CAREL JANSEN AND STEPHAN BALIJON

How do people use instruction guides?
Confirming and disconfirming patterns of use

Introduction

The assumption that consumers do not attach much value to manuals and instructions for use for products they have purchased recurs with some regularity, also among professionals in the trade. This conveys the impression that such instruction manuals are seldom consulted, except when there is a very good reason to do so. For instance, Rettig (1991, p. 21) states: "... documentation writers have difficulty admitting to themselves: most people don't read documentation". In an article published in the Dutch newspaper NRC-Handelsblad on 1 March 2001, the Dutch researcher Westendorp says: "You may take it for granted that people first mess around with their new purchase and only start reading the instructions when they get stuck. That's usually the normal procedure".

To what extent these ideas are based on research results is not always clear. Few studies have been published about the use and importance of instruction manuals. One of the first publications that discussed this theme was a British study described in Wright et al. (1982).1 Wright and her colleagues asked 44 subjects when they would read all or some of the instructions that come with certain types of products. On average, the responses showed that they consulted the manual entirely or partially in 74.4% of cases concerning a simple appliance such as an electric iron. For more complex equipment such as VCRs, the outcome was 82.9%. Apart from the perceived complexity of the product, the willingness to read the manual was closely related to the
price of the product. The more complex and expensive the product, the greater the chance that the manual would be consulted. A negative correlation with a 'willingness to read manuals' was found for familiarity with the product, perceived safety, and the expected frequency of use. The greater the perception of a product as familiar and safe — and the more frequently one expected to use it — the smaller the chance that the manual would be read. The researchers found that age did not have any effect on the respondents' reported reading behaviour. Possible correlation with gender and levels of education were not further examined.

In Germany, Petersen (1984) asked four groups, each consisting of 100 to 200 randomly selected respondents, several questions about instruction manuals. Much in line with Wright's study (1982), the majority of the respondents (here: 83%) indicated that they generally consulted the instruction guides first before using a new home appliance. When asked whether they usually read the whole instruction guide or only part of it, 49% chose the first option and 51% the second. On the basis of a statistical analysis of the responses (which was not very advanced), the author concludes that the gender of the respondents influenced the frequency of use: "the differences between the answers of the male and female respondents ... reveal traditional stereotypes. Men feel rather confident that they can deal with new technology and are more willing to take risks. Women want to be sure and are more likely to consult the instruction manual" (p. 7).

A study by Wogalter & Baneth (1994) focused on owner's manuals for 'second hand' products. At public shopping markets in North Carolina, one hundred people (50% of each gender) were surveyed on twenty durable consumer products, such as cars, televisions, exercise equipment, and musical instruments. The participants were asked — among other things — how much they would pay extra for an owner's manual if it was not included as part of a used product's resale. Across all products, participants reported that in such a case they would pay an average of $7.54 extra for an owner's manual. There was a positive correlation ($r=$.55) between these dollar values and the product's perceived difficulty of use. Eighty-nine percent of the participants said that including the owner's manual with the used product at resale would help its sale.

In another study conducted in the US, DeTienne and Smart (1995) telephoned users of a popular computer program and asked them to answer a number of questions about the services of the software provider in question. The answers of the 400 respondents revealed that 40% never or hardly ever made use of the on-line help service, and only 2% used this type of user support frequently (i.e. once a day or more). The hard-copy manual proved more popular. Only 13% of the respondents said they never or hardly ever consulted the manual that came with this software product, and 17% reported a frequency of use of once a day or more. Gender, age, and level of education were not differentiated as variables in this study. All in all, the findings of DeTienne and Smart lead to the conclusion that many software users do use hard-copy manuals.

This conclusion was confirmed in a more recent publication (Vromen & Overduin, 2000). By means of a banner on their employer's web site, the Dutch software house Davilex, the authors invited users of Davilex programs to participate in an on-line survey of various forms of user support for these programs. A total of 224 people responded; a large majority read Davilex manuals entirely or partly. A mere 4.5% said they never read manuals. Vromen and Overduin do not differentiate among the respondents in their report, but they do mention that the average age of their respondents was relatively high (41.5) and that most of the participants said they used their computers daily. It must be kept in mind, though, that this study relates to a self-selected group of respondents; the patterns may or may not generalize to other populations of software users.

Does the apparent popularity of hard-copy manuals only apply to users of software products, or do users of consumer electronics also attach importance to the manuals supplied with these products? Since the research conducted by Wright et al. (1982) this matter has received relatively little attention. Schriver (1997, pp. 209–223) describes the most recent study, a survey among American consumers. A total of 201 consumers from the Pittsburgh area were asked, among
other things, how often they usually consulted manuals, how
they responded when something went wrong while using
complicated home electronics, and whether they were will­
ing to pay more for products with good manuals. For the
purpose of this survey, the researchers interviewed consum­
ers as they left electronics stores and video rental shops. The
results showed that, although manuals were rarely com­
pletely disregarded, respondents mainly blamed themselves
when problems arose with the products purchased. Schriver
found that clearly written manuals certainly might affect
consumer behaviour in future purchasing decisions. For a
number of questions that Schriver asked it was reported if
there were statistically significant differences between male
and female respondents and between the various age groups.
Other questions did not mention any correlation between
gender and age. Schriver’s study did not measure the effects
of educational levels.

To gain more insight into the use and importance of
manuals among Dutch consumers, we conducted a survey in
Rotterdam at the end of 1999. One objective was to get a more
detailed picture of the effects of respondent variables than
could be inferred from the literature available. By asking
the same type of questions as Schriver and her colleagues had
done, we were also able to ascertain how the responses of the
Dutch respondents were similar or dissimilar to those of the
American consumers. In addition, we asked our respondents
what they thought about the use of English terms in manuals.
After all, conceivably their views on this matter could affect
the way they use and regard the manuals of products they buy.

Design and procedure

It was not our intention to replicate Schriver’s study in every
detail. We merely based the design of our research on her
data collection methods. At various locations in and around
Rotterdam, we asked 201 customers leaving consumer
electronics shops if they would be willing to answer a few
questions about manuals. Unlike the study conducted in
Pittsburgh, where respondents were paid $12 for their coop­
eration, our respondents were rewarded with a small bag of
How do people use instruction guides?

As in Schriver’s study, a more or less equal number of men (N=105) and women (N=96) participated in our survey, with roughly equal numbers in each of three age groups: under thirty (N=70), thirty to forty-nine (N=69), and fifty and over (N=62). In terms of level of education, the numbers were also more or less equal. Of the 196 respondents who supplied information about their highest level of education, 67 mentioned higher professional or university education (classified as high), 72 had completed senior general secondary education, senior secondary vocational education or preuniversity education (classified as middle), and 57 had received lower general secondary education or had lower levels of education (classified as low).

The interviews were conducted as follows. After the first question about the frequency of manual use, we asked several questions that Schriver had also posed, along with multiple-choice answers. The same procedure was followed with regard to the extra question about the use of English (“What do you think of the use of English terms in manuals”?). We then continued with several questions about personal details.

Results

We will not discuss every question we asked our respondents, nor will we go into greater detail on all questions that we do discuss. Readers interested in further information are referred to the web site where the complete results of our statistical analyses can be found.

Frequency of use

The first question we asked our respondents was: “Do you read the manual that comes with a product you buy?” The results are shown in Table 1.

<table>
<thead>
<tr>
<th>always</th>
<th>often</th>
<th>sometimes</th>
<th>never</th>
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<tbody>
<tr>
<td>38.8%</td>
<td>32.3%</td>
<td>20.9%</td>
<td>8.0%</td>
</tr>
</tbody>
</table>
Only 8% of the respondents said they never read the manual when they buy a product, which is in stark contrast to a nearly 40% who said they always read it. According to the Chi-square test, gender does not play a significant role in this (p=.634). Age and level of education do, however, as is shown in Tables 2 and 3.

Table 2  “Do you read the manual that comes with a product you buy?”
Answers across age groups

<table>
<thead>
<tr>
<th></th>
<th>always</th>
<th>often</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
<tbody>
<tr>
<td>young people (&lt; 30)</td>
<td>25.7%</td>
<td>27.1%</td>
<td>31.4%</td>
<td>15.7%</td>
</tr>
<tr>
<td>middle group (30–49)</td>
<td>46.4%</td>
<td>33.3%</td>
<td>15.9%</td>
<td>4.3%</td>
</tr>
<tr>
<td>older people (&gt;49)</td>
<td>45.2%</td>
<td>37.1%</td>
<td>14.5%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Chi-square(6): 19.694; p<.01
Rank order correlation: - .22, p<.001

Table 3  “Do you read the manual that comes with a product you buy?”
Answers across levels of education

<table>
<thead>
<tr>
<th></th>
<th>always</th>
<th>often</th>
<th>sometimes</th>
<th>never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level of education</td>
<td>28.1%</td>
<td>22.8%</td>
<td>33.3%</td>
<td>15.8%</td>
</tr>
<tr>
<td>middle level of education</td>
<td>30.6%</td>
<td>38.9%</td>
<td>23.6%</td>
<td>6.9%</td>
</tr>
<tr>
<td>high level of education</td>
<td>55.2%</td>
<td>35.8%</td>
<td>9.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Chi-square(6): 29.950; p<.001
Rank order correlation: - .30, p<.001

The older the consumers were and the higher their levels of education, the higher their likelihood of reading the manual and the smaller the chance they would ignore it. This becomes clear from the rank order correlations of the frequency of use, on the one hand, and age and level of education, on the other. Further analysis shows that the combinations of ‘young person/low level of education’ and ‘older person/high level of education’ yield the most extreme differences. Of the young people with low levels of education, 31.8% never read manuals; no one from this group said that they always read manuals. Of the older people with high levels of education, everyone reads manuals sometimes; 50% say they always read them.

The second question was: “Generally speaking, how do you read manuals”? The results are listed in Table 4. For comparison, we also present the percentages of the answers that American respondents gave to the same question.7

Table 4  “Generally speaking, how do you read manuals”?
Answers of Dutch and American respondents

<table>
<thead>
<tr>
<th></th>
<th>cover to cover</th>
<th>Scan</th>
<th>read when stuck</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch respondents</td>
<td>20%</td>
<td>54%</td>
<td>23%</td>
<td>3%</td>
</tr>
<tr>
<td>American respondents</td>
<td>15%</td>
<td>46%</td>
<td>35%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Chi-square(2): 13.508; p<.01

Table 4 confirms that indeed many people do read manuals. The easy assumption that manuals are ignored appears to be true for only 3% of the Dutch respondents (even less than the 8% who gave a similar answer to the first question) and 4% of the American respondents.

About half of the Dutch and American respondents scan their manuals, and 20% and 15% respectively read them cover to cover. The third option (read when stuck) shows a clear difference between the American and Dutch respondents. This option was chosen more often by the Americans (35%) than by the Dutch (23%). A possible explanation is that, in retrospect, the English and Dutch formulations of this alternative answer were not completely equivalent.

From the data presented by Schriver, it cannot be deduced whether the gender, age, and level of education of the respondents had a significant effect on the answers given. However, the data obtained from our Dutch respondents enabled us to do so. Again, gender proved not to have any significant effect. Conversely, age (rank order correlation: - .14; p<.05) and level of education (rank order correlation: - .15; p<.05) play a modest but statistically significant role here. Particularly older people and people with high levels of education indicated that they read their manuals cover to cover. Young people and people with low levels of education said they only used their manuals when they got stuck, or did not use them at all.

The attribution of blame

There are many complaints about manuals. The media regularly give examples of awful translating, poor writing, intrinsic errors, and inappropriate illustrations — resulting in virtually indecipherable instruction manuals. The media
usually do so because of the comical effects, which are guaranteed to get laughs. However, sometimes the underlying objective is to motivate manufacturers to pay more attention to — and spend more money on — the quality of these texts, which could be crucial for using products effectively.

How do consumers view the instructions provided for using the products they buy? Do they agree with the media and blame the manuals when something goes wrong? Or do they assign the blame to themselves when they cannot solve problems using the manual? Table 5 shows the answers to this question by Dutch and American respondents.

The most striking results are the high percentages of respondents who blame themselves when something goes wrong. In the Netherlands, this pertains to nearly 50% of those interviewed; in the US, the figure exceeds 60%. This difference contributes to the significant effect of nationality on the responses to this question. Like Schriver, we found no significant effect for the variables ‘gender’ and ‘age’. Nor did we find any significant effect here for ‘level of education’.

The importance of good, clearly written manuals

To get an idea of the importance that consumers attach to clearly written manuals when it comes to purchasing decisions, we asked our respondents a number of questions, which Schriver also put to her American respondents. Table 6 contains the most important results.
The results shown in Table 6 indicate that consumers attach importance to clearly written manuals. They believe they are entitled to them and are willing to pay slightly more for them. Further analysis of our data showed that people with high levels of education (34%) are more willing to pay extra for a clearly written manual than the 'average consumer' (17%), and that young people (12%) are somewhat less willing to do so. It also seems evident that the purchasing decisions of consumers are influenced by previous positive experiences with manuals that accompany products from the same company. This applied to the Dutch (48%) and, even more so, to the American respondents (79%). Further analysis of the answers provided by the Dutch respondents showed that older people and, even more, people with low levels of education answered this question affirmatively (61% and 68%, respectively). Of those older respondents who had low levels of education, 78% said that previous experiences with manuals of the company in question would affect future purchase decisions.

Other differences between the answers of American and Dutch respondents were found with regard to questions 3 and 4, where it was clear that Americans attach more importance to stressing user-friendliness in advertising than the Dutch, and question 5, where the Americans were more willing to pay slightly more for a clearly written manual than the Dutch. In our study, young people with low levels of education strongly deviated from the overall picture in this respect. Of the twelve Dutch respondents in this category, no one answered 'yes' and eleven (91.7%) answered 'no' to the question as to whether they would be willing to pay more for a product with a clearly written manual. We will return to the differences found between American and Dutch respondents in Section 4.

The attitude toward English in manuals

As English terminology features prominently in the interface of many consumer electronics products, it is the rule rather than the exception that English terms are used in the accompanying manuals. It is conceivable that the attitudes of Dutch consumers towards the use of English in these types of texts affect the use and importance attached to manuals on the Dutch market.

In order to assess this, we asked the respondents to indicate on a scale of five how they rated the use of English terms in manuals. In Table 7, the answers to this question are subdivided according to gender, age group, and level of education.

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Standard deviation</th>
<th>Significant effect?</th>
</tr>
</thead>
<tbody>
<tr>
<td>men</td>
<td>2.72</td>
<td>1.16</td>
<td>No</td>
</tr>
<tr>
<td>women</td>
<td>2.82</td>
<td>1.15</td>
<td>t(199) = 0.608</td>
</tr>
<tr>
<td>p = .544</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>young people (&lt;30)</td>
<td>2.47</td>
<td>1.06</td>
<td>Yes</td>
</tr>
<tr>
<td>middle group (30-49)</td>
<td>2.49</td>
<td>1.22</td>
<td>F(2, 198) = 16.379</td>
</tr>
<tr>
<td>older people (&gt;49)</td>
<td>3.42</td>
<td>1.15</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>low level of education</td>
<td>3.40</td>
<td>1.31</td>
<td>Yes</td>
</tr>
<tr>
<td>middle level</td>
<td>2.61</td>
<td>0.99</td>
<td>F(2, 193) = 15.278</td>
</tr>
<tr>
<td>high level of education</td>
<td>2.37</td>
<td>2.92</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>total</td>
<td>2.76</td>
<td>1.15</td>
<td></td>
</tr>
</tbody>
</table>

The data in Table 7 show that the use of English in Dutch manuals is generally not considered a problem. The average opinion (2.76) lies somewhere between 'positive' (2) and 'neutral' (3). Gender has no significant effect on the consumers' opinions. Age, however, does have an effect. The average opinion of respondents 50 years old and older (3.42) concerning the use of English terms deviates significantly from that of the two other age groups. Apart from age, education also affects the responses to this question. People with low levels of education are significantly more negative about English in manuals (3.40) than the other two groups. The most negative was the group of 21 respondents aged 50 and over with levels of education below that of lower general secondary education. Their average rating of English (4.33) lies somewhere between 'negative' and 'very negative'. Most probably this is the result of an insufficient command of the English language. If people simply do not
understand the terms that are used on a machine and/or in the instruction manual that comes with it, this inevitably causes irritation.

There was very little connection between the respondents' opinion of English in manuals and the answers they gave to the other questions posed. With one exception, the correlation between the attitude toward English and the answers to other questions did not prove significant. Apparently, a positive or negative opinion of English in manuals generally does not have a direct influence on the use and appreciation of this type of text.

We do not know of any previous research into Dutch consumer assessment of English in instruction manuals. There is only one study that covers a more or less similar field, viz. the one conducted by Gerritsen (1996). This study dealt with an assessment of English in written commercial advertising texts — complete advertisements in English published in Dutch magazines. The respondents' attitude toward this type of advertisement (average score of 2.62 on a scale of five), as found by Gerritsen, is comparable to the average score on instructional texts in the present study. In line with our research, young people (under 25) proved significantly more positive than older people (over 45) in Gerritsen's study. Like us, Gerritsen did not find any gender effect on attitudes towards English. Gerritsen did not analyze if there was an effect of level of education: all respondents had high levels of education that she defines as 'high'. The young people had all completed preuniversity education; the older people had all attended HBS (a former type of Dutch high school) or grammar school (Gerritsen, 1996, p. 69).

Conclusions

All in all, our research revealed the following general picture. When buying products, almost everyone said that they read the manuals entirely or partially (Table 1). In most cases, this is done quickly while trying out the product, or when the user gets stuck (Table 4). When problems arise
How do people use instruction guides?

while trying to use the product, people more often attribute these problems to themselves than to the manual (Table 5). Respondents doubt whether companies care whether their customers know how to use the products supplied. They believe they are entitled to clearly written instruction manuals. They also see some commercial benefit in stressing the ‘user-friendliness’ of their manuals. Furthermore, they are willing to pay slightly more for a clearly written manual. Respondents also indicated that their purchasing decisions were influenced by their previous experiences with manuals (Table 6). They were not enthusiastic about English terms being used in Dutch manuals, but generally did not consider this a problem (Table 7). There was no clear correlation found between opinions on the use of English, on the one hand, and the use and assessment of manuals, on the other.

The statistical tests on the effects of the variables examined lead to the conclusion that gender does not play a part in the Dutch consumers’ use and assessment of manuals. Gender did not affect any of the answers given by the respondents. Our data clearly do not support Petersen’s hypothesis (Petersen, 1984) that men are “more willing to take risks” and women are “more likely to consult a manual”.

Age has some effect on the frequency of manual use. Older consumers more frequently claim to read the manuals when they buy products. There is also some correlation between age and the method of consulting manuals. Older people in particular read the manual from cover to cover, while young people only consult the manual when they get stuck, or do not read it at all. Age has no demonstrable effect on the answers to the question concerning the attribution of ‘blame’. According to our data, age does play a role when it comes to the commercial impact of clearly written manuals. Older people are willing to pay more for clearly written manuals, and their future purchasing decisions are more clearly influenced by their previous experiences with manuals. There is a clear age effect concerning opinions about the use of English. Just as in Gerritsen’s study (1996) about advertisements, it is found in this study about manuals that
older people are more bothered by the use of English terminology than younger people are.

Level of education is the variable that has the greatest effect on the use of manuals. People with high levels of education clearly read manuals more often and more intensively than others. The respondents' levels of education do not play a role in attributing blame. We did find an effect of education levels on the commercial aspects of clearly written manuals. On the one hand people with low levels of education were the least willing to pay more for clearly written manuals; on the other hand their purchasing decisions were the most influenced by their previous experiences with manuals. Consumers with low levels of education were considerably more negative about the use of English terminology in Dutch manuals.

When the answers of our respondents are compared with the answers in Schriver's study (1997), there are major similarities. However, there are also several differences. In contrast to Americans, the Dutch are more often prepared to read manuals entirely or partially. Americans attribute the blame for problems more to themselves than the Dutch do. Furthermore, Americans attach more commercial importance to clearly written manuals, and are more willing to pay slightly more for them.

It may be tempting to explain these differences on the basis of cultural characteristics, and to connect them directly with, for example, the work of Hofstede (1984; 1995), who characterizes Dutch culture as differing from American culture in several ways. However, in our opinion, it would be premature to make any such statements about possible correlations between nationality, cultural characteristics, and assessment of manuals. As indicated in Jansen (1999; 2000), for instance, the validity of the research results as formulated by Hofstede may be called into question. However, even if we were to obtain more precise information on cultural differences, it would be risky to use this to explain directly the preferences and behavior of readers. A simple model of the type ‘nationality X therefore cultural characteristics Y therefore communicative behavior Z’ cannot provide a sufficient theoretical basis for research into intercultural aspects of business communication. Such research should at least include the relation between group cultural dimensions and individual value patterns (see Le Pair et al., 2000 and Hoeken & Korzilius, 2001). After all, it is conceivable that differences between consumers on communication-related variables may show some relation with nationality, but are more strongly determined by individual characteristics that cut across nationality. The first results of cross-cultural research, carried out at the University of Nijmegen, into the assessment of advertising texts including individual value patterns in the analyses have recently been published (Van den Brandt et al., 2001).

It would also be useful to have follow-up research that provides a more detailed answer to the question of which situational characteristics with which type of user, result in a decision to read instruction manuals entirely or partially, or not to read them at all. As Wright (1988) puts it, we need to work on the “theories of NOT reading”. So far there have only been a few attempts (Wright, 1988; Steehouder, 1994; Maes et al., 1996) to start developing theories on the triangular relationship of text, artefact, and user, and on the types of interactions that lead to certain forms of reading behavior. It would be worthwhile to elaborate these first efforts and support them with empirical research. The findings of such work could lead to the design of better manuals, thus increasing their practical value. In any case, as the study reported here shows, consumers certainly would appreciate efforts to make manuals more usable, regardless of where they live.

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Notes

1. See Wright (1981) for an outline of the first findings in this research.
2. From here on, we will use the term manuals as a common denominator for this type of documents.
3. Schriver (1997) does not mention when the interviews were held. As some of the results (concerning the attribution of blame) were already mentioned in Schriver (1995), the survey must have been conducted no later than 1995.
4. Schriver surveyed 107 men and 104 women in the following three age groups: under thirty: N=67; thirty to forty-nine: N=69; fifty and over: N=65. Schriver (1997) does not give any exact information about the respondents' levels of education.
5. With regard to the questions we discuss here, we always state whether there is a statistically significant correlation between the answers to the questions and the respondents' characteristics 'gender', 'age', and 'level of education' (Chi-square tests; alpha=.05). When the nature of the optional answers to the interview questions so allowed, we interpreted the respondents' reactions as values on an ordinal scale, and performed the appropriate nonparametric tests. Where the respondents' variables that we related to the answers (age in three categories, level of education in three categories) were themselves of an ordinal nature, we calculated rank order correlation (Kendall's Tau-b). For respondents' variables on a nominal scale (gender), we used the Mann-Whitney test. Cases in which the rank order correlation or results of the Mann-Whitney tests were statistically significant are all mentioned. Comparison between our results and those of Schriver is limited to reporting on Chi-square tests. For other analyses, the rough data of the American study should have been available. The five-point scale used for the question about the assessment of English enabled us to use F- and t-tests to analyze the answers.
6. The web address is: http://www.careljansen.nl/jb2001.htm. Here the SPSS file containing the data collected in Rotterdam can also be downloaded.
7. Schriver used percentages rounded to the nearest whole number. Where we compare our results with hers, we adopted her way of presenting data.
8. Strictly speaking, the term 'nationality' may not be the correct one here. Schriver (1997) does not mention whether she checked the American nationality of her respondents, and we did not ask our respondents about their nationality. However, it may be assumed that the larger part of the consumers in Schriver's survey held an American passport and that the consumers in our survey held a Dutch one.
9. In a follow-up survey among 35 subjects, Schriver examined whether the answers to the question of the attribution of blame were influenced by the concrete experience of using a manual. This proved not to be the case: in the pretest, 52% attributed the blame to themselves, and about the same scores were obtained while the subjects were using the manual (51%) and in the posttest (53%).
10. Post hoc tests (Tamhane) revealed the following differences: young people versus middle group: nonsignificant; young people versus older people: significant; p<.001; middle group versus older people: significant; p<.001.
11. Here, the results of the post hoc tests (Tamhane) were as follows: low level of education versus middle level of education: significant; p<.01; low level of education versus high level of education: significant: p<.001; middle level of education versus high level of education: nonsignificant.
12. The exception involved the correlation between the assessment of English and the certainty with which the respondents supported the thesis that manufacturers would do well to advertise 'user-friendly' manuals. This correlation proved to be significant in the rank order test (p=.042), but not in the Chi-square test (p=.107). We find the low rank order correlation (.127) that we found here too difficult to interpret, and therefore refrain from drawing any definite conclusions on the basis of these findings.
13. According to Gerritsen et al. (2000, p. 18), which also contains a brief reference to Gerritsen (1996). Gerritsen (1996) does not mention the overall scores but, given the subresults presented, the average score of the 26 young people must be 2.18 and that of the 26 older people 3.07.

References


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