Researcng brand images: The nature and activation of brand representations in memory

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Second study on the establishment of brand representations

The H-G study described in the previous chapter yielded positive results to the hypotheses on cue effects and brand representation structure differences. Firstly, regarding the cue effect a specific result was obtained from each method on both studied brands. Secondly, the brands Heineken and Grolsch differ on their associative structure, depending on the method used. The question remains whether these results are limited to these two specific beer brands, or if it could be a general phenomenon: would the findings hold in other product categories as well, or would it be confined to the product beer? This question is addressed in the second study on the establishment of brand representations in memory.

In the study presented in the following chapters, consumers' memory representations of twelve brands from four different product categories are established. These products are coffee, detergent, TV sets, and automobiles. One criterion in selecting the products is the assumed level of involvement. Paragraph 5.3.2 will elaborate on this. The methodology by which the research questions are answered consists again of FA and IA. Both methods have been altered slightly. The main change in the FA method is shortening the period for listing thoughts. In IA, changes concern the wordings on attribute cueing cards, following the experience with the previous study. In order to check the comprehensibility of attribute wordings a small validation study was conducted on the brands Coca-Cola and Philips (described in paragraph 5.2.2.1). Another adjustment is the addition of response ratings on both their evaluative status and their relevance to the evaluation brand. Both methods will be elucidated in the following paragraphs.

A major addition to the study is the introduction of the context factor. It is assumed that as context provides a certain perspective, it affects the process of attribute. Hence the results of measurements will differ over different context settings. In the present study differences are explored between evaluations obtained within a neutral context compared to evaluations obtained within a purchase context. Paragraph 5.2.3 will provide further explanation of the context manipulation.

The IBRA that provided the attributes cued in the H-G study was altered after the H-G research experiences and ongoing review of literature. The IBRA as presented in chapter one of this dissertation served as the basis for the present study. This final version of the IBRA covers 57 attributes, gathered into ten main attribute groups. Table 5.1 presents the 57 attributes included in the IBRA.
Table 5.1: attributes included in the IBRA and corresponding card wordings for IA.

<table>
<thead>
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<th>Main attribute group</th>
<th>Attribute</th>
<th>Card wordings (in general product/brand terms, translated from Dutch)</th>
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<td>Product characteristics</td>
<td>1. product indication</td>
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<td>2. product physique</td>
<td>(taste/smell/operation of [brand] [product])</td>
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<tr>
<td>Product usage</td>
<td>3. product usage</td>
<td>the use of [product] (place, moment, reason)</td>
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<tr>
<td></td>
<td>4. moment of usage</td>
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<td></td>
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<tr>
<td></td>
<td>7. intrinsic/physical usage cond</td>
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<tr>
<td></td>
<td>8. consequences/effects of usage</td>
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<tr>
<td></td>
<td>9. average product user</td>
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<td>12. brand mark</td>
<td>the [brand] brand mark</td>
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<td></td>
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<td>packaging/appearance of [brand][product]</td>
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<td>15. brand quality</td>
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<td>17. brand price</td>
<td>price of [product] [brand]</td>
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<td></td>
<td>18. price / quality ratio</td>
<td>quality of [brand] [product]</td>
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<td>Brand personification</td>
<td>19. brand personality</td>
<td>brand personality: imagine the brand ([brand]) as a person</td>
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<td>personally important matters in life you can relate to [brand]</td>
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<tr>
<td></td>
<td>21. brand ideology</td>
<td>brand ideology: what does [brand] consider important in life?</td>
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<td>22. brand relation</td>
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<td>23. feelings / emotions</td>
<td>what feelings does/would the use of [brand] give you?</td>
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<td>24. impressive function</td>
<td>what feelings does/would the use of [brand] give you?</td>
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<td>Market</td>
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<td>competitors of [brand]</td>
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<td></td>
<td>28. uniqueness</td>
<td>uniqueness of [brand] / differences with other brands</td>
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<td>29. topically</td>
<td>presence of [brand] in daily life / society</td>
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<td></td>
<td>30. availability</td>
<td>availability of [brand]</td>
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<td></td>
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<td>Organization</td>
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<td>origin of [brand]</td>
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<td></td>
<td>33. organization characteristics</td>
<td>the organization/manufacturer [brand]</td>
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<td></td>
<td>34. organization reputation</td>
<td>reputation of [brand]</td>
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<td>the organization/manufacturer [brand]</td>
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<td>36. organization social responsibility</td>
<td>the organization/manufacturer [brand]</td>
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<td>37. organization alliances</td>
<td>the organization/manufacturer [brand]</td>
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<td>Advertising</td>
<td>38. advertising campaigns</td>
<td>advertising for [brand] (pay-offs/slogan, tv, radio)</td>
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<td></td>
<td>39. pay-off / slogan</td>
<td>advertising for [brand] (pay-offs/slogan, tv, radio)</td>
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<td></td>
<td>40. endorsement</td>
<td>advertising for [brand] (pay-offs/slogan, tv, radio)</td>
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<td>41. promotional actions / gadgets</td>
<td>advertising for [brand] (pay-offs/slogan, tv, radio)</td>
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<td></td>
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<td>advertising for [brand] (pay-offs/slogan, tv, radio)</td>
</tr>
<tr>
<td></td>
<td>43. advertising attitude</td>
<td>your attitude with respect to advertising for [brand]</td>
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<tr>
<td>Attitude &amp; Purchase behavior</td>
<td>44. product purchase behavior</td>
<td>your purchase behavior with respect to [product]</td>
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<td>45. brand purchase behavior</td>
<td>your purchase behavior with respect to [brand]</td>
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<td></td>
<td>46. product attitude</td>
<td>your attitude towards [product]</td>
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<td></td>
<td>47. brand attitude</td>
<td>your attitude towards [brand]</td>
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<td></td>
<td>48. social product norm</td>
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<td>49. social brand norm</td>
<td>your purchase behavior with respect to [brand]</td>
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<td>50. product purchase potential</td>
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<td>your purchase behavior with respect to [brand]</td>
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<td></td>
<td>52. product purchase intention</td>
<td>your purchase behavior with respect to [product]</td>
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<td></td>
<td>53. brand purchase intention</td>
<td>your purchase behavior with respect to [brand]</td>
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<td></td>
<td>54. brand preference</td>
<td>your preference for disapproval of [brand]</td>
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<tr>
<td>Personal reference</td>
<td>55. social reference</td>
<td>attitudes and experiences of your relatives/friends with [brand]</td>
</tr>
<tr>
<td></td>
<td>56. self reference</td>
<td>your use experience with [brand]</td>
</tr>
<tr>
<td></td>
<td>57. information sources</td>
<td>your use experience with [brand]</td>
</tr>
</tbody>
</table>

5.1 Hypotheses

Five general research hypotheses are explored. These hypotheses concern first of all the cue effect, which refers to the impact of providing cues in the activation of brand evaluative knowledge on the resulting 'brand image'. Secondly, the context effect, which refers to the idea that attributes are activated depending on evaluation context. Thirdly, hypotheses on brand representation structure differences, which state that brands within a specific product category can differ from each other with respect to their brand representation structure. Fourthly, the responses
that respondents listed are examined on their degree of favorability to the brand and their degree of relevance in describing the brand. Finally, hypotheses concerning the prediction of brand attitude and purchase intention scores are discussed. Predictors of these scores are the structure of brand representation (i.e. presence or absence of attributes), as also the aforementioned evaluations of responses in terms of favorability and relevance.

5.1.1 Cue effect
The first research hypothesis concerns the presentation of cues embedded in research methods, referred to as the cue effect.

1. Within a neutral evaluation context, the associative structure of a brand as obtained by FA differs from the structure obtained by IA. Relatively more concrete attributes (i.e. product-related attributes) will be evoked by FA, whereas more abstract attributes (i.e. brand personification) will be considered in IA.

The hypothesis generally states that attributes evoked by FA are those that are easy to verbalize, and therefore readily mentioned spontaneously. These will probably be attributes of a concrete nature, like product characteristics and usage. By actively cueing other, less easy to verbalize attributes, the IA method may yield a different result. Attributes of a more abstract, symbolic nature will be described in the initial card thought list, and consequently become candidate for the description of the brand expressed by card selection.

5.1.2 Context effect
The context effect hypothesis is separately stated for both the FA as well as the IA method:

2. Using the FA method, the associative structure of a brand as obtained within a neutral context differs from the structure obtained within a purchase context. More product attributes (i.e. product characteristics and product usage) will be evoked within a neutral context, whereas more purchase-related attributes (i.e. price & quality, attitude & purchase behavior) will be considered in the purchase context.

3. Using the IA method, the associative structure of a brand as obtained within a neutral context differs from the structure obtained within a purchase context. More abstract attributes (i.e. brand personification, attitude & purchase behavior) will be considered within a neutral context, whereas more purchase-related attributes (i.e. price & quality) will be considered in the purchase context.

As stated in the cue effect hypothesis, FA will yield primarily those attributes that are easily verbalized. In comparison to the neutral context, the purchase context will cause price & quality related attributes to be activated more frequently and also mentioned more quickly. In IA, the purchase context will see respondents select more price & quality related attributes compared to the neutral context.

5.1.3 Brand representation structure differences
Paragraph 4.7.2 of the previous chapter showed that there are differences between product-related brands with respect to their respective associative structures. These differences may lead to bias whenever brands are compared using a
method that only relates to one (or some) of the compared brands. The following hypotheses are explored:

4. Brands within a specific product category will differ from each other by their brand representation structure. Both data from FA as well as from IA will show this difference.

5. This difference will be more explicit for high-involvement products than for low-involvement products.

The way in which the representation structure of a specific brand differs from its competitors is not made explicit, as this will be too product dependent. However, it is expected that more structural differences will be found for products with which consumers have high involvement than for low-involvement products. Paragraph 3.3.3 described that people consider more attributes in the evaluation of high involvement products compared to low involvement products. Hence, in looking for differences in structure between brands from one product category, chances are that most differences will be found between high involvement brands as there are more attributes taken into account by a respondent.

5.1.4 Evaluation of responses

Respondents rated the responses they provided on their favorability for the brand, and their degree of relevance to the brand. As an exploratory exercise, these evaluations of responses are investigated. It is considered to be of interest to explore whether positive and/or relevant responses are systematically related to specific attributes groups. If so, then it would be valuable information for brand managers, as they could possibly stress the relation between their brand and these attribute groups in brand communication. It is expected that favorable responses will in general also be considered as of more relevance in evaluating the brand.

5.1.5 Prediction of brand attitude & purchase intention

The respondents' general brand attitudes and purchase intentions were measured in the final questionnaire. It is hypothesized that the value of these measurements can be predicted by, for example, the types of attributes that underlie the representation of a brand in memory. Also, it is assumed that the evaluation of responses allows predictions about values on attitude and purchase intention. Respondents rated their responses provided on both FA and IA on a scale for favorability. However, as not all respondents are expected to list all different types of attributes for FA, analyses on the FA data are confined to correlations. In IA, all attributes have been processed and thereby evaluated. The data obtained by IA can therefore be analyzed by regression analyses. The following hypotheses are explored:

6. Both in FA and IA, brand attitude and purchase intention scores correlate with associative structure. When evaluations are made within a purchase context, correlations will be higher with price & quality attributes compared to those obtained in a neutral context.

7. In IA, response evaluations on price & quality attributes will best predict scores on both brand attitude and purchase intention.
5.2 Methods

5.2.1 Free association
As in the H-G study, respondents were asked to evaluate a brand by FA. Only the brand name was provided as a cue. Respondents were asked to write down thoughts on paper during a given period of time. In the H-G study this time period was one half-hour. However, since respondents had reported not using the full length of time but only 10 minutes maximum, in the present study respondents were allocated about 5-10 minutes.

After all responses were listed, respondents were asked to rate each response on two scales. First on a five-point Likert scale ranging from negative through neutral to positive. On this scale respondents could circle their evaluation. The question accompanying this scale was: ‘Would you rate this response as negative/neutral/positive with respect to the image you hold of the brand?’ Next, all responses had to be rated according to their degree of relevance to the brand. Respondents could indicate response relevance on a five-point Likert scale ranging from very unimportant through neutral to very important. The accompanying question stated: ‘How unimportant/neutral/important do you consider this response with respect to the image you hold of the brand?’

In first instance, responses obtained from FA were coded according to the 57 attributes. These codes were used to check the value and usefulness of the IBRA as a code scheme. In second instance, to enhance comparability between the methods, responses have been recoded according to the 34 attributes (see paragraph 5.2.2.2) used in IA.

5.2.2 Informed association

5.2.2.1 Attribute wordings: test study
The attributes listed on the cards had satisfactorily been processed in the H-G study. On the whole respondents listed thoughts on all cards. Some of the attributes on the H-G study were worded in beer-specific terms. As the aim of the second study was to generalize across different product groups, new wordings were needed for a number of attributes. Two notions were explored. Firstly, should the product-related cards explicitly state the product (like ‘the appearance of beer’) or would general terms suffice (like ‘the appearance of the product’) so that respondents fill in what is referred to by ‘the product’? In studying mono-product brands (like Heineken, Grolsch, Coca-Cola, or King) whenever references to the product are made, only one product will come to mind. However if the representations of multi-product brands are researched using this IA method, how should the general product attributes be cued? For example, both Philips and Sony produce TV sets, but Philips also produces light bulbs. If Philips and Sony were mentioned in research, without reference to TV sets, a comparison would be made between the general manufacturer Philips and the general manufacturer Sony. It is probable, however, that both brands are more interested in comparisons on a competitive market, like the TV sets market. To satisfy these cases the wordings of product
attribute cues should make explicit reference to a target product. For example, cards stated ‘the use of coffee’ or ‘the use of a car’, instead of ‘the use of the product’. Therefore a decision was taken to alter the set of cards for each specific product that is studied, thus abandoning the idea of a strict product generic set of cueing cards.

Secondly, regarding abstract attributes (like feelings, personality, impressive function, et cetera) the question was raised whether these attributes should be either worded in brief, direct terminology on the cards (for example: ‘brand personality’) or if the attributes needed more descriptive wordings (for example: ‘imagine the brand as if it was a person’). Both options have drawbacks. Brief and direct terminology might be too vague for respondents to react, but if, on the other hand, the abstract attribute wordings were too descriptive, this might lead to an over-explicit directing of thoughts. Thus a balance between the two options needs to be found. Attribute wording do not need to be unclear, confusing respondents by their vagueness. And at the same time they must not be so explicit that they leave no room for association. In order to test this point, wordings of IBRA attributes were rated on comprehensibility by a group of students in a small pre-study. The attributes were worded so that they explicitly mentioned the product by name and also the brand name, and brief and direct wordings were used. This would show which abstract attributes could be suitably worded using brief terminology (i.e. would be rated as comprehensible) and which would need to be reworded, using more descriptive terminology, in order to become more comprehensible.

In the pre-study 49 attributes were related to either the mono-product brand Coca-Cola or the multi-product brand Philips. Eight respondents evaluated each brand. Respondents were first asked to indicate on a seven-point Likert scale the degree to which each attribute described their thoughts on the brand. Then they were presented these 49 attributes with the same wordings, and were asked to rate (on a seven-point Likert scale) whether the meaning or connotation of the items was not at all clear or totally clear to them. This second test checked whether respondents had understood (or not) what was meant by each attribute, thus obtaining the extent of the comprehensibility of the wordings. Of the 49 tested attribute wordings, fourteen achieved a mean comprehensibility score lower than 4.0 (which is the mean on the seven-point Likert scale). For Coca-Cola and/or Philips, these were physical condition, ideology, average (product) user, values, impressive function, functional (dis)advantages, average (brand) user, expressive function, social use environment, relation with (brand), packaging, topicality, moment of use, and use effects. These attributes needed rewording in order to ensure clarity. They have been worded in a more explanatory style, using more words to describe the general idea behind the attribute instead of simply stating the attribute (see table 5.1).

One other noteworthy result from this study was that to a certain extent it highlighted the potential danger of including vague attribute wordings. All 49 attributes were first rated on their degree of descriptiveness of the brand, followed by their degree of comprehensibility. Calculating the correlation between these two
measures resulted in the quite high correlations of .85 for Coca-Cola and .68 for Philips. One interpretation is that unclear (worded) attributes are also rated as less descriptive of a brand, therefore it is possible that only the comprehensible attributes are considered to describe the brand and unclear attributes are immediately ignored as descriptors. This interpretation is another argument for the rewording of abstract attributes in more descriptive and comprehensive terminology.

5.2.2.2 Attribute cueing cards
To prevent the potential danger of cognitive overload and fatigue, the 57 attributes have not all been cued. A subset of 34 attributes was taken, which was considered to be the minimum number to cover all of the attributes listed at best. The results of the qualitative analysis performed on the card responses obtained in the H-G study were used as a guideline for selecting this subset. From these results it appeared that, for example, the card organization yielded responses on all facets covered under the IBRA's organization heading like characteristics, ability, social responsibility and alliances. This suggests that for each of these specific attributes no separate cue needs to be provided. Also, cueing advertising in general yielded responses relating to its different categories like campaigns, actions, sponsoring et cetera. Thus some of the cards in the subset intended to represent only one attribute, whereas other cards represented certain related attributes. See table 5.1 for the exact card wordings of the attributes.

5.2.2.3 Procedure
The procedure of the IA method was identical to that of the H-G study. Respondents were first asked to look at all the cards presented, placed in a rectangle in front of them. Next, respondents were asked to read each card more carefully and to list responses on each card on paper provided. The respondents' evaluation of their responses was added to the IA method, that is to say, they were asked to evaluate each of his/her attribute responses on a five-point Likert scale, ranging from negative through neutral to positive with respect to the brand's image. After listing and evaluating responses respondents were asked to select those cards that describe their image of the brand.

5.2.3 Context manipulation
In order to answer the question regarding the differential effect that providing a context has on brand evaluation, the context needed to be manipulated. During brainstorming sessions with fellow Ph.D. students, several methods were proposed for this study, ranging from copying supermarket interiors to listening to shopping noises. However, one practical concern was that the way in which the context perspective would be induced needed to fit within the way of collecting data (see paragraph 5.3.1). It was decided to induce context by using scenarios. A scenario describes in short an imaginary action. The scenarios used in the study had respondents imagine that they were to purchase coffee, detergent, a TV set or an automobile.

With respect to coffee and detergent, respondents were given a description of a daily shopping event, and were presented with a shopping list. This list contained
several items to buy, which included coffee or detergent. Respondents were asked to imagine maneuvering through the aisles of the supermarket, and to look for coffee/detergent. The scenario had them imagine standing in front of the coffee/detergent section. It ended with the line: 'Among all brands, one of the brands you see in front of you is (brand name)'. By turning the page, respondents were instructed to continue with listing thoughts (on FA) or selecting cards (on IA).

With respect to TV sets and automobiles the scenario read that either had broken down after a number of years. Now respondents were in need of a replacement and would go out to purchase a new one. For TV sets, the scenario read that respondents went to an electronics store, and would try to locate the TV set section. Looking at all the different brands exposed in this section, respondents were provided with the same line: 'One of the brands you see in front of you is (brand name)'. For automobiles, respondents were asked to imagine visiting a dealer of the target brand. In the dealer shop all types of cars of the target brand would be parked. The final line of the scenario read: 'You are about to purchase a new car. Now what comes to mind when seeing these (brand name) automobiles.' Examples of the purchase scenarios on coffee and automobiles are provided in appendix I, box A5.1.

5.3 Design

5.3.1 Data collection

It became clear that some considerations needed to be addressed with respect to the design of the study. Firstly, the obvious notion that research on brand representations in memory concerns consumers, as it is their memory we are interested in. Market research makes use of representative samples, wherein representative means that participants who are invited to come to the agency and perform all kinds of tests and evaluations can be considered 'average consumers'. As this research project sets out to relate to the practice of market research, a similarly representative sample was aimed for. A choice was made not to base this study on student samples (as has unfortunately become characteristic of most academic research) but to include consumers that were as 'average' as possible. In other words, the sample aimed for should be a reflection of the Dutch population. Secondly, there was an intention to replicate the first study on more products and more brands in order to see whether the previous results could be extended to other products. Thus the design of the study aimed at a maximum manageable number of products and brands. Thirdly, the experiences from the first study and literature (Cramphorn 1998) suggested that at least 30 respondents should evaluate one brand, in order to obtain stable and representative results.

With these three notions in mind the help of a market research agency (Interview/ NSS, Amsterdam) to collect the data was highly appreciated. Their infrastructure and experience in conducting large-scale studies allowed first of all a representative Dutch sample to be reached. The following procedure was designed to conduct the study. Aiming at a minimal sample of 30 respondents evaluating a brand,
a total sample of 360 respondents could evaluate twelve brands. Although the inclusion of more respondents would correspondingly allow for the inclusion of more brands, practical financial restrictions limited the study to about 360 respondents. For the process of collecting data, it was agreed that from Interview/NSS’ pool of professional interviewers some 360 would be randomly selected. Each of the selected interviewers received the research materials by mail, including an instruction to go out and find one respondent by him/herself. Interviewers were instructed that this respondent should not be a friend or relative, and that the respondent should be within the 25-55 years age group. Respondents were not financially rewarded for their cooperation. This procedure had the advantage of collecting data from a large nationwide representative sample of ‘average’ consumers. The main disadvantage is that it did not allow for any respondent selection in advance, for example selection on brand usage or brand familiarity.

5.3.2 Brands

In market research it has become a given that consumers vary in the way they are involved with products, and, depending on the degree of usage and familiarity with a product and the level of involvement with it, consumers differ in their a priori product knowledge of a brand. Some consumers may have a lot of knowledge on a specific brand, whereas others do not know the brand at all. Another issue is that users and non-users (or high and low knowledgeable consumers) show high levels of agreement for descriptive attributes but not for evaluative attributes (Riquier and Sharp 1997). However, because of practical considerations such as costs, collecting the data did not allow for the selection of respondents a priori on their level of usage and familiarity, but, in choosing products one criterion was that all potential respondents could realistically be expected to use the product. By this criterion the majority of respondents in the sample could be expected to be ‘product users’. Apart from usage and familiarity, the level of involvement consumers have with products is, to some extent, known from literature (Poiesz 1997; Ratchford 1987; Rossiter 1991). This dimension was also used in choosing the products to be studied. Four products were selected based on their assumed usage level and degree of product involvement: coffee, detergents, TV sets, and automobiles. Coffee and detergents are assumed to represent low-involvement products, in contrast to TV sets and automobiles. In making this distinction involvement is primarily related to the different levels of costs and amount of time involved in the process of purchase. On the other hand, coffee and automobiles are supposed to represent products that are purchased on emotional grounds more than detergents and TV sets. By selecting these products, several dimensions of involvement were covered. Whether this is actually the case will be checked in the analyses.

Because the main interest is the differential effect of cues and context, it was considered that not all respondents needed to use the same brand. The choice of brands within each product category was led more by the expectation that these would yield relatively comparative samples of non-users versus users when respondents were randomly selected by the procedure described above. Even so the chosen brands needed to be well known by the Dutch population. For coffee, the following brands were selected: Van Nelle, Kanis & Gunnink, and Max Havelaar.
These brands are well known in The Netherlands. Although the best-known coffee brand in The Netherlands is Douwe Egberts, this brand has deliberately not been included, as it has been estimated that about 80% of the Dutch coffee drinkers use or have used Douwe Egberts. With this in mind, it could be expected that including the brand Douwe Egberts would create a sample consisting of mainly brand users, whereas this could not be expected for any other coffee brands that would be included. As a result, brand comparisons would consist of comparing a user-sample with two non-user samples, which would be a biased comparison. Therefore three brands were selected that are on the one hand well known, but of which the expectation was that the evaluating sample would be approximately equally split according to brand usage percentages. The choice for detergent brands was based purely on market share. The brands Persil, Omo, and Ariel all have about an equal market share and are well known in the Dutch consumer population. After consulting, among others, the marketing research manager of Philips it was decided to include the TV set brands Philips, Sony, and Grundig as evaluation brands. The market of TV sets is dominated by the brands Philips and Sony, and Grundig was considered to be the first runner-up of the other TV set brands. Regarding the choice of automobiles, it is possible that any brand could have been selected. Automobile brands are all quite well known in The Netherlands, so this criterion no longer needed to be met. Therefore, it was decided to select brands that have different origins and connotations. The brands Volvo, BMW, and Nissan were chosen: Volvo as a distinctive, respected and high-quality brand, BMW as a German brand with a certain personality-like image and a distinct user profile, and Nissan representing the Japanese ‘good price-good quality, less exclusiveness’ automobile industry.

5.3.3 Design and materials
In order to gain as much information as possible from respondents, a research design was created in which each respondent evaluated three brands, each from a different product category. The design consists of six phases.
1. Respondents were given one of the twelve brands to evaluate by FA. After responses had been listed for about 5 minutes, respondents were asked to evaluate all responses on both evaluative status and on relevance to the brand’s image. This is the part of FA in a neutral context;
2. Respondents read a scenario describing the purchase of coffee, detergent, a TV set, or an automobile. This scenario was intended to induce a purchase-context perspective. After reading this scenario, respondents were presented with a second brand from a different product category to be evaluated using FA again for about five minutes. This is the part of FA in a purchase context;
3. The research proceeded with IA. Respondents were presented with a third brand from a third product category, and the set of cards were placed in front of them. Interviewers were instructed to start by laying down the first seven cards, which primarily relate to the product. After respondents had listed thoughts on this first set, the interviewer added the remaining 27 cards, which mainly relate to the brand. Respondents were again asked to list thoughts on each card. After evaluating all the cards, respondents were asked to read their responses over once again, and to rate these by card according to evaluative status (on a five-point Likert scale, ranging from negative to
positive) with respect to the brand’s image. This is the part of IA thought listing in a neutral context;

4. Respondents were next asked to select those cards that they considered being most descriptive of the third brand’s image. As many cards as necessary could be selected. This phase so far is the IA method in a neutral context. This is the part of IA in which the brand image is identified by respondents;

5. In order to also create purchase-contextual responses, ideally respondents would have gone through all the cards and listed thoughts again on another brand. It was assumed that a repetition of this process would be too time-consuming, and above all would be prone to create negative effects due to fatigue and boredom. Therefore, after the interviewer had recorded the first selections, all cards were placed back on the table in the initial order. Respondents were then presented with a scenario that described the purchase of coffee, detergent, a TV set, or an automobile. After reading the scenario respondents were asked to again select those cards that would be most descriptive of the third brand’s image. This is the part of IA thought listing in a purchase context;

6. The research finished with a questionnaire. This questionnaire concerned all the three brands respondents had evaluated. Questions were asked about the respondents’ involvement in purchasing each of the three evaluated products and about their past brand purchase behavior and future brand purchase intentions. A rating of overall attitude was also requested.

In total twelve versions were created. By these twelve versions all of the brands would be evaluated by FA and IA, both within a neutral and a purchase context. And also each brand would be evaluated by at least 30 respondents. Table 5.2 presents (the order of) brands in each version. The material that was send out to each interviewer included thorough instructions. As the interviewers had not been trained beforehand in applying this material, the instructions were written as clearly as possible, and approved by a senior researcher of Interview/NSS.

Table 5.2: distribution of evaluation brands over the twelve versions. Order of method application from left to right.

<table>
<thead>
<tr>
<th>Version</th>
<th>FA neutral context</th>
<th>FA purchase context</th>
<th>IA Neutral context / purchase context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Van Nelle</td>
<td>Grundig</td>
<td>Nissan</td>
</tr>
<tr>
<td>2</td>
<td>Omo</td>
<td>Max Havelaar</td>
<td>Philips</td>
</tr>
<tr>
<td>3</td>
<td>Nissan</td>
<td>Persil</td>
<td>Van Nelle</td>
</tr>
<tr>
<td>4</td>
<td>Philips</td>
<td>BMW</td>
<td>Omo</td>
</tr>
<tr>
<td>5</td>
<td>Kanis &amp; Gunnink</td>
<td>Philips</td>
<td>Volvo</td>
</tr>
<tr>
<td>6</td>
<td>Ariel</td>
<td>Van Nelle</td>
<td>Sony</td>
</tr>
<tr>
<td>7</td>
<td>Volvo</td>
<td>Omo</td>
<td>Kanis &amp; Gunnink</td>
</tr>
<tr>
<td>8</td>
<td>Sony</td>
<td>Nissan</td>
<td>Ariel</td>
</tr>
<tr>
<td>9</td>
<td>Max Havelaar</td>
<td>Sony</td>
<td>BMW</td>
</tr>
<tr>
<td>10</td>
<td>Persil</td>
<td>Kanis &amp; Gunnink</td>
<td>Grundig</td>
</tr>
<tr>
<td>11</td>
<td>BMW</td>
<td>Ariel</td>
<td>Max Havelaar</td>
</tr>
<tr>
<td>12</td>
<td>Grundig</td>
<td>Volvo</td>
<td>Persil</td>
</tr>
</tbody>
</table>
5.4 Sample

In total, 330 respondents were gathered by the research agency Interview NSS. Respondents came from all provinces and some 120 different cities/villages in The Netherlands. Initially, the aim had been to get a minimum of 30 respondents on each of the twelve versions. Therefore, a second data gathering process commenced, in order to raise the number of respondents to at least 360 (30 respondents on each of twelve versions). Supplementary data from 40 respondents were included, totaling 370 respondents. The method as applied in the present form was prone to interviewer bias. Interviewers were requested to select a respondent themselves, which in some cases might not have happened. In one instance, it could be inferred from the raw data that one interviewer had personally filled in two questionnaires. The handwriting as well as the literal responses resembled each other to such an extent on all response materials that it was decided to exclude the data from analyses. Hence the total number of respondents included in the sample was 368. As is the case with almost all methods, some data from a number of respondents were missing. Therefore, the valid sample sizes differ slightly over the methods. Table 5.3 presents the number of respondents per brand per method. The aim was for a random sample of the Dutch population, and therefore for a representative sample. However, probably due to interviewer selection bias, the sample included more women than men (74.4% female, missing data excluded). This appeared to reflect the distribution of gender in the Interview/NSS interviewer pool. Table 5.4 provides some general demographic results (see appendix II, box B for the questionnaire).

Table 5.3: distribution of respondents over each brand and each method.

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>IA</th>
<th>Thought list neutral context</th>
<th>Thought list purchase context</th>
<th>JA</th>
<th>Card selection neutral context</th>
<th>Card selection purchase context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee</td>
<td>Van Nelle</td>
<td>91</td>
<td>31</td>
<td>29</td>
<td>91</td>
<td>30</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>Kanis &amp; Gunnink</td>
<td></td>
<td>29</td>
<td>33</td>
<td></td>
<td>29</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Max Havelaar</td>
<td></td>
<td>30</td>
<td>32</td>
<td></td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>90</td>
<td>94</td>
<td></td>
<td>87</td>
<td>86</td>
</tr>
<tr>
<td>Detergents</td>
<td>Persil</td>
<td>92</td>
<td>33</td>
<td>30</td>
<td>92</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Omo</td>
<td>86</td>
<td>32</td>
<td>35</td>
<td>86</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Ariel</td>
<td>88</td>
<td>29</td>
<td>29</td>
<td>88</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>94</td>
<td>94</td>
<td>88</td>
<td>84</td>
<td>85</td>
<td>84</td>
</tr>
<tr>
<td>TV sets</td>
<td>Philips</td>
<td>92</td>
<td>30</td>
<td>30</td>
<td>92</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Sony</td>
<td>89</td>
<td>29</td>
<td>30</td>
<td>89</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Grundig</td>
<td>93</td>
<td>29</td>
<td>33</td>
<td>93</td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>88</td>
<td>91</td>
<td>95</td>
<td>91</td>
<td>93</td>
<td>91</td>
</tr>
<tr>
<td>Automobiles</td>
<td>Volvo</td>
<td>93</td>
<td>35</td>
<td>29</td>
<td>93</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>BMW</td>
<td>89</td>
<td>29</td>
<td>29</td>
<td>89</td>
<td>30</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Nissan</td>
<td>90</td>
<td>30</td>
<td>29</td>
<td>90</td>
<td>31</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>94</td>
<td>87</td>
<td>90</td>
<td>84</td>
<td>88</td>
<td>84</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>366</td>
<td>366</td>
<td>368</td>
<td>353</td>
<td>345</td>
<td>1101</td>
</tr>
</tbody>
</table>

SECOND STUDY ON THE ESTABLISHMENT OF BRAND REPRESENTATIONS
Table 5.4: demographic characteristics of respondents within total sample (percentages between brackets).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>(Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(24.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>89</td>
<td>274</td>
</tr>
<tr>
<td>Education</td>
<td>LO</td>
<td>1</td>
<td>(0.3)</td>
</tr>
<tr>
<td></td>
<td>LBO</td>
<td>13</td>
<td>(3.6)</td>
</tr>
<tr>
<td></td>
<td>MAVO/MULO</td>
<td>7</td>
<td>(1.9)</td>
</tr>
<tr>
<td></td>
<td>HAVO/HBS/VWO/Gymnasium</td>
<td>6</td>
<td>(1.7)</td>
</tr>
<tr>
<td></td>
<td>MBO/MTS</td>
<td>24</td>
<td>(6.6)</td>
</tr>
<tr>
<td></td>
<td>HBO/HTS</td>
<td>21</td>
<td>(5.8)</td>
</tr>
<tr>
<td></td>
<td>WO</td>
<td>17</td>
<td>(4.7)</td>
</tr>
<tr>
<td>Age</td>
<td>Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.5: brand usage status within each sample across each method.

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Free association</th>
<th>Free association</th>
<th>Informed association</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Neutral context</td>
<td>Purchase context</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>non</td>
<td>ex</td>
<td>pres</td>
<td>non</td>
</tr>
<tr>
<td>Coffee</td>
<td>Van Nelle</td>
<td>20</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Kanis &amp; Gunnink</td>
<td>22</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Max Havelaar</td>
<td>22</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Detergents</td>
<td>Persil</td>
<td>24</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Omo</td>
<td>23</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Ariel</td>
<td>17</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>TV sets</td>
<td>Philips</td>
<td>11</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Sony</td>
<td>18</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Grundig</td>
<td>27</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Automobiles</td>
<td>Volvo</td>
<td>24</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>BMW</td>
<td>22</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Nissan</td>
<td>17</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: non = non-brand user; ex = ex-brand user; pres. = present brand user. Underlined figures indicate significant absence or presence of the corresponding brand user type on a brand, compared to the other two brands within a product group and method.

After respondents had evaluated three brands they were asked to fill in a questionnaire which covered issues like present brand usage and past usage of the evaluated brands (see appendix II, box C). From the combination of the results from these questions it could be inferred what the status of usage was for all respondents. Three usage groups were distinguished: non-brand users, ex-brand users and present brand users. Table 5.5 shows for each brand the distribution of user status over method. If all products are considered separately on each method, significant differences on distribution are only found on the TV set samples. Because Philips and Sony are the two major leaders in this market, significant distribution differences are presumably found on each method due to the absence of present Grundig users (and hence the relative over-representation of non-Grundig users). On all other products, the samples evaluating the brands are equal with respect to brand users and non-users.
5.5 Data

5.5.1 Product involvement

Six questions were asked to gauge a degree of product involvement (see appendix II, box C). These questions are a subset of a translated version of the Ratchford involvement scale (Snelders 1995; Ratchford 1987). The scale consisted of six five-point semantic differentials, related to the following product purchase related topics:

1. On the choice of [a] [product name], I [do not spend a lot of time] ↔ [spend a lot of time]
2. Choosing [a] [product name], is an [unimportant decision to me] ↔ [important decision to me]
3. On choosing [a] [product name], I [do not take time to consider alternatives] ↔ [take time to consider alternatives]
4. On choosing [a] [product name], I consider it [not wrong to make a bad choice] ↔ [wrong to make a bad choice]
5. On choosing [a] [product name], the choice I make [is of no concern to me] ↔ [is of concern to me]
6. On choosing [a] [product name], my choice is [not based on feelings] ↔ [based on feelings]

Table 5.6 presents correlations between the questions for each product category separately. From the correlations it appears that certain factors underlie these six questions. Firstly, the question on feelings has low correlations with the other questions. This indicates that it can be considered an independent factor in the involvement construct. Among the five remaining questions, there seem to be some time spending related and some decision importance related questions. Factor analyses were carried out for each product separately to check whether there are factors that underlie the involvement construct as measured by the presented scale. To prevent unnecessary increasing variance, the feelings question was not included in the analyses. Since scores on this question did not or only marginally correlate with the remaining questions, feelings is a priori considered a separate factor and treated as such. Table 5.7 presents the results of these analyses. It appears that for both coffee and detergents two factors underlie the correlations between the first five items (based on the criterion eigenwaarde > 1.0). These two factors account for 75.5% of the coffee data variance and 78.9% of the detergent data variance. The first factor consists of three items: decision importance, wrong choice, and decision concern. The second factor consists of two items: time spending and time for alternatives. For both TV sets and automobiles, however, only one factor is extracted by factor analysis. This factor accounts for respectively 55.2% and 61.1% of the TV set and the automobile data variance. When a two-factor solution is forced on TV sets and automobiles, the same pattern is found as for coffee and detergents. These two factors account for respectively 72.3% and 77.3% of the TV set data variance and the automobile data variance.
Table 5.6: significant correlations between involvement items.

<table>
<thead>
<tr>
<th></th>
<th>1) time spending</th>
<th>2) decision importance</th>
<th>3) time for alternatives</th>
<th>4) wrong choice</th>
<th>5) decision concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) decision importance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coffee</td>
<td>.33</td>
<td>.17</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>detergent</td>
<td>.48</td>
<td>.61</td>
<td>.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV set</td>
<td>.68</td>
<td>.45</td>
<td>.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>automobile</td>
<td>.70</td>
<td>.55</td>
<td>.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) time for alternatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coffee</td>
<td>.59</td>
<td>.75</td>
<td>.25</td>
<td>.56</td>
<td>.62</td>
</tr>
<tr>
<td>detergent</td>
<td>.35</td>
<td>.47</td>
<td>.25</td>
<td>.42</td>
<td>.46</td>
</tr>
<tr>
<td>TV set</td>
<td>.58</td>
<td>.61</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>automobile</td>
<td>.69</td>
<td>.61</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) wrong choice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coffee</td>
<td>.21</td>
<td>.19</td>
<td>.14</td>
<td>.20</td>
<td>.21</td>
</tr>
<tr>
<td>detergent</td>
<td>.33</td>
<td>.18</td>
<td>.14</td>
<td>.22</td>
<td>.17</td>
</tr>
<tr>
<td>TV set</td>
<td>.38</td>
<td>.19</td>
<td>.14</td>
<td>.20</td>
<td>.17</td>
</tr>
<tr>
<td>automobile</td>
<td>.41</td>
<td>.18</td>
<td>.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: blank fields indicate non-significant correlations. N (coffee)=278, N (detergents)=275, N (TV sets)=274, N (automobiles)=271.

In order to simplify the involvement construct for analysis purposes, a decision was made to split the six-item involvement scale into three factors. First factor is Decision Importance (DI), calculated as the mean score on the three items decision importance, wrong choice, and decision concern. Second factor is Time Spending (TS), calculated as the mean score on the two items time spending and time for alternatives. The third factor Feelings (F) is the original item feelings, with its original scores.

Initially the four product categories coffee, detergents, TV sets, and automobiles were chosen because they were assumed to differ in the level of involvement consumers have with each. From Table 5.8 it can be inferred that there is indeed a difference between products on each involvement factor. On DI, the detergents generally differ significantly from the other three products. Coffee scores higher on DI than detergents, but lower than TV sets and automobiles. Taking the mean scores on DI of the four products into consideration, three levels can be distinguished: low (detergents), moderate (coffee), and high (TV sets and automobiles). Although these labels might exaggerate the absolute differences, they intend to address the relative levels.

Looking at TS, coffee and detergents take significantly less time to purchase than TV sets and automobiles. It is particularly interesting that that respondents rate the purchase of an automobile to take less time than the purchase of a TV set. This could possibly be explained by the idea that most people will already have a consideration set of brands before they decide to inform themselves when purchasing a new automobile. In contrast, in purchasing a new TV set, people probably have a lesser defined consideration set of brands and take more time to compare features of the different makes. On the TS dimension two levels are distinguished: low amount of time (coffee and detergents) a moderate amount of time (automobiles) and high amount of time (TV sets).
On the third factor feelings, it was expected that coffee and automobiles would be purchased more on feelings than detergents and TV sets. Indeed the purchase of TV sets involves a lower degree of feelings than the purchase of either coffee or automobiles, as predicted. However the purchase of detergents apparently involves as much feelings as coffee and automobiles, which was not expected. The scores on this factor are all well below three (the scale’s mid point) and close to each other which reflects that feelings are not much involved for any of these purchases. This finding might be due to the fact that only one question was asked to establish the impact of feelings. Based on the scores on the involvement factors the products used in this study differ from each other on some or all dimensions of the involvement construct. Table 5.9 displays the differences between the products on the involvement dimensions.

Table 5.7: factor eigenwaarden and loadings (> .40, varimax rotation) for each product category.

<table>
<thead>
<tr>
<th>Product</th>
<th>Factor loading of items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Coffee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Detergents</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>TV sets</td>
<td></td>
</tr>
<tr>
<td>Automobiles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.8: means for involvement factors for each product category.

<table>
<thead>
<tr>
<th>Product</th>
<th>Decision Importance (DI)</th>
<th>Time Spending (TS)</th>
<th>Feelings (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee</td>
<td>3.62 a</td>
<td>2.42 c</td>
<td>2.95 a</td>
</tr>
<tr>
<td>Detergents</td>
<td>3.75 a</td>
<td>2.54 c</td>
<td>2.74 a</td>
</tr>
<tr>
<td>TV sets</td>
<td>3.97 a</td>
<td>3.83 a</td>
<td>2.50 a</td>
</tr>
<tr>
<td>Automobiles</td>
<td>3.83 a</td>
<td>3.38 a</td>
<td>2.78 a</td>
</tr>
</tbody>
</table>

Table 5.9: product positions on involvement dimensions Decision Importance (DI), Time Spending (TS), and Feelings (F).

<table>
<thead>
<tr>
<th>Product</th>
<th>TS Low</th>
<th>DI Low</th>
<th>DI Moderate</th>
<th>DI High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee</td>
<td>F</td>
<td>Detergents</td>
<td>Coffee</td>
<td>Automobiles</td>
</tr>
<tr>
<td>Detergents</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV sets</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobiles</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.5.2 Free association

On FA, 366 ‘valid’ respondents yielded a total of 4583 responses on all brands. Of these, 2208 were elicited within the neutral evaluation context, versus 2375 within the purchase evaluation context. Table 5.10 shows the mean number of responses obtained for each brand on both context frames. The FA responses are coded into
the 57 sub-attributes listed in the IBRA. A second coder independently coded a random sample of 876 responses obtained on the coffee brands (approximately 80% of all coffee brand responses). As in the first study this second coder was not specifically trained at forehand in using the IBRA, other than being provided with an instruction. Following the reliability index calculation proposed by Perreault jr. and Leigh (1989), a reliability index of .75 was obtained when responses were coded into the 57 categories. Across the ten main attribute groups the reliability index was .85. Although the latter result is quite satisfactory, some of the differences are quite substantial. Table 5.11 presents the distribution of codes according to the two coders. For example, coder 1 coded 24 responses as personal reference, whereas coder 2 coded these as attitude & purchase behavior. Both categories are consumer-related attributes. Also, coder 1 coded 23 responses as brand personification, in contrast to coder 2 who coded these as organization attributes. The latter different codings concern two different main attribute groups.

Table 5.10: mean number of responses on each brand obtained from each context frame.

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Neutral context</th>
<th>Purchase context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Coffee</td>
<td>31</td>
<td>7.3</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>5.7</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>6.3</td>
<td>3.9</td>
</tr>
<tr>
<td>Detergents</td>
<td>33</td>
<td>4.7</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>4.6</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>6.1</td>
<td>2.8</td>
</tr>
<tr>
<td>TV sets</td>
<td>30</td>
<td>4.9</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>5.9</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>5.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Automobiles</td>
<td>35</td>
<td>7.4</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>8.6</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>5.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>366</td>
<td>6.0</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Table 5.11: correspondence between two coders on a random sample of coffee brand responses.

<table>
<thead>
<tr>
<th>Attribute group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coder 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>122</td>
</tr>
<tr>
<td>1. product characteristics</td>
<td>98</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>11</td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>2. product usage</td>
<td>8</td>
<td>100</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. brand identifiers</td>
<td>2</td>
<td>64</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>4. price &amp; quality</td>
<td>1</td>
<td>1</td>
<td>68</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>5. brand personification</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>45</td>
<td>1</td>
<td>23</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td>85</td>
</tr>
<tr>
<td>6. market</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>49</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. organization</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71</td>
</tr>
<tr>
<td>8. advertising</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>60</td>
<td>61</td>
</tr>
<tr>
<td>9. attitude &amp; purchase behavior</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
<td>107</td>
<td>2</td>
<td>127</td>
</tr>
<tr>
<td>10. personal reference</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>11</td>
<td>3</td>
<td>1</td>
<td>24</td>
<td>16</td>
<td></td>
<td></td>
<td>876</td>
</tr>
<tr>
<td>Total</td>
<td>125</td>
<td>116</td>
<td>73</td>
<td>72</td>
<td>95</td>
<td>58</td>
<td>80</td>
<td>68</td>
<td>164</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

A third coder coded another sample of responses. This time, the coder was trained in the usage of the IBRA as a code scheme. Comparing the original codings with those of the trained third coder on a sample of 605 responses, Perreault jr. & Leigh's reliability index reached .90 when coded into the 57 categories, and .94 when coded into the ten main attribute groups. All responses that were differently coded by the first and the second coders, and by the first and the third coders were discussed and recoded after agreement. Then, all remaining response codes were
checked according to the experiences with checking the initial response codes samples. Finally, all responses labeled by each individual code were gathered and checked on random errors (e.g. mistypings of response codes), in order to ensure that each code category contained the appropriate responses.

If some responses required too much interpretation in order to be able to code them, there were classified as uncodable. Only 58 of the 4583 responses (= 1.3%) could not be coded by the IBRA code scheme. With 98.7% of responses successfully coded, the IBRA again proves to be a useful and exhaustive inventory of possible brand representation attributes. Table A5.1 in appendix I presents the occurrence frequency of the 57 codes on all twelve brands, both for the neutral context as for the purchase context data.

57 different attribute codes were applied to code the FA data. However in the IA method only 34 cards cover these attributes. For comparisons between these two methods the FA codes have been recoded into the 34 (IA) card attributes, according to their correspondence as displayed in table 5.1. Table A5.2 in appendix I presents the occurrence frequency of the 34 codes on all twelve brands, both for the neutral context as the purchase context data.

5.5.3 Informed association

Table 5.12 presents data on the selection of cards in the IA method. Except for all three automobile brands, it shows that the purchase context led to less cards being selected than the neutral context. The decrease in mean number of selections over context is only significant for three out of nine brands, being the coffee brands Van Nelle and Max Havelaar, and for the TV set brand Philips. For the brand Nissan, the increase of mean number of card selections is significant. Table A5.3 in appendix I presents the frequencies of card selections for each brand in both contexts.

Table 5.12: mean number of card selections for each brand obtained from each context frame.

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Neutral context</th>
<th>Purchase context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Coffee</td>
<td>Van Nelle</td>
<td>30</td>
<td>6.19</td>
</tr>
<tr>
<td></td>
<td>Kaa &amp; Gunnink</td>
<td>29</td>
<td>5.39</td>
</tr>
<tr>
<td></td>
<td>Max Havelaar</td>
<td>29</td>
<td>6.79</td>
</tr>
<tr>
<td>Detergents</td>
<td>Persil</td>
<td>29</td>
<td>5.38</td>
</tr>
<tr>
<td></td>
<td>Omo</td>
<td>29</td>
<td>5.14</td>
</tr>
<tr>
<td></td>
<td>Ariel</td>
<td>27</td>
<td>5.30</td>
</tr>
<tr>
<td>TV sets</td>
<td>Philips</td>
<td>30</td>
<td>6.73</td>
</tr>
<tr>
<td></td>
<td>Sony</td>
<td>30</td>
<td>8.10</td>
</tr>
<tr>
<td></td>
<td>Grundig</td>
<td>33</td>
<td>5.64</td>
</tr>
<tr>
<td>Automobiles</td>
<td>Volvo</td>
<td>29</td>
<td>5.03</td>
</tr>
<tr>
<td></td>
<td>BMW</td>
<td>30</td>
<td>6.73</td>
</tr>
<tr>
<td></td>
<td>Nissan</td>
<td>29</td>
<td>6.48</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>353</td>
<td>6.08</td>
</tr>
</tbody>
</table>

Note: underlined figures indicate significant differences over contexts (p < .05).