A procedure for the elicitation of a script for the acquisition of household appliances within a consumer decision-making context

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OPSOMMING

Tekse/geskrifte vir gebeure soos 'n besoek aan 'n dokter, die bywoon van 'n lesing, eet in 'n restaurant en opstaan en gereedmaak vir skool is in die vroeë jare van die ontwikkeling van tekse saamgestel toe die bestaan van kognitiewe strukture, veral gebeure-skemata in die langtermyn geheue, sielkundiges se belangstelling geprikkel het.

Hoewel aankope in 'n kruidenierswinkel een van die tekse is wat aanvanklik ontwikkel is in 'n poging om die eienskappe van tekse te bepaal, kon geen bewys gevind word dat tekse vir aankoopaktiwiteite saamgestel is met die spesifieke doel om verbruikers se implimentering van die aankoopproses bloot te lê ter wille van beter begrip van wat in die praktyk gebeur nie.

Twee sake word in hierdie artikel aangeraak. Eerstens word die potensiaal van tekse in terme van die praktiese aanwending daarvan in verbruikersgedragnavorsing voorgehou. Tweedens word 'n prosedure vir die ontwikkeling van 'n teks vir die aankoop van groot huishoudelike toerusting voorgestel met in agneming van besware en probleme wat tydens vorige navorsing met tekse geopper is in 'n poging om data te verkry wat betroubaar en waar is. 'n Teks vir die aankoop van groot huishoudelike toerusting kan die weg baan vir soortgelyke studies met betrekking tot ander kommoditeite tot voordeel van verbruikers, die handel en industrie.

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INTRODUCTION

This article is a result of a study of the basic script theory (Erasmus et al, 2002) and the consequent idea to suggest an appropriate script-elicitation procedure for purchasing major household appliances as an example of a shopping/buying script. Experience gained through previous script-elicitation studies was used as background and critique and recommendations were incorporated to compile the final script elicitation procedure. It is suggested that this procedure could also be used to elicit purchasing scripts for other commodities within the domain of consumer science with the intention to extend theory on consumer decision-making behaviour towards an appreciation and improved understanding of consumers' actions.

A script is defined as a coherent sequence of events expected by an individual in a particular context, involving him either as participant or as an observer (Puto, 1985). Scripts can be described as long-term memory structures that develop in an evolutionary way in memory with a person's development and with experience through repeated exposure to a particular activity (Hoy, 1991; John & Whitney, 1982). A script eventually becomes part of one's declarative knowledge framework in long-term memory to serve as a frame of reference so that an individual is able to act under specific as well as similar circumstances by referring to experiences in the past for appropriate behaviour.

Scripts as a tool of understanding and the interpretation of events and situations thus seem very useful in people's coping with everyday situations. Several scripts (of which the restaurant script probably is the best known) have thus been developed over the years – more often to prove the existence of scripts than to utilise their potential in practice. It is unfortunate that little has been done since the first script-elicitation studies to explore the script concept in terms of buying behaviour, while the potential of such investigation seems to have merit.

SCRIPT DEVELOPMENT IN MEMORY

It seems that children, even at an early age, possess fairly accurate and sequentially ordered reports of familiar events (Searleman & Herrmann, 1994:126). However, multiple experiences, combined with cognitive development allow for more complex scripts to develop as an individual's ability to organize and ab-

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stract from consumer experiences matures (Hoy, 1991; Price & Goodman, 1990 in Hoy, 1991; Nottenburg & Shoben, 1980). A once-off experience, for example a first time purchase of a major household appliance, may be temporarily stored as episodic memory, but unless the experience is repeated through the purchase of other major appliances to allow for the purchasing event to become generic script like knowledge, its prominence in memory will fade (Collins et al, 1993:373). New information about familiar events is continually integrated into one's general knowledge system, which means that existing schemata/scripts are continually updated (Collins et al, 1993:372).

Script development in memory progresses through three stages (Abelson 1976, in Hoy, 1991):
- At the episodic (basic) level, a single experience forms the basis of knowledge structure.
- At the categorical level, an individual is able to make some generalizations but will still focus on details of a specific incident.
- At the hypothetical stage, abstract generalizations as well as conditional statements become significant so that an experienced individual will have a more complex (although still generic) script of a particular event.

THEORY ON SCRIPT ACTIVATION AND ELICITATION

Different perspectives of script activation in memory

In cognitive psychology it is assumed that people understand the world in terms of concepts that are organized into larger conceptual structures in one's memory (Vosniadou, 1996:402). Complex sequences of events are for example proposed to be stored in structures known as schemata (more specifically event schemata/scripts) and frames. According to the standard theory of cognitive structure, schemata (including event schemata/scripts) are presumed to be represented in long-term memory in an abstract form where they are stored as frameworks of knowledge with their defining characteristics in a propositional format and organized according to specific rules for use in subsequent acquisition of declarative knowledge (Matlin, 1998:230; Shute, 1996:416; Vosniadou, 1996:404; Sutherland, 1995:366; Brown, 1992; Bozinoff, 1982). According to Andersen's ACT* (Act star) theory of cognition, declarative knowledge refers to knowledge about facts and things and the declarative network is described as consisting of an inter connected set of propositions[1], visual images[2] and information about the sequence of events[3]. Scripts as form of declarative knowledge thus refer to the struc-

tural nature of scripts and how scripts are organized in memory (if this happens, then that follows) (Matlin, 1998:230-232).

The connectionist approach, on the other hand, which has drawn a considerable amount of attention in recent years and refers to parallel distributed processing models (PDP models), postulates that schemata are implicit and created at the time an individual needs them. According to the connectionist approach, schemata per se are not actually stored in memory. Instead, schemata are created as a result of patterns of activation along a vast network of units in the brain that make it possible to think laterally. In connectionist models, storage in memory does not involve the actual storage of episodic information in the form of nodes. It is proposed that strengths and weights between units are stored and recreated in a particular situation when individuals need them. An individual thus stores hypotheses about the presence of certain features or attributes e.g. features that represent status/prestige and when recognized in a certain context, the relevant schemata are activated (Brown, 1992). A consumer might thus attach many associations to a product as a result of particular schemata. The connectionist approach further postulates that knowledge at all levels (concrete as well as abstract) can be represented in schemata. Schemata are regarded as active processes instead of static patterns in memory: connection strengths between units may adjust over time as a result of experience and exposure (Collins et al, 1993:36; Brown, 1992). Elicitation of schemata will thus depend upon the presence of stimuli in a specific context that would successfully activate, retrieve and recreate the relevant schemata through the connection of the appropriate units.

The different perspectives therefore differ on how the schemata are stored, activated and organized in memory but in principle do not differ in acknowledging the role of schemata in guiding behaviour in a specific situation. The elicitation of a script – as is the intention and aim of this discussion – concerns itself with the contents and format of the script itself rather than how the script is activated and organized in memory and will thus not make an effort to prove any of the perspectives as being more relevant or acceptable.

Different approaches to script activation

Individuals have more information in their memory than could ever be processed efficiently for a given problem situation. Part of this reservoir of information, is tapped by a script (Schurr, 1986). It is however, difficult to elicit a script because individuals do not recall scripts very easily. An individual's experience of the event and how recent someone has been subjected to the experience will *inter alia* affect recall. A script-elicitation procedure should therefore be implemented in various stages to allow for schemata in long-term memory to be sufficiently activated.

It is of utmost importance to select suitable candidates for participation in a script-elicitation study. Three

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1 (For example "washing machines are sold at specific stores in specific departments")
2 (For example "in-stores, all the various types of washing machines are displayed together")
3 (For example "one has to decide what type of washing machine is required first, before buying")

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general conditions have to be met for script activation and elicitation to occur:

♦ An individual must have a cognitive representation of a particular script. An individual should thus have been involved in the purchasing of several major appliances over a period of time to have developed a script of the particular event (Schurr, 1986).

♦ An evoking context is needed to serve as a trigger for script-elicitation. This could either be an actual purchasing situation or a simulated event. The situation will determine what information in memory will be activated; what information from the environment will be selectively perceived and will determine information relevant to role behaviour and problem solving (Schurr, 1986).

♦ A script can only be activated when it is physically or mentally entered (Speck et al, 1988; Schurr, 1986; Abelson, 1981). An individual thus has to be confronted with a specific task/situation to take action of some kind.

Two approaches may be used to physically enter and prompt script activation:

♦ A concept driven (top-down) strategy refers to a situation where an individual's thinking is guided by concepts or images at a higher level than the chosen objects/situation (e.g. a consumer is confronted with the idea that appliance X needs to be replaced and the consumer is allowed to make the inferences to deal with the situation).

♦ A data driven (bottom-up) strategy provides limited clues about the event on which individuals have to react (e.g. a consumer is shown a range of appliances and is asked to explain how one would go about to select a replacement for appliance X that has broken down). The individual then constructs a meaningful pattern of behaviour, based upon script like information in a personal memory base (Collins et al, 1993:260; Hoy, 1991).

Stages of script-elicitation and script generation

Script development   Script development in the first instance has to focus on the elicitation of the relevant script norms, namely the object schemata, person schemata, role schemata as well as the decision-making schemata that are relevant to the event (Abelson, 1981).

Script generation Script generation is done in a specific format and entails the organizing of script norms in terms of script elements and scenes in particular sequential order to maintain the structural characteristics of a script. Within a script, series of action sequences (vignettes) are grouped into segments/ elements/ scenes in a specific order. Every scene specifies the relevant individuals (person schemata), objects (object schemata) and the interaction (role actions and decision-making schemata). A scene is further characterised by a definite main conceptualisation (the central or top-level activity in the scene that occurs without exception, e.g. ordering the meal in a restaurant script). The scene header identifies the main activities in a specific scene (Abelson, 1981; Den Uyl & Van Oostendorp, 1980).

PROCEDURE FOR SCRIPT-ELICITATION

Theoretical approach

A study that intends to elicit a script for the acquisition of major household appliances can either be explorative or confirmatory in nature. In an explorative approach the intention will firstly be to elicit script norms from memory by subjecting a smaller sample to multiple methods to capture as much of the reality as possible. Research techniques typical of the post positivist paradigm, namely projective techniques, interviews and focus-group discussions are suggested (Denzin & Lincoln, 2000:9, 10; Hudson & Murray, 1986) in the attempt to construct an event from the point of view of the consumer (to abstract information from the world) (Denzin & Lincoln, 2000:10). Multiple, less structured data-collection techniques will facilitate triangulation and contribute to a rich data base where information is induced from the view of the participants in their own language without rigid and preconceived expectations of what information is expected to be generated (Denzin in Corsini, 1994:204).

The ontologic dimension of the research will adhere to the voluntaristic assumption that proposes that consumers are active agents who interact with their environments and thereby gain experience, generate knowledge, beliefs and intentions which direct subsequent consumer behaviour (Hudson & Murray, 1986). Experience is therefore considered an important prerequisite for participation in the study. On the epistemological level the approach of enquiry will follow an emic (seeking to expose cognitive frameworks/ schemata: an insider view), ideographic approach (Denzin & Lincoln, 2000:10, 158; Corsini, 1987:563) with the intent to stress the importance of particular decisive events/actions rather than to generalize the findings to all purchasing events (Hudson & Murray, 1986) – thus an understanding of the unique rather than the general (Nau, 1995). In this case an ideographic approach refers to the rigorous analysis of a specific decision-making event (the acquisition of major household appliances) in an attempt to formulate interpretive statements pertaining to that specific decision-making event (a specific appliance) or to the class of phenomena represented by the event (major household appliances).

Content analysis of one data-collection stage is done before proceeding to the next stage so that script norms and script characteristics will unfold during the analysis and interpretation of data towards the eventual generation of a script (Schwandt, 1994; Sauer et al, 1992). Script organization will necessitate simple statistical calculations. This is compatible with a post positivistic orientation (Denzin & Lincoln, 2000:9; Nau, 1995).

Sampling

To ensure the existence of relevant schemata in individuals' declarative memory, participants are expected to have been responsible or co-responsible for the purchasing of household appliances for their own households over a period of time.

Age   Experience facilitates referral to semantic memory [4] and enables individuals to formulate solutions to a choice problem and to deduct context appropriate actions (Warlop & Ratneshwar, 1993). The inclusion of participants between the ages of 30 and 60 years is suggested based on evidence that households spend more on household appliances in later stages of the life cycle (middle adulthood) and that expenditure declines after the age of 65 years (Aldershoff, 1985). Age of respondents is therefore used as an indication of probable level of experience, familiarity [5], involvement and interest in the subject.

Gender   Sex role norms and task allocation in families have changed considerably in recent years to the extent that traditional generalizations about family decision-making may be obsolete. A more egalitarian approach with husbands and wives sharing decision tasks is implied. One view would then be to include both men and women in a script-elicitation study for household appliances (Buss & Schaninger, 1983). Another view is that modern oriented women would dominate the decision-making process for household appliances irrespective of whether both marital partners play an equal role in decision-making in the household (Maddill & Bailey, 1999). Due to conflicting evidence of who actually takes responsibility for the purchasing process, men as well as women should be included in a script-elicitation study for household appliances.

Financial and socio-economic status   It is reported that families in middle and higher income categories[6] spend more money on appliances in general (Du Plessis & Rousseau, 1999:54-72) and that expenditure on household appliances tends to increase with income level (Aldershoff, 1985). Individuals in higher income levels will thus potentially be more suitable candidates for a script-elicitation study due to increased exposure to, and familiarity with the purchase situation that would have resulted in the development of more established event schemata. Income status or socio-economic status (as an indication of income status) should thus be considered important denominators when selecting participants for a script-elicitation study.

Sample framework   To ensure representation of a wider spectrum of consumers that more or less reflect the consumer society that purchase and use household appliances, participants for a script-elicitation study for the acquisition of major household appliances should be selected from middle to higher income groups (Aldershoff, 1985), including men and women between the ages of 30 to 60 years (Menon & Johar, 1993), irrespective of marital status or race (Mano & Davis, 1990; Aldershoff, 1985; Buss & Schaninger, 1983).

Sample   The sample size is determined by the research procedure and the research techniques used. Participants should be recruited independently to limit the chance of having an excessively homogeneous group.

Recruitment of participants   Voluntary participation is recommended for the generation of trustworthy information. To prevent participants from preparing "impressive" answers beforehand, it is suggested that the study's objective is conveyed as the understanding of households' decision-making behaviour with regards to specific commodities, rather than revealing the precise aims. Participants should then be given the opportunity to withdraw once they have received their instructions to encourage spontaneous, uninhibited and truthful responses. A debriefing session at the end is recommended to put participants in perspective.

Multiple data-collection techniques

Multiple data-collection techniques that are implemented in different stages are suggested for script elicitation so that the specific disadvantages of one technique could be overcome by the next to maximize the elicitation of content of thought. Responses of one data-collection procedure can then be used to direct subsequent data-collection stages (Huberman & Miles, 1994:429). Because projective techniques are described as methods used to confront a subject with a situation to which he will respond according to what the situation means to him, they seem particularly suitable to elicit information from the participants' perspective (Corsini, 1994:127).

Five data-collection stages are suggested to maximize the opportunity to induce the relevant cognitive configurations for the elicitation of the relevant script norms from long-term memory as well as for triangulation:

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4   According to the standard theory in cognitive psychology, semantic memory refers to so-called general knowledge about specific objects or topics (Brown, 1992; Sutherland, 1995)

5   Familiarity is defined as the number of accumulated product related experience (Mano & Davis, 1990; Zaichowski, 1985). Product familiarity determines a consumer's cognitive structures. Familiarity for the purpose of a study of this kind, taking into account the relatively long service life of household appliances, is determined by the age of respondents assuming that individuals above the age of 30 years would have had at least a reasonable amount of experience with major electrical household appliances in their own households to have enabled them to develop consistent cognitive configurations (Mano & Davis,1990).

6   Income level (potential spending power) for the purpose of a script-elicitation study can be associated with specific socio-economic status determinants, e.g. the value of respondents' homes, whether rented or owned

♦ Reconstruction as well as discrimination data-collection techniques are recommended. Reconstruction techniques seem to be informative with respect to the temporal sequence of scripts (Smith & Houston, 1986). Discrimination techniques refer to the use of visual stimuli to induce recall of knowledge from memory and tend to elicit detailed information without exerting excessive cognitive load on participants (Smith & Houston, 1986). The use of both techniques will provide the opportunity for triangulation.

♦ Inclusion of written as well as oral elicitation techniques are recommended. Written responses have shown to produce more thoughtful processing while oral reports can be useful to elaborate on issues that were apparently under reported in written procedures.

While each of these procedures is valuable in terms of providing specific script detail, trustworthiness can be obtained if the various techniques agree on the main conceptualizations of the script (Lichtenstein & Brewer, 1980 in Smith & Houston, 1986).

DATA-COLLECTION STAGES AND PROCEDURES

Motivation for different data-collection stages

Acknowledging the findings and recommendations of other researchers in the field of script-elicitation studies (Stoltman et al, 1989; Smith & Houston, 1986; Leigh & Rethans, 1983), the following stages of data-collection were designed as a suggested method to elicit a script for the acquisition of major household appliances within the consumer decision-making context. It is suggested as an integrated method to eventually generate a single script from the data collected by means of each of the various script elicitation techniques.

Data-collection stages

Stage1: Script-elicitation through a concept driven, written reconstruction technique

A written technique based on experience is chosen to start with because it is expected to produce more thoughtful, longer and more detailed descriptions of an event (Yoon et al, 1990). Adapting a script-elicitation method used by Bower et al (1979) it is recommended that participants be invited to participate as part of a well-selected group in a formal setting to describe in written form how people in general go about to replace a washing machine that has broken down after ten years of service. The exact domain of their responses should be clearly stipulated (e.g. to report from the moment that they decide to make a replacement purchase, until the appliance is delivered at home). Respondents should be assured that responses will be treated confidentially and must be reminded that there are no correct or incorrect answers. Although instructions refer to people in general, respondents will inevitably refer to an existing personal database of schemata when describing the event in their own words and style (Bozinoff & Roth, 1983; John & Whitney, 1982; Leigh & Rethans, 1983; Smith & Houston, 1986; Whitney & John, 1983).

Stage 2: Script-elicitation through a concept driven, oral reconstruction technique

Cognitive theory postulates that the unconscious nature of schemata in long-term memory makes it difficult to retrieve. Individual interviews thus provide the opportunity to elaborate on aspects that seem to have been under reported in stage 1 (Touliatos & Compton, 1988:178) and also provide opportunity for triangulation if a new group of participants are used. Having the consent of participants, interviews should be tape recorded for transcription. Using a semi-structured interview technique, interviewees can initially be given the same instructions as for stage 1 and adding specific questions to elaborate on selected aspects.

Stage 3: Elicitation of script sub-actions and role expectations, through a data driven, discrimination technique

The techniques used in stages 1 and 2 are meant to identify person-, object- and decision-making schemata. Imagery processing (a data driven/bottom-up technique) is a useful addition to stimulate recall of very specific information such as role schemata from memory (Bone & Ellen, 1990). Based on information captured in stages 1 and 2, visual stimuli (clip art drawings) that reflect variations of different steps of the decision-making event can be designed as realistic but minimal clues and then be presented to individuals for interpretation. Captions can be added to identify some of the people in the scenes and participants can be asked to identify the rest for the purpose of specifying person- and role schemata. Pictures should be on separate sheets of paper with enough space for written commentary so that participants could select and organize them as they wish.

Based on the cognitive assumption that individuals will try to make sense of stimuli within real world experiences, it is anticipated that when individuals are given a set of pictures and asked to select those relevant to the event, to arrange them in order of occurrence and to discuss their selection, they would select and interpret the pictures (semi-ambiguous stimuli) in terms of their own cognitive frameworks (a form of imagery processing) (Donoghue, 2000; Lichtenstein & Brewer, 1980 in Smith & Houston, 1986). This is a projective technique through which the researcher prompts the participants and enters their private worlds in an indirect way (Donoghue, 2000). Because the clues will stimulate thought and because the technique requires discrimination instead of reconstruction of an event, it reduces cognitive load and has the potential to maximize script content through the extraction of contextually rich data (Donoghue, 2000; Stoltman et al, 1989; Smith & Houston, 1986).

A pre-test where a few individuals (who meet the requirements for a script-elicitation study) are requested

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to interpret the selected pictures, is recommended. Participants' reaction to the range of pictures, their response time (in the possible event of the task being too lengthy, tiring or complicated) and general comments in terms of the instructions given as well as acceptability of the pictures can then be used to finalize the procedure. An attempt should be made to include as many of the activities mentioned in previous elicitation stages as possible without causing confusion.

For the purpose of triangulation, it is recommended that the same group of participants used in the second stage, be requested to take part in this procedure.

Stage 4: Elicitation of sub-actions and role expectations through a data driven, written reconstruction technique

Previous studies have indicated that a script is not an undifferentiated linear chain, but is organized into major chunks/scenes, which are identified by so-called scene headers (Stoltman et al, 1989). The mention of a scene header or main concept can act as a probe to recall script from memory (Leigh & Rethans, 1983; Den Uyl & Van Oostendorp, 1980; Bower et al, 1979). Participants can thus be prompted at specific entry levels of the event (these can be identified in stages 1 to 3) to elaborate on specific aspects of the decision-making process (Barnes, 1993 based on work by Corsaro & Heise, 1990). Confronting someone with an entering situation at any point in the script as a specific level of abstraction (for example entering the store) would be ideal to specify the task environment. This could then act as a trigger for recall of the appropriate script and consequently the activation of schemata in memory to enable the individual to specify actions prior to and after that scene/element (a level of abstraction) to complete the event (Schurr, 1986).

Participants (stage 1 participants, for the purpose of triangulation) can for example be asked to give a detailed written description of in-store activities (a prominent entering position/scene) in the event of purchasing a washing machine. Upon completion, they can be asked to describe in sequential order, the purchase related actions before arrival at the store or thereafter depending on what additional information is required after the analysis of data generated in stages 1 to 3. Assuming a hierarchical order for script elements, it is expected that although requested and reported out of the natural order the final result of participants' reports will correspond with the sequential description in the previous elicitation exercises but that the specific activity (element) at the specific level of abstraction will be discussed in more detail.

Stage5: Focus-group discussions

Motivation for the inclusion of focus-group discussions
As a concluding stage of the script-elicitation procedure, focus groups could evoke active, spontaneous in depth discussions and illuminate a limited number of topics/issues that were raised during previous elicitation stages and which might need some kind of clarification. It can also serve as opportunity for triangulation (Macun & Posel, 1998; Stoltman et al, 1989). A focus group is generally defined as a collective brainstorming session where a small group of people partakes in a carefully planned discussion so that the group interaction produces insights relating to a specific topic/ issue (Morgan, 1988 in Macun & Posel, 1998). Increased excitement in a group tends to encourage participants to expose their ideas (Fern, 1982).

Focus group discussions are recommended because groups tend to spend more time discussing ideas that are common and of interest to all – an aspect that is highly preferable for a script generation study where generic information should be differentiated from detail, and where scenes and script elements have to be finalized. Focus-groups are ideal to bring to the surface common practice/the stereotype/shared view through listening to the discussion of others and to exclude unique actions that should not to be included in a typical script (McQuarrie & McIntyre, 1988). Focus-group discussions minimize the role of the researcher/interviewer as opposed to individual interviews (stage 2) (Macun & Posel, 1998) and allow for spontaneous interaction of participants (McQuarrie & McIntyre, 1988) while some individuals might also find it easier to speak out than to put their thoughts in writing (stage 1) (Stoltman et al, 1989).

Focus group procedures   Of the three distinct focus-groups approaches defined by Calder (in Fern, 1982), a phenomenological approach is typically used to investigate consumer behaviour where everyday knowledge as well as everyday language (as opposed to scientific knowledge) needs to be uncovered (McQuarrie & McIntyre, 1988). This requires the inclusion of a brief "warming up session" to encourage active participation and a comfortable seating arrangement with proper eye contact in a relaxed atmosphere (McQuarrie & McIntyre, 1988; Lautman, 1982). A grouping of participants that are socially and intellectually compatible, yet unknown to one another will limit inhibited responses (Macun & Posel, 1998; Fern, 1983). Attention should be given to the participation of both spouses during the discussions to prevent one speaking on behalf of the other, thus excluding participation of half of the group (Cook, 1982).

Due to limited "air time" per participant within a group discussion eight to ten participants (maximum) per session is recommended. It would be practical to select participants from previous data-collection sessions (Payne & Levy, 1975 and Well, 1974 in Lautman, 1982).

Discussion topics and data-collection   Specific goals for every focus-group discussion will ensure optimal use of time (Macun & Posel, 1998). A response oriented rather than a question-oriented approach is recommended for free flow of discussions

without excessive control and manipulation (Robson, 1989:29). Group responses should be captured through tape-recording and note taking by the facilitator and the assistant (Macun & Posel, 1998).

Recordings should be transcribed and interpreted taking into consideration that common ideas, i.e. those ideas that are widely shared would surface frequently and might be mentioned by all/most of the participants. Data analysis and interpretation should be done following the same procedure as in the previous elicitation exercises.

PROCEDURE FOR SCRIPT GENERATION

Data analysis and interpretation

Data generated through stages 1 to 3 are analysed to identify script norms. Data is firstly captured by analysing stage 1 written reports and coding statements in the sequence in which they were mentioned. This process is repeated by a well-trained assistant and inter-rater reliability is calculated by determining the level of agreement, as follows (Touliatos & Compton, 1988:121, 122):

$$[n / (n+a)] \times 100 = \% \text{ agreement}$$

[n=number of agreements; a=number of disagreements].

Differences in interpretation should be discussed so that an agreement is reached before final coding of data for statistical analysis.

Frequency calculations of script actions are used to determine stronger (prominent) and weaker script actions from which so-called main concepts are identified. In accordance with previous script studies (Bozinoff, 1982; Bower et al, 1979), the density of grouping of frequencies as calculated statistically, is useful to differentiate and categorize the strength of actions in the various script protocols. It is suggested that a final decision as to the categorization and exclusion of script actions be determined by spontaneous density grouping of activities: activities indicated by 25% and less of the participants may for example be omitted while those mentioned by 75% and more of the participants can be used to indicate the main concepts. This should however not be taken as a hard and fast rule for every script-elicitation study and it is recommended that the frequency of statement are studied before a final decision is made. The mean positions of actions will be used to determine the sequence of actions for script generation. Results should be tabulated, indicating script actions in sequential order and specifying script norms. In accordance with previous script studies, different font styles are used when compiling the empirical script to simultaneously reflect the strength of the different script actions (Table 1).

The trustworthiness of data can be determined by randomly splitting the stage 1 sample into two groups and using the Mann Whitney rank sum test to compare the mean positions of actions for the two independent groups within the same sample (Steyn et al, 1994:594).

Stage 2 interviews that were done with a new group of participants should first be transcribed and then dealt with in the same way as stage 1 reports. The Mann Whitney rank sum test can be used to determine trustworthiness of data through a comparison of data of stages 1 and 2.

The stage 3 technique will produce statements in written format, in specific sequence and should be analysed and interpreted following the same procedure as for the previous stages. Trustworthiness of data when comparing the results of stages 2 and 3 where the same participants are involved should however be determined through the Wilcoxon rank sum test (Steyn et al, 1994: 594).

The written reports produced in stage 4 will only cover certain aspects of the event, but should be dealt with following the same procedure as for stages 1 to 3 reports. The objective of the technique used in this stage is to determine whether scripts have a set quality, in other words that participants will be able to reconstruct the sequence of actions of the event when they are prompted to describe parts of the event out of the natural order. During the coding and interpretation of data, care should be taken that statements are coded in the order indicated by participants. The Wilcoxon rank sum test can be used to compare the data of stages 1 and 4 where the same participants are involved.

Differences in results (script norms, script actions and sequence of actions) obtained through the various elicitation techniques should be carefully analysed to determine whether it could be ascribed to possible error or the specific technique that was used. The stage 3 discrimination technique is for example expected to produce more comprehensive scenarios because participants are required to recognize actions (the technique provides the opportunity of being reminded of actions), rather than to remember/recall information off hand as is required in stages 1 and 2.

TABLE 1: SUGGESTED PRESENTATION OF ACTION FREQUENCIES

Indicative style of presentation	Frequency (%)
action	25-39
action	40-59
ACTION	60-74
ACTION	75+

7   This is only an indication of how categories can be formed. Data and density groupings should be used to form final categories.

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Transcripts of focus group discussions will have to be worked through back and forth to identify concluding statements (Denzin & Lincoln, 2000:831). These could be used to clarify any uncertainties before generating the final script from the individual script protocols of stages 1 to 4. The contribution of the assistant who co-facilitated the discussions is crucial in the analysis and interpretation of the data to ensure trustworthy interpretation.

Script generation

Following the rules for the presentation of a script (Weisberg, 1980:55; Bower et al, 1979), an empirical script is written indicating all script actions, in sequential order and grouped into elements with a clear distinction of stronger and weaker script actions by using different font styles to indicate the strength of script actions. A theoretical script is written in paragraph format, clustering script actions into scenes and clearly indicating scene headers through the use of conventional headings.

Script evaluation according to the properties and characteristics of a script

The conclusive step is to evaluate the generated script in terms of the basic properties and structural characteristics of a script (Bozinoff & Roth, 1983 and Bower et al, 1979 as discussed in Erasmus et al, 2002) before it can be typified as a script and to determine whether the script can be accepted and acknowledged for further use within the theoretical framework of a discipline.

The following properties should be identifiable:

Script norms   The person; object; role and decision-making schemata for the specific event should be evident (data collected in stages 1 to 3).
Action sequences Actions should be grouped into coherent scenes/elements with prominent/stronger actions as a logical indication of scene headers (Den Uyl & Van Oostendorp, 1980).
Script elements   Script elements should be organized in a common, logical order (Bozinoff & Roth, 1983) (deducted from stages 1 to 3).
The following structural characteristics (Bozinoff & Roth, 1983; Bower et al, 1979) should be confirmed:
Only generic actions should be contained in the script   This will be characterized by a limited number of scenes and activities in the final script excluding elaborative descriptive detail.
A script possesses a set quality   Respondents should be able to complete a script when they are confronted with a specific action that is positioned somewhere in the middle of the script by filling in actions prior to that action or to complete the script by listing the rest of the actions in sequential format. The stage 4 procedure is supposed to confirm this characteristic.
A strong temporal sequence of script activities A statistical comparison of the empirical script protocols drawn from the various elicitation techniques will

indicate the trustworthiness and authenticity of data in terms of how the data correlate in terms of contents and sequence of actions. This can also be confirmed through the focus-group discussions.
A hierarchical structure should be evident   Smith and Houston (1986) mentioned that this would be indicated by scenes/elements, main concepts and script actions that are present in a logical order. The level of agreement between the script protocols deducted during stages 1 to 3 will determine the trustworthiness of the hierarchical structure finally generated.

ISSUES OF TRUSTWORTHINESS AND AUTHENTICITY

In order to increase the trustworthiness (reliability) and authenticity (accuracy) of data, any factor that may introduce error into elicitation and analysis procedures should be addressed.

The following should be attended to:

The reputation and experience of the researcher and the assistant and the venue

The reputation and experience of the researcher and the assistant as well as the venue where the data-collection is done (for instance a home environment versus a formal setting) will influence participants' perception of the importance of the research project and consequently how serious they will be about their contributions and participation (Mouton, 1996:149). It is especially important when individuals are asked to participate more than once without remuneration. The facilitator's contribution in terms of data analysis and his/her acting as supervisor during focus-group discussions will contribute to the elimination of bias in interpretations and discussions. If written exercises are done anonymously, it will encourage uninhibited response that will contribute to trustworthiness of the data.

Selective recruitment of participants

Participants should be recruited selectively to ensure active participation on a voluntary basis and application of minimum cognitive effort due to well-developed memory structures based on experience of the event. Age and financial status are important determinants that might ensure a certain level of familiarity[8] with the event and should improve the chances of activating comprehensive and truthful schemata (Gardner & Raj,

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8   [Participants with a certain level of experience (familiarity) will be selected. 'Familiarity' for the purpose of this study, taking into account the relatively long service life of household appliances, is determined by the age of respondents assuming that individuals above the age of 30 years would have had at least a reasonable amount of experience with major household appliances in their own households to have enabled them to develop consistent cognitive configurations (Mano & Davis, 1990)].

1983). Experience will facilitate recall by directing retrieval from memory towards context appropriate actions (Warlop & Ratneshwar, 1993). It is suggested that responses would be more objective and truthful if participants are only broadly informed about the intention with the study and exact aims (e.g. that it will concern decisions about household appliances) are not disclosed until they arrive for the data collection exercise (Bozinoff, 1982).

Multiple data-collection techniques

Multi data collection techniques are recommended when using a post positivist approach to capture as much of reality as possible (Denzin & Lincoln, 2000:9; Touliatos & Compton, 1988:127) and to provide opportunity for triangulation. Bower and co-workers (1979) also recommended this after completion of a script-elicitation study that was based on a written, reconstruction elicitation technique. It is thus proposed that the stage 2 procedure (reconstruction technique) and the stage 3 procedure (discrimination technique) - two different but equal versions of data-collection that are similar in content and level of difficulty - be done by the same individuals. This will allow for triangulation and data can be compared to determine the trustworthiness of responses. By subjecting respondents to two different but equal techniques instead of repeating the same procedure, the recall effects of the test-retest method where participants may be tempted to prepare so-called acceptable answers, is overcome (Touliatos & Compton, 1988:120). By randomly sub dividing the responses from the first stage elicitation procedure into two halves (thus separate independent groups) and comparing the results of the two groups as if they are two independent groups. The level of agreement of responses of the two groups will be indicative of the trustworthiness of the script-elicitation technique.

Environmental and context effects

This can be attended to by choosing a laboratory setting for data-collection stages 1,3,4 and 5 to refrain participants from being interrupted or influenced by others (Touliatos & Compton, 1988:117).

Measures to eliminate error

Instructions   Instructions should only be given and explained immediately before commencing the data-collection activities to prevent participants from discussing the matter beforehand. Individuals who then feel that they cannot or do not wish to participate, should at that point be given the opportunity to withdraw. Participants should be given the opportunity to respond in Afrikaans or English to eliminate verbalization difficulties. No time pressure should be exerted during formal data-collection exercises. If no personal questions are asked (e.g. income) participants will not feel threatened. If participants are reminded that there are no correct or incorrect responses, their responses have a better chance of being truthful. For a script-elicitation study partici-

pants should be requested to react upon specific instructions rather than to refer to personal experience to prevent answers that seem to be correct/appropriate. It is preferable that participants report anonymously rather than to perform certain activities while being observed, once again to prevent acting (Hempel & Daniel, 1993; La Tour, 1986).

Inter-rater reliability   Inter rater reliability can be determined by using a well-trained assistant to analyze the data independently and to compare that with the interpretation of the researcher. Considerable agreements between the judgments will indicate high inter rater reliability (Touliatos & Compton, 1988:121,122).

Constant reflexive practice and a skeptical approach   Constant reflexive practice and a skeptical approach regarding the ongoing research process will add to authenticity of data (Wainwright, 1997). By completing the data analysis and interpretation of data collected during one stage before proceeding to the next so that pitfalls and shortcomings are addressed in time, error is reduced.

Bias and ambiguity   This can be eliminated by giving instructions to participants that clearly stipulate the specific situational cues and conditions, e.g. replacement purchase for a washing machine after ten years of service. Instructions should clearly indicate the range of statements required, for example from the moment the store is entered until the purchase is finalized. On the basis of research by Cox et al (1983) the intention to elicit a script for major household appliances can initially be limited to an evaluation of the purchasing process of a single appliance in that category, namely a washing machine. This is acceptable since a washing machine is generally considered a high priority appliance in a household and since research has shown that laundry appliances reflect a very low percentage of unplanned purchases (Cox et al, 1983). Within script theory this is further warranted by the principle of memory transfer (Abelson, 1981) that implies that someone with more extensive experience of another major appliance will transfer that knowledge to the specified situation. Participants can thus be asked to specifically reflect on a replacement purchase where responses could be based on experience within their frame of reference.

CONCLUSION

Taking into consideration prior research in the field of script-elicitation procedures and focusing on the elicitation of a script for a specific purchasing event within a consumer decision-making context, namely the acquisition of major household appliances, a script-elicitation procedure that consists of a combination of script-elicitation techniques, is proposed. It is hoped that the combination of techniques and efforts to increase trustworthiness and authenticity of data will result in the successful elicitation of a purchasing

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script that would coincide with the basic characteristics and properties of a theoretical script. It is thus recommended that the procedure be implemented so that the success of the suggested procedure and techniques could be determined.

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