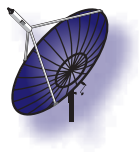the panel operators all form part of the research strategy. In addition, panel members who are suspected of poor performance should be targeted more specifically to establish whether there is a problem that can be rectified and then to remind the household members to perform their button-pushing tasks.

- 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 are registered, while nobody is registered to be viewing;
  - long viewing sessions, 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 use. It is, in reality, through 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 (e.g. 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 cooperate. It could also raise
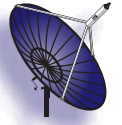
their awareness of their own viewing and, in the end, affect their viewing patterns. However, research has indicated that the task of providing views on programmes could serve as a motivational force that could encourage participation in the panel.

- 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 employed to make prompts relevant to panel members, such as the use of a 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 under-represent the television viewing of children. It turns out that young children especially are not conscientious button-pushers.
- As peoplemeters are installed in households 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 US 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 that 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.
- Peoplemeters 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 (e.g. 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.

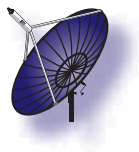- Peoplemeters are currently mainly restricted to measuring television audiences.

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 complete 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)

One of the most recent developments is that of portable personal meters (PPMs), which 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 cooperation of broadcasters, who need to embed 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):

portable personal meters (PPMs)

- No literacy is required.
- PPMs do not require any button-pushing. Once a panel member has remembered to carry the PPM with him or 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.

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- 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 device 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.

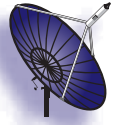However, PPMs also do not offer the final answer to audience measurement, for the following reasons:

- 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 risk of theft, PPMs are currently not regarded as suitable for use in South Africa.
- PPMs require cooperation from the media to embed the identifying codes.
- PPM samples need a higher turnover than household peoplemeter samples.
- PPMs may pick up signals from adjacent venues.

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

What does the future hold?

passive meters

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. Although PPMs come close, people still need to carry them around and need to remember to do so. The ideal passive
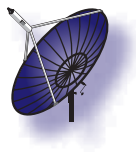
peoplemeter would be unobtrusive and able to detect exactly which people are in the audience.

Several attempts have already been made towards the development of passive meters (Buzzard 2002). In April 1998, R.D. Percy announced his peoplemeter service in the US. This involved 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 during 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 an electronic peeper in people's homes invoked privacy issues. It was also pointed out that the device needed further validation to eliminate the possibility that household pets might be counted as members of the audience. It was also 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 that 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, like 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 ever more advanced devices that will no longer rely on human memory and/or actions to provide precise audience information.

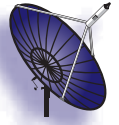## 12.8   MEASURING THE AUDIENCES FOR PARTICULAR MEDIA

12.8.1 Measuring television audiences

television
audiences

As already mentioned in the introduction to this chapter, the television industry has changed drastically with the introduction of commercial channels, which are heavily dependent on advertising sales. This has changed the television airtime market to one based on supply and demand. 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 make it ideally suited to the use of meters. Meters furthermore have the potential to supply 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 (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 – are 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 peoplemeter 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 than in the case of once-off interviews (as is the case for questionnaire surveys) – because they measure 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 (e.g. 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.

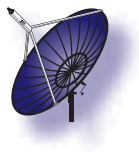However, due to technological advancement in recent years, the

well-established practice of metering television viewing by means of peoplemeter panels is facing a number of important challenges. These are outlined below.

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 will probably 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 is being pursued to minimise the button-pushing burden on panel members (see section 12.7.3).

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 coexist for a long time and that some television operators will fail to embed 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, Nielsen 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 database of all possible signatures. This combined methodology, patented worldwide by Nielsen, makes possible the identification of channel-specific viewing within an analogue, digital or mixed analogue-digital environment, even without the cooperation of operators.

Measuring increasing fragmented viewing

As the number of channels available has steadily increased, 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 for 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). These problems were initially ignored, with the result that television viewing was underestimated. However, the more sophisticated modern peoplemeter can now pick up the fingerprinting of programmes that are recorded. When these 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 confronts media researchers is the possibility of 'channel switching' made possible by remote control devices and the practices 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 viewers 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 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. Cooperation with the manufacturers of digital decoders for a particular country is thus necessary to ensure that it will be possible to identify and capture interactive television activity.
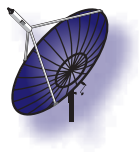
The conclusion can be drawn that, with the advent of a variety of digital television platforms, it will not be possible to achieve comprehensive measurement of television audiences in the 21st century without significant investment in measurement science, measurement technology and industry partnerships (Garland 2002). It furthermore needs to be kept in mind that metering technologies on their own cannot provide all the information needed by the television and advertising industries. As already indicated, meters can seldom provide information on attitudes and psychographics. Therefore most countries currently use a combination of peoplemeter methodology 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.

12.8.2 Measuring radio audiences

The unique nature of the radio as a broadcast medium presents problems of audience research that are in many ways, not only different to researching television audiences, but also 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 makes it difficult to recall radio listening.
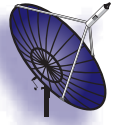
radio
audiences

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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, and listening is often more casual than habitual, and as radio programmes are often of an ongoing nature and not unique (e.g. 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 serves 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, where media behaviour is much more purposive (e.g. 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 indicates, 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 (e.g. 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 12.7.1;
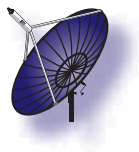- surveys in which respondents are questioned with regard to what they

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 12.7.2;
- metering – as already indicated, audio metering was introduced before its applications for television. However, the growth in radio mobility (e.g. 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 12.7.1). A series of North American studies indicated that the exact way in which these techniques are applied, in interaction with local conditions, determines the levels of listening reported. An overview of research studies brings Twyman (1994) to the conclusion that levels of reported radio listening are 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 to 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 needs to be fully explored and researched.
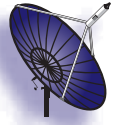
12.8.3 Measuring the audience of print media: newspapers and magazines

print
audiences

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 target audience. 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.
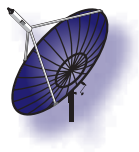
Most readership research focuses on two issues (Brown 1994):
- The audience size of a newspaper or magazine is usually measured in terms of the *average issue readership*, that is, the number of different people that reads a particular issue averaged across issues (coverage). Here it is important to 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):
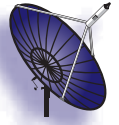
- More than for any other medium, defining 'reading' is difficult, highly controversial and often differs from method to method and from study to study. Reading can vary along a wide spectrum, from a cursory glance taking notice of headlines to thorough perusal of a publication that takes a considerable 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 (i.e. the higher the intensity of reading 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); 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 speak of 'issue readership', this 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 particularly the case with publications that are read infrequently, irregularly and/or accidentally. Most people can recall habitual behaviour very well: for example, 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.

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It is important to note that circulation figures can never be used to represent the total audience as many copies would have multiple readers.
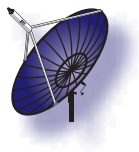
In the absence of electronic metering devices for measuring readership, readership research is mostly dependent on more traditional research methodologies and techniques (Brown 1994):

- *Face-to-face interviews* – both qualitative 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 – holds several advantages in readership research. As it is sometimes difficult for respondents to identify correctly the publications that they read, a personal interviewer can prompt a respondent visually by carrying the necessary field materials (e.g. 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 US and Europe, they have limitations in developing countries (see Chapter 10). 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 under-reporting of reading. It is therefore common practice to prompt respondents by providing a list of the publications to be covered or by showing illustrations of their logos or mastheads, examples of their covers or even complete issues (where a limited number of publications are covered). Brown (1994) regards 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 interviewers

showing respondents a particular issue of a newspaper or magazine, taking them through it page by page and prompting them as to 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 into 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 having read any issue of a particular publication rather than on the recognition of a particular issue. Respondents are prompted for each of a number of newspapers or magazines, either by naming them or, generally, by using visual material displaying their logos or mastheads. A key question or series of questions is repeated for each publication to establish when the respondent 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 whom the copy is passed on, although they might represent a sizable portion of the readership.
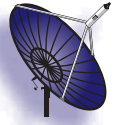
● *Readership diaries* – similar than for radio and television, a sample of respondents can be requested to maintain day-by-day records on which publications they saw and/or read. The strength of diaries is that they provide a longitudinal record of a person's reading over a continuous period of time. 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 microchip or radio frequency device in the pages of publications. However, in order to be effective in measuring comparative readership figures for a country, the microchips 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, would then produce an ultrasonic signal that could be picked up by electronic metering devices 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.

12.8.4 Measuring cinema audiences

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 world (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 has regained some of its popularity due to sustained efforts to produce quality films and investment in new and refurbished cinema venues.
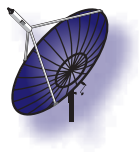
This revival has also boosted cinema advertising revenue. This is good for advertisers, as research has indicated that recall of advertisements is better for cinema than for television.

Chilton and Butler (1994) list 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 on the audience of other similar films is helpful; they also want to track the progress of new films); cinema exhibitors (who need to know how a particular venue and films are doing); video distributors (the popularity of films at the cinema will probably also determine their popularity as videos and/or DVD releases). 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 for 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 it is much easier than for most 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 large-scale 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 planned for particular audiences;

and advertisements for alcoholic drinks and cigarettes are, for example, not included where it is anticipated 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, to provide details on the films they have seen recently. A list of films can also be provided; for each film, respondents can be probed whether they saw it or not.
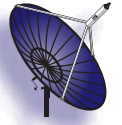
The conclusion can be drawn that cinema is in many ways a unique medium (Chilton & Butler 1994). Cinema-going has, for example, a sense of occasion that is different from the habitual listening/viewing associated with radio and television. Indications are that the impact of cinema – and therefore also 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.

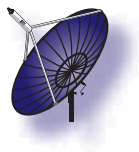### 12.8.5 Measuring outdoor media

outdoor media

Outdoor posters and/or billboards are seldom included when the mass media are considered. However, Bloom (1994) points out that outdoor media are not all about advertising, but also play an important role in governmental and other information campaigns (for example 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 embedded 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 have seen. Research on outdoor media is 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 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, based 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 previous week. Certain kinds 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 be borne in mind that the longer the period, the larger the strain on the 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 focuses on individual poster 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 and the characteristics of a site, as well as the visibility measures of a particular poster panel obtained by fieldworker estimates. Similar studies have 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, 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.
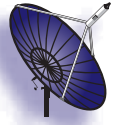
Research in various countries has revealed some enduring characteristics of poster audiences: men are more exposed to posters than women, and the employed more than the unemployed. These findings reflect the extent to which different groups move about the streets – employed people are more likely to leave their homes and move about the 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 do 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 simplify the mapping of poster sites and also hold the potential of accurately tracking 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.

12.8.6 Measuring internet audiences

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 in 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 pages that appear on 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 webmasters to manipulate the number of hits to their pages. When a website contains a lot of graphics, the downloading of each graphic counts as a call. If two graphics are downloaded, for example, 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 thousand respondents – are requested to download software to monitor online web and other internet activities. When a panellist accesses their internet browser, a drop-down menu comes up with the name of each member of the household aged two
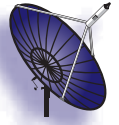
or older. The panellist needs to click his or her name off before he or she can start browsing the internet. This system is able to generate an overwhelming amount of information on website visits. A further advantage is that the demographic characteristics of household members are available.

The user-centric approach holds, however, some disadvantages. Privacy is a major concern, as every instance of 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 thousand people only the most popular sites such as yahoo.com and msn.com will receive a substantial number of visits.

Thus, the measurement of internet audiences is a minefield fraught with difficulties and pitfalls – perhaps more so than for any other medium. However, as more and more money is spent on internet advertising, pressure is mounting on ratings agencies not only to provide 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.
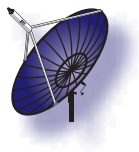
12.9 AUDIENCE MEASUREMENT IN SOUTH AFRICA

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 are able to afford it

on their own. Also, if a number of organisations were able to conduct research on their own, there would be a lot of duplication and the public might become research-saturated.

Accordingly, the common practice in most countries – including South Africa – is to set up joint research bodies that are responsible for commissioning, coordinating and overseeing research for interested parties in the media and advertising industries (Kent 1994). Such a joint research body holds 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 as arguments about the merits and demerits of competing methodologies and measures. There could, however, be disadvantages to such an approach: for example, it could be difficult to bring about change and to get new ideas and/or practices 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 focused on listening patterns of 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 also conducted, at its own cost, regular studies into radio audiences. When the introduction of television became imminent in the early 1970s, a small group of far-sighted people 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 was created for measuring media audiences in South Africa, and the South African Advertising Research Foundation (SAARF) was born.
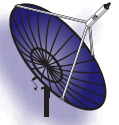
12.9.1 The South African Advertising Research Foundation (SAARF)

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®, RAMS® and OHMS and also produces SAARF TAMS® reports. It 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. Additionally, it 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 are 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 are guided and overseen by a series of councils, while the Advisory Council is involved with all aspects of SAARF's work. The 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 what 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 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.
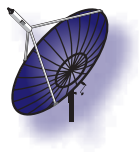
Due to the coordinated research endeavours of SAARF, South Africa currently has a well-developed market and media research industry that endorses standards of best practice comparable to those in the rest of the world (Van Vuuren & Maree 1999). SAARF is also a founder member of the global forum for joint industry committees (JICs). South Africa can be proud of 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.

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

The best-known product of SAARF is the All Media and Products Survey (AMPS®). 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 (e.g. usage patterns of financial and insurance services) and activities (e.g. activities to lose weight, exercise, buying patterns, travelling, etc.) as well as demographic variables (e.g. age, education level, income, etc.) and social attitudes. In its current format, the survey yields extensive information on characteristics of users of the media and media consumption, as well as data on their usage and purchasing behaviour regarding certain products, brands and services.

SAARF AMPS®

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 Chapter 10). 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
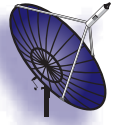
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of the questionnaire takes about 50–60 minutes to complete (Milne 2008). The second component consists of a self-completion questionnaire that interviewers leave behind. This component was added due to the fact that the measurement of products and brands had 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 as 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, involved a national sample of 12,400 respondents 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, 21,000 respondents were interviewed. SAARF plans to conduct two full waves of 12,400 respondents each from 2009 – a total of 25,000 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 (nine strata), community size (four strata), gender (two categories) and age (four 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 from 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® serve as the official currency for the print media industry and plays an important role in decision-making in the other media industries.

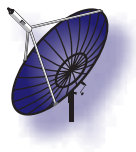### 12.9.3 SAARF Radio Audience Measurement Survey (SAARF RAMS®)

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 fulfil this need for more precise information on radio listening patterns. The survey makes use of radio diaries 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 seven consecutive days;
- radio stations listened two in the past four weeks;
- three most preferred radio stations (in order of preference) – this is done because people are sometimes forced to submit to the radio listening choices of other family members, especially in poorer households 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' was introduced in 2004, whereby all household members of 16 years and older – 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.
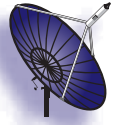
12.9.4 SAARF Television Audience Measurement Survey (SAARF TAMS®)

Besides the information provided by SAARF AMPS®, peoplemeters have been 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 M-Net decoders, that may be attached to them. From 2001, digital satellite transmissions were also metered. The handsets 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 (universe) of people in South Africa who have working television sets and mains electricity as indicated by the SAARF AMPS® data. In 2008, the panel included 387 households subscribing to DStv and an additional 120 households subscribing to M-Net. 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.
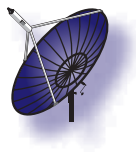
During the first years of SAARF TAMS®, large sections of the black population who lived in rural areas did not have access to electricity or landline telephones. Measurement of television viewing in these areas was consequently limited. By 2000, Eskom had expanded electricity supply to almost 80 percent of the country. In addition, technological developments have also made it possible to transfer peoplemeter data by means of radio frequency, GSM cellular phones or via Fastnet,

which transfers the data signal to a neighbouring house with a landline telephone from where the data is then uploaded to the central computer. These developments made possible the expansion of the SAARF TAMS® panel to rural areas.

SAARF TAMS® measures the television viewing behaviour of all panel household members from seven years and older (Milne 2008). Currently, SAARF is piloting a project where children from the age of four 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 upkeep 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 names 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 because broken equipment implies that the data from the particular household will be lost for a particular period of time.

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 US and South Africa to become the first JIC to pilot a new methodology that could evolve into an international currency for outdoor advertising.
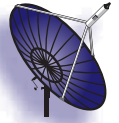
The OHMS device, called the Npod, is a pocket-size device for the measurement of outdoor media. It makes use of GPS satellite methodology to track not only outdoor media passed, but also the speed at which the respondent is travelling as well as the route taken. The device also measures 'opportunity 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 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 each 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 its roll-out in Gauteng and KwaZulu-Natal in 2006, the Npod device has also been tested in Frankfurt, Germany and is also in use in the US. The first South African results were released in January 2008. The data indicated 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, is increasing in importance.

[Typesetter: Insert picture of Npod about here — to be supplied by author]

Figure 12.3 The OMS device

Source: The Nielson Company

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 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 variables indicated in Table 12.2 are employed in distinguishing between the 10 SU-LSM® groups.

The SAARF Universal LSM® represents a unique means of 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
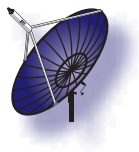
Table **12.2** Variables included in development of SAARF LSM™ groups

1	Hot running water	16	Less than two radio sets in household
2	Fridge/freezer	17	Hi-fi/music centre
3	Microwave oven	18	Rural outside Gauteng/Western 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 cellphone 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

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 has made 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 12.10.
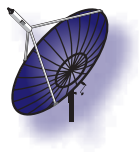
12.9.7 The SAARF Media Groups Measure (SAARF MGM)

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® is used for media scheduling, without taking media-related variables into account, there is an existing risk

SAARF MGM

that 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 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 follows a similar pattern.
- 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 as 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.
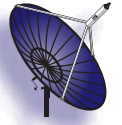
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12.10 CASE STUDY: PEOPLEMETERS DETECT POTENTIAL DISCIPLINARY PROBLEMS IN SOUTH AFRICAN SCHOOLS

The relevance of audience measurement data for academic researchers, as well as for disciplines outside the media and marketing industries, is 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 for 2005, they found that an estimated 145,640 South African children between the ages of seven 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 seven and 10 years of age, an estimated 243,054 were to be found in front of 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 ARs. Van Vuuren and Gouws (2007:11) provide the following demographic data from children watching television during school hours:

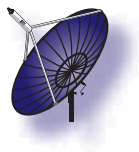| Demographic variable	%
Gender	
Male	60
Female	40
Age	
7–12 years	67
13–10 years	33
Language	
Afrikaans	21
English	14
Nguni language group: (Swazi, Ndebele, Xhosa, Zulu)	43
Sotho language group: (South Sotho, Northern Sotho, West Sotho)	22
SAARF LSM™ groups	
1–4	8
5–6	60
7–10	32

The following observations can be made:

- 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 socioeconomic groups were found to be watching in the mornings. The largest percentage came from the middle socioeconomic groups, while the high socioeconomic groups were also fairly represented. Due to the fact that the majority were from the middle and higher socioeconomic 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 at 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 also feel alienated in the overwhelmingly Western culture of most public schools, and especially in private and former 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 escapist 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.

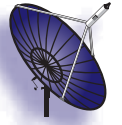This study illustrates some of the strengths as well as some of the

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 school-going 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.

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 at its disposal. However, audience researchers are continuously confronted with new problems and challenges due to the ever-changing media environment. The practice of audience measurement is also widely criticised, especially within academia (Ivala 2007).

Firstly, the nature of the audience is becoming increasingly complex. Not so long 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 an 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
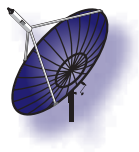
of various media still offer a realistic picture of media audience practices in the 21st century.

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 for the need for measuring the increasing individualisation of media behaviour. Peoplemeter technology has 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 confronts audience researchers today is the highly fragmented and rapidly expanding choice of radio stations and television channels (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 needs to be reckoned if some services or channels do their own research.

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 respondents to consciously indicate that any of these activities have taken place. It is legitimate to ask 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 practices lead to the creation of oversimplified, limited and static quantitative pictures of audiences, in which averages, regularities and generalisable patterns are emphasised, while particularities, idiosyncrasies and surprising exceptions are ignored (Ang 1991; Ivala 2007). The audience measurement industry is also
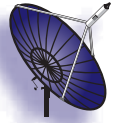
accused of being insensitive to alternative viewpoints of audiencehood. Audience measurement is furthermore accused of failing to highlight the vibrancy of audience behaviour and the variety of practices involved in being a member of the audience, as well as the experiences of actual members of the audience and how meaning is produced through processes of media consumption. Audience measurement furthermore focuses on the media behaviour of individuals, while ignoring the cultural and social contexts in which individuals are integrated. 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.

SUMMARY AND CONCLUSIONS

The conclusion can be drawn that, 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 and an ever-changing media environment. Criticism of audience measurement practices furthermore points to the fact that the results of audience measurement endeavours can never be regarded as the full and final answer to the quest for knowledge about media audiences. Knowledge produced through audience measurement practices should be enriched by being embedded within theoretical paradigms. Knowledge of media audiences should furthermore be expanded and deepened by research within alternative paradigms, in which qualitative and participative methodologies are employed.

LEARNING ACTIVITIES

1   You are the manager of the campus radio station of your university. Devise a diary that 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.

FURTHER READING

Beville, H.M. (Jr). 1988. *Audience ratings: Radio, television, and cable* (revised edition). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Kent, R. (ed) 1994. *Measuring media audiences*. London: Routledge.

Mytton, G. 1999. *Handbook on radio and television audience research*. London: UNICEF and UNESCO.

Van Vuuren, D. & Maree, A. 1999. Survey methods in market and media research, in *Research in practice: Applied methods for the social sciences*. Cape Town: University of Cape Town Press:269–86.

Van Vuuren, D., Maree, A. & De Beer, A. 1998. Mass media research: The quest for certain knowledge, in *Mass media: Towards the millennium*, edited by A. de Beer. Pretoria: JL van Schaik:391–422

Webster, J.G., Phalen, P.F. & Lichty, L.W. 2006. *Rating analysis: The theory and practice of audience research*. Mahwah, New Jersey: Lawrence Erlbaum.