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Consumers' Cross-Channel Use In Online and Offline Purchases

An Analysis of Cross-Media

And Cross-Channel Behaviors between Products

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This study explored how online and offline buyers of a specific product differ in their cross-channel use throughout the purchase process and how this differs across types of products. The authors studied more than 1,000 consumers and their use of 17 channels during a recent purchase. Results showed that consumers used more online channels when making an online purchase than when making an offline purchase, but that they used offline channels to the same extent when buying a product online as when buying a product offline.

INTRODUCTION

Advertisers need to understand how consumers orient themselves before making concrete online and offline purchases to optimize their cross-channel advertising strategy (Dholakia *et al.*, 2010; Kumar and Venkatesan, 2005; Powers *et al.*, 2012; Rangaswamy and van Bruggen, 2005). Unfortunately, advertisers have little knowledge of how consumers use different media and channels to guide their specific online and offline purchases. The current study aims to extend the scientific knowledge on this issue in two important ways.

First, earlier studies investigated how consumers use online and offline purchase channels but did not integrate mass media, such as television, radio, magazines, and newspapers (See Table 1; Dholakia *et al.*, 2010). It is important to study media or information

channels as well, because consumers not only might rely on online and offline purchase channels but also may use a larger variety of information channels to inform themselves about a purchase. The key contribution of the current paper, therefore, is to study purchase channels and information channels in combination (Dholakia *et al.*, 2010) to provide insight into how consumers use—or claim to use—different types of channels and media to guide their online and offline purchases.

In this survey study, “purchase channels” were defined as customer contact points through which the actual purchase can be made—the online and offline store. “Media” were defined as online and offline information channels (Dholakia *et al.*, 2010) through which no purchases can be made but that can provide consumers with useful information

Management Slant

- Different media and channels are used for online and offline purchases.
- Consumers use more online channels when making an online purchase than when making an offline purchase.
- Consumers use offline channels to the same extent when buying a product online or offline.
- Consumers more often rely on offline channels when buying a product for the first time.
- Consumers use more online channels when buying high-involvement products than when buying low-involvement products.

during the consumer choice process. Examples of the online and offline information channels are television, radio, magazines, newspapers, advertising leaflets, door-to-door newspapers, mail, outdoor advertising, cinema, word of mouth, websites, social media, search engines, product reviews, and e-mail. In this study, purchase channels and information channels were distinguished and, together, referred to as “channels.”

Second, earlier research on consumers' use of multiple purchase channels and multiple media in the purchase process for online versus offline purchases focused on very specific products by studying, for example, retail banking (Gensler, Verhoef, and Böhm, 2012), home mortgages (Frambach, Roest, and Krishnan, 2007), or financial products (Cortinas, Chocarro, and Villanueva, 2010). This study included multiple—44—products. By including multiple products, the researchers were able to investigate whether differences in consumers' self-reported cross-media and cross-channel behavior exist between different types of products (*i.e.*, high- versus low-involvement products, search versus

experience products, repeat versus first-time purchases). Finally, whereas most earlier research on this topic solely focused on the stage in which the actual purchase is made (See Table 1), the authors believed it was important to investigate the prepurchase and the postpurchase stage as well.

LITERATURE REVIEW

The Consistency and Complementarity Principles in Channel Use

To give insight into how consumers use different types of channels and media to guide their online and offline purchases, two principles described in the marketing and communication literature seem important to discuss: a consistency principle, and a complementarity principle. Before discussing these principles, it is important to note that the authors did not study online and offline buyers as separate cohorts or segments, as recent literature has shown that online shoppers also shop from offline channels (Dawes and Nencyz-Thiel, 2014; Melis, Campo, Bruegelmans, and Lamey, 2015). The current study gives insight into the information sources or media that people use to inform themselves before

making a specific purchase, online or offline, so the expression “online (offline) buyer” refers to a specific purchase that is made online (offline).

The consistency principle is described in the multichannel literature, where researchers have shown that using a channel to search information affects the likelihood that the individual also will choose this channel to purchase the particular product (Gensler *et al.*, 2012; Verhoef, Neslin, and Vroomen, 2007). This mechanism might be explained by potential efficiency gains from using the same channel at subsequent stages (Gensler *et al.*, 2012). The communication literature also describes a consistency principle. It is assumed that online media will replace offline media (Lin, Salwen, Garrison, and Driscoll, 2005), because media will compete for the time that consumers have available for media use, so the time that consumers are online cannot be spent using offline media (Dimmick, Chen, and Li, 2004; Lee and Lueng, 2006; Nguyen and Western, 2006). For the current study, the consistency principle means that consumers particularly use online information channels in the prepurchase and postpurchase

TABLE 1
 Most Relevant Empirical Journal Articles on Consumers' Use of Multiple Purchase Channels And Multiple Media in the Purchase Process for Online versus Offline Purchases

No. of Stages	No. of Product Types	Multiple Purchase Channels	Multiple Purchase Channels and Media
One	Single	<ul style="list-style-type: none"> • Dholakia, Zhao, and Dholakia (2005) • Cortinas, Chocarro, and Villanueva (2010) • Venkatesan, Kumar, and Ravishanker (2007) • Melis, Campo, Breugelmanns, and Lamey (in press) 	
Multiple		<ul style="list-style-type: none"> • Keen, Wetzels, de Ruyter, and Feinberg (2004) • Frambach, Roest, and Krishnan (2007) • Gensler, Verhoef, and Böhm (2012) 	
One	Multiple	<ul style="list-style-type: none"> • Kumar and Venkatesan (2005) • Gupta, Su, and Walter (2004) • Inman, Shankar, and Ferraro (2004) 	<ul style="list-style-type: none"> • Ansari, Mela, and Neslin (2008) • Cheema and Papatla (2010) • Thomas and Sullivan (2005)
Multiple		<ul style="list-style-type: none"> • Van Baal and Dach (2005) • Verhoef, Neslin, and Vroomen (2007) • Konus, Verhoef, and Neslin (2008) 	<ul style="list-style-type: none"> • The current study • Balasubramanian, Raghunathan, and Mahajan (2005; non-empirical)

stages when they make an online purchase and particularly use offline channels when they make an offline purchase. In other words, consumers use online and offline information channels and purchase channels consistently throughout the purchase process of a specific product.

Conversely, the literature also describes a complementarity principle. For the current study, this principle means that when consumers make the actual purchase online, they might use both online and offline information channels in the pre-purchase and the postpurchase stage. In the multichannel literature, such a complementarity principle is called "research shopping." Research shopping is defined as the tendency of consumers to search for information on a product in one purchase channel and then purchase it through another (Pauwels, Leeflang, Teerling, and Huizingh, 2011; Verhoef *et al.*, 2007).

In the communication literature, researchers have argued that each channel or medium has unique characteristics that complement each other (Gensler *et al.*, 2012; Neslin *et al.*, 2006). Pacing differences between information channels, for example, would make channels more or less suitable for a certain purchase stage. Broadcasting media, such as television and radio, are internally paced delivery media, and the audiences of these media have low levels of control over the speed and timing of information transfer (Dijkstra, Buijtels, and Van Raaij, 2005). This lack of control could make these media most usable early in the prepurchase stage, in which consumers are not actively searching for information but are passively becoming aware of their needs and gaining inspiration for future purchases.

When using print or online media, consumers have more control over the speed and timing of information transfer. This control may imply that such media can best be used by consumers searching for more detailed product information, which

they might most likely do later in the pre-purchase stage, when they form a consideration set or are evaluating alternatives. Additionally, media are experienced differently by consumers (Bronner and Neijens, 2006; Danaher and Rossiter, 2011). Thus, all channels have unique characteristics that may be useful at different stages of the decision-making process and, therefore, are complementary to each other (Dijkstra *et al.*, 2005; Verhoef *et al.*, 2007).

The previous discussion shows that the literature is not consistent on whether consumers regularly use the same type of channel throughout the purchase process of a specific product, or whether they use multiple channels in a complementary way. Thus, the following research question was formulated:

RQ1: Do consumers use a consistency or a complementarity principle in their online and offline channel use during the consumer choice process of a specific online or offline purchase?

Different Products, Different Principles?

It might be that the consistency principle and the complementarity principle coexist, and that for some product types the consistency principle applies, whereas for other product types the complementarity principle applies. The current study, therefore, investigated differences between high- and low-involvement products, search and experience products, and first-time and repeat purchases.

Differences between High- and Low-Involvement Products

"Product involvement" is defined as "respondents' overall evaluation of how important the product is to their life" (Macias, 2003, p. 35; Zaichkowsky, 1994). Product involvement is important because it represents one of the primary

motivations for processing information. If people feel that a product is important to them, they more likely will put more effort into processing information (Petty, Cacioppo, and Schumann, 1983) and making the optimal purchase (Voorveld, Neijens, and Smit, 2012).

Consumers are willing to put more effort into searching for information when buying high-involvement products because of the risks associated with buying such products (*e.g.*, Dholakia, 2001). When buying high-involvement products, people might want to obtain as much information as possible (Beatty and Smith, 1987; Buchholz and Smith, 1991). In addition to actively searching for information using traditional media, people might be willing to search for information through online media, such as websites or product reviews (Liu and Shrum, 2009; Voorveld, Neijens, and Smit, 2012). Thus, the following hypothesis was formulated:

H1a: Consumers use more online and offline channels when buying high-involvement products than when buying low-involvement products.

Moreover, product involvement might influence whether the consistency or complementarity principle applies. Because using the same channels across the decision process requires less effort than switching channels, the following hypothesis was formulated:

H1b: The consistency principle might apply in the case of low-involvement products.

In contrast,

H1c: The complementarity principle might be more associated with high-involvement products.

This strategy—buying a product online but also searching for information about that product through other channels—requires a more active information search, which consumers are only willing to execute when they make an important purchase.

Differences between Search and Experience Products

The search–experience distinction is based on the extent to which consumers can evaluate goods prior to purchase (Nelson, 1970, 1974). “Search products” are defined as products for which consumers feel they can evaluate the product quality before purchase, and “experience products” are defined as products that consumers feel they need to directly experience to evaluate the quality (Weathers, Sharma, and Wood, 2007).

The potential for evaluating products prior to purchase, however, might differ across purchase channels. Some products, for example, might be evaluated well in a traditional store due to the availability of sensory information, while they might be evaluated poorly in an online store (Lal and Sarvary, 1999; Weathers *et al.*, 2007). Characteristics of search products, such as price, color, and shape, usually can be evaluated in a straightforward manner, and search products therefore are associated with low levels of uncertainty (Huang, Lurie, and Mitra, 2009). These characteristics or digital attributes (Lal and Sarvary, 1999) also are researchable easily in online environments—for example, by means of websites such as BizRate. The attributes of experience products, however, are more complex to evaluate, cannot be digitized, and are associated with higher levels of uncertainty. Several attributes of experience products require direct experience before it is possible to evaluate them (Alba *et al.*, 1997). These attributes, such as taste, smell, and touch, can only be evaluated

through physical presence in offline purchase channels (Alba *et al.*, 1997; Lal and Sarvary, 1999; Weathers *et al.*, 2007). In sum, experience products can be evaluated best in offline environments, while search products also can be evaluated in online environments. Thus, the following hypothesis was formulated:

H2a: Consumers use more online channels when buying search products than when buying experience products, while they use more offline channels when buying experience products than when buying search products.

Again, the authors expected a relationship between the product type and the channel use principle. Because search products are easy to evaluate through both online and offline channels, the following principle was hypothesized:

H2b: Consumers make use of the same channels throughout the purchase process when buying search products (consistency principle).

Because it is more difficult to evaluate an experience product in online channels than in offline channels, the following principle was hypothesized:

H2c: Consumers use online and offline channels in a complementary way throughout their decision process when buying experience products (complementarity principle).

Differences between First-Time and Repeat Purchases

Prior purchase behavior is expected to influence consumers' channel use because it influences familiarity with that product,

which might substantially improve consumer efficiency (Gensler *et al.*, 2012) and decrease the amount of risk associated with a product (Mitchell and Greatorex, 1993). Risks are known to be an important determinant of channel choice (Dholakia, Zhao, and Dholakia., 2005; Dholakia *et al.*, 2010; Gupta, Su, and Walter, 2004). Because the perceived risks associated with a purchase are reduced when an individual has bought the product, it is likely that these products need very little search and decision effort (Gupta *et al.*, 2004). It is likely that the use of multiple channels will pay off only if consumers are willing to put substantial effort into a purchase, which more likely will be the case when they buy a specific product for the first time. Thus, the following hypothesis was formulated:

H3a: Consumers use a higher number of online and offline information channels for products bought for the first time than for repeat purchases.

Furthermore, the authors expected that prior purchases would relate to the channel use principles. When consumers have bought a product before, they have more knowledge on and experience with the product, so the purchase process is associated with less risk (Mitchell and Greatorex, 1993). The authors expected that potential efficiency gains from using the same channel at subsequent stages (Gensler *et al.*, 2012) would be more important when individuals have bought a specific product before than when they never have bought it. Thus, the following hypothesis was formulated:

H3b: The consistency principle applies in the case of repeat purchases.

The authors believed, however, that for first-time purchases, the unique

characteristics of each channel could help consumers to make the optimal decision (Dijkstra *et al.*, 2005; Verhoef *et al.*, 2007). Thus, the following hypothesis was formulated:

- H3c: The complementarity principle applies in the case of first-time purchases.

METHODOLOGY

Respondents and Data Collection

A total of 1,071 Dutch respondents (50.9 percent female, $M_{age} = 47.07$, $SD_{age} = 17.15$) completed the authors' online questionnaire (response rate = 69 percent). Fieldwork took place during November 2012 and was conducted by TNS NIPO, a large Dutch market research agency, which used its base panel for the data collection. After weighting, the sample was representative of the Dutch population for crucial sociodemographics and represented people ages 18 years and older.

Instead of studying information source preferences or intentions, as done by many earlier multichannel studies, the current study focused on actual past behavior for concrete purchases, which the authors believed was more reliable. The questionnaire was successfully validated beforehand (Voorveld, Bronner, Neijens, and Smit, 2013) and consisted of three parts. In the first part, respondents were asked about the products they had bought recently. They were asked to indicate which products (categories) they purchased within the last three months (for high-involvement products) and within the last 30 days (for low-involvement products). Respondents were shown two lists, one with 22 high-involvement products and the other with 22 low-involvement products, from which they could select multiple products. High-involvement products were, for instance, a bicycle, a laptop, or a watch, and low-involvement products were, for instance, chocolate, shampoo, or fruit juice.

One of these recently purchased products or services then was selected randomly by the computer.

In the second part of the questionnaire, respondents were told that a decision process typically has different stages and that the questionnaire would address each of these stages separately and sequentially for the specific product. Respondents were presented with a description of the stage, after which they were asked to indicate "which purchase channels and information channels had been important to them" at that stage (Cheema and Papatla, 2010; Voorveld *et al.*, 2013). Respondents could select multiple sources from the list of 17 sources (See Measures, right). Respondents, however, also could indicate that they did not pass this stage for the selected product or that they did not use any sources at this stage. The authors believed this led to more valid data, because by explicitly laying out the various purchase stages for respondents and asking questions about each, the study might have led respondents to report an overly rational approach to their purchase decisions, perhaps describing the process they think would appear to have been appropriate for the purchase, rather than the process they actually followed (See Acknowledgment, page 395).

Next to giving participants the option to indicate that a certain stage in the purchase process was not applicable or that they did not use any information sources, the authors believed that another aspect of the study design may have limited the social desirability danger. Participants were interviewed by means of computer-assisted self-interviewing, and earlier research has shown that people experience more privacy and anonymity in the case of computer-assisted self-interviewing than when interviewed by an interviewer (computer-assisted personal interviewing or computer-assisted telephone interviewing; Bronner

and Kuijlen, 2007). Accordingly, participants were not forced to come up with information sources for stages they did not recognize having gone through.

In the third part of the questionnaire, respondents filled in several measures for the product for which they reported their channel use—for example:

- whether they bought the product online or offline,
- whether they perceived the product to be a high- or low-involvement product or a search or experience product, and
- whether they had bought it before.

Participation took 20 minutes, on average. For a more detailed description of the instrument used, see the Appendix and Voorveld *et al.* (2013).

Measures

Online or Offline Purchase

One of the recently purchased products or services was randomly selected by the computer, and further questions were asked about this product. Respondents were asked whether they bought the specific product online or offline: "Have you bought the product online via the Internet or in a regular shop (offline)?" The answer options were as follows: "regular/offline shop," "online shop," or else "...." The respondents who answered the third option indicated that they bought the product through an agent, through a family member, or at the market.

Product Involvement

To measure product involvement, respondents reported their involvement with the selected product on a semantic differential scale ranging from 1 ("the choice of this product/service is a very unimportant decision") to 5 ("the choice of this product/service is a very important decision;" $M = 2.84$, $SD = 1.17$). Because the categorization

of continuous variables into discrete categories, such as high- or low-involvement products, by means of a median split has been criticized heavily in the literature (Fitzsimons, 2008; Irwin and McClelland, 2003), the authors chose to use the continuous variable as a predictor in our analyses.

Search versus Experience Products

The categorization of products into search and experience products can be performed *a priori* by the researchers on the basis of the classification of Nelson (*e.g.*, Bronner and De Hoog, 2008), or it can be based on consumer perceptions (*e.g.*, Bronner and De Hoog, 2010; Weathers *et al.*, 2007). This last approach was chosen because using consumer ratings is a more accurate reflection of the fact that all products involve a mix of search and experience attributes (Alba *et al.*, 1997; Lynch and Ariely, 2000). To measure whether a product was perceived as a search or an experience product, the authors used two 5-point semantic differential scales. Respondents were asked whether it was difficult (1) or easy (5) to evaluate the product before purchasing it and whether it was difficult (1) or easy (5) to find information about the attributes of the product ($M = 3.35$, $SD = 0.94$, $r = 0.42$, $p = 0.00$).

Prior Purchase

Respondents were asked whether they had bought the specific product or brand before; 88.9 percent of the respondents indicated that they had bought the specific product before, and 11.1 percent indicated that it was the first time that they had bought the product.

Channel Use

Respondents reported on their use of several online and offline purchase and information channels for the randomly selected product. Respondents were asked about the use of 17 channels:

- Six online channels—online shops, websites, search engines, product reviews, social media, and e-mail.
- Eleven offline channels—television, radio, daily newspapers, magazines, free door-to-door newspapers, advertising leaflets, outdoor advertising, cinema, mail, traditional brick-and-mortar stores, and word of mouth.

These channels represent the bulk of marketing activity and expenditure (Danaher and Rossiter, 2011). Respondents were asked to tick the channels they used from a list. It is believed that this procedure makes it easier for respondents to determine the importance of a significant number of channels (*i.e.*, 17) on all stages of the decision process than would be the case if the degree of use were asked on, for example, a 5-point scale (Bronner and Neijens, 2006).

The authors determined the number of online channels, out of six, that respondents used in the total decision process by counting all channels that were marked across the prepurchase and the postpurchase stages. In the same way, the authors also calculated the number of offline sources used, out of 11.

Channel Use in the Prepurchase and Postpurchase Stages

In this study, the authors focused on consumers' channel use in both the prepurchase and the postpurchase stage. Many authors have argued that the prepurchase stage actually consists of multiple substages (Balasubramanian, Raghunathan, and Mahajan, 2005; Blackwell, Miniard, and Engel, 2005; Court, Elzinga, Mulder, and Vetvik, 2009; Puccinelli *et al.*, 2009):

- developing awareness or need recognition,
- forming a consideration set, and
- evaluating alternatives for choosing a product.

The current study asked consumers about their use of online and offline channels in these substages to follow the actual pre-purchase process as closely as possible (See Table 2). For each stage, respondents could indicate whether they passed the stage for the selected product, whether they used channels at this stage, and, if so, which purchase and information channels they used (Voorveld *et al.*, 2013).

The previously discussed measure of channel use was specified for the prepurchase and postpurchase stages. For the prepurchase stage, the authors counted the unique number of channels used in the three substages:

- Idea
- Brand consideration
- Compare brands.

Thus, when a specific medium, such as television, was used in substages 1 and 2, the authors counted this as the use of one offline channel.

RESULTS

The final dataset contained 1,014 respondents. A total of 57 respondents were excluded: 15 because they had not recently bought any of the 44 products listed, and 42 because they did not buy the selected product in a brick-and-mortar or an online store but, for example, through an agent. The final dataset included information about the usage of online and offline purchase channels and information channels in the decision process of 57 online purchases and 957 offline purchases. Thus, offline purchases were much more common than online purchases, which is a correct representation of reality (Karr, 2016).

The variations in the product involvement and search–experience scores were similar for online and offline purchases (product involvement: $SD_{\text{offline}} = 1.17$, $SD_{\text{online}} = 0.94$; search versus experience: SD_{offline}

TABLE 2
Explanation of the Five Stages Given to the Respondents

Stage	Activity	Explanation
1	Idea	First, you were brought to the idea that you needed or wanted to have a certain product or service.
2	Brand consideration	Then, you realized which brands you wanted to consider.
3	Compare brands	Then, you obtained more information about a certain brand to compare it to other brands, until one brand remained.
4	Purchase	Finally, you decided whether to buy a certain product or service and where you wanted to buy it.
5	Evaluation after purchase	After the purchase, you evaluated whether you were satisfied or unsatisfied with the product or service, for example, whether you would buy it again or whether you would recommend it to others.

Note: Stages 1–3 compose the prepurchase stage, and stage 5 is the postpurchase stage. The measure of stage 4 was replaced by the question that asked respondents whether they bought the specific product online or offline.

= 0.95, $SD_{online} = 0.87$). If the study had used a median split to categorize product types instead of using continuous variables, the results would have shown that the distribution across high- and low-involvement products and across search and experience products was rather equal (high involvement = 44.5 percent, low involvement = 55.5 percent; search = 42.1 percent, experience = 57.9 percent). There were no product categories with extremely small cell sizes. Regarding product involvement, there were 34 high-involvement and 23 low-involvement online purchases. Regarding search versus experience products, there were 23 online purchases of search products and 34 online purchases of experience products.

To test the hypotheses, the authors ran six multiple linear regression analyses for the following six dependent variables: the number of online channels used in the total purchase process, the prepurchase stage, and the postpurchase stage, and the number of offline channels used in the total purchase process, the prepurchase stage, and the postpurchase stage. (The authors also tested whether the results were similar when they included the use

of at least one online or offline channel, instead of the number, as the dependent variables. The large majority of the results remained the same; the authors only refer to these additional analyses when the results differ.)

The following predictors were used in every analysis:

- online versus offline buying,
- product involvement,
- search–experience scores,
- repeat versus first-time purchases, and
- the interaction between online versus offline buying and product types.

All regression models were significant ($p < 0.001$). The current dataset meets the requirements for the conducted analyses.

In the literature, there is still discussion on the number of participants per variable in linear regression analyses, but the number of participants per variable ranges from only two (Austin and Steyerberg, 2015) to ten (Harrell, 2001) or from five to 20 (Green, 1991). Logistic regression analyses require a minimum of five to ten events per predictor (Vittinghoff and McCulloch, 2007). The current analyses meet all these requirements.

Differences between Online and Offline Buyers in Online and Offline Channel Use

Online Channel Use

Online buyers, versus offline buyers, used a higher number of online channels in the total purchase process, a higher number of online channels in the prepurchase stage, and a higher number of online channels in the postpurchase stage (See Table 3). Thus, online buyers generally relied more often on online channels than offline buyers, at both the prepurchase and the postpurchase stage of the decision process.

Offline Channel Use

The total number of offline channels used throughout the decision process did not differ between online and offline buyers. There were also no differences between online and offline purchases in terms of the number of offline channels used in the prepurchase stage and the postpurchase stage (See Table 3). In conclusion, online buyers tended to use information in offline channels as often as offline buyers.

How Online and Offline Buyers Differed In Their Use of Specific Channels

To offer further insight into the specific type of channel predominantly used by online and offline buyers, the authors performed a series of independent-sample *t* tests with online versus offline buying as a grouping variable. The total number of occasions a specific medium or purchase channel was used in the purchase process as a dependent variable. For this analysis, the authors counted the number of occasions on which a specific channel was used in the purchase process, so that each channel could be used a maximum of four times: in the awareness, consideration set, and evaluation substages (which together compose the prepurchase stage), and in the postpurchase stage. The results showed that offline buyers more often used advertising and brick-and-mortar

TABLE 3
Results of Regression Analyses

Variable	No. of Online Channels Used								
	Total Purchase Process			Prepurchase Stage			Postpurchase Stage		
	B	SE	β	B	SE	β	B	SE	β
Online vs. offline buying	1.15	0.55	0.39*	1.32	0.53	0.47**	0.65	0.31	0.43*
Low- vs. high-involvement products	0.26	0.09	0.45**	0.33	0.09	0.58***	0.009	0.05	0.03
Search vs. experience products	-0.12	0.10	-0.16	-0.12	0.10	-0.17	0.03	0.06	0.09
First-time vs. repeat purchases	0.13	0.22	0.06	0.18	0.21	0.09	0.13	0.12	0.11
Involvement × Online vs. Offline Buying	-0.19	0.09	-0.43*	-0.25	0.08	-0.59**	0.001	0.05	-0.006
Search vs. Experience × Online vs. Offline Buying	0.14	0.10	0.26	0.14	0.09	0.14	0.03	0.05	-0.11
First-Time vs. Repeat Purchase × Online vs. Offline Buying	0.22	0.19	0.25	0.15	0.18	0.11	-0.05	0.11	-0.07

Variable	No. of Offline Channels Used								
	Total Purchase Process			Prepurchase Stage			Postpurchase Stage		
	B	SE	β	B	SE	β	B	SE	β
Online vs. offline buying	0.55	1.09	0.11	0.70	1.02	0.15	-0.07	0.64	-0.02
Low- vs. high-involvement products	0.32	0.15	0.33 [†]	0.29	0.18	0.29	0.16	0.11	0.27
Search vs. experience products	-0.13	0.20	-0.10	-0.08	0.19	-0.07	-0.15	0.12	-0.20
First-time vs. repeat purchases	1.04	0.44	0.27*	0.82	0.41	0.23*	0.48	0.26	0.21 [†]
Involvement × Online vs. Offline Buying	-0.14	0.17	-0.18	-0.18	0.16	-0.24	-0.08	0.10	-0.17
Search vs. Experience × Online vs. Offline Buying	0.07	0.19	0.07	0.03	0.18	0.03	0.10	0.11	0.18
First-Time vs. Repeat Purchase × Online vs. Offline Buying	-0.58	0.38	-0.24	-0.45	0.35	0.20	-0.28	0.22	-0.20

Note. Every column represents a regression analysis. All regression models were significant ($p < 0.001$). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, [†] $p < 0.10$

stores, while online buyers more often used websites, search engines, product reviews, and online shops (See Table 4; all other $ps > 0.05$).

In line with the previously described results, online and offline buyers especially differed regarding their use of online channels, but not offline channels. Note that the results showed that online and offline buyers did not differ in their use of every online channel. Online buyers did not make more use of social media and email than offline buyers.

Consistency or Complementarity Principle
The previously discussed results show that online buyers generally relied more

often on online channels than offline buyers, whereas online buyers tended to use information in offline channels as often as offline buyers. Thus, with regard to Research Question 1, the study showed that the consistency principle applied to purchases made offline, while the complementarity principle applied to purchases made online.

Differences between High- and Low-Involvement Products

Online Channel Use

Consumers used a higher number of online channels when buying high-involvement products than when buying low-involvement products. (Technically, it

would be more correct to speak of higher involvement products and lower involvement products, and of products being perceived as having more search attributes or more experience attributes because of the continuous nature of the predictor.) This difference was visible in the prepurchase stage, but not in the postpurchase stage (See Table 3). Thus, regarding online channels, Hypothesis 1a can be partially accepted.

Furthermore, there was a significant interaction effect between product involvement and online versus offline buying on the number of online channels used in the total purchase process and in the prepurchase stage, but not in the postpurchase stage (See Table 3). The

TABLE 4
 Number of Occasions on Which a Channel Was Used
 In the Purchase Process

Channels	Online buyers M (SD)	Offline buyers M (SD)	Test statistics
Advertising leaflets	0.13 (0.51)	0.50 (1.06)	$t = 4.87, p < 0.001,$
Brick-and-mortar stores	0.18 (0.47)	0.82 (1.21)	$t = 8.80, p < 0.001$
Websites	0.86 (1.25)	0.07 (0.39)	$t = -4.85, p < 0.001$
Search engines	0.64 (1.06)	0.05 (0.30)	$t = -4.24, p < 0.001$
Product reviews	0.78 (1.28)	0.05 (0.31)	$t = -4.31, p < 0.001$
Online shops	0.77 (1.19)	0.06 (0.34)	$t = -4.51, p < 0.001$

authors used the Johnson–Neyman technique to decompose this significant interaction effect (Spiller, Fitzsimons, Lynch, and McClelland, 2013). According to the macro provided by Hayes and Matthes (2009), with the number of unique online channels used in both the total purchase process and the prepurchase stage as dependent variables, the Johnson–Neyman tests revealed no regions of significance for the focal predictor, online versus offline buying, within the observed range of the moderator, product involvement.

Subsequently, the authors entered involvement as the independent variable and purchase channel, online or offline, as the moderator to examine the slope of involvement at both levels of the purchase channel, online versus offline. The results showed that the slope of involvement was significant and positive when consumers bought the product offline (total purchase process: $B = 0.08, SE = 0.02, t = 4.51, p = 0.000$ (CI [0.05, 0.11]), (prepurchase stage: $B = 0.08, SE = 0.02, t = 4.89, p = 0.000$ (CI [0.05, 0.11]), while the slope of involvement was not significant when consumers bought the product online (total purchase process: $B = -0.11, SE = 0.09, t = -1.22, p = 0.22$ (CI [-0.27, 0.06]), (prepurchase stage: $B = -0.15, SE = 0.08, t = -1.75, p = 0.08$ (CI [-0.31, 0.02])).

It can be concluded that the use of online channels is more common when people are more involved with the products they buy, but that this only holds for purchases made offline. The results showed that the complementarity principle only applied for high-involvement products bought offline. Thus, Hypothesis 1c can be accepted only partially.

Offline Channel Use

Product involvement had a marginally significant impact on the number of offline channels used only in the prepurchase stage, but not in the total purchase process or the postpurchase stage (See Table 3). Moreover, there was no significant interaction between product involvement and online versus offline buying on the number of offline channels used in the total purchase process, in the prepurchase stage, or in the postpurchase stage. Thus, Hypothesis 1a can be accepted only partially with regard to offline channels.

Differences between Search And Experience Products

Online Channel Use

Consumers did not use more online channels when buying search products than when buying experience products. In addition, there was no significant interaction

effect between the type of product and online versus offline buying on the number of online channels used in the total purchase process, in the prepurchase stage, or in the postpurchase stage (See Table 3). Thus, Hypothesis 2a cannot be accepted with regard to online channels.

Offline Channel Use

Buyers of experience products did not use more offline channels than buyers of search products. The interactions between type of product and online versus offline buying were also not significant (See Table 3). Thus, Hypotheses 2a, 2b, and 2c cannot be accepted.

Differences between Repeat Versus First-Time Purchases

Online Channel Use

Consumers did not use more online channels when they bought a product for the first time than when they had bought it before (See Table 3). Furthermore, there were no significant interaction effects.

(When the authors examined the use of at least one online channel, logistic regressions showed that people more often used at least one online channel when buying a product for the first time than when they bought the product before.)

Offline Channel Use

The results showed that consumers who bought a product for the first time used more offline channels in the total purchase process, in the prepurchase stage, and in the postpurchase stage than consumers who had bought the product before. No significant interaction effects were observed. Hypothesis 3a, therefore, can be accepted partially, and Hypotheses 3b and 3c cannot be accepted.

CONCLUSION AND DISCUSSION

The current study reveals seven key findings. It is important to recap that, in this

paper, purchase channels and information channels are distinguished, and, together, these are referred to as channels.

- Consumers used more online channels when making online purchases than when making offline purchases.
- With respect to the specific channels used, online buyers more often used websites, search engines, product reviews, and online shops, but online and offline buyers did not differ regarding the use of social media and email.
- Consumers used offline channels to the same extent when buying online or offline.
- Online and offline buyers only differed in their use of advertising leaflets and brick-and-mortar stores, not in their use of the nine other offline channels.
- Consumers more often relied on offline channels when buying a product for the first time.
- Consumers used more online channels when buying high-involvement products than when buying low-involvement products.
- When purchases were made offline, high-involvement products were associated with using a higher number of online channels, but when purchases were made online, product involvement did not influence the number of online channels used.

The authors' main conclusion is that online and offline buyers differed in their use of online channels but not in their use of offline channels. Online buyers more often relied on online information channels than offline buyers, whereas online buyers tended to use information in offline channels as often as offline buyers. In other words, online buyers used more online channels but not fewer offline channels.

The results showed that consumers who bought a product for the first time used more offline channels in the total purchase process, in the prepurchase stage, and in the postpurchase stage than consumers who had bought the product before.

Regarding the differences between types of products, the authors found that the distinction between high- and low-involvement products and between first-time versus repeat purchases was more relevant than the distinction between search and experience products; for the latter, no differences were found. Product involvement appeared to be an important determinant of online channel use, whereas the distinction between first-time and repeat purchases was an important determinant of consumers' offline channel use.

Theoretical Implications

Theoretically, the current study distinguishes a consistency and a complementarity principle. While it was expected that product characteristics could explain which principle was used by consumers, it appears that the buying channel itself was also an important determinant of consumers' channel use. For online buying, the complementarity principle appeared to apply. Online buyers used more online channels but, at the same time, did not use fewer offline channels. Thus, online buyers appeared to exploit the unique strengths and weaknesses of each channel by using both types of channel in combination. For offline buying, the consistency principle appeared to be more applicable. Offline buyers tended to rely less on online channels but relied on offline channels to the same extent as online buyers.

Limitations and Future Research

Although this study makes important contributions to the field, a main limitation might be that the authors only were able to provide insight into channels that consumers claimed to have influenced their purchase decisions, not into channels that had influenced consumers without their conscious awareness. Consumers might not be fully aware of the channels that guide their purchase decisions. Moreover, as discussed previously, by explicitly laying out the various purchase stages for respondents and asking questions about each, the study might have led respondents to report an overly rational approach to their purchase decisions, perhaps describing the process they felt would appear to have been appropriate for the purchase, rather than the process they actually used.

In the future, the single-source registration of actual channel use and purchases could be more reliable to give insight into the customer journey. Registering the actual channel used throughout the different stages of the decision process, however, can be considered to be extremely challenging.

Another methodological limitation is related to the applicability of the different stages of the purchase process to different types of product and situations. One might, for example, wonder whether the purchase process outlined in the questionnaire applies equally to low- and

high-involvement products (Balasubramanian *et al.*, 2005) and whether the outlined process is more applicable to rationally taken decisions than to more emotionally driven purchase decisions or impulsively bought products. The authors would, however, also like to note that participants had the possibility to indicate that a stage in the purchase process was not applicable, so they were not forced to come up with information sources for stages they did not recognize to have gone through.

Finally, the relatively small number of online purchases is a limitation of the study. Future research might try to avoid unequal numbers of online and offline purchases, which resulted from random sampling. There has been discussion of the multiple ways that unbalanced data can be prevented in future data collections (King and Zeng, 2001). A more equal number of online and offline purchases could enable scholars to save a large amount of data collection costs.

Managerial Implications

The current study has interesting implications for practitioners. A key implication for advertisers is related to the differences in channel use between online and offline buyers. Online buyers more often used online channels throughout their decision process than offline buyers; however, online and offline buyers did not differ in terms of their offline channel use. Thus, advertisers could use a different strategy if they want to encourage online buying than if they want to encourage offline buying.

To encourage offline buying, advertisers should choose to advertise in offline media, because offline buyers make less use of online purchase channels and media. In particular, advertising leaflets and brick-and-mortar stores might be worth the extra investment for offline buyers because they use these channels more often than online buyers. If companies want to advertise

When advertisers try to sell products that consumers usually feel are very important, or high-involvement products, it is more viable to advertise in online channels than when consumers do not find the product important.

their products online, however, it might be wise to focus on e-mail and social media, because these online channels are used equally by both online and offline buyers.

To encourage online buying, advertisers should advertise in online media and, more specifically, on websites, in online shops, and in search engines. Consumers indicated that search engines and product reviews were important online channels. Companies, therefore, might also want to focus on search engine optimization to increase the visibility of their websites in search results and on webcare as a way of countering complaints expressed by consumers in negative product reviews (Van Noort and Willemsen, 2012). Because offline channels turned out to be important for both online and offline buyers, however, companies with an online purchasing channel also should include offline media in their media strategy to inform online buyers throughout their decision process.

The current study also shows that different strategies might be more effective for different types of products. When advertisers try to sell products that consumers usually feel are very important, or high-involvement products, it is more viable to advertise in online channels than when consumers do not find the product important. Advertising in online channels is also crucial when consumers ultimately buy a high-involvement product offline. Consumers use offline channels to a large extent for both types of products;

thus, integrating offline channels into campaigns might be advisable for both high- and low-involvement products. Distinguishing between first-time and repeat purchases is important as well, because consumers used a higher number of offline channels before and after the actual purchase was made.

By integrating online and offline media, marketers can also exploit the possibilities for cross-media synergy (for an overview see Neijens and Voorveld, 2015). This concept in the marketing communication literature refers to the idea that the combined effect of multiple marketing activities exceeds the sum of the individual effects (Havlena, Cardarelli, and De Montigny, 2007; Naik and Peters, 2009; Naik and Raman, 2003; Taylor *et al.*, 2013). Earlier empirical studies, indeed, showed that campaigns combining advertising in multiple media are more effective in terms of reach as well as cognitive, affective, and behavioral responses than campaigns using only one medium (*e.g.*, Chang and Thorson, 2004; Dijkstra *et al.*, 2005; Havlena *et al.*, 2007; Romaniuk, Beal, and Uncles, 2013; Steele *et al.*, 2013; Voorveld *et al.*, 2011). **JAR**

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rather than the process they actually followed (See Methodology, page 389).

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APPENDIX

Questionnaire used

Recently bought products and services

Could you tick the products and services from the list that you have bought in the past 3 months?

Product or service	Recently bought?
Car	
Bicycle	
Camera	
DVD player	
iPad	
Insurance	
Plane ticket	
Vacuum cleaner	
Cosmetics	
Jeans	
Furniture	
Parfum	
Ticket for amusement park	
Sports shoes	
Holiday	
Laminate floor	
Laptop	
PC	
Mobile phone	
Watch	
Television	
Savings account	

Could you tick the products and services from the list that you have bought in the last 30 days?

Product or service	Recently bought?
All-purpose cleaner	
Rusk	
Chocolate	
Candy	
Dog- or cat food	
Pasta	
Pasta sauce	
Rice	
Detergent	
Softener	
Wine	
Potato chips	
Deodorant	
Shower gel	
Soft drink	
Cheese	
Cookies	
Milk	
Shampoo	
Toothpaste	
Fruit juice	
Yoghurt	

When no single product was ticked:

You indicated that you have not bought any of the above mentioned products or services. Could you please type in one other product or service that you have bought in the last 30 days?

Random selection of one of the above mentioned products/services

Information sources for this purchase

You just indicated that you recently bought X. We now want to focus on the sources of information you used before you bought this product/service.

When making a decision about the purchase of a certain product, several stages are passed through. These stages are explained in the table below.

1	Idea	First you were brought to the idea that you needed or wanted to have a certain product or service.
2	Brands into consideration	Then you realized which brands you wanted to take into consideration.
3	Compare brands	Then, you obtained more information about a certain brand to compare it to other brands, until one brand remained.
4	Purchase	Finally, you decided to buy a certain product or service or not and decided where you wanted to buy it.
5	Evaluation after purchase	After the purchase you evaluated whether you were satisfied or unsatisfied with the product or service, for example, whether you would buy it again or whether you would recommend it to others.

We will now walk through these stages one by one.

Note: This questionnaire could be made available online only.

Stage x, explanation. (This question is repeated for all five stages.)

a. Which of the following sources of information were important in this stage? Please tick these sources in the list below.

Sources of information	When people click on the sources on the left, the source is further specified like this.	Which sources were important
TV	TV program	
	Commercial	
Radio	Radio program	
	Commercial	
Newspaper (dailies)	Article	
	Advertisement	
Free door-to-door newspaper	Article	
	Advertisement	
Magazine	Article	
	Advertisement	
Advertising leaflets		
The Internet	Article on website	
	Advertisement on website	
	Product review on website	
	Search engine	
	Social media like Facebook or Twitter	
Cinema	Movie	
	Commercial	
Mail	In letter-box (paper)	
	By email	
Outdoor advertising		
Regular/offline shop	Promotion material	
	Salesman or shop assistant	
	Other information in a store	
Online shop		
Word-of-mouth		
Not applicable	No sources of information used	
	Not passed through this stage	

Finally, some additional questions about this product or service

Have you bought the product online via the Internet or in a regular shop (offline)?

- 1 regular, offline shop
- 2 online shop
- 3 different, namely.....

Have you bought this specific product or service before?

- 1 yes
- 2 no

On a five-point scale

1. ↑ The choice for this product/service is a very important decision.
- 2.
- 3.
- 4.
5. ↓ The choice for this product/service is a very unimportant decision.

1. ↑ It is difficult to evaluate this product/service before you buy it.
- 2.
- 3.
- 4.
5. ↓ It is easy to evaluate this product/service before you buy it.

1. ↑ It is hard to find information about the characteristics of this product/service.
- 2.
- 3.
- 4.
5. ↓ It is easy to find information about the characteristics of this product/service.