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A SCRIPT-ELICITATION PROCEDURE FOR THE ACQUISITION OF MAJOR HOUSEHOLD APPLIANCES

ABSTRACT

Scripts for events such as visiting a doctor, attending a lecture, eating in a restaurant and getting up for school were elicited and developed during the early years of script-elicitation studies when the whole idea of cognitive structures, and more specifically event schemata in long-term memory stimulated the curiosity of psychologists.

Although a script for shopping in a grocery store was one of the scripts that were developed as part of an attempt to identify the characteristics of a script (Bower, Black & Turner, 1979:180, 181) little evidence could be found of attempts to elicit and generate shopping scripts for the purpose of portraying consumers' purchasing behaviour. The role of memory structures in information search behaviour, in brand familiarity and product knowledge has however been acknowledged by several researchers (Kent & Allen, 1994:97-98; Ozanne, Brucks & Grewal, 1992:452-454).

Two issues are addressed in this discussion. Firstly, the potential of eliciting scripts for practical use in consumer behaviour research is brought to the attention. Secondly a script-elicitation procedure for the acquisition of major household appliances for theoretical confirmation of schema theory is suggested. Problems that were reported in previous script-elicitation studies were addressed in an effort to produce trustworthy, authentic data. A script for the acquisition of major household appliances will open the way for many other related script-elicitation studies that could be used to the benefit of consumers, retail and industry.

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-schemata 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 as onderwerp gekies en 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 aankooppraktyke tot voordeel van verbruikers, die handel en industrie.

Search words:

Script-elicitation procedure; scripts; decision-making for major household appliances; script-elicitation procedure; script-elicitation techniques; properties of scripts; characteristcs of scripts; household decision-making research

INTRODUCTION

This study is a result of a study of the basic script theory (Erasmus, Boshoff & Rousseau, 2002:1-8) 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, 1985:404). 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, 1991:387; John & Whitney, 1982:75, 76). 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 and shopping 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 abstract from consumer experiences matures (Hoy, 1991:387; Price & Goodman, 1990 in Hoy, 1991:387; Nottenburg & Shoben, 1980:329). 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, Gathercole, Conway & Morris, 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:

- At the *episodic (basic)* level, a single experience forms the basis of knowledge structure (Abelson 1976, in Hoy, 1991:387).
- 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 (Abelson, 1976 in Hoy, 1991:387).

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 (and 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, 1992:787; Bozinoff, 1982:481). 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] (Matlin, 1998:230). Scripts as form of declarative knowledge thus refer to the structural nature of scripts and how scripts are organized in memory (*if this* happens, *then that* follows) (Matlin, 1998:231,232).

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

[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")

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, 1992:791, 792). 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, 1992:793). Elicitation of schemata will thus depend upon the presence of stimuli in a specific context that would successfully activate, retrieve and recreate the relevant schema 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, 1986:504, 505). Scripts are however not elicited very easily. It is therefore recommended to plan a script-elicitation procedure in various stages to ensure that the schemata in long-term memory are sufficiently activated.

It is of utmost importance to select suitable candidates for participation in a script-elicitation study. Three general conditions have to be met for script activation and elicitation to occur:

- Firstly, an individual must have a *cognitive representation* of a particular script, i.e. experience of the activity over time. 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, 1986:505).
- Secondly, an *evoking context* such as a task environment 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 in part determine *what information stored in memory will be activated* and also *what information from the environment will be selectively perceive*d. The task environment also provides information relevant to role behaviour and problem solving (Schurr, 1986:505).

- Thirdly, the script - or any part of the script – can only be activated when it is physically or mentally *entered* (Speck, Schumann & Thomson, 1988:70; Schurr, 1986:505; Abelson, 1981:719). An individual thus has to be confronted with a specific task/situation (the reality or a simulated 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 the creation of a situation where an individual's thinking is guided by concepts or images at a higher level than the chosen objects/situation. A consumer can for example be confronted with the idea that *appliance X needs to be replaced* and the consumer is then allowed to make the inferences to deal with the situation.
- A *data driven* (*bottom-up*) strategy on the other hand, provides limited clues about the event on which individuals have to react. A consumer is for example shown a range of appliances and then 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, 1991:391).

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, 1981:717).

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* that are arranged in a specific order. Every scene contains the relevant individuals (person schemata), objects (object schemata) and specifying the interaction (role actions and decision-making schemata) and is characterised by a definite *main conceptualization* (Abelson, 1981:717). This refers to a central or top-level activity in the scene that occurs without exception (Den Uyl & Van Oostendorp, 1980:278), for example *ordering the meal* in a restaurant script. The *scene header* identifies the main activities in a specific scene.

PROCEDURE FOR SCRIPT-ELICITATION

Theoretical approach

A study that intends to elicit a script for the acquisition of major household appliances is explorative in nature. The intention will firstly be to elicit script norms from memory by using multiple methods to capture as much of the reality as possible (Denzin & Lincoln, 2000:9,10; Hudson & Murray, 1986:347). Research techniques typical of the post positivist paradigm, namely projective techniques, interviews and focus-group discussions will be applied (Denzin & Lincoln, 2000:9; Hudson & Murray, 1986:345). The research will reflect a post positivist character in its intention to construct an event from the point of view of the consumer or as stated by Denzin and Lincoln (2000:10), *to abstract information from the world.* The intention is to construct a cognitive representation of consumers' actions during a specific purchasing event rather than to establish law like associations between data and to generalize in terms of all purchasing situations and across all consumer types (Denzin & Lincoln, 2000:9; Hudson & Murray, 1986:343). Nau (1995:1) refers to it as *an understanding of the unique rather than the general.*

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, 1986:344). Experience is therefore considered an important prerequisite for participation in the study. On the epistemological level, it will be required to follow an emic (seeking to expose cognitive frameworks/schemata that consumers use: an insider view), ideographic approach of enquiry (Denzin & Lincoln, 2000:10, 158; Corsini, 1987:563). Ideographic assumptions stress the importance of particular decisive events/actions rather than to generalize the findings to all purchasing events (Hudson & Murray, 1986:345). In this case an ideographic approach refers to the rigorous analysis of a specific decision-making event, namely 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). An ideographic study is characterized by a smaller sample and it is advisable to use multiple data-collection techniques (Denzin in Corsini, 1994:205; Corsini, 1987:563). Multiple, less structured data-collection techniques are recommended to facilitate triangulation and to 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).

Content analysis is done immediately after completion of every data-collection stage, before proceeding to the next stage that applies a different data-collection technique. Script norms and

script characteristics will unfold during the analysis and interpretation of data towards the eventual generation of a script (Schwandt, 1994:129; Sauer, Dickson & Lord, 1992:826). Script organization will necessitate simple statistical calculations, which are perfectly compatible with a post positivistic orientation (Denzin & Lincoln, 2000:9; Nau, 1995:1).

Sampling

A script-elicitation study for the acquisition of major household appliances would require the inclusion of individuals who have had the responsibility or participated in the purchasing of household appliances for their own households over several years to ensure the existence of relevant schemata in their declarative memory.

Age Experience facilitates referral to *semantic memory* [4] from which solutions to a choice problem as well as context appropriate actions can be deducted (Warlop & Ratneshwar, 1993:377-379). A study by Aldershoff (1985:209) in the Netherlands revealed an increased expenditure on household appliances in later stages of the life cycle (middle adulthood) with a definite decline after the age of 65 years. The age of respondents will to a certain extent thus be indicative of probable level of experience, familiarity[5], involvement and interest in the subject. The inclusion of participants between the ages of 30 and 60 years who have had the responsibility of managing their own households over a period of at least five years is suggested.

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, 1983:439, 440). Another view is that modern oriented women would dominate the decision-making process for household appliances irrespective of the orientation of the family (Maddill & Bailey, 1999:235). Due to conflicting evidence, men as well as women should be included in a script-elicitation study for household appliances on the condition that an individual is willing to participate.

[4] According to the *standard theory* in cognitive psychology, semantic memory refers to so-called *general* knowledge about specific objects or topics (Brown, 1992:787; Sutherland, 1995;367)

[5] Familiarity is defined as the number of accumulated product related experience (Mano & Davis, 1990:275; Zaichowski, 1985:296, 297). 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, 1990:280).

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, 1985:209). Individuals in higher income levels will thus potentially be more suitable candidates for a script-elicitation study because of an increased exposure to, and familiarity with the purchase situation that would have resulted in them having developed more established event schemata. *Income status* or *socio-economic status* (as an indication of income status) should thus be taken into consideration when selecting participants for a script-elicitation study.

Sample framework Participants for a script-elicitation study for the acquisition of major household appliances should therefore be selected from middle to higher income groups (Aldershoff, 1985:209) including men and women between the ages of 30 to 60 years (Menon & Johar, 1993:108), irrespective of marital status or race (Mano & Davis, 1990:280; Aldershoff, 1985:209; Buss & Schaninger, 1983:439, 440) but with the pre requisite that a participant should have been responsible for his/her own household for at least five years.

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

Recruitment of participants Voluntary participation is favourable for the generation of trustworthy information. It is suggested that participants are not informed about the precise aims of the study to prevent them from preparing "impressive" answers before the time. Participants should however be given the opportunity to withdraw once they have received their instructions to encourage spontaneous, uninhibited and truthful responses by willing individuals. 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 another and to maximize content of thought elicitation. Responses of one data-collection procedure can then be used to direct subsequent data-collection stages (Huberman & Miles, 1994:429). Projective techniques seem particularly suitable to elicit information from the participants' perspective. Frank (1939), quoted by Rabin (in Corsini, 1994:127) described projective techniques as *methods used to*

[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

confront a subject with a situation to which he will respond according to what the situation means to him.

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:

- *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, 1986:505). 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, 1986:505, 506). 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.

Although each of these procedures is valuable in terms of providing specific script detail, the information can be regarded trustworthy if there is agreement on the main conceptualizations of the script (Lichtenstein & Brewer, 1980 in Smith & Houston, 1986:505).

DATA-COLLECTION STAGES AND PROCEDURES

Motivation for different data-collection stages

Taking into consideration the findings and recommendations of other researchers in the field of script-elicitation studies (Stoltman, Tapp & Lapidus, 1989:389; Smith & Houston, 1986:506; Leigh & Rethans, 1983:669), the following stages of data-collection were designed as a suggested integrated method to elicit a script for the acquisition of major household appliances within the consumer decision-making context.

Data-collection stages

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

A written technique is chosen to start with because it is expected to produce more thoughtful processing than oral reports. Reports that are based on experience generally also produce longer, more detailed descriptions of an event (Yoon, Meyers-Levy & Tybout, 1990:533). Adapting a script-elicitation method used by Bower *et al* (1979:177-215) 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, 1983:655-658; John & Whitney, 1982:75-77; Leigh & Rethans, 1983:668; Smith & Houston, 1986:504; Whitney & John 1983:661-664).

Contents of written reports should then be analysed to identify the relevant script norms, which should then be coded in the sequential order indicated by participants. A well-trained research assistant should independently repeat the procedure of content analysis to determine inter rater reliability. This is required as indication of trustworthiness of the results.

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 are thus suggested as an ideal opportunity to follow up on aspects that seem to have been *under reported* in the written reports (Touliatos & Compton, 1988:178). If a new group of participants are used, this technique also provides opportunity for triangulation. With the permission 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 but specific questions can be included to induce response on selected aspects. This is a concept driven approach.

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

The techniques used during stages 1 and 2 are used 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, 1990:449). Visual stimuli (clip art drawings) that reflect variations of different steps of the decision-making event can be designed from information captured in stages 1 and 2 as realistic but minimal clues. These can 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, 2000:48; Lichtenstein & Brewer, 1980 in Smith & Houston, 1986:505). This is a projective technique through which the researcher prompts the participants and enters their private worlds in an indirect way (Donoghue, 2000:47). 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, 2000:50; Stoltman *et al,* 1989:384; Smith & Houston, 1986:505).

A pre-test where a few individuals (who meet the requirements for a script-elicitation study) are requested 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. A discrimination technique results in lower cognitive strain than a recall technique, which allows for the inclusion of a good variety of pictures so that participants do not feel constrained in their responses. 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,* 1989:384). The mention of a scene header or main concept can act as a powerful probe to call up a script from memory (Leigh & Rethans, 1983:671; Den Uyl & Van Oostendorp, 1980:278; Bower *et al,* 1979:183). 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, 1993:63, 64 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, 1986:505-507).

Participants (those who participated in stage 1, 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.

Stage 5: Focus-group discussions

Definition, advantages and disadvantages A focus-groups is generally defined as a collective brainstorming session where a small group of people partake in a carefully planned discussion so that the group interaction produces insights relating to a specific topic/ issue (Morgan, 1988 in Macun & Posel, 1998:114). Although focus-groups have certain disadvantages over individual interviews (for example social influence and conformity pressures) several hypotheses explain the paradox of the success of focus-groups in data-collection. Participants inter alia *hide in the midst of the lonely crowd*: group members provide some form of security and group members have a lowered feeling of identifiability than participants in individual interview situations. As a consequence, participants are more willing to volunteer information than during a personal interview. Focus-groups also create the norm *that makes it okay to speak out in front of others.* Less inhibited individuals who tend to share their experiences more easily, seem to encourage others to share theirs and this leads to self-reinforcing and self-maintaining of the group discussion. Fern (1982:444) adds that increased excitement in a group encourages participants to expose their own ideas.

Motivation for the inclusion of focus-group discussions As a concluding stage of the script-elicitation procedure, focus-groups could be used to evoke active, spontaneous in depth discussions and the illumination of a limited number of topics/issues that were raised during previous elicitation stages and might need some kind of clarification. It can also serve as opportunity for triangulation (Macun & Posel, 1998:118-120; Stoltman *et al,* 1989:390).

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, 1988:584). Individual interviews, in contrast, provide little time to think and mainly produce personal ideas/opinions (McQuarrie & McIntyre, 1988:583, 584; Lautman, 1982:52, 53). Fern (1982 in McQuarrie & McIntyre, 1988:582, 584) reminds that although group discussions produce fewer ideas than individual interviews they are successful in producing *shared* thoughts.

- Focus-group discussions *minimize the role of the researcher*/interviewer as opposed to the situation during individual interviews (see stage 2 procedure) (Macun & Posel, 1998:116, 122, 124) and allow time for spontaneous interaction of participants (McQuarrie & McIntyre, 1988:584).
- Because some individuals might find it easier to speak out than to put their thoughts in writing, specific issues could even be debated (Stoltman *et al*, 1989:389).

Assumptions Focus-group discussions should be conducted understanding that:

- Only a relatively small number (probably up to twelve) of characteristic responses to the event can be expected per focus-groups discussion (Fishbein & Ajzen's theory, 1975 in McQuarrie & McIntyre, 1988:582). Focus-group discussions should thus rather be held at the end of this research project to illuminate a limited number of issues.
- Although most group members will be capable of more than one response to an issue, group interaction will provide the opportunity to debate differences of opinion.
- Focus-groups members have to be carefully selected to ensure that the responses represent the ideas of the population of consumers one wishes to study: if members of the population are represented in the focus-groups session, the responses of the group are more likely to be representative of the bigger population.

Focus-groups procedures Although focus-groups can not be planned according to rigid, hard and fast rules, certain control measures are required to optimize data generation and the authenticity of the data generation situation (Shimp, 1983:127). Of the three distinct focus-groups approaches defined by Calder (in Fern, 1982:449), a phenomenological approach is typically used to investigate consumer behaviour and seems more suitable to uncover everyday knowledge, as well as everyday language (as opposed to scientific knowledge) (McQuarrie & McIntyre, 1988:581).

Following a phenomenological approach, attention should be given to

- inclusion of a brief "warming up session" to encourage active participation in discussions.
- neutralize any apparent differences in social status within a group to ensure that participants are socially and intellectually compatible (Macun & Posel, 1998:124; Fern, 1983:121, 123, 125). Nicknames on nametags can be used to control the degree of anonymity (Cook, 1982:62).
- planning of a comfortable seating arrangement that will improve group interaction (McQuarrie & McIntyre, 1988:580).
- the participation of both spouses during the focus-groups discussions to prevent one speaking

on behalf of the other and thereby excluding participation of half of the group (Cook, 1982:62).

Number of participants Limited "air time" for each participant within a group discussion means that there has to be enough time for each individual to participate and express his/her views without stretching the length of the session. Eight to ten participants (maximum) per group discussion – all selected from previous data-collection sessions would be practical (Payne & Levy, 1975 and Well, 1974 in Lautman, 1982:54).

Room layout Seating around a round table is recommended to encourage a flow of conversations, to allow eye contact within close proximity, and physical support despite the psychological distance between participants (Lautman, 1982:54).

Discussion topics and data-collection Limited "air time" necessitates the formulation of specific goals and questions for the focus-groups discussion to restrict the discussion time (Macun & Posel, 1998:121). A response oriented rather than a question-oriented approach is recommended to provide 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, 1998:126).

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)] x 100 = % 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 of script actions is used to determine stronger (prominent) and weaker script actions from which so-called main concepts are identified. In accordance with previous script studies (Bozinoff, 1982:483; Bower *et al*, 1979:181), 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. It was decided to omit all activities indicated by 25% and less of the participants and to accept those mentioned by 75% and more of the participants as 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 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 5.1).

TABLE 5.1: SUGGESTED PRESENTATION OF ACTION FREQUENCIES

Indicative style of presentation	**Frequency[7] (%)**
action	25-39
action	40-59
ACTION	60-74
ACTION	75+

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 for two independent groups to compare the mean positions of actions for the two separate groups within the same sample (Steyn, Smit, Du Toit & Strasheim, 1994:594).

Stage 2 interviews that were done with a new group of participants should first be transcribed and thereafter be analysed, interpreted, coded, statistically interpreted and tabulated in the same way as stage 1 reports. Once again the trustworthiness of data can be determined using the Mann Whitney rank sum test to compare the action sequences of the stage 2 and stage 1 results.

The stage 3 technique will produce statements in written format and in specific sequence. When analysed, interpreted and tabulated following the same procedure as for the previous data-collection procedures, trustworthiness of data can be determined using the Wilcoxon rank sum test (Steyn *et al,* 1994: 594) to compare the results of the stage 2 and stage 3 procedures. The Wilcoxon test is used to compare results gathered from the same participants.

The written reports of the stage 4 technique should once again be analysed and interpreted following the same procedure as for stages 1 to 3 although the reports will only provide information on certain aspects of the event as requested. 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

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

event out of the natural order. When coding and interpreting data, attention should be given to coding of statements in the order indicated by participants. The Wilcoxon rank sum test can be used to determine the level of agreement of the action sequences as indicated by stage 4 and stage 1 responses (done by the same respondents).

Differences in results (script norms, script actions and sequence of actions) obtained through the various elicitation techniques should be carefully analysed to determine whether differences could be ascribed to possible error or to the potential of 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.

Data generated during the focus-group discussions should be used to clarify any uncertainties through intense discussion of selected topics and carefully formulated questions before generating the final script from the individual script protocols generated in the various stages of script-elicitation. Recordings of focus-group discussions should be transcribed. Transcripts will have to be worked through back and forth to come to concluding statements (Denzin & Lincoln, 2000:831). 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,* 1979:179), 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, 1983:656 and Bower *et al,* 1979:179 as discussed in Erasmus *et al,* 2002:1-8) 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, 1980:278).

Script elements Script elements should be organized in a common, logical order (Bozinoff & Roth, 1983:656) (deducted from stages 1 to 3).

The following structural characteristics (Bozinoff & Roth, 1983:656 and Bower et al, 1979:179 as discussed in Erasmus *et al*, 2002:5, 6) 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 (1986:504) 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** where the data-collection is done for instance in a home environment versus a formal setting. The environment 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) especially when they have to participate more than once without remuneration. The facilitator's contribution in terms of data analysis and his/her acting as supervisor during focus- 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 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. It is important that participants are selected taking into consideration age and financial status to ensure a certain level of familiarity[8] with the event and to improve the chances of activating comprehensive and truthful schemata (Gardner & Raj, 1983:142-144). Experience will facilitate recall by directing retrieval from memory towards context appropriate actions (Warlop & Ratneshwar, 1993:377). It is suggested that responses would be more objective and truthful as participants are not informed about the exact aims of the study (Bozinoff, 1982:485).

Multiple 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. This was also recommended by Bower and co-workers (1979:217) after completion of a script-elicitation study that was based on a written, reconstruction elicitation technique only. 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 to determine the trustworthiness of responses. By subjecting

[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, 1990:280)].

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 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). Various measures can be taken to eliminate error: 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 participants 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, 1993:273-25; La Tour, 1986:696).

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** of 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 short-comings are addressed in time, error is reduced.

To eliminate bias and ambiguity, instructions given to participants should 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, Granbois and Summers (1983:395) 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,* 1983:395, 396). Within script theory this is further warranted by the principle of memory transfer (Abelson, 1981:723) 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 buying 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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