing and diaries designed especially for radio to measure radio audiences. The potential of new technological developments such as PPMs that can recognise radio signals still need to be fully explored and researched.

[print audiences]

12.8.3 Measuring the audience of print media: newspapers and magazines

Similar to most other media industries, editors and organisations involved in the publication of newspapers and magazines operate in two markets. The first is the market for the selling of copies. With regard to this market, readership data provide editors and circulation departments with information on the relative "success" of the publication in attracting the size and profile of the audience aimed for. The second is the market for selling advertising space. As much as 70% of the revenue of newspapers and magazines might rely on selling advertisement space. Here also, readership estimates have become the "currency" for the trading of advertising. There is consequently similar pressure on the print industry as on the broadcasting industries for detailed, valid and reliable readership data.

Most readership research focus on two issues (Brown 1994):

- The audience size of a newspaper or magazine is usually measured in terms of the *average issue readership*, that is the number of different people that reads a particular issue averaged across issues (coverage). Here it is important to point out that each copy of a particular issue could potentially have several readers.
- It is, however, insufficient to categorise people either as readers or non-readers of a particular newspaper or magazine. It is also necessary to establish the regularity or frequency of their reading (frequency). Frequency is usually indicated by the *probability* of contact with a particular issue. Frequency will usually correlate with other features of the audience. It will, for example, be more likely that people who purchase or subscribe to a particular newspaper or magazine would be regular readers. Frequent readers are furthermore more likely to read the contents more thoroughly and intensively – an important reason why frequency is often given more weight in estimating readership.

Readership research is confronted with a number of unique problems related to the nature of the medium (Brown 1994):

- More than for any other medium, defining "reading" is difficult, highly controversial and often differs from method to method and from study to study. Reading can vary along a wide spectrum from a cursory glance taking notice of headlines to thorough perusal of a publication that takes a considerable period of time and leads to the transfer of the contents to the reader's mind. Readership estimates are heavily dependent on the operational definition of reading. The tighter the definition (ie, the more intensity of reading is required), the lower reader estimates would probably be.
- There are a number of factors that can be measured which are predictive of the intensity of reading: the source of a copy (bought copies would probably be consumed more intensely than copies passed on or casually encountered ones); the context of reading (in-home reading may be more intense than reading while commuting, at a hairdresser, a doctor's consulting rooms, etc); the time and circumstances of reading (reading during lunch hour may differ from reading in bed at night); total time spent with an issue; the total number of times an issue is picked up; and/or the proportion of the issue which is read or looked at.
- In estimating print media audiences, the focus falls predominantly on an *issue* or issues of a particular newspaper or magazine and not on particular sections of the contents such as the editorial page or an advertisement. When readership estimates therefore speaks of "issue readership" it does necessarily imply thorough reading of particular sections or taking notice of a particular advertisement. Readership data is mostly also not concerned with communication effectiveness with regard to any sections of the contents.
- Many reading events are casual and not particularly memorable. That is in particular the case with publications that are read infrequently, irregularly and/or accidentally. Most people can recall

habitual behaviour very well such as the name of the newspaper delivered to their doorstep that they read every morning. It is, however, more difficult to remember the name of a magazine read at a hairdresser that one does not usually buy and/or read.

- Whereas coincidentals usually serve as yardstick or standard against which other television and radio audience estimates are compared, no such yardsticks exist for evaluating the quality of readership data. It is important to note that circulation figures can never be used to represent the total audience as many copies would have multiple readers.

In the absence of electronic metering devices for measuring readership, readership research is mostly dependent on more traditional research methodologies and techniques (Brown 1994):

- Face-to-face interviews – Both qualitative (see chapter 12) and quantitative interviews are employed in readership research. However, it is seldom possible to involve adequately representative samples in the case of qualitative interviews. Structured questionnaire interviews are consequently employed to obtain comparative national data for the most important publications published in a particular country. Personal interviewing conducted by fieldworkers – whether qualitative and/or quantitative − hold several advantages in readership research. As it is sometimes difficult for respondents to identify the publications that they read correctly, a personal interviewer can prompt a respondent visually by means of carrying the necessary field materials (eg, copies of the publications, pictures of mastheads, and so forth) around with them.
- Questionnaire surveys – as already indicated, various types of surveys have become commonplace in readership research. Although telephone surveys are widely used in the USA and Europe, they have limitations in developing countries (see chapter 13). With regard to the question formats in surveys, it is important to remember that completely unstructured, open-ended questions such as "What do you read?" generally lead to considerable underreporting of reading. It is therefore common practice to prompt respondents by providing a list of the publications to be covered, by illustrations of their logos or mastheads, by examples of their covers or even by complete issues (where a limited number of publications are covered). Brown (1994) regard the aids used to prompt readers as critical to the quality of data obtained in readership interviews. However, when readers have to self-complete questionnaires, there can be no guarantee that each of the newspapers/magazines on the list will be given balanced and equal attention.
- Readership surveys are associated with a number of techniques, namely:
    - "Through-the-Book" (TTB) − this is one of the oldest techniques, but is currently in limited use. The technique involves that interviewers show respondents a particular issue of a newspaper or magazine, taking them through it page by page and prompting them whether they have read particular key articles. The original technique has undergone some changes. Due to the need to cover multiple publications, interviewers nowadays often use "skeleton" issues containing only a small portion of the full issue. Also, filtering has been added.

Typically, a respondent is given reproductions of the logos of publications on small cards that need to be sorted in groups comprising the ones they have or have not read in the past year.

- "Recent reading" (RR) − this technique is different from TTB in the sense that it relies on respondents recalling of having read any issue of a particular publication rather than on the recognition of a particular issue. Respondents are prompted for each of number of newspapers or magazines, either by naming them, or generally, by using visual material with their logos or mastheads. A key question or series of question is repeated for each publication to establish when the respondent has last read or looked at any issue.
- "First Reading Yesterday" (FRY) − respondents are questioned on the newspapers and magazines that they saw "yesterday", that is the day before the interview. In follow-up questions respondents can be asked whether the newspapers and/or magazines encountered on the particular day were seen or read for the first time and/or whether they are seen/read regularly.

- Where media research has to cover a large number of publications such as in national surveys, the media lists can contain tens or even hundreds of publications. In such cases "order effects" could become a source of error. Publications higher on the list will have a greater chance of being chosen than those lower on the list. This problem is conventionally addressed by administering a readership questionnaire in a number of different, balanced orders amongst different sub-samples.
- Many newspapers and magazines conduct readership surveys by enclosing a questionnaire in one or particular issues of the publication. Although such surveys cannot be employed to estimate general readership estimates, they can be useful to establish the reading and/or appreciation of particular sections of the publication. However, the problem is that such questionnaires are generally completed by the person who originally "owns" the copy, that is the person who bought or subscribed to the publication. Little or no information will be obtained from additional readers to which the copy is passed on, although they might represent a sizable portion of the readership.
- Readership diaries – similar than for radio and television, a sample of respondents can be requested to maintain day-by-day records on which publications they saw and/or read. The strength of diaries is that they provide a longitudinal record of a person's reading over a continuous period of time. Regularity and frequency of contact with particular publications may thus be estimated with greater accuracy than when recall techniques are used.

Similar to the quest for a passive peoplemeter, readership researchers are contemplating the idea of "passive" systems of measurement that will not require respondents' voluntary cooperation and will make researchers independent of the veracity of data offered by respondents (Brown 1994). The analogous system for readership research would be one that could "sense" proximity to a particular title or issue and capture the data. Such systems have already been proposed to the industry and have proved to be workable. All of

them involve the insertion of a micro-thin chip in the pages of publications. However, in order to be effective in measuring comparative readership figures for a country, the micro chips need to be inserted in each and every copy of each publication printed in the country. The flexing of pages when a publication is read, will then evoke an ultrasonic signal that can be picked up by electronic metering devises similar to PPMs. However, although the designs and patents already exist, the funding for such projects is generally still lacking. Here also questions can be asked regarding the quality and intensity of reading that will be picked up by electronic devices.

[cinema audiences]

12.8.4 Measuring cinema audiences

Since its emergence as a commercial medium at the beginning of the 20th century, cinema has captured the hearts of audiences all over the word (Chilton & Butler 1994). However, whereas going to the cinema used to be the social event of the week, cinema lost its grip on audiences with the advent of television in the 1950s. Since the mid-1980s, however, cinema regained some of its popularity due to sustained efforts to produce quality films and investment in new and refurbished cinema venues. This revival has also boosted cinema advertising revenue. The more so as research has indicated that recall of advertisements is better for cinema than for television.

Chilton and Butler (1994) name the following industry sectors that are interested in data on cinema audiences: cinema advertising contractors and their clients (cinema advertising time can be sold only if information on the audience is provided); cinema distributors (when launching a new film, information of the audience of other similar films is helpful; they also want to track the progress of new films); cinema exhibitors (they need to know how a particular venue and films are doing); video distributors (the popularity of films at the cinema would probably also determine their popularity as videos). One can also assume that the managers of television channels would also be interested as the popularity of films at the cinema as well as the composition of audiences of particular films would also determine decisions on the broadcasting of films.

The following methods and techniques are employed in measuring cinema audiences (Chilton & Butler 1994):

- Cinema admissions – Cinema is in the fortunate position that measuring exposure to cinema is much easier than for most of the other media. People actively choose to go to the cinema and need to purchase an admission ticket. It is therefore possible to obtain exact admissions data, that is information on the size of the audience. However, admissions data provide information on how many people go to the cinema, but not on the composition of the audience, that is the demographic characteristics of cinema audiences.
- Audience composition – Questionnaire surveys are the acknowledged method to conduct research on the composition of cinema audiences. Questions on cinema-going are usually included in largescale national surveys and focus on the following: frequency and recency of cinema-going as well as information on the particular films that respondents recently saw.

- Audience by film − Apart from information on the composition of cinema audiences in general, information on the audiences of particular films is also needed by both the advertising and cinema industries. There are manifold reasons for this need. Child audiences are, for example, more important and more active during school holidays. Advertising packages are furthermore planned for particular audiences. Advertisements for alcoholic drinks and cigarettes are, for example, not included where it is expected that more than 25% of the audience will be under the age of 18 years. Again, social surveys are the preferred method for obtaining information on audiences per film. Respondents can be requested in an open-ended question which films they recently saw. A list of films can furthermore be provided and respondents can be probed for each film whether they saw it or not.

The conclusion can be drawn that cinema is in many instances a unique medium (Chilton & Butler 1994). Cinema-going has, for example, a sense of occasion that is different from the habitual viewing associated with, for example, radio and television. Indications are that the impact of cinema – and therefore also the impact of advertising that accompanies the showing of a film – could differ from the other media. Cinema is therefore not only important for the recreation industry, but could also play an important role in information and advertising campaigns. Research into cinema audiences should therefore take its rightful place next to the other media.

[outdoor media]

12.8.5 Measuring outdoor media

Outdoor posters are seldom reckoned when the mass media are considered. However, Bloom (1994) points out that outdoor media is not all about advertising, but also play an important role in governmental and other information campaigns (eg, the *Living positively* campaign against HIV/AIDS). The number of large poster panels along major urban roads is but one indication that outdoor media still have an important role in communication with the public. However, as outdoor posters are not imbedded within entertainment media, people's contact with them is usually casual and unintentional. As they are also not consciously used like other media, people often have difficulties to recall the posters that they saw. Research on outdoor media are furthermore complicated by the fact that posters can be scattered over numerous − even hundreds and/or thousands − of locations all over a building, city and/or country. However, major agencies involved in information and advertising campaigns do have the need for a scientific approach towards estimating poster audiences to provide a scientific basis for campaign planning.

According to Bloom (1994), poster audience research differs from country to country due to the funds available and the research tradition that developed in a particular country. In many European countries, audiences for posters are measured in terms of the number and frequency of people that pass the sites where the posters are displayed as well as whether posters are well-positioned for visibility to create opportunities for passersby to see them. Cover and frequency are often estimated on information about the travel habits of a probability sample of inhabitants. The geographical area involved may be a town, city and/or larger area, even a country as a whole. Typically, respondents are questioned about their journeys in the recent past − the

previous day, the last few days or the latest week. Some kind of prompts such as street maps or illustrations of places can be used. Alternatively, respondents can be requested to record their journeys in a diary format. The technique can be applied for a particular campaign or for all posters displayed in a particular area in general. It has to borne in mind that the longer the period, the larger the strain on memory. Also, the larger the area, the more difficult to apply the technique. The findings are matched with major poster sites and in this way the potential audiences for posters are estimated.

The Outdoor Site Classification and Audience Research programme (OSCAR) in the United Kingdom (UK) focuses on individual posters sites and poster panels (Bloom 1994). The programme has three elements: (a) a complete listing all important poster sites in the UK based on a detailed census and a classification of each site based on a number of site characteristics; (b) a visibility measure for all poster panels also based on a list of characteristics; (c) a model for estimating the vehicular and/or pedestrian audiences for each location. Audience measures are calculated by means of advanced statistical models. The variables that are considered are the number of people passing by a site on foot or per vehicle based on official traffic counts, the characteristics of a site as well as visibility measures of a particular poster panel obtained by fieldworker estimates. Similar studies had been done in the Netherlands. In Sweden, audience estimates are done on the basis of respondent claims in a postal survey of sites passed. In the United States of America (USA), measures of cover and frequency are also calculated on the basis of national surveys in which people have to indicate the average number of urban miles travelled per week in the recent past. Additionally, people are asked to trace their journeys on street/road maps. Official traffic counts are also regularly done for major roads and streets. In countries such as Canada, Italy and France audience measures are also mainly based on official traffic counts, while both surveys and traffic counts are taken into account in Ireland.

Research in various countries has revealed some enduring characteristics of poster audiences: men are more exposed to posters than women and the employed more than the unemployed. These findings reflect the extent to which different groups move about the streets − employed people are more likely leave their homes and move about streets and men are more likely to be employed than women. It has furthermore been found that posters are particularly good in reaching light television viewers. It seems to indicate that people who do not watch a lot of television, move more around road systems than heavy television viewers.

With regard to the current state and future of poster audience research, Bloom (1994) points to the fact that in some countries surveys play an important role, while only traffic counts are considered in others. Bloom holds the opinion that hybrid systems as used in the UK and Ireland are to be preferred above single-method systems. Traffic counts on their own can, for example, give an indication of potential audience size, but do not provide any information on audience composition. It is, however, difficult to integrate the information obtained from very different sources such as traffic counts, questionnaire surveys and/or fieldworker estimates. Elaborate multivariate systems such as OSCAR are also very expensive. Geographic information systems (GIS) could, however, simplify the mapping of poster sites. GIS systems furthermore hold the potential of the accurate tracking of the routes travelled by respondents. In doing so, the interview

load on respondents can be reduced. More fundamental research should, however, be done on visibility, that is the ability of pedestrians, drivers and passengers to see designs on poster panels. In summary, the conclusion can be drawn that, although outdoor media are probably the "black sheep" when mass media are considered, research into poster audiences is nevertheless an exciting and challenging field.

[internet audiences]

12.8.6 Measuring internet audiences

According to Webster and Lin (2002), the visiting of an internet website can be thought of as a kind of mass media behaviour similar to reading a particular newspaper, choosing a particular television and/or programme to watch and/or listening to a particular radio station. The Internet is, indeed, a mass medium. As such, measures of audience size and audience duplication are also relevant. Similar to the broadcasting and print media, the internet also depends on audience ratings and indicators of audience size to sustain its operating costs. Sheer audience size is furthermore an indicator of the medium's cultural significance and its potential effects on society. Audience duplication, on the other hand, indicates a form of cumulative behaviour that reflects aspects such as frequency of exposure, audience flow and audience loyalty. These are furthermore indicative of patterns of exposure on the longer term as well as the intensity with which people use different websites. Both measures are important to both programmers and advertisers – the more so as the divisions between the internet, broadcasting and print media are fast diminishing due to media convergence.

According to Danaher and Balnaves (2002), there are currently two converging approaches to the measurement of internet audiences: a site-centric and a user-centric approach. In the site-centric approach, all internet traffic going through a particular server is monitored. For example, in the case of a university website, every time somebody goes to view it, the call to the server is logged and counted. It seems very simple. However, apart from the fact that this method does not provide any information on audience composition, there is a lot of bogus internet traffic out there. So-called "web crawlers", "web spiders" or "web robots" are put out by search engines to trawl the internet to find information on any new page that come on to the internet or the price of products on particular sites. These are, of course, not real people. There are also other tricks that are employed by website masters to manipulate the number of hits to their page. When a website contains a lot of graphics, the offloading of each graphic counts as a call. If two graphics are, for example, offloaded, two calls are registered.

In the user-centric approach, major global ratings companies are currently using internet measurement software as a data collection method (Danaher & Balnaves 2002; Webster et al 2006). This system is predominantly home-based. A selected panel of respondents − usually very large panels with several thousands of respondents − are requested to download software to monitor online web and other internet activities. When a panellist access their internet browser, a drop-down menu comes up with the name of each member of the household aged two or older. The panellist need to click his or her name off before he or she can start browsing the internet. This system is able to generate an overwhelming amount of

information on website visiting. A further advantage is that the demographic characteristics of household members are available.

The user-centric approach holds, however, some disadvantages. Privacy is a major concern as every web and/or internet activity is monitored with great precision. The software can only be installed on a computer with the approval of the owner(s). Many people may be reluctant to do so. In the end, there is a great chance that those who do agree to have the software installed may differ from those who do not wish it to be done. Furthermore, the presence of the monitor technology on computers might influence the choices that respondents make. Another problem is that a great volume of internet activity takes place at work. If companies are not willing to have the software installed, then truly random samples of internet users are not possible. There is furthermore such an overwhelming number of websites available that even for samples of several thousands of people only the most popular sites such as yahoo.com and msn.com will receive a substantial number of visits.

Thus the field of measuring internet audiences − perhaps more than is the case than of any other medium − is a minefield fraught with difficulties and pitfalls. However, as more and more money are spent on internet advertising, pressure is mounting on ratings agencies not only to provide in reliable measures of internet audiences for planning and decision-making purposes, but also to allow external auditing of their research processes to ensure the quality of their data (Klaaste sa). It can be assumed that the field of measuring internet audiences will be one of the most important growth and development areas in future.

12.9 AUDIENCE MEASUREMENT IN SOUTH AFRICA

It should have become clear from the previous sections that research into media audiences involves complex and expensive endeavours – the more so as research has to be conducted on an ongoing basis (Kent 1994). The high levels of precision and accuracy required by the interested parties also mean that audience research needs to be conducted according to the highest scientific standards. Research of this nature is so expensive that very few organisations would be able to afford it on their own. Also, if a number of organisations could be able to conduct research on their own, there would be a lot of duplication and the public could become research saturated.

Accordingly, the common practise in most countries − also in South Africa − is to set up joint research bodies that are responsible for commissioning, co-ordinating and overseeing research for all interested parties in the media and advertising industries (Kent 1994). Such a joint research body hold several advantages. It creates generally acceptable and commonly acknowledged data on media audiences that can inform decision-making and be used as "currency" in negotiations between interested parties. It furthermore avoids unnecessary competition between various research organisations as well arguments about the merits and demerits of competing methodologies and measures. There could, however, be disadvantages. It could be difficult to bring about change and to get new ideas and/or practises accepted.

In South Africa, broadcasting research goes as far back as 1945 when the research report *Report on Radio Listening in South Africa* was published (SAARF sa; Smit 2006; Van Vuuren 1994). This report focuses on the radio listening patterns regarding the radio services of the SABC at the time. The research was conducted by a private research organisation, South African Research Services. This report was followed by sporadic attempts to report on the readership of newspapers and magazines by way of surveys, mostly commissioned by the publishers themselves. These included some National Readership Surveys. The SABC had also been conducting, at its own cost, regular studies into radio audiences. With the introduction of television becoming imminent in the early 1970s, a small group of far-sighted persons from the marketing, media and advertising industries realised the need for a comprehensive, unbiased, reliable, regular and technically excellent research service into South African media audiences. Thus a joint research structure for measuring media audiences in South Africa, the South African Advertising Research Foundation (SAARF), was created.

[SAARF]

12.9.1 The South African Advertising Research Foundation (SAARF)

SAARF was created in 4 December 1974 with the aim of providing an overarching research service to the media and marketing industries in South Africa (SAARF 2004; Van Vuuren & Maree 1999). Basically, SAARF provides a service to the media and advertising industries by conducting, promoting and sponsoring regular, comprehensive and continuous media audience and product usage surveys. SAARF is responsible for conducting SAARF AMPS® and RAMS® and also produces SAARF TAMS® reports. It furthermore strives towards continuously improving standards and methods in media and marketing research and to evaluate and validate existing and new methods in order to ensure the reliability, validity and credibility of the research results obtained by their various research initiatives. It furthermore conducts training to improve the effective use of the research results obtained by SAARF projects. In order to ensure that media and marketing research in South Africa keeps up to date with what is happening in the rest of the world, contact is maintained with international organisations involved in media and marketing research.

Among the founder members of SAARF count the most important media, advertising and marketing organisations in South Africa: the South African Broadcasting Corporation (SABC); the National Association of Broadcasters; Print Media South Africa (PMSA); Out of Home Media South Africa; Cinemark; The Marketing Federation of South Africa; The Association for Communication and Advertising (ACA, formerly AAA) and the Advertising Media Forum. Individuals, institutions, companies and corporations can apply for membership.

SAARF receives an annual endowment from two sources, a levy collecting agency as well as the PMSA. These bodies also support another important industry body, the Advertising Standards Authority (ASA). The bulk of its financing is obtained from an industry levy on advertising expenditure. This levy is collected by media owners on behalf of the industry.

SAARF is governed by a Board of Directors. The research projects conducted by SAARF is guided and overseen by a series of councils, while the Advisory Council is involved with all aspects of SAARF's

work. This Advisory Council consists of representatives of all the full members of SAARF as well as a number of research experts. The mandate of the Council is to advise the SAARF Board on which research should be undertaken and, when a research project has been approved, on the details of the study. Ad-hoc committees and study groups are furthermore formed when needed to perform specific tasks and/or to investigate particular issues. The actual research work is contracted out to independent marketing research organisations. SAARF itself operates with a limited number of permanent staff members.

Due to the co-ordinated research endeavours of SAARF, South Africa currently has a well-developed market and media research industry that endorses standards of best practise comparable to those in the rest of the world (Van Vuuren & Maree 1999). SAARF is also a founder member of the global forum for Joint Industry Committees (JICs). Something South Africa can be proud of is the fact that SAARF was depicted as a model JIC for the rest of the world at the founding meeting of the global organisation. The objectives of this forum are to exchange ideas, to learn from one another's successes and failures and to promote the formation of JICs in as many countries as possible.

[SAARF AMPS®]

12.9.2 SAARF All Media and Products Survey (SAARF AMPS®)

The most well-known product of SAARF is the **A**ll **M**edia and **P**roducts **S**tudy (AMPS® survey). SAARF (2004) depicts this survey as one of the most comprehensive single source surveys in the world. The concept "single source" implies that all media are covered in a single survey (Smit 2006). The AMPS®***)*** questionnaire not only covers media (television, radio, newspapers and magazines, cinema, outdoor advertising and the internet), but also products, services (eg usage patterns of financial and insurance services) and activities (eg activities to loose weight, exercise, buying patterns, travelling, etc) as well as demographic variables (eg age, education level, income, etc). In its current format, the survey yields extensive information on characteristics of users of the media, media consumption as well as data on their usage and purchasing behaviour regarding certain products, brands and services.

The AMPS® questionnaires are completed by means of personal interviews that are conducted at the homes of respondents making use of Computer Assisted Personal Interviewing (CAPI – see section xx.x). South Africa is only the third country in the world to make use of this method in audience measurement surveys. It is estimated that the first component of the questionnaire takes about 50 minutes to and hour to complete (Milne 2008). The second component consists of a self-completion questionnaire that interviewers leave behind. This component was added due to the fact that the measurement of products and brands has been neglected due to the time constraints imposed by a relatively long questionnaire. This component is also called Branded AMPS as the questions deal mainly with preferences for particular brands as well numerous activities and interests. The fact that the second component involves self-completion, makes the questionnaire more cost effective and reduces the time of interviews. However, SAARF (sa) emphasises that Branded AMPS is not a separate survey, but an integral part of the regular AMPS®) survey.

In 2008 SAARF AMPS® was conducted in two waves (Milne 2008). The first wave conducted from mid-January to June involves a national sample of 12400 respondents from 16 years or older from urban, semi-urban and rural areas. The second wave conducted from July to December involved a sample of 8600 respondents from urban and semi-urban areas (including large towns). In total, 21000 respondents were interviewed. SAARF plans to conduct two full waves of 12400 respondents each from 2009 − a total of 25000 respondents will thus be involved. Both waves will include urban, semi-urban and rural areas. A method of multistage area (cluster) stratified probability sampling is employed for the AMPS® surveys . The sample is pre-stratified by province (9 strata), community size (4 strata), gender (2 categories) and age (4 categories). One respondent is selected at every address, using gender and age to ensure a proportionate sample by these two variables. Inhabitants at mines and hostels and domestic workers are sampled differently in accordance with their gender composition.

The first AMPS® survey was conducted in 1975 (SAARF sa). Over the years this survey has changed and grown form a fairly modest endeavour to a comprehensive and highly sophisticated product. Although sometimes criticised when compared to similar surveys throughout the world, SAARF AMPS® is still of the highest quality. In 2007 the survey was audited by an independent international consultant, Erhard Meier, who found the study to be a well designed and well executed survey that compares well with international standards (Research 10 2008). The results of SAARF AMPS® serves as the official currency for the printed media industry and plays an important role in decision-making in the other media industries.

[SAARF RAMS®]

12.9.3 SAARF Radio Audience Measurement Survey (SAARF RAMS®)

The SAARF AMPS® surveys can only ask about radio listening in very general terms. However, users of audience data need to know for each station, for each day of the week, and for each quarter hour of the day, how many people were listening and what their demographics were (SAARF sa; Smit 2006). SAARF RAMS® is designed to provide in this need for more precise information on radio listening patterns. The survey makes use of radio dairies to provide detailed information on radio listening behaviour in addition to the information provided by SAARF AMPS®. The following aspects are covered (Research 10 2008):

- Radio stations listened to during the period of seven days
- Times listened to each station for each day of the week, for each quarter of an hour, for the 24 hours of each of 7 consecutive days
- Radio stations listened two in the past four weeks
- Three most preferred radio stations (in order of preference) - this is done as people are sometimes forced to succumb to the radio listening choices of other family members, especially in poorer families with only one radio set (Milne 2008)

- Non-listeners − Milne (2008) points to the fact that information on non-listeners is also important and it is therefore included

The same sample of respondents used for SAARF AMPS® is also used for SAARF RAMS®. However, a new procedure called "flooding" has been introduced in 2004, where all household members − in addition to the one selected for the SAARF AMPS® interview − are requested to keep a SAARF RAMS® Diary for one week (seven days). This procedure more than doubles the diary sample. The SAARF RAMS® Diary is left with the household members at the end of the SAARF AMPS® interview and collected a week later. Where some members of the family are illiterate or semi-literate, other family members and neighbours are requested to help them to complete the diary. However, according to Milne (2008), the SAARF RAMS® Diary does not require a high level of literacy to complete. Results are published every two months, six times a year and every reporting period covers the most recent two fieldwork periods on a rolling basis.

Critics point to the fact that the SAARF RAMS® data currently do not include information on the place of listening or mode of listening (Research 10 2008). So there is no indication whether people listen in their homes, in their cars, or elsewhere. Likewise, there is no indication whether listening takes place via radio, the internet, a cellphone or any other mode. As there is an increasing need for this kind of information in the digital age, these shortcomings should receive consideration in future.

[SAARF TAMS®]

12.9.4 SAARF Television Audience Measurement Survey (SAARF TAMS®)

Besides the information provided by SAARF AMPS®, peoplemeters are also employed in South Africa since the late 1980s to measure television viewing (SAARF sa; Smit 2006). SAARF TAMS® is able to measure the second-by-second television viewing of a representative sample of households with television and mains electricity in which TAMS® peoplemeters are installed. The SAARF TAMS® peoplemeters automatically register everything that occurs on one or more television sets and other equipment, such as VCRs or MNet decoders which may be attached to them. From 2001 digital satellite transmissions are also metered. The handsets furthermore make provision not only for the registering of the viewing of household members, but also for visitors.

Peoplemeters installed in a representative panel of approximately 1600 households across the country measure the television viewing behaviour of about 5000 individuals (Research 10 2008; Milne 2008). The panel sample is modelled according to the population (universum) of people watching television in South Africa as indicated by the SAARF AMPS® data. In 2008, the panel included 387 households subscribing to DStv and an additional 120 households subscribing to MNet. The data are automatically

transferred during the night from panel homes to a central computer every 24-hours via landline telephonic or other electronic links.

During the first years of SAARF TAMS®, large sections of the black population who lived in rural areas did not have access to electricity or landline telephones. Measurement of television viewing in these areas was consequently limited. By 2000, Eskom had expanded electricity supply to almost 80 percent of the country. In addition, technological developments have made it possible to transfer peoplemeter data also by means of GSM cellular phones or via Fastnet that transfers the data signal to a neighbouring house with a landline telephone from where the data is then offloaded to the central computer. These developments made the expansion of the SAARF TAMS® panel to rural areas possible.

SAARF TAMS® measures the television viewing behaviour of all panel household members from 7 years and older (Milne 2008). Currently, SAARF is piloting a project where children from the age of 4 years are included. As there is no forced rotation, households can stay on the panel as long as they want to. There is, however, a natural attrition rate of about 25 percent per annum. That means that approximately 25 percent of the panel households need to be replaced each year. AGB Nielsen Media Research is the private research organisation responsible for the organisation and upkeeping of the SAARF TAMS® panel. Households are continuously monitored to ensure full compliance of all household members. If necessary, they are counselled either by telephone or in person. Telephone coincidentals are furthermore undertaken from time to time to evaluate the quality of the data.

According to Chris Eyre, the executive director of AGB Nielsen Media Research who manages the SAARF TAMS® panel, they have a policy never to use incentives to recruit households to join the panel (Milne 2008). The reasons are that when a household joins the panel because of the incentives offered, they will tend to take advantage of the incentives, get what they need and then leave fairly quickly. In other words, they will not be committed to participating in the panel. When households are requested to join the panel, an appeal is made to the prospective household to help broadcasters in their choice of programming. They are told that their programme choices will in the end influence programme decisions. It appears that this line of reasoning is accepted well by panel households. A once-off payment of R100 is made to a household when they join the panel. However, as this amount has not changed over the last six years, it could hardly serve as the dominant incentive for joining the panel. (An annual amount of R1140 is paid to DStv households because it is difficult to recruit up-market households.) The name of panel members are, however, entered into prize draws from time to time. SAARF furthermore undertakes to fix any television viewing equipment of panel households if these break down to a maximum of R400. This is done as broken equipment implies that the data from the particular household will be lost for a particular period of time.

[SAARF OHMS]

12.9.5 SAARF Out of Home Media Survey (SAARF OHMS)

In addition to the AMPS® data on outdoor media, SAARF OHMS represents an attempt to provide the media, advertising and marketing industries with data comparable to the peoplemeter data for television to plan outdoor campaigns (Milne 2008; SAARF 2008) . SAARF worked with Nielsen Media Research in the USA and South Africa to become the first JIC to pilot a new methodology that could evolve into an international currency for outdoor advertising.

The OHMS device, called the Npod, is a small pocket-size device for the measuring of outdoor media. It makes use of GPS satellite methodology to track not only outdoor media passed, but also the speed with which the respondent is travelling as well as the route taken. The device also measures "opportunity to see" defined by the pre-defined visibility zone of each outdoor media site. It can be installed on the dashboard of a vehicle or be carried around by pedestrians. A sample drawn from adults with mains electricity − a subsample of the AMPS® sample − has to take the device everywhere with them for a period of nine days. The data is stored on a memory card and downloaded electronically. At the end of the nine days the respondents also need to complete a questionnaire in which they have to indicate for each day whether they left their homes, how much time they spent travelling and whether they took the Npod with them. The data is overlaid with data on outdoor media sites obtained from Out of Home Media South Africa (OHMSA) in order to measure the audience size for various sites.

Since it roll-out in Gauteng and KwaZulu-Natal in 2006, the Npod device has since also been tested in Frankfurt, Germany and is also in use in the USA. The first South African results were released in January 2008. The data indicated a strong year on year growth in exposure to outdoor media. The conclusion can be drawn that the importance of outdoor media, and therefore also the measurement of exposure to outdoor media, are increasing in importance.

[SAARF LSM™]

12.9.6 SAARF Universal Living Standards Measure (SAARF LSM™)

During the 1980s, audience researchers and marketers used to categorise the population into rural and urban segments (Research 10 2008). However, it became evident that the differences between rural and urban markets were fast disappearing and the need for a new segmentation tool became clear. SAARF consequently embarked on a project to develop a combined measure that would be able to distinguish between respondents on the basis of their living standards rather than any single demographic characteristic (SAARF 2004). By using advanced multivariate statistical techniques, such a measure was developed in 1988 and fine-tuned in 1989 − the SAARF LSM™. This measure was again reviewed on the basis of the SAARF AMPS® 2000A data in order to test a number of new variables included in the survey. The result

was that 4 of the initial list of 20 variables used in the construction of the SAARF LSM™ were dropped and being replaced by new variables. However, in order to make the SAARF LSM™ more useful, a new SAARF Universal LSM™ was developed from the AMPS® 2001A data. This new index is based entirely on household variables that were expanded to a list of 29 variables. These variables are statistically ranked according to their discriminatory power. The SAARF LSM™ groups were also expanded from 8 to 10 SU-LSM® groups − 1 (lowest) to 10 (highest). Currently the following variables are employed in distinguishing between the 10 SU-LSM® groups:

Table 2 Variables included in development of SAARF LSM™ groups

1	Hot running water	16	Less than 2 radio sets in household
2	Fridge/freezer	17	Hi-fi/music centre
3	Microwave oven	18	Rural outside Gauteng/W.Cape
4	Flush toilet in/outside house	19	Built-in kitchen sink
5	No domestic in household	20	Home security service
6	VCR	21	Deep freezer
7	Vacuum cleaner/floor polisher	22	Water in home/on plot
8	No cell phone in household	23	M-Net/DStv subscription
9	Traditional hut	24	Dishwasher
10	Washing machine	25	Electricity
11	PC in home	26	Sewing machine
12	Electric stove	27	Gauteng
13	TV set	28	Western Cape
14	Tumble dryer	29	Motor vehicle in household
10	Home telephone		

Source: SAARF sa

The SAARF Universal LSM® represents a unique means for market segmentation in South Africa for both the media and advertising industries. It cuts across race and other ways of categorising people on the basis of single demographic variables. As it is a multivariate segmentation tool constructed from 29 individual variables, it is a much stronger differentiator than any single demographic variable such as gender or race. Particular kinds of media, goods and services are used by the various SU-LSM® groups (Van Vuuren & Maree 1999). The SU-LSM® groups are also increasingly employed for the segmentation of media audiences.

Most marketing campaigns are aimed at SU-LSM® groups 7 to 10 as these are relatively wealthy people with money to spend on consumer goods (Van Vuuren & Maree 1999). However, a politician wishing to convince people to vote for his party will need to take special notice of SU-LSM® group 1. This category comprises the poorest of the poor − about 4,5 million people. Research shows that none of these people have

appliances such as stoves or geysers, but about 82% have access to a radio. Their top four needs are access to clean drinking water, electricity, roads and job opportunities. Any communication campaign to reach this group will need to take these factors into account.

SAARF was awarded the prestigious AAA "Media Innovator of the Year" award in 1993 for the development of the SAARF LSM groupings and the contribution that this measure makes toward market segmentation in South Africa. The SU-LSM® measure has furthermore been implemented in some African countries as well as in India and Russia. The SU-LSM® measure is re-calculated on a continuous basis to make provision for change. An illustration of the use of the SAARF LSM groupings in media research is found in the case study discussed in section 10.10.

[SAARF MGM]

12.9.7 The SAARF Media Groups Measure (SAARF MGM)

The SAARF MGM was developed as a segmentation tool to be used in addition to the SAARF SU-LSM® (Research 10 2008). . A major reason behind the initiative for developing the MGM was the realisation that when the SAARF SU-LSM® are used for media scheduling, without taking media-related variables into account, the risk exists that existing and potential consumers could be excluded. A broader approach than using merely the SAARF SU-LSM® was consequently required. A further motivation was the desire expressed by the Government to be able to reach as many people in the entire population and across the whole country in the most cost effective manner and thus, the need to identify media that could optimally achieve this objective. Thus the SAARF MGM aims to assist people to identify the best media to reach large groups of people. The measure comprises the following eight groups (Research 10 2008:32):

MGM1 – extensive exposure to radio (particularly public service broadcasting) and some exposure to television, outdoor media in stores and on billboards and, to a lesser extent, on buses and taxis.

MGM2 − high exposure to radio, though lower in comparison with MGM1 as other media come into play such as increased exposure to television; outdoor media follow a similar patterns.

MGM3 − limited Average Issue Readership (AIR) of newspapers and magazines; radio listening is at a high level; greater exposure to television; exposure to all forms of outdoor media, but limited exposure to posters on taxis and buses.

MGM4 − similar exposure to radio, television and outdoor media than MGM3, but improvement in the readership of newspapers and magazines.

MGM5 − exposure to radio and television shows a further increase; readership shows a considerable increase; also extended exposure to outdoor media.

MGM6 − high exposure to radio and television; growing interest in print culminating in enhanced reading of weekly and monthly magazines; increasing levels of urbanisation result in inclusion of moving outdoor media (buses, trailers and trucks).

MGM7 − evidence of some cinema and internet consumption; print media rises further; exposure to radio and television remains high; continued growth of all types of outdoor media.

MGM8 − exposure to television is at its highest and exposure to radio at its second highest (next to MGM1); more exposure to outdoor media as a result of greater mobility; higher income and discretionary spending give access to the full range of media options; cinema and internet consumption at their peak.

12.10 CASE STUDY: PEOPLEMETERS DETECT POTENTIAL DISCIPLINARY PROBLEMS IN SOUTH AFRICAN SCHOOLS

The relevance of audience measurement data for academic researchers, as well as for disciplines outside the media and marketing industries, are illustrated by a study conducted by Van Vuuren and Gouws (2007) in which they made use of the SAARF TAMS® data obtained by means of peoplemeters for March 2006. In analysing the SAARF TAMS® data of 2005, they found that an estimated 145 640 South African children between the ages of 7 and 10 years were watching television during school hours. In follow-up analyses in 2006, even higher figures were recorded. The average AR for weekdays from 6 to 26 March 2006 during the time slot of 07:30 to 13:30 was 6.3. Extrapolated to the population of South African children between the ages of 7 and 10 years of age, an estimated 243 054 were to be found before their television sets during school hours (1 AR accounted for 23 580 children).

It can be assumed that a portion of the children who watched television during school hours had legitimate reasons for not being at school such as illness. However, this portion should be relatively small, not more than 2,5 AR's. Van Vuuren and Gouws (2007:11) provide the following demographic data from children watching television during school hours:

Demographic variable	%
Gender	
Male	60
Female	40
Age	
7-12 years	67
13 -10 years	33
Language	
Afrikaans	21

English	14
Nguni language group (Swazi, Ndebele, Xhosa, Zulu)	43
Sotho language group (South-Sotho, Northern-Sotho, West-Sotho)	22
SAARF LSM™ groups	
1-4	8
5-6	60
7-10	32

The following observations can be pointed out:

- More male than female children watched during the mornings.
- The younger age group represented about two thirds of the children watching during the mornings.
- The children were spread over all the language groups, but the largest percentage belonged to Nguni-speaking groups .
- A relatively low percentage of children from the low socio-economic groups were found to be watching in the mornings. The largest percentage came from the middle socio-economic groups, while the high socio-economic groups were also fairly represented. Due to the fact that the majority were from the middle and higher socio-economic groups, the conclusion can be drawn that more of them were living in urban rather than in rural areas.

Further analyses indicated that Mondays and Tuesdays were particularly problematic as the highest "absenteeism" figures were recorded for these days. Figures for Wednesdays were the lowest, but they started to build up again from Thursdays to Fridays. It was furthermore found that the children predominantly watched SABC1 and SABC2 during school hours and, in particular, the repeat broadcasts of three soapies: *The Bold and the Beautiful*, *Generations* and *Isidingo* and somewhat later the repeat of *7de Laan.*

Although the SAARF TAMS® data give a strong indication that there is a problem, the data cannot explain why the children were not a school. Van Vuuren and Gouws (2007) speculate that rapid urbanisation, the disintegration of traditional family systems and the existence of many single parent families are some of the factors that could play a role in the disciplinary problems indicated by the data. African children could furthermore feel alienated in the overwhelmingly Western culture of most public schools, especially private and Model C schools. Many township schools are also not functioning optimally. Due to the fact that parents work long hours, children also have little contact with their parents. Soapies might fulfil an important role in the lives of these children. They might be avoiding school due to poor performance and the soapies serve as escapism tools – the soapies create an imaginary world of warmth and friendship, that is a "virtual" reality that is much nicer than the actual reality of the children's lives.

This study illustrates some of the strengths as well as some of the limitations of audience measurement. The data obtained by means of peoplemeters could identify the trend that unacceptably

large numbers of South African children of a schoolgoing age are watching television during school hours. However, the data do not offer any explanations for this trend. Van Vuuren and Gouws (2007) can only speculate on possible reasons for the problem. Further research is needed to investigate the problem in depth and to come up with possible solutions to address the problem.

12.11 PROBLEMS, LIMITATIONS AND CRITICISM OF AUDIENCE MEASUREMENT

The discussions in this chapter indicate that audience measurement has become a highly sophisticated industry with an impressive arsenal of methodologies, technologies and techniques to its disposal. However, audience researchers are continuously confronted with new problems and challenges due to the ever changing media environment. The practise of audience measurement is furthermore widely criticised especially within academia (Ivala 2007).

Firstly, the nature of the audience is becoming increasingly more complex. Not many years ago most families had only one television and one radio set (Kent 1994). Today many households have more than one or several of each. Whereas listening and watching have traditionally been family or group related activities, these activities are increasingly becoming more individualised. People – and especially children – have, for example, television and radio sets in their rooms. Technological innovation is also having a huge impact on the audience. Radio listening has been expanded by car radios and personal radio/cassette players, while VCRs, PVRs and CD players have promoted control over television watching. Cable and satellite television as well as the deregulation and commercialisation of the media have furthermore extended the available choice of stations and/or channels. As mobile telephony and the internet have been added to the media mix, individuals can make use of web newspapers, web radio or web television thus intensifying media layering. People are also actively contributing to this complexity by mixing and integrating media, media sources and media activities. A person can, for example, read a newspaper, book or magazine, while listening to the radio or a MP3 track, casually following a cricket game on television and/or answering a call on his or her mobile phone. The question can be asked whether separate measurements of the audiences of various media still portray a realistic picture of media audience practises in the 21st century.

Continuous technological innovation has, however, succeeded in keeping audience research organisations abreast of some of the transformations in the media environment (Danaher & Balnaves 2002; Garland 2002; Kent 1994). PPMs, for example, can provide in the need for measuring the increasing individualisation of media behaviour. Peoplemeter technology have furthermore developed to capture multiple equipment per household and to be able to register cable, satellite and digital television. However, one of the most vexing problems that confront audience researchers today is the highly fragmented and rapidly-expanding choice of radio stations and television channels available (Kent 1994). In some countries hundreds of stations and/or channels are available. The financial size and "footprint" of a typical regional radio station is, for example, relatively small. This serves to restrict the sample sizes of listeners to particular regional stations in national surveys and makes it difficult to draw conclusions regarding their listenership.

Thus regional stations are hampered in competing for advertising revenue. The same problem applies to the multiple television channels available through cable and satellite broadcasting such as DStv. Although developments in inexpensive technology could make the independent metering of pay television possible, the impact for national audience measurement initiatives if some services or channels do their own research, need to be reckoned with.

The controversy regarding the conceptualisation of watching, listening, reading and/or visiting is also continuing (Ivala 2007). The more so as devices such as PPMs no longer require from respondents to consciously indicate that any of these activities have taken place. The question can, for example, be asked whether it can be assumed that hearing has really has taken place if a person moves into the vicinity of a radio set that is switched on and the audio code is picked up by a PPM.

In academic circles, audience measurement is sharply criticised in particular within the cultural studies and critical traditions. Critics hold that audience measurement practises lead to the creation of oversimplified, limited and static quantitative pictures of audiences in which averages, regularities and generalisable patterns are emphasised, while particularities, idiosyncracies and surprising exceptions are ignored (Ang, 1991; Ivala 2007). The audience measurement industry is also accused of being insensitive to alternative viewpoints of audiencehood. Audience measurement is furthermore accused of failing to highlight the vibrancy of audience behaviour and the variety of practises involved in being a member of the audience as well as the experiences of actual members of the audience and how meaning is produced through processes of media consumption. Audience measurement furthermore focuses on the media behaviour of individuals, while the cultural and social contexts in which individuals are integrated are ignored. In summary, audience measurement is accused of creating a limited and shallow view of the complexity of audiences and of being uncritical of the notions of audiencehood that it portrays.

12.12 SUMMARY AND CONCLUSIONS

The conclusion can be drawn that the measurement of media audiences is not for the fainthearted. Notwithstanding the rather impressive arsenal of methodologies and techniques that have developed over the years to capture audience behaviour, audience researchers are continuously confronted with new problems and challenges due to technological developments resulting in an ever-changing media environment. Criticism of audience measurement practises furthermore point to the fact that the results of audience measurement endeavours can never be regarded as the full and final answer on the quest for knowledge about media audiences. Knowledge produced through audience measurement practises should be enriched by being embedded within theoretical paradigms. Knowledge on media audiences should furthermore be expanded and deepened by research within alternative paradigms in which qualitative and participative methodologies are employed.

RESEARCH ACTIVITIES

1. You are the manager of the campus radio station of your university. Devise a diary which can be used to investigate the radio listening patterns of students. Ask five students to complete the diary for

seven days. Analyse the results and write a report to the management committee in which you make recommendations for the future operation of the station on the basis of the results of your study.

2. Plan an information campaign on child health aimed at young mothers of the SAARF MGM groups 1 and 2. Your campaign should aim to reach as many people as possible.
3. You are a research consultant for your campus newspaper. Develop a research plan for a readership study for the newspaper.

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