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Websites in brand communication: interactivity and cross-media effects

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The Interacting Role of Media Sequence and Product Involvement in Cross-Media Campaigns⁸

Abstract

The aim of the study is (1) to investigate consumers' responses to different media sequences, and (2) to provide insight into the role of product involvement in the relationship between media sequences and cross-media effects. To do so, we conducted an experiment in which participants were exposed to a combination of TV commercials and websites (TV commercial-website vs. website-TV commercial). The results indicated a consistent interaction effect of media sequence and product involvement on three possible campaign targets: attitudes toward the ads, interest in the ads, and message evaluation. These interaction effects showed that while a TV commercial-website sequence was effective for informing consumers about both high and low involvement products, the website-TV commercial sequence was only suitable for informing consumers about high involvement products. The main conclusion of the study is that sequence of exposure is vital in cross-media campaigns. The study also demonstrates under which conditions this is particularly important.

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Introduction

Cross-media campaigns are very popular, as almost all advertising campaigns make use of more than one medium. In contrast, research has focused on single medium campaigns. The scarce empirical research has indicated that campaigns that use multiple media have stronger persuasive power than campaigns that use only one medium (Edell & Keller, 1989, 1999; Dijkstra, 2002; Chang & Thorson, 2004; Havlena, Cardarelli, & De Montigny, 2007; Voorveld, Neijens, & Smit, in press). Cross-media campaigns are supposed to induce synergy, whereby the combined effect of multiple media activities exceeds the sum of the individual effects (Naik & Raman, 2003). To detect synergy effects, earlier studies typically have compared experimental cross-media conditions with single medium conditions. What remained unstudied however, was the effect of different media sequences within cross-media campaigns. To date, no study has systematically focused on comparing the effectiveness of different media sequences in cross-media campaigns. It is essential to gain insight into sequence effects in cross-media campaigns because it is known from other fields that the order in which consumers are exposed to information can affect their evaluations (Haugtvedt & Wegener, 1994; Loda & Coleman, 2005). As the sequence of exposure can affect consumers' evaluations of ads and brands, studying sequence effects in cross-media campaigns is of critical concern for advertisers (Ephron, 2000; Wang & Nelson, 2006; Bronner, 2006; Havlena, Kalluf, & Cardarelli, 2008). Thus, the first aim of this study is to extend the literature on cross-media effects by investigating consumers' responses to different media sequences.

Another gap in research on cross-media effects is that it has not examined under what conditions cross-media effects are likely to occur. An important factor that may moderate cross-media effects is product involvement. Since consumers' information search may be affected by the importance of the product (Okazaki & Hirose, 2009), and because product involvement is an important moderator of the amount and type of information processing elicited by a persuasive communication message (Petty, Cacioppo, & Schumann, 1983), we investigate the role of this variable. Thus, the second aim of this study is to provide insight into the role of product involvement in the relationship between media sequences and cross-media effects.

To test media sequence effects and the role of product involvement we conducted an experiment in which we studied a combination of TV commercials and websites, two forms of media which are often included together in advertising campaigns (Chang & Thorson, 2004). Consumers'

responses to cross-media sequences were assessed on three campaign targets: attitude toward the ads, interest in the ads, and message evaluation.

In the next sections we will expand on theoretical reflections and previous research on sequence effects and discuss the concept of product involvement and its role in cross-media sequence effects.

Theoretical Background

Theoretical Considerations on Sequence Effects

In the cross-media literature there is only speculation about the most effective media sequence in cross-media campaigns. Havlena (2005) and Bronner (2006) speculated that the most effective media sequence should be linked to the consumer decision-making process. For example, if TV commercials are used for getting attention, while websites are used for supporting the message by giving detailed information, a TV commercial-website sequence would be most effective.

A key theoretical framework for discussing sequence, or order effects, is the primacy and recency paradigm (Lana, 1963). This paradigm states that the order in which a consumer is exposed to (advertising) messages affect preferences for the content of these messages (Loginova, 2009; Brunel & Nelson, 2003). In the case of a primacy effect, the initial message has the largest persuasive effect, so people form judgements more consistent with the initial message. In the case of a recency effect, the last message has greater persuasive power (Brunel & Nelson, 2003) and people form judgements more consistent with the last message (Haugtvedt & Wegener, 1994). Initially, the primacy-recency paradigm seems appropriate to gain insight into sequence effects in cross-media campaigns. It is important to note, however, that while the primacy-recency paradigm is traditionally tailored to order effects on opinion formation and change in the case of two disagreeing messages, pro and con a certain issue (Lana, 1963), in cross-media campaigns messages are not contradictory. Normally messages will be in the same valence (i.e., favourable to the product and brand), and are only shown in different media. Therefore, it is hard to apply the primacy-recency paradigm to sequence effects in cross-media campaigns.

A second theoretical framework is related to the psychological processes that occur when consumers are exposed to combinations of media. Knowledge about such processes could provide insight into the relative effectiveness of different media sequences. There are three specific processes that could be relevant. First, when consumers are exposed to a combination of media, the first medium may stimulate forward encoding, which takes place

when an ad in the first medium ‘primes’ the consumer’s interest for and attention to an ad in the second medium. In other words, the ad in the first medium may serve as a ‘teaser’ to attract attention to, arouse interest in, and increase curiosity for the ad in the second medium (Voorveld et al., in press; Bronner, Neijens, & Van Raaij, 2003; Edell & Keller, 1989, 1999; Dijkstra, 2002). Second, during exposure to the second medium in the cross-media sequence a retrieval process may be prevalent (Edell & Keller, 1989). Consumers may mentally replay the ad in the first medium during exposure to the second medium. During this process of image transfer “the elements in the second ad may function as retrieval cues to the ad memory trace from the first exposure” (Dijkstra, 2002, p. 66; Chang & Thorson, 2004; Voorveld et al., in press). Third, when consumers see a combination of media they may perceive these media as independent sources of information. Such multiple source perceptions can enhance the persuasive power of a message, as messages from independent sources are more convincing and credible (Voorveld et al., in press; Dijkstra, 2002; Harkins & Petty, 1987). While these processes could play a role in the persuasiveness of different media sequences, there is no indication that these processes are more prevalent in TV commercial-website sequences or in website-TV commercial sequences.

In conclusion, there is no theory available to provide insight into the effectiveness of different media sequences in cross-media campaigns. Therefore, it is interesting to know what we have learned from earlier cross-media research.

Sequence Effects in Earlier Cross-Media Research

Earlier cross-media research, which also included other combinations of media, for example TV commercials with print ads or radio spots, has focused on comparing cross-media conditions with single medium conditions to investigate whether cross-media campaigns are more persuasive than single medium campaigns (Edell & Keller, 1989, 1999; Dijkstra, 2002; Chang & Thorson, 2004). Although most of these studies used two different media sequences in their experiments (e.g., a first exposure to a TV commercial, followed by an exposure to a website, and a first exposure to a website and a second exposure to a TV commercial), to our knowledge, no study focused on the effects of media sequences in cross-media campaigns. Moreover, in some experiments the two cross-media conditions were combined into one cross-media condition on the supposition that differences between the cross-media sequences did not exist (Chang & Thorson, 2004; Voorveld et al., in press). In the classical experiment of Edell and Keller (1989) media sequences were

analyzed separately, but they still focused on comparing single medium conditions with cross-media conditions. In this experiment, only some differences were found between the cross-media sequences with regard to processing measures (like the total number of thoughts), but not concerning memory measures (like recall) or evaluation measures (like attitude toward the ad). Finally, Dijkstra, Buijtsels, and Van Raaij (2005) found only some small differences between the seven sequence conditions in their experiment, but did not elaborate on these results and possible explanations in their article.

While sequence effects on evaluations were not earlier identified in cross-media research, research from related fields does demonstrate sequence effects. Research on using multiple communication tools or instruments in one campaign showed, for example, that the sequencing of publicity and advertising affected the message acceptance and response. A sequence of publicity followed by advertising was more successful than an advertising-publicity sequence (Loda & Coleman, 2005). The explanation given by Loda and Coleman (2005) was related to message credibility. The credibility of publicity was higher than the credibility of advertising. However, the credibility of publicity was diminished if advertising was presented first. The results from this study indicate that there might be sequence effects in cross-media campaigns as well.

In conclusion, there is a lack of empirical research into sequence effects in cross-media campaigns. Neither theoretical considerations nor previous cross-media studies give any convincing reasoning for the possible superiority of one of the media sequences. Due to the lack of knowledge on this subject we could not formulate a hypothesis. Therefore, the following research question was formulated:

RQ1: To what extent are there differences between different media sequences (TV commercial-website vs. website-TV commercial) regarding attitude towards the ads, interest in the ads, and message evaluation?

Product Involvement

Involvement is an important moderator of the amount and type of information processing elicited by a persuasive communication message (Petty et al., 1983). There are many types of involvement (e.g., message, consumer, and product involvement). In this study we use the concept of product involvement which is defined as: "respondents' overall evaluation of how important the product is to their life" (Macias, 2003, p. 35; Zaichkowsky, 1994). Product involvement represents one of the main motivations to process a message. If

people feel that a product is important to them, they will be more likely to put more effort into processing the message (Petty et al., 1983) and “they will seek out information via the best medium available” (Okazaki & Hirose, 2009, p. 84). To gain insight into the role of product involvement in sequence effects, we need to know more about the relationship between TV commercials, websites, and product involvement.

TV Commercials and Product Involvement

TV commercials are most effective in informing consumers about low involvement products (Buchholz & Smith, 1991). The external pacing of TV commercials, the spoken information, and moving images can influence consumers that do not put a lot of effort into processing a message (De Pelsmacker, Geuens, & Anckaert, 2002; Buchholz & Smith, 1991; Dijkstra et al., 2005; Bronner & Neijens, 2006). Another line of reasoning is related to the information typically communicated in TV commercials. To market low involvement products, emotional appeal advertising is most effective (Wills, Samli, & Jacobs, 1991). Because TV commercials are most appropriate for communicating emotional content (Leong, Huang, & Stanners, 1998), TV commercials are expected to be most effective in informing consumers about low involvement products.

However, consumers who are highly motivated to process information because they are evaluating a high involvement product can also be persuaded by TV commercials. Consumers who are searching for information on high involvement products generally put a lot of effort into their search for information (Beaty & Smith, 1987). They search for as much information as possible to inform them. Therefore, TV commercials are valued because they provide an additional source of information. In conclusion, TV commercials are most influential in the case of low product involvement, but they are also able to influence consumers about high involvement products (Buchholz & Smith, 1991; Dijkstra et al., 2005).

Websites and Product Involvement

It can be argued that websites are most effective in informing consumers about high involvement products (Dijkstra et al., 2005). In the literature, two main reasons can be found for this assertion. The first reason is grounded in theories on information processing. Earlier work on the processing of print media can be extended to websites to gain insight into the role of product involvement in website communication. In line with the low-involvement learning hypothesis (Krugman, 1965) that was originally posed for

TV and print, websites require active consumers because reading and interacting with a website requires a lot of cognitive effort. However, Holbrook (1978) suggests that consumers want to minimize their cognitive effort and, therefore, consumers would probably only be willing to interact with a website if the information is of interest to them. Therefore, only when consumers are motivated to process information, for example because of high product involvement, they are willing to interact with a website (Yoo & Stout, 2001; Levy & Nebenzahl, 2007; Liu & Shrum, 2009), which will subsequently enhance the likelihood of influencing its visitors (Liu & Shrum, 2009). Thus, the interactive nature of websites is particularly advantageous to advertisers when consumers are willing to interact, and therefore product involvement should be high (Yang, 2004).

The second reason why websites are most effective at influencing consumers about high involvement products is related to external information search. The level of involvement with a product influences how consumers search for information (Yang, 2004; Beatty & Smith, 1987). When consumers are highly involved with a product they engage in a more extensive external information search (Beatty & Smith, 1987; Buchholz & Smith, 1991; Volk & Kraft, 2005). The internet is an appropriate medium for consumers that are searching for information on a high involvement product (Yoon & Kim, 2001; Okazaki & Hirose, 2009). An explanation is that websites typically display a plenitude of information and rational appeals (Bronner et al., 2003). These rational appeals are especially effective in influencing consumers about high involvement products (Leong et al., 1998). In conclusion, websites are most influential in the case of high product involvement.

Sequence Effects and Product Involvement

By relating the above medium characteristics and the role of product involvement to sequence effects, we can speculate about the most effective media sequence for high and low involvement products, and we might expect that the ideal media sequence is different for high and low involvement products. Firstly, we focus on the TV commercial-website sequence. As stated before, a TV commercial is best suited to persuade consumers about low involvement products (Buchholz & Smith, 1991; Krugman, 1965; Dijkstra et al., 2005). When consumers evaluating a low involvement product are exposed to a TV commercial-website sequence, the TV commercial might trigger consumers to visit a website. In other words, the TV commercial might trigger interest in the website as well as motivation to process the website. This makes consumers more willing to interact with a website (Yoo & Stout, 2001; Levy & Nebenzahl,

2007; Liu & Shrum, 2009). As a result, they might get more interested in the website and also positively evaluate the website and the message (Liu & Shrum, 2009).

On the other hand, highly involved consumers exposed to a TV commercial-website sequence might want to visit a website anyway because they want to obtain as much information as possible (Beatty & Smith, 1987; Buchholz & Smith, 1991; Volk & Kraft, 2005). Although the website might serve their needs best, they also value the TV commercial as an additional source of information. Therefore, the TV commercial-website sequence might be appreciated by consumers evaluating both low and high involvement products, resulting in a high level of interest in the ads, a positive attitude toward the ads, and a positive message evaluation. Because the role of product involvement in sequence effects in cross-media campaigns has not been studied before, we formulated the following research proposition.

RP1: In the case of a TV commercial-website sequence, there is no effect of product involvement on attitude toward the ads, interest in the ads, and message evaluation.

For the website- TV commercial sequence, we might expect differences between consumers evaluating low and high involvement products. When consumers evaluating a high involvement product are exposed to a website-TV commercial sequence, they are willing to interact with the website (Levy & Nebenzahl, 2007; Liu & Shrum, 2009; Okazaki & Hirose, 2009). As a result, they might evaluate the website positively (Liu & Shrum, 2009). These consumers also appreciate the TV commercial, because they value TV commercials as an additional source of information and because the preceding positive experience with the brand spills over to the experience of the TV commercial (e.g., Ruth & Simonin, 1998; Ahluwalia, Unnava, & Burnkrant, 2001).

In contrast, when consumers evaluating a low involvement product are first exposed to a website, they do not feel the level of interest and motivation needed to interact with that website and therefore, they might not appreciate it. The TV commercial that follows could then also be evaluated less positively, caused by a spill-over effect of the preceding negative experience with the brand. Therefore, the website-TV commercial sequence might only be suitable for and appreciated by consumers who are evaluating high involvement products, resulting in a high level of interest in the ads, a positive attitude towards the ads, and a positive message evaluation. As a result, we formulated the following research proposition.

RP2: In case of a website-TV commercial sequence, there is an effect of product involvement on attitude toward the ads, interest in the ads, and

message evaluation, in a way that this sequence is more effective for high involvement products than low involvement products.

Method

Design and Participants

The study involved a two (media sequences: TV commercial-website vs. website-TV commercial) by two (product involvement: low vs. high) factorial between-subject design. The participants were 115 students from a Dutch university. Their mean age was 22.04 ($SD = 3.42$) and 75.7% of the participants were female. Participation was voluntary and the participants received €8 each.

Experimental Stimuli

Two product categories were selected to manipulate product involvement. Cell phone services were considered high involvement products and services of energy suppliers were considered low involvement products. To test whether these product categories correctly represented low and high involvement products, a pre-test was conducted among 21 students (76.2% female) with a mean age of 23.38 ($SD = 1.83$). The participants were asked to fill in the ten items from the revised personal involvement inventory (Zaichkowsky, 1994) on a five-point scale for both product categories. Results showed that, as expected, the cell phone services were perceived as high involvement products ($M = 3.45$, $SD = 0.59$), while the services of the energy supplier were perceived as low involvement ($M = 2.72$, $SD = 0.55$), ($t(20) 5.12$, $p < .001$). In the experiment, a manipulation check was performed to see whether the manipulation was successful.

To remove influence due to previous brand evaluation and knowledge (Yang, 2004), Belgian commercials and brands were used in the experiment. The brands were not advertised in the Netherlands and a manipulation check revealed that none of the participants had seen the ads before. The TV commercials were in Dutch and both commercials were about 30 seconds.

Two websites –one for each involvement category – were professionally created with the same structure and layout, and the only variation was in the content. The text, photos and logos of each website were copied from the original websites of the brands. The websites contained brand, product, corporate, and background information, photos, and the possibility to request more information. Both websites contained 22 pages and had a similar amount of information.

TV commercials were shown in blocks of five commercials (one target ad and four filler ads) to create a natural viewing situation. The target commercial was shown in the second or third position of the commercial block. The websites were not offered in blocks of five because on the internet it is common to go directly to the desired website. Participants were asked to browse the website in their usual manner. Participants had an unlimited amount of time to view the website.

Procedure

Participants were randomly assigned to one of the four experimental conditions. Participants sat in isolated cubicles to prohibit them from viewing and hearing the ads in the other conditions of the experiment. The experiment was conducted on a computer. First, participants were asked some general questions. Then participants were exposed to the ads in the first medium (TV commercial or website, depending on the media sequence). After this, participants watched a five-minute clip from a soap opera. Then participants were exposed to the ads in the second medium (TV commercial or website, depending on the media sequence). All participants saw both the TV commercial and the website, only the order of exposure varied. Finally, participants completed the questionnaire and were thanked and debriefed.

Measures

Attitude toward the TV commercial. Attitude toward the TV commercial was measured with a three-item five-point semantic differential scale based on Chang and Thorson (2004). The bipolar ends included "likeable/not likable," "good/bad," and "appealing/not appealing." The items all loaded on one factor that proved to be reliable ($EV = 2.51$; $R^2 = .84$; Cronbach's alpha = .90; $M = 3.58$, $SD = 1.07$).

Attitude toward the website. Attitude toward the website was measured with the same three items as attitude toward the TV commercial. The items all loaded on one factor that proved to be reliable ($EV = 2.30$; $R^2 = .76$; Cronbach's alpha = .84; $M = 2.54$, $SD = 0.81$).

Interest in the TV commercial. According to Rossiter (2002) a single item indicator is sufficient to measure interest in a concrete, singular object. Therefore, interest in the TV commercial was measured with one item on a five-point semantic differential scale: "The TV commercial was interesting" ($M = 3.38$, $SD = 1.15$).

Interest in the website. The item used to measure interest in the TV commercial was also used to measure interest in the website ($M = 2.51$, $SD = 1.06$).

Message evaluation. Evaluation of the message was assessed with a two-item five-point semantic differential scale. The items included “not trustworthy/ trustworthy”, and “bad/ good”. The items loaded on one factor that proved to be reliable ($EV = 1.47$; $R^2 = .74$; $r = .47$; $M = 3.49$, $SD = 0.78$).

Product involvement. To check whether the product involvement was successfully manipulated, product involvement was measured with a two-item five-point semantic differential scale (Dijkstra et al., 2005). The items included: “very unimportant/ very important” and “very uninteresting/very interesting” ($r = .70$; $M = 3.87$, $SD = 1.54$).

Background variables. The age, sex, and product category experience of the participants were measured to assess their influence on the dependent variables.

Results

Statistics showed that the gender of the participants was similar across the media conditions ($\chi^2(1, N = 115) = 0.03$, $p = .87$). In addition, the media conditions did not differ with respect to the age of the participants ($F(1,113) = 1.24$, $p = .27$). An outlier analysis revealed that four participants had standardized residuals higher than 2.5 on the dependent variables. These participants were excluded from further analyses.

Manipulation Check

Analysis of variance showed that, as expected, the high involvement product was perceived as more involving than the low involvement product ($F(1, 109) = 23.82$, $p < .001$, $M_{\text{high}} = 4.49$, $SD = 1.27$ vs. $M_{\text{low}} = 3.21$, $SD = 1.47$). Hence, product involvement was successfully manipulated. No correlations were found between the dependent measures and the background variables age, sex, and product category experience.

Hypotheses Tests

To test whether media sequences and involvement affected attitudes toward the ads, interest in the ads, and message evaluation, a media sequence (TV commercial-website vs. website-TV commercial) by product involvement (low vs. high) MANOVA was performed with the mean scores on attitude toward the TV commercial and toward the website, interest in the TV

commercial and in the website, and message evaluation as the dependent variables. This analysis showed no main effects of media sequence (Wilk's Lambda = 0.99, $F(5, 103) = 0.18, p = .97$) or product involvement (Wilk's Lambda = 0.97, $F(5, 103) = 0.69, p = .63$), but only a significant interaction effect of media sequence by involvement (Wilk's Lambda = 0.91, $F(5, 103) = 2.86, p < .05$). Univariate analyses of variance were used to assess the distinct effects for each dependent variable.

Attitude toward the TV commercial

The ANOVA revealed no significant main effects of media sequence ($F(1, 107) = 0.36, p = .85$) and product involvement ($F(1, 107) = 1.96, p = .16$) on attitude toward the TV commercial. Furthermore, the analysis showed a significant interaction effect of media sequences and involvement ($F(1, 107) = 4.29, p < .05$). The interaction effect was further analyzed using a simple main effects analysis. This analysis revealed that the impact of product involvement was significant for participants in the website-TV commercial condition ($F(1, 107) = 6.30, p < .01$), but not for participants in the TV commercial-website condition ($F(1, 107) = 0.22, p = .64$). Means and standard deviations can be found in Table 1.

Table 1. Mean scores and standard deviations on dependent variables as function of media sequence and product involvement

Media sequence	Product involvement	Attitude TV spot	Attitude website	Interest TV spot	Interest website	Message evaluation
TV-Web	High	3.59 (0.88)	2.49 (0.60)	3.30 (1.07)	2.42 (0.79)	3.35 (0.65)
	Low	3.72 (1.25)	2.63 (0.93)	3.54 (1.36)	2.73 (1.22)	3.77 (0.79)
	Overall	3.65 (1.07)	2.56 (0.78)	3.42 (1.22)	2.57 (1.03)	3.56 (0.74)
Web-TV	High	4.02 (0.75)	2.79 (0.85)	3.89 (0.75)	2.78 (1.09)	3.69 (0.50)
	Low	3.37 (1.00)	2.34 (0.77)	3.13 (1.09)	2.19 (1.01)	3.29 (0.95)
	Overall	3.67 (0.94)	2.55 (0.83)	3.48 (1.01)	2.47 (1.08)	3.47 (0.79)

Attitude toward the Website

Again, the results yielded no main effects (media sequence $F(1, 107) = 0.01, p = .98$; product involvement $F(1, 107) = 1.09, p = .30$). However, the interaction effect of media sequence x product involvement on attitude toward the website was significant ($F(1, 107) = 3.79, p < .05$, see Table 1). The simple effects analysis showed that the effect of product involvement was significant in the website-TV commercial condition ($F(1, 107) = 4.68, p < .05$), but not in the TV commercial-website condition ($F(1, 107) = 0.39, p = .53$).

Interest in the TV commercial

Also for interest in the TV commercial the ANOVA showed no main effects of media sequence ($F(1, 107) = 0.20, p = .66$) or product involvement ($F(1, 107) = 1.57, p = .21$), but showed a significant interaction effect ($F(1, 107) = 5.88, p < .05$, see Table 1). Again, the simple effects analysis revealed that the impact of product involvement was significant for participants in the website-TV commercial condition ($F(1, 107) = 7.06, p < .01$), but not for participants in the TV commercial-website condition ($F(1, 107) = 0.66, p = .42$).

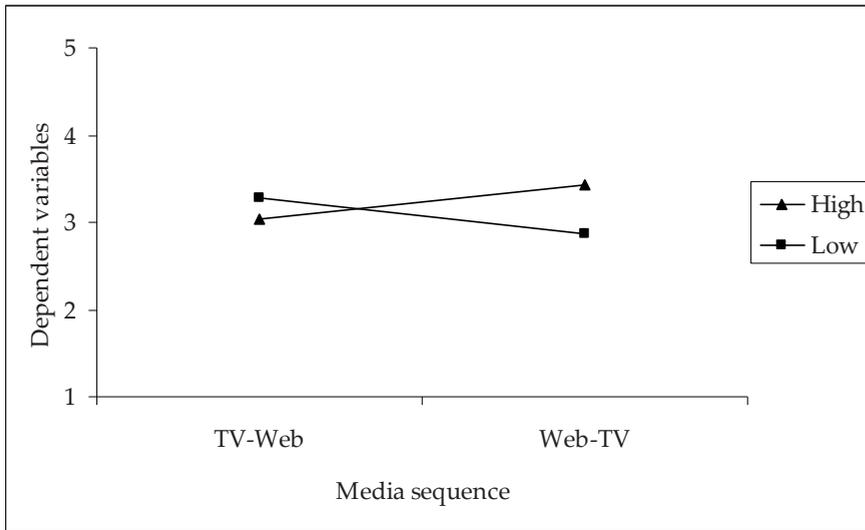
Interest in the Website

Again, the ANOVA yielded no main effects (media sequence $F(1, 107) = 0.21, p = .65$; product involvement $F(1, 107) = 0.48, p = .49$). However, the interaction effect of media sequence \times product involvement on attitude toward the website was significant ($F(1, 107) = 5.15, p < .05$, see Table 1). The simple effects analysis showed that the effect of product involvement was significant in the website-TV commercial condition ($F(1, 107) = 4.58, p < .05$), but not in the TV commercial-website condition ($F(1, 107) = 1.19, p = .28$).

Message Evaluation

Also for message evaluation the ANOVA showed no main effects of media sequence ($F(1, 107) = 0.26, p = .61$) or product involvement ($F(1, 107) = 0.06, p = .94$), but showed a significant interaction effect ($F(1, 107) = 8.13, p < .01$, see Table 1). A subtle different pattern was found in the simple effects analysis which revealed that the impact of product involvement was significant for participants in the website-TV commercial condition ($F(1, 107) = 4.01, p < .05$), and also for participants in the TV commercial-website condition ($F(1, 107) = 4.12, p < .05$).

To summarize, no significant main effects of media sequence or product involvement were found on the dependent variables. In agreement with our research propositions, the analyses revealed significant interaction effects of media sequence and involvement on all dependent variables. Figure 1 illustrates the two-way interaction effects for the dependent variables. All interaction effects showed the same pattern. In the TV commercial-website sequence there were no differences between the high and low involvement product (except for message evaluation). However, in the website-TV commercial sequence participants that evaluated a high involvement product were clearly more interested in the ads, were more positive about the ads, and evaluated the messages more positively than participants that evaluated the low involvement product.

Figure 1. *Illustration of interaction effects*

Note. Values represent a mean score of the dependent variables

Conclusion and Discussion

The aim of our study was to gain insight into sequence effects in cross-media campaigns and the moderating role of product involvement. Our results indicated that overall, both sequences were appreciated equally. In other words, both sequences were equally effective in eliciting a positive attitude toward the ads, a high level of interest in the ads, and a positive message evaluation. More importantly, a consistent interaction effect of product involvement and media sequence was found on all dependent variables. These interaction effects showed that while a TV commercial-website sequence was effective for persuading consumers about both high and low involvement products, the website-TV commercial sequence was only suitable for persuading consumers about high involvement products.

The study successfully extends our knowledge on sequence effects in cross-media campaigns and the moderating role of product involvement. The results of the experiment have some important theoretical implications. First, the study provides evidence to incorporate exposure sequence in cross-media theories. The study shows that exposure sequence is vital and also shows under which conditions it is particularly important. The study shows that, when taking product involvement into account, differences exist between the two media sequences. While Edell and Keller (1989) already showed that sequence of exposure affected processing of ads and information, this study was the first

to demonstrate that, under certain conditions, order of exposure affects three possible campaign targets; evaluations of ads and messages and interest in ads. By doing so, our study offers empirical evidence for the expectations of Ephron (2000), Wang and Nelson (2006), Bronner (2006), and Havlena et al. (2008), who argued that sequence of exposure to media could be of crucial importance and warrant future research.

Another theoretical implication of the study is the need to take moderating variables into account when studying cross-media effects. Next to product involvement, there might be other product, brand or individual factors that influence cross-media effects. Future research should therefore focus on such moderating variables. Studying conditions under which cross-media effects occur pushes cross-media research to a higher level.

Although some caution must be taken in generalizing the findings of this study to other media, we suppose the findings could be generalized to other combinations of ads in passive, or externally paced media (e.g., TV, radio, pop-ups or banners on the internet) and ads in active, or internally paced media (e.g., the internet, newspapers, magazines). A sequence of an initial ad in an active medium followed by an ad in a passive medium might only be persuasive for high involvement products. The sequence of an initial ad in a passive medium, followed by an ad in an active medium might be effective for both low and high involvement products.

Limitations and Future Research

The findings of the study are subject to some limitations. A weakness of the method employed is the way people were exposed to the cross-media combinations. Participants were forcefully exposed to both media. In real life, consumers evaluating a low involvement product would possibly not visit a website without something triggering their interest, for example in the form of a TV commercial. In the future, a field experiment or survey could provide a more realistic test.

A second limitation is that the study involved only two product categories and corresponding ads. While a pre-test and a manipulation check revealed that these categories represented high and low involvement products, the extent to which the findings can be generalized to other ads or products is unknown. Future research might therefore replicate the current study using different ads and products.

Managerial Implications

The current study is a pioneering exploration in cross-media effect research. While media planners and marketers have no complete control over the order in which consumers are exposed to their marketing communication efforts, the study provides some important implications for media planning practice. A first implication concerns the overall most optimal sequence. In general, no differences are present between the TV commercial-website sequence and the website-TV commercial sequence. So without looking at the type of products advertised, both sequences are equally effective.

A second implication is that media planners should take product category involvement into account when determining the sequence in which media are employed. A sequence of TV commercials followed by websites is proven to be effective for both high and low involvement products. Consequently, when generalizing the results of this experimental study to a real-life situation, it could be a safe option to put the emphasis on TV commercials early in a campaign, while adding websites at a later stage. Concerning high involvement products, websites could also be used earlier in the campaigns, because the website-TV commercial sequence is only effective for high involvement products. Putting more emphasis on one medium over another medium could be accomplished by allocating a larger part of the media budget to one medium than to another medium.

The findings of our study could also be used in media planning of other medium types. When generalizing the findings of our study, it could be advised to use passive, internally paced media in the beginning of a campaign, while using active, externally paced media at a later stage. Only when consumers are highly involved with a product, active, externally paced media could also be used in the beginning of a campaign.

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Chapter 6

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