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

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Results (II): Response evaluations & the prediction of brand attitude and purchase intention scores

This chapter explores firstly how respondents evaluate the responses they provide when evaluating a brand, in terms of favorability (i.e. a positive or negative evaluation) and relevance (i.e. an important or unimportant evaluation). Apart from listing all attributes that seemingly underlie the representation of a brand, taking their evaluation into account might give extra and valuable information to advertisers. It is expected that favorable and relevant attributes are indicators of a favorable brand attitude, and also of a higher purchase intention. The chapter starts off with exploring the relation between response evaluations and the frequency by which favorable responses occur on each brand within each of the employed methods. Also, the notion of brand representation differences is related to response evaluations to see if brands also distinguish on the valence of response evaluation, or only on their representational structure.

Until this point the representation of brands in memory has been pictured without relating it to what consumer actually do with it all. The interesting thing to know in the end is obviously how brand representations in memory relate to consumers' brand attitudes and purchase intentions. This chapter secondly tries to relate the findings obtained so far to scores on brand attitude and purchase intention. Using regression analysis, an attempt is made to predict scores on brand attitude and purchase intention by both the structure of brand representations and the evaluation of responses.

7.1 Response evaluations

According to Keller (1993, 1998), associations (i.e. attribute values) hold a degree of favorability, uniqueness and strength. In this thesis, added to these three features is the degree of relevance that an association has to the image of the brand. Since all these features yield important and interesting information, they should ideally be taken into account when researching brand representations. For the managerial relevance of conducting brand representation research, besides listing all the attributes that underlie the representation of a brand, it is interesting to identify those attributes that are considered to be either negative or positive, and at the same time of relevance to the brand. In the present study, the relevance and favorability of the obtained attribute values have been established. As the study
design comprised single-brand evaluations, uniqueness measures were not included. Uniqueness is, however, included as a single attribute in the IBRA. Following the general criticism on the relation between association strength and response order provided in paragraph 4.2.1.2, the strength of an association is not explicitly addressed.

### 7.1.1 Free association

In the FA method, respondents rated each response they provided according to favorability and relevance. Firstly, the favorability of responses was rated on a five-point Likert scale as being a negative, neutral or positive evaluation of the brand. Secondly, the responses were rated on their degree of relevance to the brand, again using a five-point Likert scale. A response could be rated as being either unimportant, of neutral importance or important to the brand. Table 7.1 shows that the largest proportion of all responses obtained within a neutral context has an emotional valence. On average, just less than one quarter of all responses is evaluated as neutral, leaving over 75% evaluated as either positive or negative. Most responses are positively evaluated (on average 58%), and a lower percentage of responses is evaluated as negative (18%).

<table>
<thead>
<tr>
<th>Table 7.1: response evaluations on each brand (in %). Neutral context.</th>
</tr>
</thead>
<tbody>
<tr>
<td>n (responses)</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Negative</td>
</tr>
<tr>
<td>Neutral</td>
</tr>
<tr>
<td>Positive</td>
</tr>
</tbody>
</table>

If the responses gathered within a purchase context (table 7.2) are considered, on average the same results are obtained over brands. However, if each individual brand is studied, it becomes clear that some brands are evaluated more negatively in this context. For example, all three detergent brands yield substantially more negative responses, and less positive responses compared to the neutral context evaluations. The same is true for Max Havelaar. In contrast, evaluating Sony in a purchase context yields more positive responses compared to a neutral context.

<table>
<thead>
<tr>
<th>Table 7.2: response evaluations on each brand (in %). Purchase context.</th>
</tr>
</thead>
<tbody>
<tr>
<td>n (responses)</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Negative</td>
</tr>
<tr>
<td>Neutral</td>
</tr>
<tr>
<td>Positive</td>
</tr>
</tbody>
</table>

Looking at the relevance ratings of responses (table 7.3), the results show that, on average, 59% of all responses obtained by FA within a neutral context is regarded to be (very) important to the brand's image. Although this figure is quite high, it leaves well over 40% of the responses considered as of no importance to the brand. This could imply that when data are gathered by FA, not all of the obtained responses should be considered to be of equal relevance, as respondents do not...
solely list responses that are important to the brand’s image. Evaluations made within a purchase context (table 7.4) show that slightly more responses are considered to be of importance (66%). Again, there are some substantial differences between contexts for some brands. For example, far more important responses are obtained on Persil and Grundig within a purchase context compared to a neutral context (75% versus 48%, respectively 72% versus 49%).

Table 7.3: response relevance on each brand (in %). Neutral context.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Unimportant</th>
<th>Neutral</th>
<th>Important</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van</td>
<td>226</td>
<td>144</td>
<td>174</td>
<td>544</td>
</tr>
<tr>
<td>Nelle</td>
<td>6</td>
<td>14</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Vanis &amp; Gunnink</td>
<td>33</td>
<td>26</td>
<td>18</td>
<td>77</td>
</tr>
<tr>
<td>Max</td>
<td>153</td>
<td>145</td>
<td>174</td>
<td>472</td>
</tr>
<tr>
<td>Havelaar</td>
<td>144</td>
<td>170</td>
<td>258</td>
<td>572</td>
</tr>
<tr>
<td>Persil</td>
<td>170</td>
<td>170</td>
<td>258</td>
<td>598</td>
</tr>
<tr>
<td>Omo</td>
<td>242</td>
<td>150</td>
<td>59</td>
<td>451</td>
</tr>
<tr>
<td>Ariel</td>
<td>215</td>
<td>00</td>
<td>2</td>
<td>217</td>
</tr>
<tr>
<td>Philips</td>
<td>2</td>
<td>4</td>
<td>56</td>
<td>62</td>
</tr>
<tr>
<td>Sony</td>
<td>60</td>
<td>65</td>
<td>49</td>
<td>174</td>
</tr>
<tr>
<td>Grundig</td>
<td>20</td>
<td>2</td>
<td>46</td>
<td>68</td>
</tr>
<tr>
<td>Volvo</td>
<td>19</td>
<td>1</td>
<td>69</td>
<td>99</td>
</tr>
<tr>
<td>BMW</td>
<td>19</td>
<td>24</td>
<td>67</td>
<td>100</td>
</tr>
<tr>
<td>Nissan</td>
<td>24</td>
<td>22</td>
<td>69</td>
<td>115</td>
</tr>
<tr>
<td>Total</td>
<td>2150</td>
<td>59</td>
<td>6</td>
<td>2221</td>
</tr>
</tbody>
</table>

Table 7.4: response relevance on each brand (in %). Purchase context.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Unimportant</th>
<th>Neutral</th>
<th>Important</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van</td>
<td>179</td>
<td>158</td>
<td>148</td>
<td>485</td>
</tr>
<tr>
<td>Nelle</td>
<td>12</td>
<td>18</td>
<td>22</td>
<td>52</td>
</tr>
<tr>
<td>Vanis &amp; Gunnink</td>
<td>12</td>
<td>18</td>
<td>22</td>
<td>52</td>
</tr>
<tr>
<td>Max</td>
<td>179</td>
<td>216</td>
<td>102</td>
<td>497</td>
</tr>
<tr>
<td>Havelaar</td>
<td>189</td>
<td>189</td>
<td>214</td>
<td>592</td>
</tr>
<tr>
<td>Persil</td>
<td>253</td>
<td>159</td>
<td>238</td>
<td>640</td>
</tr>
<tr>
<td>Omo</td>
<td>234</td>
<td>24</td>
<td>9</td>
<td>267</td>
</tr>
<tr>
<td>Ariel</td>
<td>66</td>
<td>58</td>
<td>69</td>
<td>193</td>
</tr>
<tr>
<td>Philips</td>
<td>10</td>
<td>14</td>
<td>14</td>
<td>38</td>
</tr>
<tr>
<td>Sony</td>
<td>8</td>
<td>14</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td>Grundig</td>
<td>21</td>
<td>25</td>
<td>21</td>
<td>67</td>
</tr>
<tr>
<td>Volvo</td>
<td>69</td>
<td>67</td>
<td>69</td>
<td>205</td>
</tr>
<tr>
<td>BMW</td>
<td>18</td>
<td>21</td>
<td>18</td>
<td>57</td>
</tr>
<tr>
<td>Nissan</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>2314</td>
<td>188</td>
<td>188</td>
<td>2690</td>
</tr>
</tbody>
</table>

Of specific interest for the establishment of brand representations are the responses that are rated as negative and important, and also those that are rated as positive and important. Table 7.5 and table 7.6 present for each context the distribution of response evaluations over response importance ratings, aggregated over brands. It seems that there is a substantial number of negative attributes, which are at the same time considered as important to respondents. Within a neutral evaluation context, this represents 9% of all responses, and within a purchase context this figure increases to 12%. These responses are particularly interesting for advertisers as they reflect consumer opinions that possibly need adjustment. An important finding is that mostly positive-important responses result from FA, on average 44%. These responses reflect the consumer opinions that the advertiser might wish to retain or strengthen as these can underlie a positive brand attitude.

Table 7.5: distribution of evaluations by degree of importance (in %). Neutral context, n(responses) = 2143.

<table>
<thead>
<tr>
<th>Importance</th>
<th>negative</th>
<th>neutral</th>
<th>positive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unimportant</td>
<td>6</td>
<td>11</td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Important</td>
<td>9</td>
<td>7</td>
<td>43</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>24</td>
<td>58</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 7.6: distribution of evaluations by degree of importance (in %). Purchase context, n(responses) = 2285.

<table>
<thead>
<tr>
<th>Importance</th>
<th>negative</th>
<th>neutral</th>
<th>positive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unimportant</td>
<td>5</td>
<td>9</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>8</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>Important</td>
<td>12</td>
<td>9</td>
<td>45</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>26</td>
<td>54</td>
<td>100</td>
</tr>
</tbody>
</table>
It is interesting to explore whether favorable or unfavorable responses relate to specific attribute groups. Unfortunately the number of negative-important responses on each brand is too low to allow for significance tests on the distribution over the ten main attribute groups, therefore analyses need to be confined to favorable responses. Table 7.7 presents for each brand the distribution of positive-important responses over the ten main attribute groups. Some patterns are clearly visible within product categories. For example, the most favorable responses on the detergent brands concern the usage of the product. Between 26% and 45% of all the favorable responses relate to this attribute group. For TV set brands, responses on the price & quality of the product are easily the most favorable: on average, 31% of the positive-important responses on these brands relate to price & quality. For automobile brands, a substantial proportion of favorable responses is obtained for product characteristics and product usage. If these two attribute groups are combined, it can be concluded that more than half of all favorable responses on automobile brands concern product-related attributes. Considering coffee brands, an important result is that a large proportion (over 40%) of responses on Max Havelaar refers to brand personification.

Table 7.7: distribution of positive-important responses over brands, neutral context (nc), purchase context (pc), and main attribute groups (in %).

<table>
<thead>
<tr>
<th></th>
<th>ven neile</th>
<th>karin &amp; joanneke</th>
<th>max havelaar</th>
<th>periel</th>
<th>esteb</th>
<th>jef</th>
</tr>
</thead>
<tbody>
<tr>
<td>foreground</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product usage</td>
<td>23</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Brand identifiers</td>
<td>37</td>
<td>18</td>
<td>31</td>
<td>10</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Price &amp; quality</td>
<td>1</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Brand personification</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>42</td>
<td>40</td>
</tr>
<tr>
<td>Market</td>
<td>2</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Organization</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Advertising</td>
<td>13</td>
<td>11</td>
<td>17</td>
<td>4</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Attitude &amp; purchase behavior</td>
<td>13</td>
<td>20</td>
<td>15</td>
<td>26</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Personal reference</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: significant differences are underlined.

7.1.1.1 Combining response evaluations with brand representation structure on FA

Combining response frequency and response evaluations provides a mean to identify the elements of the brand representation that might yield a positive contribution to the liking or disliking of the brand. Table 7.8 presents (in abstraction) the frequency of responses and the mean relevance and favorability scores of responses on each attribute group, context, and brand.

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Table 7.8: mean relevance (rel), evaluation (ev) and frequency (n) scores of responses on attribute groups over brands and contexts (nc = neutral context; pc = purchase context).

<table>
<thead>
<tr>
<th></th>
<th>van nelle</th>
<th>kanie &amp; gunnink</th>
<th>max hever:ser</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rel</td>
<td>ev</td>
<td>n</td>
</tr>
<tr>
<td><strong>product characteristics</strong></td>
<td>rel</td>
<td>ev</td>
<td>n</td>
</tr>
<tr>
<td>i p 28</td>
<td>i p 28</td>
<td>p 19</td>
<td>i p 20</td>
</tr>
<tr>
<td>11 i p 12</td>
<td>20</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>i 12</td>
<td>i p 11</td>
<td>i p 8</td>
<td>i p 19</td>
</tr>
<tr>
<td>i 12</td>
<td>i p 14</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>i p 30</td>
<td>39</td>
<td>19</td>
<td>i p 32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>philips</th>
<th>sony</th>
<th>Grundig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rel</td>
<td>ev</td>
<td>n</td>
</tr>
<tr>
<td><strong>product characteristics</strong></td>
<td>rel</td>
<td>ev</td>
<td>n</td>
</tr>
<tr>
<td>u i p 6</td>
<td>i p 11</td>
<td>i p 17</td>
<td>i p 15</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>i 14</td>
<td>i p 20</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>i 6</td>
<td>p 15</td>
<td>16</td>
<td>p 16</td>
</tr>
<tr>
<td>u 18</td>
<td>p 20</td>
<td>15</td>
<td>u 12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>saab</th>
<th>bmw</th>
<th>nissan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rel</td>
<td>ev</td>
<td>n</td>
</tr>
<tr>
<td><strong>product characteristics</strong></td>
<td>rel</td>
<td>ev</td>
<td>n</td>
</tr>
<tr>
<td>i p 67</td>
<td>i p 51</td>
<td>i p 53</td>
<td>i p 44</td>
</tr>
<tr>
<td>i 70</td>
<td>i p 47</td>
<td>i p 48</td>
<td>i p 25</td>
</tr>
<tr>
<td>i 4</td>
<td>i 9</td>
<td>2</td>
<td>i 2</td>
</tr>
<tr>
<td>i 31</td>
<td>i 38</td>
<td>i 31</td>
<td>26</td>
</tr>
<tr>
<td>34</td>
<td>i 23</td>
<td>64</td>
<td>u 1</td>
</tr>
<tr>
<td>i 4</td>
<td>16</td>
<td>p 2</td>
<td>i p 15</td>
</tr>
<tr>
<td>21</td>
<td>35</td>
<td>i p 29</td>
<td>30</td>
</tr>
<tr>
<td>11</td>
<td>18</td>
<td>5</td>
<td>i p 4</td>
</tr>
</tbody>
</table>

Note: Indicators of relevance scores: i = important (mean score > 3.5), u = unimportant (mean score < 2.5). Indicators of evaluation scores: p = positive (mean score > 3.5), n = negative (mean score < 2.5).
Blank field indicates neutral score (mean >= 2.5 and <= 3.5). Gray cells indicate positive-important responses, with frequency equal to or higher than 15.
For coffee brands, product characteristics are frequently mentioned and also considered to be positive and important (the latter two with the exception of Max Havelaar evaluations within a purchase context). It is mainly the values of smell and color that define this attribute group. With respect to product usage attributes, these are frequently and positively evaluated on Van Nelle and Kanis & Gunnink, but only considered of importance within a purchase situation. Max Havelaar stands out on brand personification attributes, which are quite frequently mentioned, positively evaluated and also important to the brand's image. Van Nelle differs from the other coffee brands on the advertising attribute in that this is rated positive and of relevance to the brand.

The detergent brands consistently show that product usage attributes are frequently mentioned, positively evaluated and important. As detergents are primarily functional, low involvement products, this finding matches the idea that, when people judging low involvement products, their emphasis is on searching for concrete, maximal attribute levels (Ganzach 1995; Gensch and Javalgi 1987; Leong 1993). Product characteristics are also quite frequently mentioned, but the ratings on these attributes do not appear to be consistent between brands. Furthermore, the results show that price & quality attributes are more frequently evoked in a purchase context, consistently rated as important to the brand, but at the same time evaluated as neutral. Brand personification attributes are hardly mentioned on detergent brands. Another important result is that advertising attributes are frequently mentioned, but are rated as neutral on relevance and on evaluation (and even negative for Ariel, when evaluated within a purchase context). References to respondents' attitude & purchase behavior are considered important for evaluating the brand, but are mostly evaluated as neutral.

Product characteristics are again both important and positive attributes for TV set brands when evoked within a purchase context. A neutral context evokes these attributes to a more or less equal degree, but these are not considered of high importance for the brand's image. Another consistent finding is the role of price & quality in evaluations of TV set brands. Apart from finding that more of these attributes are evoked within a purchase context compared to a neutral context, for all brands price & quality related attribute values are rated as both important and positive descriptors of the brand representations. This finding can be related to the fact that TV sets are considered to be high involvement products. They score high on the decision importance factor, as they yield an economic risk to the consumer. Buying the wrong brand (i.e. low in quality) can cost money. Hence the relevance of price & quality attributes may reflect this concern. Quite a lot of responses are provided on the organization behind the brand. Although for Sony organization attributes are rated as positive, (as for Philips within a neutral evaluation context) no relevance is attached to these attributes. Also noteworthy is again the lack of brand personification attributes, as was the case with the detergent brands. It is clear that consumers do not spontaneously describe these TV set brands as personalities and do not attach other more abstract and symbolic attributes to them.
Looking at the automobile brands, on all three brands the price & quality of the automobile is of high importance. As was the case with TV sets, this importance of price & quality may reflect the fact that the purchase of a high involvement product like an automobile is an economic risk, and the balance between price and quality is important in the purchase decision. Price & quality attributes represent a significant proportion of the representation of the automobile brands, yet it varies from brand to brand whether these attributes are rated positively or not. Nissan is quite positive on price & quality, whereas for Volvo these attributes are rated as neutral. Further interesting findings concern brand personification and advertising attributes. Although brand personification attributes are frequently used in market research, from the results presented here they appear to be neither of importance to the brand, or to be positive evaluations. For Nissan hardly any brand personification attributes are listed. With respect to advertising, respondents spontaneously list some responses only for Nissan. For Volvo and BMW, only one or two responses referring to advertising are listed. Respondents seem more inclined to list attitudinal responses and responses related to purchase behavior. For Nissan, these are both important and positive. For Volvo, these are more neutrally evaluated. Overall, quite a high level of importance is assigned to attitude & purchase behavior related attributes (with the exception of evaluations of Volvo within a neutral context).

This analysis shows that there is valuable extra information in evaluative responses when taking into consideration their evaluation, beyond exploring the structure and size of brand representations. On some brands, highly frequent attributes do not seem to have a positive evaluation, and with that, it can be questioned to what extend they contribute to the overall evaluation of the brand. For example, brand personification attributes are quite frequently responded on BMW, yet these are not particularly evaluated favorable to the brand. On the other hand, it can also be that a brand elicits certain attributes only a few times, yet these are rated favorably. For example, on Sony, attributes refering to brand identifiers are only mentioned a few time, yet when they were mentioned they were at the same time considered to be both important and positive descriptors of the brand representation.

7.1.2 Informed association

7.1.2.1 Combining response evaluations with brand representation structure on IA

Respondents also rated the responses listed on each of the attribute cards used in IA on favorability. After all the cards had been evaluated, respondents were requested to rate the listed responses on each card using a five-point Likert scale ranging from negative through neutral to positive. The relevance of each of the attributes to the brand representation was established afterwards by asking respondents to select those cards that were most descriptive of the brand. With respect to the relevance score, each attribute group was given a score of ‘one’ if selected by respondents, and zero if not. Hence the range of scores is between zero (no respondent selected the attribute group) and one (all respondents selected the attribute group). When multiplied by 100, these scores can be read as the percent-
age of respondents that have selected the attribute group as being a relevant descriptor of the brand. Table 7.9 presents the results of the evaluation scores and relevance scores for each brand as evaluated using IA. Presented here are the instances in which 50% or more of the respondents evaluating a certain brand with IA have selected the attribute group (selections made within neutral context).

For coffee brands, product characteristics are frequently mentioned and at the same time considered positive and important for Van Nelle and for Kanis & Gunnink. Product usage attributes are consistently evaluated positively for all three brands, but do not appear as frequently as in FA. Max Havelaar stands out on brand personification attributes (as in FA), which are frequently selected and also positively evaluated. Van Nelle differs from the other coffee brands on the advertising attribute in that advertising attributes are rated positively and of relevance to the brand. It is worth noting that few respondents include their own attitude & purchase behavior and also personal references in their general evaluation of these coffee brands.

Price & quality and market attributes are frequently selected on the three detergent brands, however, these attributes are not considered positive or negative. In general, no high evaluation scores are obtained on the responses provided for detergents. In contrast to FA, product usage attributes are neither selected frequently nor rated positively (as was the case in FA). The same is true for attitude & purchase behavior attributes, which, although consistently considered to be of importance in FA, were not rated as important in IA. So it seems like the responses obtained on detergent brands may be quite frequent, yet are not strongly evaluated in terms of favorability.

For TV set brands, product characteristics are both important and mostly rated positively. For Philips and Sony, quite a number of selections are made regarding the organization behind the brand. In contrast to FA, in IA these organization attributes are rated as positive for Philips rather than for Sony. Overall the responses obtained for Philips are rated as positive, whereas none of the attribute group responses for Grundig are rated as positive and only a few are for Sony.

Finally, for the automobile brands, selections are most consistently and frequently made on the attribute groups brand identifiers and organization. Although quite frequently referred to as main brand descriptors, these are only rated positively on Volvo. Product characteristics are rated positively on all three brands, and are considered descriptive for Volvo and BMW by a majority of the respondents. Important to note is that, with the exception of the product characteristic attributes, all responses on BMW are rated as neutral.

When data are gathered through a more elaborate method like IA, again the conclusion is that some attributes are responded frequently, and are at the same time evaluated positively by respondents. On the other hand again, there can be frequently responded attributes that the respondent does not consider being favorable for the brand. For example, on Grundig the majority of the respondents
selected product characteristics attributes, yet they did not rate these as particularly positive. This in contrast to Nissan, on which this kind of attributes are not frequently selected, yet when they are, they are rated as positive representatives of the brand.

Table 7.9: percentage of respondents that selected the attribute group (% sel), and evaluation (ev) scores of responses on attribute groups over brands.

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Note: Indicators of evaluation scores: p = positive (mean score > 3.5), n = negative (mean score < 2.5). Blank field on '% sel' indicates that less than 50% of sample selected the attribute group. Blank field on 'ev' indicates neutral evaluation score (mean >= 2.5 and = < 3.5). Gray cells indicate positive-important responses, with frequency equal to or higher than 15.

7.2 Response evaluations and brand representation structure differences

As shown in chapter six, BRSD can to a greater or lesser extent be found within each of the three data sets obtained: FA within neutral evaluation context; FA within purchase evaluation context; and IA. Differences between brands are indicated by the distribution of responses over the attribute categories. However, as response evaluations also seem to contribute to a brand's representation, differences between brands can also be indicated by response relevance, response evaluations, or by the combination of these factors. If BRSD are only considered in terms of the amount and the type of underlying attributes, this reflects a degree of uniqueness in a brand. However, it could also be that a brand distinguishes itself from competitors by being represented by a larger percentage of a typical kind of attribute, yet not necessarily in a favorable way. Being primarily associated with a certain kind of attribute does not automatically imply that these attributes are perceived as relevant, or as favorable for the brand.

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7.2.1 Free association data

Table 7.10 presents for each brand the distribution of responses over the main attribute groups, together with mean response relevance and response evaluation scores on these attributes (obtained by FA within a neutral context). Taking the coffee brand Van Nelle as an example, one-third of all responses refers to product usage. Clearly, Van Nelle distinguishes itself from the other two coffee brands according to this attribute group. However, these attributes are not rated as more relevant to Van Nelle than they are for Kanis & Gunnink, despite the fact that, on the latter brand, these product usage attributes are less frequently mentioned. Product usage attributes are only considered more relevant to Van Nelle compared to Max Havelaar. Moreover, the evaluation of product usage responses does not at all differ over brands, which implies that although significantly more product usage attributes represent Van Nelle compared to the other brands, these attributes do not favorably distinguish Van Nelle. The same is true for brand personification attributes for BMW. A significantly larger proportion of responses for BMW relates to brand personification compared to Volvo, and Nissan in particular (for which hardly any of these responses are obtained). The brand personality responses, however, are rated equally favorably for BMW as for Volvo.

Brands seem to truly differentiate favorably from competitor brands in only a few instances. For example, looking at table 7.10, Max Havelaar is represented by quite a large proportion of brand personification attributes (24%), which are also rated as significantly more relevant (4.27) and also significantly more favorable (4.47) compared to the other coffee brands in the study. Van Nelle is represented by more advertising attributes than Max Havelaar, and the same amount as Kanis & Gunnink. Yet the advertising attributes for Van Nelle are rated as significantly more relevant compared to those on Kanis & Gunnink (but are not more or less favorable). The same is true for the TV set brand Philips, which is significantly more represented by market attributes compared to Sony and Grundig. Moreover, these attributes are rated significantly more favorably (4.29) compared to those on the other brands (3.80 respectively 3.30).

Another conclusion from these data is that if brands do not differ in terms of the quantitative share of representative attributes in their representation, they can still differ on the evaluation of these attributes. An example to consider is the attribute price & quality in comparing TV set brands (table 7.10). All three brands evoked the same amount of price & quality attributes. However, the evaluations of price & quality attributes differ significantly over brands: Sony is rated highly positive, significantly more than both Philips and Grundig. Another point is that personal references for the TV set brands do not differ with respect to the proportion they represent of the brand representations. However, these attributes are rated as significantly more relevant to Philips (3.89) compared to Grundig (2.75).

These results imply that brand competitive studies should not only take into account the differences in structure, but also that when there are structural differences between brands, the impact of these differences in terms of providing uniqueness may differ over the evaluation of these attributes.
Table 7.10: schematic display of significant contributors to BRSD (Cont.) by response distribution (Perc., in %), mean importance of response (Imp.), and mean evaluation (Eval.) (FA, neutral context).

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</tbody>
</table>

Note: Gray-boxed figures indicate significant response distribution differences over methods. Cells filled with either ‘+’ or ‘-’ indicate significant contributions to brand differences. ‘+’ indicates relative abundance of responses, ‘-’ indicates relative shortage of responses. Underlined figures indicate statistically significant differences over brands (p < .05). Response Importance (Imp.) and Response Evaluation (Eval.) measured on five-point Likert scale, ranging from ‘totally unimportant’ to ‘highly important’, respectively ‘negative’ to ‘positive’.

### 7.2.2 Informed association data

In the same way, differences and similarities among product-related brands can be explored using the data obtained by IA. Table 7.11 presents response distributions and the mean response evaluation scores obtained by IA in a neutral context. Again, with respect to the coffee brands, Van Nelle is significantly more frequently represented by advertisement attributes, and these are in turn substantially more favorably evaluated than for the other two brands. Apparently advertising differentiates Van Nelle from Kanis & Gunnink in a positive way. With respect to Max Havelaar, again more brand personification attributes result from IA, although these are no longer rated as more favorable compared to the other brands.
| Table 7.11: schematic display of significant contributors to BRSD (Cont.) by card selection distribution (Perc., in %), and mean response evaluation (Eval.). Data obtained by IA. |
|---|---|---|---|---|---|---|---|---|---|---|
| n (responses) | van | nelle | kani ss & | gunnin k | travela ser | persil | omo | ariel | philips | sony | grundig | volvo | bmw | nissan |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 213 | 174 | 198 | 139 | 158 | 175 | 145 | 176 | 183 | 214 | 245 | 146 |
| 33 | 22 | 9 | 4 | 10 | 8 | 27 | 19 | 15 | 3.46 | 3.53 | 2.38 | 1.83 | 3.76 | 3.54 | 4.33 | 4.07 | 4.30 |
| 5 | 13 | 7 | 2.45 | 3.11 | 2.46 | 2.90 | 3.26 | 2.83 | 3.92 | 4.38 | 3.24 | 4.75 | 4.67 | 4.17 | 4.10 | 3.87 | 4.86 |
| 5 | 5 | 11 | 17 | 14 | 17 | 12 | 13 | 5 | 3.17 | 4.38 | 3.43 | 3.64 | 4.75 | 4.28 | 2.97 | 3.65 | 4.00 |
| 5 | 5 | 24 | 3.27 | 3.88 | 4.27 | 4.18 | 3.38 | 4.47 | 3.92 | 4.38 | 3.24 | 4.75 | 4.67 | 4.17 | 4.10 | 3.87 | 4.86 |
| 5 | 5 | 9 | 10 | 6 | 6 | 2 | 1 | 3 | 3.58 | 3.33 | 3.88 | 4.29 | 3.80 | 3.30 | 4.00 | 4.00 | 2.00 |
| 7 | 3 | 10 | 29 | 21 | 25 | 3.63 | 2.67 | 3.38 | 3.55 | 3.36 | 3.23 | 3.71 | 3.61 | 3.36 | 3.89 | 3.79 | 2.75 |
| 10 | 11 | 2 | 1 | 1 | 8 | 3.91 | 3.00 | 2.50 | 3.05 | 3.75 | 2.75 | 4.00 | 3.00 | 3.17 | 3.00 | 4.50 | 2.92 |
| 4 | 11 | 5 | 12 | 9 | 12 | 4 | 2 | 17 | 3.10 | 2.63 | 3.25 | 3.89 | 3.79 | 2.75 | 2.55 | 3.00 | 2.88 |
| 3.30 | 2.94 | 3.00 | 3.89 | 3.79 | 2.75 | 2.55 | 3.00 | 2.88 | 3.09 | 3.60 | 2.84 |

Note: Gray-boxed figures indicate significant differences over methods. Cells filled with either ‘+’ or ‘−’ indicate significant contributions to brand differences. ‘+’ indicates relative abundance of responses, ‘−’ indicates relative shortage of responses. Underlined figures indicate statistically significant differences over brands (p < .05). Response Evaluation (Eval.) measured on five-point Likert scale, ranging from ‘negative’ to ‘positive’.

Kanis & Gunnink yields significantly more product usage attributes, yet these are not rated as more favorable (3.69). It is worth noting the attribute group price & quality, on which all brands seem to be identically represented, yet these are rated significantly more favorably for Van Nelle (3.43) than for Max Havelaar (2.70). For TV set brands, most differences relate to response evaluations. Certain brands yield more responses than others on only three attribute groups. Sony yields significantly more product usage attributes, and Philips more organization attributes. Yet responses on these two attribute groups are rated equally favorably across all three brands. Even so, still on a number of other attribute groups the brands seem to share an equal amount of these attributes, but their evaluation differs significantly. For example, although each of the three brands seems to be represented to
an equal degree by market attributes, for Philips these are rated considerably higher (3.81) than for Grundig (2.87). Finally, looking at the automobile brands, for BMW a lot of brand personification (16%) and attitude & purchase behavior responses (14%) are provided on the brand, yet the ratings of these attribute responses are significantly lower compared to Volvo and Nissan.

A similar conclusion can be drawn from the IA data: when brand structure differences are found, these might create true uniqueness when a multitude of attributes are also perceived favorably, yet could even well indicate that the 'ownership' of certain attributes does not add favorability to the brand.

7.3 Conclusion
Response evaluations yield important additional information to mere frequency of occurrence. The preceding sections showed that, although responses can occur frequently, it does not automatically follow that these are at the same time favorable responses to the brand. Considered from the other perspective, it might also be the case that certain attributes are not often mentioned, yet are rated positively and as such may yield favorability to the brand. It is also shown that providing an explicit evaluation context not only influences the occurrence of attributes but also their evaluation. In some instances, like the coffee brands Van Nelle and Kanis & Gunnink, providing a purchase context made evaluation of product usage less positive. So if an advertiser is interested in exploring purchase behavior and the evaluation of cognitive beliefs that accompany or precede that behavior, it might be worth considering to include a corresponding context in the research setting.

When comparisons on the uniqueness of product-related brands are the subject of study, the evaluation of responses needs to be considered. Results presented in this chapter show that although brands may be represented to an equal extent by certain attributes (and hence do not differentiate on this ground) the evaluation of this part of the representation may be a differentiating factor.

7.4 Prediction of brand attitude and purchase intention scores
So far the manifestation of brand memory representations has been explored. Chapter six discussed the extent to which these manifestations differ over method and context. It also showed that, when brands within a certain product category are compared, their representational structure could differ. The final point that needs to be addressed is what the relation is between these findings and the consumer as a purchaser. How can knowledge on brand representations contribute to brand management? What is the relationship between the consumer's memory representation of a brand and his/her attitude towards and purchase intention for the brand? These issues will be explored in this chapter.

A first point to explore is to what extent respondents' attitudes towards a brand and their purchase intentions relate to the associative structure of the brand (i.e.
the presence or absence of attributes). The aim is to pinpoint those attributes that differentiate consumers in favor of the brand from those not in favor of the brand. It is expected that the presence of certain attributes underlies favorable attitudes (or high purchase intentions), whereas others underlie unfavorable attitudes (or low purchase intentions). In a neutral context, the analyses are purely exploratory. No hypothesis is laid out to predict exactly which attributes will result for which brand as underlying favorable attitudes. However, taking into account the evaluations made within a purchase context, it is expected that price & quality attributes will be relatively more appropriate for attitude and purchase intention that the other attribute groups.

A second point to investigate relates to the expectation that brand attitude and purchase intention ratings can be predicted by the degree of favorability (negative/neutral/positive) of the responses provided by respondents. Favorable responses are expected to be indicators of a favorable attitude, and also of a relatively high purchase intention. Conversely, unfavorable responses predict a negative brand attitude, and also a relatively low purchase intention. The aim is to identify those attributes that are predictive of attitude and intention once evaluated. Only on the IA method are all the different attributes rated on favorability. Therefore, the expectations are only checked on the data derived from that method. The following hypotheses are explored:

6. Brand attitude and purchase intention scores correlate with associative structure. Specifically, when evaluations are made within a purchase context, correlations will be higher for price & quality attributes than those obtained in a neutral context.
7. In IA, response evaluations on price & quality attributes will predict scores most effectively on both brand attitude & purchase intention.

### 7.4.1 Brand attitude and purchase intention scores

After evaluating brands using FA and IA, each respondent was presented with a questionnaire. Among other tasks respondents were asked to rate their attitude towards each of the brands they evaluated. On a five-point Likert scale respondents could indicate their attitude towards a brand as either very negative, negative, neutral, positive or very positive. Table 7.12 presents for each brand and for each method brand attitude score indices. Overall, respondents have a positive attitude towards the brands. The only significant difference between samples is found on BMW. The sample that evaluated BMW using IA scored significantly lower than the samples that evaluated the brand by FA.

Each respondent was then asked to estimate the likelihood of purchasing the evaluation brand in a future occasion, on a scale from 0% to 100%. This question provides an estimate of respondents' purchase intention. Table 7.13 presents the score indices for purchase intention, for each brand and for each method sample. With the exception of scores on TV set brands, the mean scores are all quite low. This is largely due to the fact that a large proportion of respondents (over 45%) scored zero, which greatly skewed the distribution of scores. Therefore, in order to conduct more reliable correlational analyses the purchase intention scores on the cof-
fee, detergent and automobile brands have been recoded into dichotomous scores of either zero or higher than zero. Table 7.14 presents the distribution of respondents over these categories. For TV set brands the scores are not recoded and their original scores are included in analyses.

Table 7.12: brand attitude score indices.

<table>
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<tr>
<th></th>
<th>FA</th>
<th>IA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Neutral context</td>
<td>Purchase context</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Van Nelle</td>
<td>31</td>
<td>3.5</td>
</tr>
<tr>
<td>Knis &amp; Gunnink</td>
<td>29</td>
<td>3.2</td>
</tr>
<tr>
<td>Max Havelaar</td>
<td>30</td>
<td>3.6</td>
</tr>
<tr>
<td>Persil</td>
<td>33</td>
<td>3.2</td>
</tr>
<tr>
<td>Omo</td>
<td>32</td>
<td>3.3</td>
</tr>
<tr>
<td>Ariel</td>
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<td>3.5</td>
</tr>
<tr>
<td>Philips</td>
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<td>3.6</td>
</tr>
<tr>
<td>Sony</td>
<td>29</td>
<td>3.9</td>
</tr>
<tr>
<td>Grundig</td>
<td>29</td>
<td>3.4</td>
</tr>
<tr>
<td>Volvo</td>
<td>35</td>
<td>3.6</td>
</tr>
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<td>BMW</td>
<td>29</td>
<td>3.7</td>
</tr>
<tr>
<td>Nissan</td>
<td>30</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Note: high scores indicate positive attitude. Underlined figures indicate significant differences.

Table 7.13: purchase intention score indices (in %).

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<tr>
<th></th>
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<th>IA</th>
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</thead>
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<tr>
<td></td>
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<td>Purchase context</td>
</tr>
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<td>n</td>
<td>Mean</td>
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<tr>
<td>Van Nelle</td>
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<td>16.1</td>
</tr>
<tr>
<td>Knis &amp; Gunnink</td>
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</tr>
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<td>13.8</td>
</tr>
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<td>Nissan</td>
<td>30</td>
<td>18.8</td>
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Table 7.14: number of respondents on dichotomous purchase intention categories.

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<td>12</td>
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<td>Volvo</td>
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<td>BMW</td>
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<td>11</td>
</tr>
<tr>
<td>Nissan</td>
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<td>16</td>
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</table>
Table 7.15: correlation between brand attitude scores and purchase intention score.

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<th>Purchase context</th>
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<td>50* (29)</td>
</tr>
<tr>
<td>Kinis &amp; Gunnink</td>
<td>49* (28)</td>
<td>57* (33)</td>
</tr>
<tr>
<td>Max Havelaar</td>
<td>47 (30)</td>
<td>.52* (33)</td>
</tr>
<tr>
<td>Persil</td>
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</tr>
<tr>
<td>Omo</td>
<td>.54* (32)</td>
<td>.75* (30)</td>
</tr>
<tr>
<td>Ariel</td>
<td>43* (29)</td>
<td>45* (28)</td>
</tr>
<tr>
<td>Philips</td>
<td>77* (29)</td>
<td>.75* (30)</td>
</tr>
<tr>
<td>Sony</td>
<td>56* (29)</td>
<td>.49* (28)</td>
</tr>
<tr>
<td>Grundig</td>
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<td>.59* (31)</td>
</tr>
<tr>
<td>Volvo</td>
<td>.33 (34)</td>
<td>17 (27)</td>
</tr>
<tr>
<td>BMW</td>
<td>.24 (29)</td>
<td>.40* (28)</td>
</tr>
<tr>
<td>Nissan</td>
<td>53* (26)</td>
<td>.48* (30)</td>
</tr>
</tbody>
</table>

Note: * indicates significant correlation. Figure between brackets represents sample size. With the exception of TV set brands, purchase intention score are dichotomous.

Attitude towards a brand is considered to be one of the antecedents of brand purchase intention. A positive brand attitude is assumed to lead to a higher purchase intention than a negative attitude. Hence, the two measures are assumed to correlate. Table 7.15 presents for each brand the correlation between brand attitude scores and purchase intention. Moderate correlations are obtained.

The research questions to be addressed in this chapter concern relating scores on brand attitude and purchase intentions to scores on either the presence or absence of attributes (brand representation structure), and to the evaluation of responses. In the following sections, correlations between brand attitude / purchase intention and the associative structure of a brand representation (i.e. the presence or absence of attributes) will be presented and interpreted. This is carried out separately for the results obtained from a) FA in a neutral context, b) FA in a purchase context, and c) IA (taking into account that no context effect was found on IA). Correlations between attitude / purchase intention and the evaluation of responses as obtained by IA will also be presented, for each brand separately.

In addition, regression analyses have been carried out on the data obtained by IA on the product category detergents. In the previous chapter it became clear that no brand representation structural differences were found between the three detergent brands in the study, thus the detergent brands can be considered generic. Before regression analyses could be performed, the data had to meet certain criteria. One of these criteria is that the distribution of each variable is normal. This criterion is largely met by recoding the purchase intention data. A second requirement relates to the ratio of predictors and cases. As a general rule, a minimum of 15 cases is required for each predictor variable (Stevens 1992). Aggregating the data obtained on all three brands allows the resulting total sample of about 90 respondents to undergo regression analyses with up to six predictors. Paragraphs 7.6.3 and 7.6.4 will address these analyses. With respect to the brands in the other product groups, these could not be validly aggregated as the previous chapter showed structural differences between their brand representations. Hence no regression analyses could be performed because of the low number of cases (about 30) on each brand.
7.5 Brand attitude, purchase intention and brand representation structure (BRS)

7.5.1 Correlation between BRS and brand attitude

According to the applied methods, the brand representation structure of a brand is assumed to be reflected by the number of times an attribute is mentioned on FA or selected on IA. Tables 7.16 to 7.18 present the significant correlations between the number of times an attribute group resulted from FA (neutral and purchase context), or selected in IA (neutral context), and respondents’ attitudes towards the brand. The results from both FA and IA show few significant correlations on individual brands. There are no clear patterns among the correlations over brands and over context or method. Apparently, the occurrence of attributes from either FA or IA does not relate to the attitude respondents hold towards the brand. That is to say, there is no relation between the associative structure of the representation of a brand and brand attitude. Therefore the hypothesis that more price & quality attributes correlate with brand attitude in a purchase context should be rejected. Significant correlations are found on only two brands (table 7.17).

Table 7.16: significant correlations (p < .05) between presence or absence of attribute and attitude (FA, neutral context).

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<th>o</th>
<th>a</th>
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Table 7.17: significant correlations (p < .05) between presence or absence of attribute and attitude (FA, purchase context).

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Table 7.18: Significant correlations (p < .05) between selection of attributes and attitude (IA).

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Note: vn = Van Nelle; kg = Kanis & Gunnink; mh = Max Havelaar; p = Persil; o = Omo; a = Ariel; ph = Philips; s = Sony; g = Grundig; v = Volvo; b = BMW; n = Nissan. * denotes highest response frequency within each brand.

To sum up, these results imply that when the explicit research question is to estimate respondents’ brand attitudes, it does not make sense to look at the types of attributes that result from measurements. However, it can still be worth spending time and effort in exploring the types of attributes a consumer has stored in memory related to a brand.

It could be argued that it is not necessary to find (patterns of) significant correlations in each cell of the cross tabulation, as long as the most frequent attributes on each brand do have a significant correlation with brand attitude. Because if a brand would only be represented by only one attribute, at least this attribute group should be positively correlated with brand attitude. In the tables 7.16 to 7.18, all the highest frequent attributes are marked (see for reference tables 6.7 and 6.11). On a few brands, the high frequent attribute groups coincide with a significant correlation with brand attitude. The FA method in a neutral context seems least accurate in establishing this relation. Only on one out of the twelve brands does the highest frequent attribute group correspond with brand attitude. The IA method identifies this correspondence on five out of the twelve brands. Interestingly, the attitudes towards detergent brands seem to relate quite consistently with the highest frequent attribute group. Overall, however, there is no strong evidence for a relationship between the structure of a brand representation and brand attitude.

### 7.5.2 Correlation between BRS and purchase intention

Table 7.19 presents for each brand the correlation between the number of times that an attribute is mentioned in FA (neutral context) and respondents’ intentions to purchase the brand. For TV brands, the original purchase intention scale is used, whereas the recoded, dichotomized scores are employed for the other brands. Few significant correlations are found. It appears that purchase intentions cannot be predicted either from the presence or absence of attributes in brand representations. When data are gathered by FA in a purchase context, only one significant correlation is found ($p^2 = .43$), between the purchase intention for Omo and the presence of the attribute group product usage (table 7.20). So again, the hypothesis that the frequency of price & quality attributes correlate with purchase intention in a purchase context should be rejected.
Table 7.19: significant correlations (p < .05) between presence or absence of attribute response and purchase intention (FA, neutral context).

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Note: vn = Van Nelle; kg = Kanis & Gunnink; mh = Max Havelaar; p = Persil; o = Omo; a = Ariel; ph = Philips; s = Sony; g = Grundig; v = Volvo; b = BMW; n = Nissan. * denotes highest response frequency within each brand.

Table 7.20: significant correlations (p < .05) between presence or absence of attribute response and purchase intention (FA, purchase context).

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Note: vn = Van Nelle; kg = Kanis & Gunnink; mh = Max Havelaar; p = Persil; o = Omo; a = Ariel; ph = Philips; s = Sony; g = Grundig; v = Volvo; b = BMW; n = Nissan. * denotes highest response frequency within each brand.

Table 7.21: significant correlations (p < .05) between attribute selection and purchase intention (IA).

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The correlations between the associative structure as obtained by IA and purchase intention (table 7.21) again do not reveal any consistent patterns. It is only for the detergent brand Omo that some attribute groups correlate quite well with purchase intention. Apart from Omo, only a few significant correlations are found. These, however, seem to be quite random and no pattern between product-
related brands is found. Hence it is concluded once more that the associative structure of a brand does not correlate with purchase intention for most brands, as was also the case for brand attitude.

7.6 Brand attitude, purchase intention and response evaluations (IA)

Based on the previous results, it can be concluded that the structure of a brand memory representation does not relate to either brand attitude or purchase intention. However, it is possible that it is not particularly the kind of attributes that underlie the brand representation that are indicative of brand attitude and/or purchase intention, but rather the evaluation of those that do underlie it. In this section the relationship between response evaluations and brand attitude / purchase intention is explored. It is important to note that only the response evaluation data obtained by IA are presented. Since each respondent was free to list responses in FA, the obtained data did not necessarily cover all attributes for each respondent. With that, respondents did not evaluate each and every attribute, yet only the ones they listed. Hence, in order to relate response evaluations for each attribute group to either brand attitude or purchase intention, it was necessary to tackle the issue of missing values. However, there was no reliable mean available to replace the missing values without seriously altering the data. In contrast, in IA all respondents evaluated all attributes. The sample mean evaluation score for an attribute replaced the occasional missing value found in the IA data. Therefore this data did allow for analyses. Correlations presented in this section relate to the main attribute group level. Table A7.1 and A7.2 in appendix I present the correlations on the level of the 35 attributes. The hypothesis stated that response evaluations on price & quality attributes would best predict scores on both brand attitude & purchase intention.

7.6.1 Correlation between brand attitude and response evaluation

Although hardly any significant correlations were found between attitude and associative structure, it appears that response evaluations correlate quite well with brand attitude on most brands (table 7.22). For a number of brands, respondents' attitudes consistently correspond with response evaluations on a number of attributes. Evaluations of brand personification responses are most consistent as these correlate significantly with brand attitude on all brands except Grundig. Even on detergent brands evaluations of brand personification responses correlate significantly with attitude. This is quite remarkable as previously presented results (chapter 6) show that personification attributes were not considered representative of detergent brands in memory. Apparently just the evaluation of responses evoked by presenting this attribute in IA does have a relation with respondents' attitude towards the brand, even if this attribute is not explicitly considered to form a central part of the brand's representation. Also the attribute groups attitude & purchase behavior and personal reference correlate consistently with brand attitude. However, this may in fact be an artificial finding as both attribute groups hold personal and attitudinal evaluations by their definition. A further noteworthy finding
is that evaluations of the brand's identifiers do relate to brand attitude for TV set and automobiles (the high-involvement products, see table 5.9), but to a lesser extent for coffee and detergents. A noteworthy absence of significant correlations is found on the evaluations of product usage and advertising, which does not seem to relate to brand attitude. For a number of brands significant correlations with almost all attribute groups are found. For example, response evaluations on the majority of attribute groups for the brands Van Nelle, Ariel, Sony, and Nissan are all significantly correlated with attitude. In contrast, for some brands respondents' attitudes are hardly related to any attribute group evaluation, like Max Havelaar and Volvo.

Evaluations of price & quality play a role for most brands. The hypothesis stated that these would best predict scores on brand attitude. However, although it is true for most brands that attitude scores correlate substantially with evaluations on price & quality, these only sporadically (e.g. on Kanis & Gunnink) correlate higher with attitude scores than other attribute groups. As the data do not allow for regression analyses, this hypothesis unfortunately cannot be examined statistically. However, on face value it seems as though it should be rejected: it is not only price & quality evaluations that best predict attitude scores.

Table 7.22: significant correlations (p < .05) between evaluation of attribute responses and brand attitude (IA).

<table>
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<th>Kg</th>
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<th>p</th>
<th>o</th>
<th>a</th>
<th>ph</th>
<th>s</th>
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<td>.55</td>
<td>.55</td>
<td>.55</td>
<td>.38</td>
</tr>
</tbody>
</table>

Note: vn = Van Nelle; kg = Kanis & Gunnink; mh = Max Havelaar; p = Persil; o = Omo; a = Ariel; ph = Philips; s = Sony; g = Grundig; v = Volvo; b = BMW; n = Nissan.

In summary, brand attitude seems to be related to evaluation of the different types of attributes that may underlie their representation in memory. One interesting finding is that in some cases, attributes did not appear to be representative of the brand if the types of card selections that respondents made are taken into account. However, if all attributes are rated on favorability, it appears that even the evaluation of those that were not selected correlates with general attitude.

7.6.2 Correlation between purchase intention and response evaluation

This section explores whether attribute response evaluations also correlate with purchase intention. The hypothesis to test stated that response evaluations on price & quality attributes would best predict scores on both brand attitude & purchase intention. Correlations between response evaluation and purchase intention
are presented in table 7.23 for each main attribute group and brand. Considerably less significant correlations are found compared to the findings on brand attitude. Only for Philips (and to a somewhat lesser extent BMW) do response evaluations correlate significantly with purchase intention on almost all of the ten different attribute groups. It is only for these brands that respondents' purchase intentions can be derived from response evaluations. Some brands do not show any significant correlations at all, like Max Havelaar and Ariel, so it is clear that there is no relation between purchase intention and response evaluations for these brands. The only consistent pattern of correlations among product-related brands is found for the evaluation of brand personification and personal reference attributes on TV set brands. Another finding is that with the higher involvement products TV sets and automobiles, considerably more significant correlations are found than for coffee and detergent brands. Most brand purchase intentions correlate with evaluations on the attribute group personal reference. However, as previously stated, this finding might only reflect an artifact, as the IA method cues personal experience with the brand through the personal reference attribute group. Apart from this, no clear patterns can be detected. Hence it can be concluded that attribute evaluations do not systematically relate to purchase intention, but can sporadically for individual brands. Therewith, research aiming at exploring purchase intention should not focus on the types of attributes that consumers have in mind when choosing a brand, nor on the evaluation of different types of attributes. Another conclusion is once more that price & quality attribute evaluations do not best predict purchase intention scores.

Table 7.23: significant correlations (p < .05) between evaluation of attribute responses and purchase intention (IA data).

<table>
<thead>
<tr>
<th>Product characteristics</th>
<th>vn</th>
<th>kg</th>
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<th>o</th>
<th>a</th>
<th>ph</th>
<th>s</th>
<th>g</th>
<th>v</th>
<th>b</th>
<th>n</th>
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</tr>
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<td>.44</td>
<td>.47</td>
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<td>.50</td>
<td></td>
<td></td>
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</tbody>
</table>

Note: vn = Van Nelle; kg = Kanis & Gunnink; mh = Max Havelaar; p = Persil; o = Omo; a = Ariel; h = Philips; s = Sony; g = Grundig; v = Volvo; b = BMW; n = Nissan.

### 7.6.3 Prediction of brand attitude by response evaluations for detergent brands

The previous chapter showed that no BRSD were found between the three detergent brands (see table 6.16). As an exploratory exercise, a regression analysis has been conducted on the aggregated data obtained for the detergent brands, to ascertain whether detergent brand attitude scores can be predicted by response evaluations. Mean attitude scores and mean response evaluation scores have been compared by analyses of variance to check whether a priori differences exist between the three detergent brands. No significant differences are found to exist:
the three brands are comparable on attribute group evaluations and on brand attitude. The total sample evaluating the detergent brands Persil, Omo and Ariel consisted of 88 respondents.

The responses on the attribute group attitude & purchase behavior and personal reference are excluded from the analysis. Recapturing the IA method procedure, respondents were presented with cards that cued attributes derived from the ten main attribute groups forming the IBRA. Among those were cards drawn from the attribute groups attitude & purchase behavior and personal reference, which referred to attributes like 'brand attitude', 'previous purchase behavior', and 'personal experience'. Given this, evaluations of the responses listed on these cards are considered to be conceptually too close to the dependent variable brand attitude, and it was considered that inclusion of these evaluations would possibly yield artificial results. Table 7.22 shows that response evaluations for the attribute groups product usage and advertising do not significantly correlate with brand attitude for any of the detergent brands. Response evaluations on these two main attribute groups are therefore also excluded from the regression analysis, leaving six predictor variables to be included in the analyses. Occasional missing values on each variable are replaced with the mean score on that variable. With 88 respondents and six independent variables, the sample/variable ratio criterion for a valid regression analysis is only just met, so results need to be interpreted with some caution. Table 7.24 presents statistical descriptives of the independent and dependent variables. Table 7.25 presents the results of the regression analysis.

Table 7.24: means, standard deviations, and significant correlations for brand attitude and attribute response evaluations on detergents (n=88).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
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<td>.41</td>
<td>.39</td>
<td>.51</td>
<td>.57</td>
<td>.36</td>
<td>.30</td>
</tr>
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<td>3.49</td>
<td>.91</td>
<td>--</td>
<td>.45</td>
<td>.47</td>
<td>.47</td>
<td>.49</td>
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</tr>
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<td>2 Brand identifiers</td>
<td>3.14</td>
<td>9.89</td>
<td>--</td>
<td>--</td>
<td>.65</td>
<td>.38</td>
<td>.36</td>
<td>.42</td>
</tr>
<tr>
<td>3 Price &amp; quality</td>
<td>2.92</td>
<td>1.94</td>
<td>--</td>
<td>--</td>
<td>.56</td>
<td>.54</td>
<td>.51</td>
<td></td>
</tr>
<tr>
<td>4 Brand personification</td>
<td>2.96</td>
<td>.76</td>
<td>--</td>
<td>--</td>
<td>.62</td>
<td>.50</td>
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</tr>
<tr>
<td>5 Market</td>
<td>3.21</td>
<td>6.31</td>
<td>--</td>
<td>--</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6 Organization</td>
<td>3.13</td>
<td>7.2</td>
<td>--</td>
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</tbody>
</table>

Note: p < .05. Blank fields above diagonal represent non-significant correlations.

Table 7.25: regression summary for response evaluations predicting brand attitude at attribute group level.

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<th></th>
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<th>SEB</th>
<th>β</th>
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</tr>
<tr>
<td>Price &amp; quality</td>
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<td>.27*</td>
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</tr>
<tr>
<td>Organization</td>
<td>-.09</td>
<td>.17</td>
<td>-.06</td>
</tr>
</tbody>
</table>

R=.59, R² = .35

Note: * p < .05.
Evaluations of responses cued by price & quality are shown to be significant predictors. This supports the initial hypothesis, which states that response evaluations obtained from IA on price, & quality attributes would best predict scores on brand attitude. However, evaluations of brand personification responses show to be even stronger predictors of brand attitude. This finding is quite surprising, as brand personification attributes are not regarded as descriptors of detergent brand representation. The result thus shows that although respondents do not select brand personification attributes as constituents of the representation of detergent brands, asking respondents to evaluate them does have a predictive value for brand attitude. To explore this finding in more detail, the single attributes that comprise the main attribute groups price & quality and brand personification have been correlated with brand attitude. Table 7.26 presents the mean scores on these attributes and significant correlations with brand attitude. It shows that the response evaluations on, in particular, the attributes quality, brand relation and feelings correlate quite well (> .50) with brand attitude. Most evaluations on the other attribute groups also correlate well with brand attitude scores. A second regression analysis has been performed using again the evaluations of the six highest correlating attributes (meeting the cases/variable ratio criterion). Table 7.27 presents the results.

Table 7.26: means, standard deviations, and significant correlations for brand attitude, and price & quality and brand personification response evaluations on detergents (n=88).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>8</th>
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<td>7 Brand personality</td>
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<td>.24</td>
<td>.35</td>
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<tr>
<td>8 Brand ideology</td>
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<td>1.17</td>
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<tr>
<td>9 Feelings</td>
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<td>1.12</td>
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</tbody>
</table>

Note: p < .05. Blank fields above diagonal represent non-significant correlations.

Table 7.27: regression summary for response evaluations predicting brand attitude at single attribute level.

<table>
<thead>
<tr>
<th>Attribute</th>
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<th>SEB</th>
<th>( \beta )</th>
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<td>Feelings</td>
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<td>.09</td>
<td>.32*</td>
</tr>
</tbody>
</table>

Note: * p < .05.

An even higher proportion (50%) of brand attitude scores can be predicted from the combination of evaluations on these attributes. Significant predictors are eval-
uations of quality, brand relation, and feelings. A similar regression analysis including evaluations on these three attributes showed that these could account for 48% of the variance in attitude scores. It appears that quality, brand relation and feelings are by far the best predictors of attitude scores (bearing in mind the exclusion of the two consumer-related attribute groups). As far as the contribution of quality response evaluations is concerned, respondents who provided negative evaluated responses refer to either low quality, or to the fact that they have no idea about the quality. Those that rate these responses positively list evaluative responses on the actual degree of quality, like 'good' or 'clean laundry'. It is not surprising that these responses and their evaluations correlate with their general brand attitude. The interpretation of the contribution of the brand personification attributes is less straightforward. Looking at the raw data (the obtained literal responses), it seems that the kinds of responses yielded on the attribute cues 'brand relation' and 'feelings' are generally of two types: responses are either serious or not. A number of respondents who evaluated their response as negative tended to list non-serious responses. These respondents seemed irritated by the nature of the cue in relation to detergent brands. Their responses tend to ridicule the cue by listing cynical remarks like 'I already have a relationship'. Other respondents who rate their response as negative mainly state no relation (or no feelings) at all with a detergent brand. From the data it seems that when the evaluations of responses are positive, correspondingly the degree of seriousness of responses tends to increase as well as do respondents' brand attitude scores. Hence it seems that the predictive power of response evaluations on the attributes brand relation and feelings can be subscribed to distinguishing respondents with a positive attitude from those with a negative attitude, based on the level of seriousness of responses. This finding may have implications for the selection of respondents in brand evaluative studies, as it shows that not only do research findings depend on the sample composition in terms of, for example, the distinction between users and non-users, but also that they are also influenced by sample composition in terms of the nature of respondents' response styles. Serious or more engaged respondents will be in a position to make real evaluations, and their negative attitudes are truly based on evaluations. In contrast, respondents who are not seriously engaged with the research might also show a negative brand attitude, yet a response tendency rather than actual attribute evaluation would explain this attitude.

7.6.4 Prediction of purchase intention by response evaluations for detergent brands

The same analysis was repeated for the prediction of purchase intention scores on detergent brands. Table 7.28 presents the correlations between the response evaluations on the main attribute groups. Again, the attribute groups attitude & purchase behavior and personal reference are excluded from the analyses, as their inclusion might yield artificial results. The remaining attribute groups product usage, organization, and advertising do not significantly correlate with purchase intention. A regression analysis was carried out in which the scores on purchase intention were predicted by evaluation of the five attribute groups product characteristics, brand identifiers, price & quality, brand personification, and market. Table 7.29 presents the results.
Table 7.28: means, standard deviations, and significant correlations for purchase intention and attribute response evaluations on detergents (n=88).

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</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>
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</thead>
<tbody>
<tr>
<td>Purchase intention</td>
<td>.61</td>
<td>.49</td>
<td>.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Product characteristics</td>
<td>3.49</td>
<td>.91</td>
<td>--</td>
<td>.37</td>
<td>.45</td>
<td>.47</td>
<td>.47</td>
<td>.49</td>
<td>.30</td>
<td>.38</td>
</tr>
<tr>
<td>2 Product usage</td>
<td>3.28</td>
<td>.66</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>3.14</td>
<td>.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Price &amp; quality</td>
<td>2.92</td>
<td>.94</td>
<td>--</td>
<td>.56</td>
<td>.54</td>
<td>.51</td>
<td>.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Brand personification</td>
<td>2.96</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
<td>.62</td>
<td>.50</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Market</td>
<td>3.21</td>
<td>.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.49</td>
<td>.40</td>
<td></td>
</tr>
<tr>
<td>7 Organization</td>
<td>3.13</td>
<td>.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td>8 Advertising</td>
<td>2.89</td>
<td>1.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: p < .05. Blank fields above diagonal represent non-significant correlations.

Table 7.29: regression summary for response evaluations predicting purchase intention at attribute group level.

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SEB</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product characteristics</td>
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<td>.07</td>
<td>.06</td>
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<tr>
<td>Brand identifiers</td>
<td>.04</td>
<td>.08</td>
<td>-.07</td>
</tr>
<tr>
<td>Price &amp; quality</td>
<td>.20</td>
<td>.08</td>
<td>.37*</td>
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<td>.05</td>
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<td>.07</td>
</tr>
<tr>
<td>Market</td>
<td>.01</td>
<td>.11</td>
<td>.02</td>
</tr>
</tbody>
</table>

R=.41, R²=.17

Note: * p < .05.

The results show that only evaluations of responses cued by price & quality are significant predictors of purchase intention scores, therefore supporting the hypothesis that response evaluations obtained by IA on price & quality attributes would best predict scores on purchase intention. Up to 17 percent of purchase intention scores can be predicted mainly by price & quality evaluations. The remaining four attribute groups do not seem to have predictive power with respect to purchase intention. However, given the notion that there are numerous factors influencing brand purchase intention, not the least of these being past purchase behavior and general attitude, the 17 percent explained variance can be considered quite substantial.

7.7 Conclusion

Brand attitude and purchase intention scores are considered to underlie brand purchase behavior. They are presumed to result firstly from the set of attributes that make up the representation of the brand in memory, and secondly from the evaluation of this set in terms of positive-negative. The results presented in this chapter show, however, that there is no relation between the types of attributes that underlie a brand in memory and the scores on either brand attitude or purchase intention. It appears that the attitude towards a brand cannot be attributed to particular attributes. The same is true for purchase intention. No specific attributes underlie either high or low purchase intentions.

However, the evaluation of cued attribute responses does relate to scores on both brand attitude and purchase intention. Brand attitude in particular seems to corre-
late well with response evaluations. The results of the regression analyses on the detergent data showed clearly that even simply evaluating brand personification-related attributes, which are not considered to make up part of the memory representation of detergent brands, has the potential to predict brand attitude. One possible explanation for this is that both brand attitude and response evaluations ask respondents to judge the brand in terms of negative or positive. Hence it may be that a halo effect occurs by which general brand attitude spills over when respondents are asked to evaluate responses on attributes that they have not previously linked with detergents (like brand relation and feelings). These attributes might not previously have been associated with detergent brands in memory, but when they are presented as a cue respondents form an on-the-spot opinion about them. Respondents might react to such a cue by listing particular points, but evaluates these with a strong general brand attitude in mind. Hence it might not be the attribute that is evaluated, but merely a reflection of respondents' general brand attitude. Another plausible explanation might be that the brand personification attributes in particular are hard to verbalize, and therefore do not feature as descriptors of the brand's representation from the FA method as applied in the present study. Even when these attributes are explicitly cued (in IA), respondents still might not consider selecting them when describing the brands image, because they cannot rationally relate these attributes with the image they hold of the brand. This is an important issue and one that will be examined further in the following concluding chapter. It suggests that, although people may not be aware of any of these symbolic attributes, these do affect overall attitude, as suggested by the positive results of the regression analyses. This explanation fits in with the modern symbolic approach to brand management. However, before these findings lead to much excitement about the functionality of that modern approach, and about corresponding market research methods, it is important to emphasize that the point made in earlier chapters about the creative cueing effect of symbolic methods still stands. It should be underlined here that it is explicitly the evaluation of these symbolic attributes in terms of positive-negative that relates to brand attitude. This result does not necessarily imply that the descriptions that people give on abstract attributes when explicitly requested by certain methods actually reflect the representation of the brand as stored by respondents in memory. No guarantee can be given on the outcome of a symbolically oriented method when it describes a brand image solely based on the responses obtained from (a set of) potentially biasing cues. Although brand attitude is to a degree predicted by the evaluation of symbolic attributes, and is considered one of the antecedents of a purchase intention, the results further show that evaluations of the symbolic attributes do not directly tie in with purchase intention scores. Only evaluations of price & quality attributes predict scores on purchase intention for detergent brands, albeit to a modest degree. The extent to which these findings can be projected onto other products needs to be explored in future research.