

Channel preferences: Unveiling omnichannel behavior in sports and leisure product purchases

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Abstract. *Current customer segmentations in omnichannel retail are based on channel usage and tend to be rather descriptive. In comparison, this research focuses on the role of “need for touch” (NFT) and channel preferences (attractiveness, appropriateness, satisfactoriness) introduced as antecedents to channel choice. The aim of this research was to develop a predictive model of omnichannel purchase behaviour and use its results to identify customer segments in the so far under-researched sports and leisure category, where the key decision factor of NFT seems to dominate when considering information and purchase options. We have examined its role and incorporated it as an exogenous variable and channel preferences as mediating variables in a SEM model to predict omnichannel purchase behaviour. Using the latent scores of channel preferences, we performed a cluster analysis and introduced various segments. In the proposed structural model preferences towards the information channel and the purchase channel serve as key mediators. Webrooming behaviour is negatively related to offline search channel preference, but showrooming is positively related to it. Meanwhile, webrooming behaviour is positively related to offline shopping channel preference, but showrooming is negatively related to it. Competitive mediation results indicate cross-channel synergies and complementary mediation results point out lock-in effects. Six customer segments were identified, and we found significant differences in their shopping behaviour. Lock-in effect arises in the case of online information enthusiasts and online shopping enthusiasts. While in the case of the webrooming-oriented cluster, offline shopping was more appropriate and satisfactory, and positive cross-channel synergies appeared to be prevalent.*

Keywords: omnichannel preferences, PLS-SEM modelling, customer segmentation, lock-in effect, need for touch, cross-channel synergies.

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Introduction

New retail solutions are rapidly emerging allowing today's shoppers to choose their own path from search to purchase. Consumers' shopping process has evolved from a linear, single-channel shopping to a complex, multi and/or omnichannel behaviour that spans multiple online and offline channels (Kleinlercher et al., 2020; Srinivasan et al., 2016; Viejo-Fernández et al., 2019). Customers tend to switch from an offline search channel to an online purchase channel (showrooming) or they might research product information online and switch to an offline purchase channel (webrooming). The use of various devices has transformed how consumers discover, explore, purchase, and interact with traditional sporting goods retailers, consequently many of them utilise omnichannel solutions (Jayasingh et al., 2022). Thus, there is a constant need to introduce new segmentation approaches addressing channel usage characteristics and preferences. Since the early 2000s there have been many segmentation models to identify omnichannel consumers and to differentiate their behaviour from other segments. Our study is in line with these studies but proposes a new segmentation approach. Previous segmentations are based on the principle that only channels allowing interaction between the company and the customer are included, and early research did not take into account the information-seeking stage of the purchase process nor the underlying needs (Bhatnagar & Ghose, 2004; Keen et al., 2004; Thomas & Sullivan, 2005). Consequently the concept should evolve into a more journey-focused segmentation by clustering customers based on their use of touch points during the search and purchase phases (Herhausen et al., 2019). Moreover instead of focusing only on channel choice itself, research should shift towards the prediction of the decision, especially in those categories, where the persistence of offline segments is still important (Neslin, 2022a) such as sports and leisure products.

Accordingly, we focus on the need for touch (NFT) as an exogenous variable and the role of channel preferences, which we suggest being a mediator of channel choice. We address the relatively under researched product category – sports and leisure goods – where the sensory stimulus of products is an important factor in purchase decisions and omnichannel behaviour (e.g.: research shopping) is likely to emerge. To prove that the need for touch construct is an important predictor, but in itself is not “enough” to drive webrooming and showrooming omnichannel behaviour, we introduce and measure channel preferences in a structural equation model. Our empirical study is built up in two phases: (1) first, the structural model is assessed and the latent variable score of channel preferences is derived, and then, (2) based upon these findings, a cluster analysis is performed. In this regard, on the one hand we aim to advance the theory of channel choice for information search and purchase. On the other hand, we aim to introduce a new way of segmentation that relies on channel preferences based upon the search and shopping channels' attractiveness, appropriateness and satisfactoriness. After discussing the results of our study, we introduce limitations as well which are mainly due to the specific product category, research method and setting.

The emergence of the “omnichannel customer”

Today's shoppers, often referred to as omnichannel consumers (Yurova et al., 2017) or omnichannel shoppers (Juaneda-Ayensa et al., 2016), use multiple channels in their shopping journey. Omnichannel behaviour refers to the use of physical and digital channels combined to deliver a seamless customer experience (Lazaris & Vrechopoulos, 2014). In an

omnichannel environment, a 'channel' is defined as the customer touch point or medium through which the company and the customer interact (Neslin et al., 2006), and can be a communication and/or sales channel (Orús et al., 2019; Sicilia & Palazón, 2023). Ailawadi and Farris (2017) also highlight that the term 'omnichannel' often includes both distribution and communication channels. In essence, consumers are now faced with a two-dimensional choice at each stage of the purchase journey: which company to interact with and through which channel (Sands et al., 2016). Consumers combine online and offline channels to minimise the costs of shopping and maximise the potential benefits (Gensler et al., 2012). The selection of different touch points in the search and purchase phase represents the so-called research shopping behaviour (Viejo-Fernández et al., 2019). Consequently, there are two basic and widely recognised types of purchasing behaviour that can be identified in terms of the research purchasing process: webrooming and showrooming. Webrooming assumes that shoppers called webroomers research products online but make purchases at a brick-and-mortar store (Kumar & Reinartz, 2016). In contrast, showrooming is defined as a practice whereby customers who are called showroomers visit stores in person to examine products, then make purchases online (Flavian et al., 2016). However, there are other attempts at categorization besides showrooming and webrooming. B. Rai et al. (2019) derived six omnichannel shopping behaviour profiles based on two dimensions: consumers use only one channel type (single channel) or multiple channel types (omnichannel) during their shopping journey, and consumers shop online or offline. In this categorisation, the two most prevalent types of behaviour stand out: webrooming ('the research shopper') and showrooming ('the showroomer'), alongside purely offline ('the traditional shopper') and purely online shopping ('the online shopper'), as well as 'ship-from-store shopper' and 'click-and-collect shopper'. This investigation attempts to address the issue of the diversity of shopper choices that omnichannel solutions bring, but there is one conceptual underlying behaviour that needs to be focused on most: shopper's research purchase motivation. By definition, it is not true that only webroomers can be considered as research shoppers. Neslin (2022b) points out that not only webroomers but also showroomers follow the research buying behaviour in the sense that they search in one channel and buy in the other (Verhoef et al., 2007). In this respect, the most important point to focus on when examining omnichannel buying behaviour is research buying behaviour and its antecedents.

Current segmentation approaches in the omnichannel literature

Since the widespread adoption of the internet and other digital channels in information search and purchase, channel preference and drivers of channel choice have become a key issue and different customer segments are used (for example (Cortinas et al., 2019; Harris et al., 2018; Konus et al., 2008; Singh & Swait, 2017)). Most segmentation approaches (see Appendix 1) so far are based on the principle that only channels allowing interaction between the company and the customer are included. First segmentation approaches analysed customers according to their purchase channel and did not consider the information-seeking stage of the purchase process (Bhatnagar & Ghose, 2004; Keen et al., 2004; Thomas & Sullivan, 2005). These studies have identified groups of shoppers who prefer to shop in physical stores, online stores, or catalogues. Konus et al. (2008) however included the search phase in their analysis and laid the groundwork for further investigation of the customer journey. An important finding was that the segment descriptions were generally valid for

different product categories, although there were some differences, including the effect of the covariates included (such as enjoyment of purchase, loyalty and innovativeness). Schröder & Zaharia (2008) found that multichannel users who get information from an online store and then shop in a physical store combine the independence of online store information with the reduced risk associated with shopping in a chain store. Wang et al. (2014) found two predominant shopper segments – innovative and traditional – that differ not only in terms of online vs. offline channel usage, but also in terms of channel attributes and consumers' internal channel preferences. Partially replicating their earlier study while extending it to post-sales channel use, De Keyser et al. (2015) analysed four segments, where, in addition to segments focused on the store or the web, the phenomenon of the 'research shopper' emerged, as well as the call-centre-prone segment. The study of Frasquet et al. (2015) conducted further research and highlighted segments with different usage patterns and motivations during the purchase process. Another key aspect was that the drivers of channel usage differ depending on the stage of the purchase process and the product category under study. Sands et al. (2016) considered social media channels at the search, purchase, and post-purchase stages, and in five multichannel consumer segments based on the perceived importance of channels in the purchase process, as well as psychographic and demographic characteristics. An important finding was that this research did not really find a segment with a clear focus on the store. Most segments preferred to search online, and then chose the in-store channel for shopping. Ieva & Ziliani (2018) examined the frequency of recall to multiple touch points during the grocery shopping journey. They identified six segments, including the 'omniexposed cluster', and showed that these clusters are demographically distinct. A study by Nakano & Fumiyo (2018) identified seven segments, including the characteristics of 'research shoppers' and 'multichannel shoppers.' Park & Kim (2018) identified four American and six Korean clusters that differ in the relative importance of factors related to the path to purchase such as where to look for information, how to pay, delivery options and payment locations. A study by Cortinas et al. (2019) distinguished between 'omnichannel shoppers' who use distribution services on various channels and 'omnichannel' users who use distribution services on one channel to support purchases on the other channel. Herhausen et al. (2019) found five time-consistent clusters – 'store-focused shoppers', 'pragmatic online shoppers', 'extensive online shoppers', 'multiple touch point shoppers', and 'online-to-offline shoppers' - that differ significantly in terms of touch point and mobile device usage, segment-specific covariates (price awareness, time pressure, and involvement), and search and purchase behaviours. Mark et al. (2019) explored the importance of catalogue-induced purchases and introduced a dynamic segmentation model of channel choice and purchase frequency to assess segment responsiveness to catalogues and email communications. Frasquet et al. (2019) focused on the complaint channel (post-purchase phase) and identified 4 different clusters ('multichannel', 'heavy multichannel', 'web' and 'in-store shoppers'). They also concluded that there are several channel dependencies between the initial stages of the purchase process (i.e. information search and purchase) and the post-purchase complaint activity, and in this respect the mobile app is the 'most influential' channel for the complaint activity. Mosquera et al. (2019) identified groups of omnichannel users based on their main motivations (usefulness, enjoyment and social influence) and found significant differences in gender, age, income level and omnichannel behaviour between these segments, but no differences in channel and device use. Finally, the results of Valentini et al. (2020) show that a different number of segments can be identified

based on deal proneness in the food, clothing and electronics categories. According to their results, although most consumers use multiple channels to purchase and redeem promotions, they either focus on online or offline channels (82% of consumers bifurcated into online or offline focused deal prone segments). In comparison, only 17% of consumers use both online and offline channels intensively. This is due to opportunity factors such as access to physical stores and capability factors such as the online shopping experience.

An important conclusion previous research yielded is that segmentation can be predicted from readily available customer data, and most of these research focus on channel choice alone. Among the most relevant studies we can highlight the contribution of Konus et al. (2008) and De Keyser et al. (2015), who extended the segmentation to the search and post-purchase channels. Furthermore Frasquet et al. (2015) highlight that consumers tend to use different channels in different stages of the buying process. However, an important finding is that while the research shopper segment emerged, there are several channel dependencies between the initial and final stages of the purchase process (Frasquet et al., 2019). In fact, Neslin (2022b) argues that one of the most interesting findings is the persistence of offline clustering across many categories, despite the growing 'omnipresence' of customers. Mark et al. (2019) found that there are shoppers who consistently purchase a premium retail brand from a physical store. Herhausen et al. (2019) also identified a segment that buys clothing, cosmetics, electronics, and entertainment products from physical stores. Valentini et al. (2020) found an offline segment that purchases clothing and electronics. Why is this so? It could be a lack of online experience (Valentini et al., 2020), but also other factors related to the motivation of shoppers in certain 'obvious' categories (e.g. clothing, apparel) to research, examine and try the product before purchasing in order to make an informed and satisfactory decision. Given recent experiences gained during the lockdowns (Paraschiv et al., 2022) and the rapid growth of online experiences on the consumer side, it seems important to look at the role of the physical store again in omnichannel environments and to assess the need for touch by shoppers to identify current segments.

Research model, method, and hypotheses development

This study is based on the notion of the customer journey and omnichannel customer behaviour. We investigate the mediating effects of channel preferences based on the Theory of Reasoned Action (TRA) and planned behaviour developed by Ajzen & Fishbein (1980). It argues that behavioural intention is the most reliable predictor of behaviour and that this relationship is moderated by an individual's attitude, subjective norms, and perceived behavioural control over their behaviour. In our case, we want to focus on attitudes towards the use of the shopping channel, which we define as 'channel preferences'. We assess the behavioural intention to search and use a given online or offline channel and the actual purchase behaviour. The general theory more appropriate to our research question is the Person, Object, Situation paradigm (Belk, 1974, 1975; Bloch & Richins, 1983; Heitz-Spahn et al., 2019; Punj & Stewart, 1983). It emphasizes that all consumer decisions and consumer behaviour in general are the result of the interaction of the person (and his/her personal characteristics, etc.), the object (characteristics of the product as a category, etc. or characteristics of the available channel) and the situation (stage of the decision process, etc.). It is based on a general stimulus-organism-response (SOR) model (Mehrabian & Russell, 1974). In our case, we aim to model consumer responses to available omnichannel purchase decisions based on two characteristics of individual consumers: 'need for touch' and 'channel

preferences'. Consequently, in the theoretical model (see Figure 1) the personal characteristics of omnichannel consumers is considered and the focus is particularly on the area-specific characteristic of 'need for touch' (Peck & Childers, 2003). The object in this case is anchored with a specific product category of sports and leisure goods. However, the available search and purchase channels – online versus offline – can also be considered as 'objects' in this research framework. In this respect, 'channel preferences' are the result of the interaction between person and object and hence between personal characteristics and available channels. We define the situation as the phase before the purchase (search) and the phase of the purchase as in Gensler et al. (2012) and Heitz-Spahn et al. (2019).

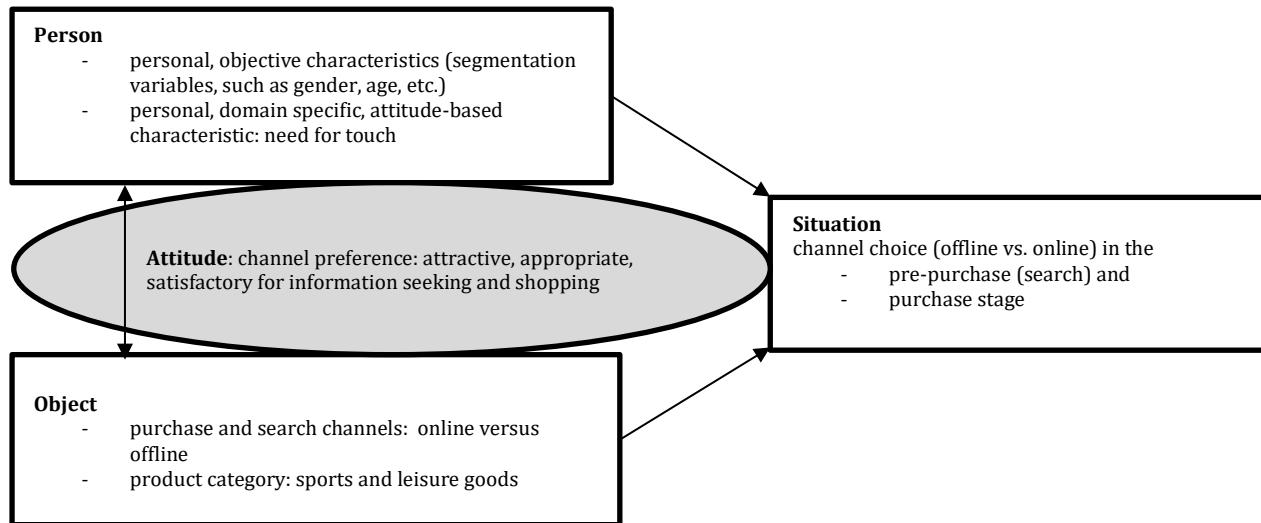


Figure 1: The conceptual framework of our study

Source: Own research.

Structural equation modelling (SEM) is often used in omnichannel research to assess the impact of different factors on the shopping experience and to evaluate the integration of channels. In our case, we use this method (in phase 1) to understand the role of 'need for touch' on actual channel usage and to look for the mediating role of 'channel preferences'. Based on the results of the model, we aim to conclude that 'channel preferences' can be used for classification purposes and to segment customers (phase 2). For the segmentation we will use the latent variable scores of channel preferences. It is also important to note that most previous segmentation attempts have not followed this logic. In contrast, we explain the predominance of purely offline or online shopping preferences by the 'need for touch' as a determining factor, and thus investigate how the final clusters differ based on this personal characteristic. The two stages of our research – using SEM for model development (phase 1) and clustering based on the mediator variable ('channel preferences') (phase 2) – reinforce each other and are equally important from our point of view.

Physical contact with products is one of the most important sources of information for consumers at the pre-purchase decision stages, especially when evaluating different alternatives, establishing preferences, and making choices. In e-commerce, however, the possibility of physical interaction with the product prior to purchase is eliminated (González-Benito et al., 2015). According to Peck and Childers (2003, p. 431), the 'need for touch' (NFT) can be defined as "the preference for extracting and using information acquired through the

haptic system.” It is considered a motivation-based and not an ability-based construct. NFT is a multidimensional construct with two factors: instrumental (a goal-oriented interaction focused on a clear purchase objective) and autotelic (hedonic, experience seeking touch for its own sake). However, we focus only on the instrumental factor, because in this case consumers interact with the product to gather information, aiming to find a solution to their purchasing decision (Rodríguez-Torrico et al., 2017). Consumers with a high NFT tend to be more confident in their purchase judgments when they can obtain product information by physically touching the product as well as are likely to switch from online to offline channels at the purchase stage (E. C.-X. Aw et al., 2021). As Aw et al. (2021) point out, NFT can depend on the product category. It has a greater impact on experience goods, such as clothing, as these goods tend to have characteristics that require a more intensive direct control. In this respect, this may also apply to sports and leisure goods.

High NFT on a product has a negative impact on consumers' propensity to purchase the product, as suggested by Levin et al. (2003) and Cho and Workman (2011), who also conclude that products with high NFT are less likely to be purchased online than products with low NFT. Similarly, Manzano et al. (2016) also demonstrated that consumers who purchase online have lower levels of NFT. In this sense, NFT may be a good determinant of 'channel preferences' and may also determine omnichannel behaviour. The need for tactile information for product evaluation may play an important role in determining purchase channel choice (Citrin et al., 2003). They found that consumers with high tactile information need seemed to be discouraged from online shopping, especially for products requiring high tactile cues. Therefore, we can hypothesize the following:

Hypothesis 1: NFT (as a personal, area-specific, attitudinal trait) affects channel preferences.

H1a: NFT has a positive effect on offline information seeking preferences.

H1b: NFT has a positive effect on offline shopping preferences.

Compared to the purchase stage, where consumers make the purchase, the pre-purchase stage, where consumers are primarily looking for information, has different requirements as a channel (Neslin et al., 2006). Therefore, to reach consumers through both online and offline channels, it is important to first understand the (relative) preference of each channel at each stage of the purchase process. Channel-product congruence (Morrison & Roberts, 1998) becomes critical at the purchase stage, especially because the impact of possible negative consequences of choice is most felt at this stage. Accordingly, the offline channel may be preferred because of its ability to provide the haptic information that consumers require, and in this respect the preference for the online channel may be much lower. The results of the analysis by Flavián et al. (2020) showed a preference for the internet for information search and the physical channel for the actual purchase. This finding is supported by previous research (Dholakia et al., 2005; Fernández et al., 2018; Verhoef et al., 2007; Yadav & Pavlou, 2014) and suggests that most shoppers prefer webrooming over showrooming. Arora and Sahney (2018, 2019) integrated the theory of planned behaviour and the technology acceptance model to explain webrooming behaviour. The authors showed that consumers' perceptions of the search benefits offered by online channels (e.g., low search costs and access to online reviews) and the purchase benefits from physical stores (e.g., touch and feel, instant possession, and assistance from sales staff) determine consumers' attitudes and subsequent webrooming intentions. Similarly, Aw (2019) found that instant possession is an important driver of webrooming behaviour, especially for young consumers who tend to seek instant gratification. Furthermore, it has been shown that prices

in physical stores tend to be higher than in online stores, and when this price difference is larger than expected, consumers may be reluctant to engage in webrooming behaviour and instead complete the shopping journey online (Manß et al., 2019). Online channels are perceived favourably as a search channel due to the convenience they offer to shoppers, including ease of navigation, price comparison (Vrânceanu et al., 2020) and personalised recommendations (Dekimpe et al., 2019). Perceived risk determines consumers' choice of shopping channel (Y.-M. Wang et al., 2015). Recent studies have shown that the effect of perceived risk remains salient even after years of e-commerce adoption, leading consumers to use online channels primarily for search and only switch to physical stores for final purchases (Arora & Sahney, 2019; Santos & Gonçalves, 2019). In addition, the perceived risk of online shopping is increased in shopping situations involving experiential goods (Lian & Yen, 2013) such as sports and leisure goods. Although according to Wolf & Steul-Fischer (2022), the literature does not show a clear effect on channel choice, it reports differently on the propensity to purchase experience goods online or the tendency to webrooming, while other authors do not note significant effect.

Based on the above considerations, we hypothesise that 'channel preference' is a key determinant of actual channel usage.

Hypothesis 2: The 'need for touch' (as a personal, domain-specific, attitude-based characteristic) has a positive effect on omnichannel purchase behaviour (channel choice), mediated by 'channel preference'.

H2a: The 'need for touch' has a positive effect on 'webrooming' behaviour, mediated by 'channel preferences'.

H2b: The 'need for touch' has a positive effect on 'showrooming', mediated by 'channel preferences'.

In general, the preference of the given (i.e. online or offline) shopping channel has an impact on the search phase and vice versa. In case of channel lock-in increased interest in searching on Channel A will result in higher attitudes toward purchasing on Channel A. On the contrary, channel synergy means that higher interest in search or purchase on Channel A will result in higher attitudes toward search or a purchase on Channel B (Verhoef et al., 2007). However, valence can also be negative, meaning higher attitudes towards searching in channel A can result in lower attitudes towards shopping in channel B. This would be an example of negative cross-channel synergy and would imply that the channels are substitutes for each other. High channel lock-in discourages research shopping since searching and purchasing go hand in hand with each other. However, in case of low lock-in, strong search intent does not lead to high purchase intention and so research shopping occurs (Verhoef et al., 2007). Synergy between channels can cause research shopping because searching on channel A enhances the experience of shopping on channel B and economic benefits can arise (Verhoef et al., 2007). Studies confirm the relationship between the lock-in effect and consumer behaviour across sectors: it is more likely to exist in physical (offline) environments, especially for products with high sensory content (Verhoef et al., 2007; Zhai et al., 2017). On the other hand, cross-channel behaviour is more likely to occur in online environments, where online information seeking does not always lead to online purchases (Acquila-Natale & Iglesias-Pradas, 2021).

Based on these considerations, due to the lock-in effect in particular, we can assume that there is an interrelation between search and purchase preferences of channels.

Hypothesis 3: Offline search channel preference will have a positive effect on offline purchase preference.

Hypothesis 4: The preference of offline search channel will have a significant effect on omnichannel behaviour.

H4a: The offline search channel preference will have a positive effect on showrooming.

H4b: The offline search channel preference will have a negative effect on webrooming.

Hypothesis 5: The preference of the offline shopping channel will have a significant effect on omnichannel behaviour.

H5a: The offline shopping channel preference will have a negative effect on showrooming.

H5b: The offline shopping channel preference will have a positive effect on webrooming.

Furthermore, as stated above, after evaluating the relationships between need for touch, channel preferences and channel choice and deriving the SEM model, we will look for different customer segments and their characteristics. Based on the research of Flavián et al. (2020), we will focus on the appropriateness, attractiveness, and satisfactoriness of online and offline channels in case of the search for product information and in case of shopping. Consumers show significant differences in terms of preferred channels for searching, shopping or even after-sale shopping, using multiple channels at each stage (Valentini et al., 2020).

RQ: Using channel preference as a predictor of omnishopper behaviour and as a shopper segmentation variable, can we derive segments whose need for touch and shopping behaviour show significant differences?

Research design and results

An online survey was conducted to understand channel preferences, the role of the need for touch, and the nature of pure and mixed purchasing processes for sports and leisure products. A total of 1000 responses were collected online through a survey panel provided by a research company, and the sample was representative of the given East-European countries population by age, gender and region (see Table 1). The majority of respondents was female (52.9%), with an average age of 48.76 years (SD=16.23). 21.2% lived in the capital and most had a tertiary education (44.8%). 34% of respondents had no children and only 15% lived alone.

Table 1. Composition of the sample (n=1000 respondents)

Gender		Number of kids	
male	47%	No kid	34%
female	53%	1 kid	22%
Age		2 kids	31%
18 - 35 years	26%	3 or more kids	12%
36-55 years	35%	Number of households	
56 - 65 years	20%	Alone	15%
above 65 years	19%	2 people	41%
Mean (SD)	48.76 (16.23)	3 people	23%
Income status		4 or more people	21%
very low	4%	Residence	
low	29%	capital	21%
medium	50%	other city	61%
high	17%	village	18%

Source: Authors' own research.

In the model as final endogenous variables, we identified two different omnichannel purchase behaviours: webrooming and showrooming (see Table 2). Based on Flavian et al. (2020), we measured channel preferences along three dimensions: (1) satisfaction, (2) appropriateness, and (3) attractiveness of online and offline channels for product information search and purchase. The need for touch (NFT) was measured with 4 items (Rodríguez-Torrigo et al., 2017) using a Likert scale ranging from 1 to 7. Channel preferences for information seeking and purchase were measured separately using a scale ranging from - 6 to 6 based on Flavian et al. (2020), where 6 indicates that offline channels are favourable and - 6 indicates that online channels are favourable. A value of 0 indicates a neutral preference (see Table 2).

Table 2. Description of the variables used in the model

Construct	Item	Question	Mean	Std. Dev
offline information channel preference (ChPref_INFO) Flavian et al, 2020.	attractive_info	Which channel is more attractive for information seeking? (-6 online, 0 - neutral, +6 - offline)	-1.602	2.323
	appropriate_info	Which channel is more appropriate for information seeking? (-6 online, 0 - neutral, +6 - offline)	-2.150	2.301
	satisfactory_info	Which channel is more satisfactory for information seeking? (-6 online, 0 - neutral, +6 - offline)	-1.181	2.251
offline shopping channel preference (ChPref_SHOP) Flavian et al, 2020.	attractive_shopping	Which channel is more attractive for purchasing? (-6 online, 0 - neutral, +6 - offline)	0.171	2.604
	appropriate_shopping	Which channel is more appropriate for purchasing? (-6 online, 0 - neutral, +6 - offline)	-1.100	2.714
	satisfactory_shopping	Which channel is more satisfactory for purchasing? (-6 online, 0 - neutral, +6 - offline)	-0.073	2.452
need for touch (NFT) Rodríguez-Torrigo et al., 2017	need_for_touch_1	I feel more comfortable purchasing a product after physically examining it.	5.83	1.546
	need_for_touch_2	I feel more confident making a purchase after touching a product.	5.78	1.565
	need_for_touch_3	There are many products I would only buy if I could handle them before purchase.	5.32	1.782
	need_for_touch_4	If I can't touch a product in the store, I am reluctant to purchase it.	4.49	2.039
Webrooming Flavian et al, 2020.	webrooming_1	How much do these statements describe your online and offline shopping behaviour? (1 - not typical at all, 7 - very typical) Looking for information online then purchasing offline	3.85	2.176
Showrooming Flavian et al, 2020.	showrooming_1	How much do these statements describe your online and offline shopping behaviour? (1 - not typical at all, 7 - very typical) Looking for information offline then purchasing online	2.26	1.699

Source: Authors' own research.

The mediating role of channel preferences was analysed by PLS-SEM using ADANCO software. Consistent-PLS (PLSc) was used to build the reflective measurement models. Using PLSc, the reflective measurement models do not suffer from attenuation bias (Benitez et al., 2020), making this method as good as covariance-based SEM for estimating pure reflective models (Henseler, 2021).

Results from confirmatory composite factor analyses (CCFA) show that the measurement models are valid. The reliability, discriminant validity and convergent validity of the scales used are acceptable and all required values are above or below the proposed thresholds (see Table 3. and 4.). The loadings of the items used to measure the different constructs are also well fitted: the loadings and t-values calculated from the 4999 bootstrap samples are appropriate.

Table 3. The reliability of the used measurement models

Construct	Dijkstra-Henseler's rho (ρ_A)	Cronbach's alpha(α)	AVE	HTMT	
1. NFT	0.879	0.865	0.629	1	
2. ChPref_INFO	0.858	0.857	0.667	0.175	1
3. ChPref_SHOP	0.858	0.858	0.668	0.429	0.702

Source: Authors' own research.

Table 4. The indicator reliabilities

Loading			Used estimation	Estimate	Std.error	p-value	95%L	95%U
NFT	->	need_for_touch_1	Consistent PLS algorithm	0.850	0.040	0.00	0.77	0.93
NFT	->	need_for_touch_2		0.791	0.039	0.00	0.71	0.87
NFT	->	need_for_touch_3		0.862	0.042	0.00	0.78	0.95
NFT	->	need_for_touch_4		0.651	0.064	0.00	0.52	0.77
ChPref_INFO	->	attractive_info		0.850	0.019	0.00	0.81	0.89
ChPref_INFO	->	appropriate_info		0.816	0.024	0.00	0.77	0.86
ChPref_INFO	->	satisfactory_info		0.783	0.024	0.00	0.74	0.83
ChPref_SHOP	->	attractive_shopping		0.820	0.022	0.00	0.78	0.86
ChPref_SHOP	->	appropriate_shopping		0.815	0.024	0.00	0.77	0.85
ChPref_SHOP	->	satisfactory_shopping		0.816	0.019	0.00	0.78	0.85

Source: Authors' own research.

The model fit of the estimated model (measured by the square root of the sum of the squared differences between the model-implied and the empirical correlation matrix – SRMR) is also satisfactory ($SRMR_{estimated}=0.063$, HI95 value=0.155). All assumed direct relationships are supported. NFT has a positive effect on channel preference not only for shopping but also for the information seeking process ($\beta_{NFT-ChPref_Shop}=0.314$ and $\beta_{NFT-ChPref_Info}=-0.155$). These effects are consistent with our previous expectations, as the higher the value of the need for touch preference is, the more preferable the offline channel is (see Table 5).

Table 5. The results of the hypothesis testing and mediation analyses

Hyp.	Direct effects	Path	Std. error	p-value	95%L	95%U	Result	
H1a	NFT -> ChPref_INFO	0.171	0.039	0.000	0.091	0.246	Supported	
H1b	NFT -> ChPref_SHOP	0.314	0.026	0.000	0.264	0.367	Supported	
H3	ChPref_INFO -> ChPref_SHOP	0.648	0.033	0.000	0.579	0.711	Supported	
H2a	NFT -> WEBROOMING	0.095	0.043	0.026	0.009	0.178	Supported	
H4a	ChPref_INFO -> WEBROOMING	-0.346	0.061	0.000	-0.468	-0.231	Supported	
H5b	ChPref_SHOP -> WEBROOMING	0.262	0.069	0.000	0.130	0.403	Supported	
H2b	NFT -> SHOWROOMING	0.082	0.041	0.045	0.002	0.163	Supported	
H4b	ChPref_INFO -> SHOWROOMING	0.357	0.060	0.000	0.246	0.482	Supported	
H5a	ChPref_SHOP -> SHOWROOMING	-0.310	0.067	0.000	-0.449	-0.189	Supported	
	Indirect effects						VAF	VAF = indirect/total
	NFT -> ChPref_INFO -> WEBROOMING	-0.059	0.018	0.001	-0.102	-0.030	No VAF	competitive partial
	NFT -> ChPref_SHOP -> WEBROOMING	0.082	0.019	0.000	0.041	0.129	47%	complementary partial
	NFT -> ChPref_INFO -> SHOWROOMING	0.061	0.022	0.001	0.030	0.100	43%	complementary partial
	NFT -> ChPref_SHOP -> SHOWROOMING	-0.097	0.021	0.000	-0.142	-0.058	No VAF	competitive partial
	Effect	Beta	Indirect effects	Total effect	Cohen's f²			
	NFT -> ChPref_INFO	0.17		0.17	0.03			
	NFT -> ChPref_SHOP	0.31	0.11	0.42	0.23			
	NFT -> Webrooming	0.09	0.05	0.15	0.01			
	NFT -> Showrooming	0.08	-0.07	0.01	0.01			
	ChPref_INFO -> WEBROOMING	-0.35	0.17	-0.18	0.06			
	ChPref_INFO -> SHOWROOMING	0.36	-0.20	0.16	0.07			
	ChPref_SHOP -> WEBROOMING	0.26		0.26	0.03			
	ChPref_SHOP -> SHOWROOMING	-0.31		-0.31	0.04			
	ChPref_INFO -> ChPref_SHOP	0.648		0.648	0.99			
	Construct	R2	R2_adj					
	ChPref_INFO	2.92%	2.82%					
	ChPref_SHOP	58.78%	58.70%					
	WEBROOMING	8%	7.73%					
	SHOWROOMING	6.35%	6.07%					

Source: Authors' own research.

Based on the results, we find that NFT has a stronger effect on shopping channel preferences than on information channel preferences. Also, NFT has a direct significant effect on preferred omnichannel purchase behaviour. For webrooming behaviour, where the process ends with an offline purchase, the effect is slightly larger, but the differences are not relevant and not significant ($\beta_{\text{NFT-Showrooming}}=0.082$ and $\beta_{\text{NFT-Webrooming}}=0.095$). Channel preferences have a significant effect on omnichannel shopping behaviour, however, in case of webrooming, where the information search process takes place online, but the final purchase is made offline, channel preference for information search has a negative significant effect, while channel preference for shopping has a positive effect ($\beta_{\text{ChPref_Info-Webrooming}}=-0.346$

and $\beta_{\text{ChPref_Shop-Webrooming}}=0.262$). For showrooming, the direction of these effects is inverted ($\beta_{\text{ChPref_Info-Showrooming}} = 0.357$ and $\beta_{\text{ChPref_Shop-Showrooming}} = -0.310$). In both cases, the effect of the preference for information-seeking is larger than the effect of the preference for shopping. There is also evidence of the lock-in effect between information seeking and shopping preferences ($\beta_{\text{ChPref_Info-ChPref_Shop}}=0.648$). A high correlation between the constructs was found ($\text{Cor}(\text{ChPref_Info}; \text{ChPref_Shop})= 0.701$), which also highlights the role and existence of this effect for shopping behaviour across channels.

Indirect effects were also analysed to identify the mediating role of channel preferences. All hypothesized indirect effects are significant. Since the direct effects of NFT on purchase behaviour are significant, partial mediating effects are observed. Because the antecedents of the channel preference effects for information seeking and purchase have opposite direction within the analysed purchase process, competitive and complementary partial mediating effects were also identified for both. Channel preference for information seeking plays a competitive mediating role between NFT and webrooming behaviour, but a complementary mediating role between NFT and showrooming behaviour. However, channel preference for shopping plays a complementary mediating role between NFT and webrooming behaviour, but a competitive mediating role between NFT and showrooming behaviour. The VAF (variance accounted for) value shows the ratio of the indirect effect to the total effect in the case of complementary mediation. Since the total effect in our model is very complex, this value is calculated as follows: $\text{Indirect effect}_{\text{NFT_INFO_WEB}} / (\text{Indirect effect}_{\text{NFT_INFO_WEB}} + \text{Direct effect}_{\text{NFT-WEB}})$. The Cohen f^2 -value can also be used to identify effect sizes. In our model, the effect of NFT on channel preferences for shopping is the strongest effect (Cohen $f^2_{\text{NFT-ChPref_Shop}}=0.23$). The effect of NFT on shopping behaviour across all channels is not significant, which also highlights the importance of channel preferences.

The highest R^2 was found for the channel preference of offline shopping behaviour ($R^2_{\text{ChPref_SHOP}} = 58.7\%$). However, there is a limitation to our study, as we have to deal with the fact that the R^2 values of the two omnichannel behaviour constructs are rather small ($R^2_{\text{webrooming}}=8.0\%$, $R^2_{\text{showrooming}}=6.4\%$). This implies that the exogenous variables of need for touch and channel preferences as mediating variables explain only a small proportion of the variance within a given consumer behaviour type. However, relevance is proven, and the model is acceptable.

In the second phase of the research, to answer the final research question and to analyse differences among customers, segments were identified based on the channel preference latent scores. After a hierarchical cluster analysis was performed using Ward's method, six clusters were identified. The comparison of the original item-level responses of channel preferences using one-way ANOVA analysis revealed that there was a statistically significant difference between at least two clusters in terms of channel preferences (F-values from $F(5, 994) = 42.88$ to $F(5, 994) = 118.67$, and $p < 0.001$). However, the original assumption of the homogeneity of variances was not met and we had to switch to a different type of analysis, using the non-parametric Kruskal-Wallis H-test to compare the identified clusters with each other. The clusters show significant differences in channel preferences, i.e., how appropriate, attractive or satisfactory a given online or offline channel is (see Appendix 2). We relied primarily on these to name them and took into account their purchasing behaviour to describe them, but only relied on the significant differences found with the following variables: webrooming ($H(5)=39.44$; $p<0.001$), showrooming

($H(5)=59.76$; $p<0.001$), full online ($H(5)=235.87$; $p<0.000$), full offline ($H(5)=116.52$; $p<0.000$), need for touch ($H(5)=89.11$; $p<0.000$), impulsivity ($H(5)=28.10$; $p<0.001$), and certain demographics (status ($\chi^2(40, N = 1000) = 70.10$, $p=0.02.$), income level ($\chi^2(40, N = 1000) = 28.09$, $p=0.02.$)). Moreover, significant differences were also found for the devices used to search for information and to make purchases, especially when comparing mobile/smart phone ($H(5)=51.02$; $p<0.001$ and $H(5)=71.02$; $p<0.001$) and PC/notebook ($H(5)=66.73$; $p<0.001$; $H(5)=141.77$; $p<0.000$).

Consequently, we could describe the following customer segments:

Segment 1 (7.9%): **offline enthusiasts** for whom online shopping is definitely not attractive and not considered appropriate or satisfactory at all, although they accept the importance of online channels for finding information. Demographic characteristics include lower monthly income, and they are more likely to be retired or housewives.

Segment 2 (33.1%): **neutral majority** for whom channel preferences and channel choice per se are not really important, mainly because they lack knowledge and expertise in this area. They prefer offline channels to online channels. Their income is the lowest of the groups, or much lower. They are mostly dependent or inactive for various reasons including being unemployed, retired or, in most cases, housewives.

Segment 3 (19.4%): **online information enthusiasts**, whose preference is for online shopping and information search, particularly in terms of convenience and satisfactoriness. They show similarities with Cluster 5, but in comparison their preferred device is the mobile phone rather than the PC (both for information seeking and shopping), and their behaviour is more impulsive than planned, and they have a greater need for touch. This group can also be described as having above-average webrooming shopping behaviour and thus cross-channel orientation. They have average or slightly above average monthly incomes and are more likely to be active workers.

Segment 4 (10.9%): a **webrooming-oriented** segment for whom the online channel is more attractive, convenient, and satisfactory for information seeking and the offline channel is preferred for shopping. They have average and/or slightly higher incomes and are over-represented among young mothers and active workers.

Segment 5 (8.7%): **online shopping enthusiasts**, for whom the online channel is more attractive, appropriate, and more satisfactory for shopping and less appropriate for finding information, although they find it more attractive and satisfactory, especially compared to cluster 3. They are less impulsive and NFT is also weaker therefore they can be described as exhibiting a more planned shopping behaviour. They rely more on the computer to search for information and make purchases. Compared to online information enthusiasts, this group prefers to make purely online purchasing decisions and webrooming is not relevant for them. In this respect, a lock-in effect prevails in their purchasing decisions. They have an average income or come from the highest income level, with part-time workers being over-represented among them.

Segment 6 (20%): **showrooming-oriented** segment for whom both online and offline channels are attractive, convenient, and satisfying. Although showrooming behaviour is not yet as prevalent, they may be the ones who would make a channel choice in this regard, since they find offline information-seeking more attractive, appropriate, and satisfactory, and online shopping more appropriate with above average results. They are over-represented in the highest income category, over-represented in the category of active workers or 'other' inactive earners, possibly unemployed.

Conclusions and managerial implications

Omnishopper behaviour appears to be more and more widespread, however, there is a major difference among consumers in channel usage preferences. Our study builds upon previous segmentations of omnichannel customers, but compared to the early approaches, where the purchase channel is considered only, the two-stage choice phase (journey-based) approach (Flavián et al., 2020) of consumer's purchase decision process is applied. This means that we research consumer preferences separately towards the information channel and the purchase channel. In previous segmentations multiple product categories have been researched, however, the sports and leisure goods market is not well represented among. In addition, our approach is unique in the sense that we did not only look for the actual channel usage of omnishoppers, but we strived to measure the role of channel preferences. In the first phase of our research, we have developed a structural equation model to identify the relationships among need for touch, channel preferences and omnichannel purchase (i.e. webrooming and showrooming) behaviour. We found significant main, complimentary, as well as competitive partial mediation effects of channel preferences on webrooming and on showrooming behaviour. The direct effect of need for touch on webrooming and showrooming was significant but very low. In this regard, we could demonstrate that the need for touch construct in itself is not enough to predict customers' channel usage but is an important factor in formulating information and purchase channel preferences. We found evidence that NFT has a positive effect on offline information seeking and shopping preferences. Channel preferences vary in the researched two phases according to appropriateness, attractiveness, and satisfactoriness. Webrooming behaviour is negatively related, but showrooming is positively related to offline search channel preference. On the other hand, webrooming behaviour is positively related, but showrooming is negatively related to offline shopping channel preference. The competitive mediation results indicate that the direct effect of NFT on offline information seeking preference will be weaker because offline info channel preference results in weaker webrooming behaviour. That means that customers, who would like to look for information in the offline channel will not become involved in webrooming behaviour at a high level. On the other hand, in case of showrooming, higher NFT would drive customers towards offline stores to gain information on products, but offline shopping preference does not encourage customers to end up buying these previously examined products online (which would actually mean showrooming). This underlines the role of the lock-in effect: higher attitudes toward searching on Channel A translate into higher attitudes toward purchasing on Channel A (Verhoef et al., 2007).

Based upon the model we found evidence for the important role of channel preferences and for the unsatisfactory role of need for touch to distinguish between different kinds of omnichannel shopping behaviour. Consequently, we have selected the latent variable scores of channel preferences to perform a segmentation (in phase 2) in order to find and describe clusters, which show significant differences in their shopping behaviour within the sports and leisure goods market. We could classify six segments and identified webrooming and showrooming oriented customers beside traditional offline or online enthusiasts. The role of the web in information-seeking is predominant in the case of the researched category, which underlines the findings of Sands et al. (2016) that most segments (online information enthusiasts, webrooming-oriented, online shopping enthusiasts) preferred to search online, because it was the most attractive option. However, channel lock-in effect arises in the case of online information enthusiasts and online shopping enthusiasts,

because online shopping is also more appropriate and satisfactory for them. Furthermore, we also found evidence for the need of differentiating the online channel based on the device used (mobile versus PC) (Wolf, 2023; Wolf & Madlberger, 2024). In the case of the webrooming-oriented cluster, offline shopping was more appropriate and satisfactory, and positive cross-channel synergies appeared to be prevalent. For showrooming-oriented consumers in the case of information seeking, the offline channel was more attractive, appropriate and satisfactory, while in the case of shopping, the online channel was more attractive, appropriate and satisfactory. This market indicates high levels of need for touch because consumers are keen on receiving sensory stimulus while selecting sports and leisure goods. Our results also demonstrate this preference, because the majority of customers in the “offline enthusiast” and “neutral majority” groups – which together account for 41% of all consumers – find the offline channel more attractive, appropriate, and satisfactory in the case of information seeking. This is in line with the findings of Neslin (2022a). Accordingly, this could open an avenue for the generalizability of findings with the limitation to those product categories where the NFT of products is high. In addition, the segmentation approach introduced in this paper can be applied to any category and the identified segments and their main characteristics could be similar; however their prevalence ratio would be different.

These results also have several managerial implications. For those who operate a business within the sports and leisure goods market it seems to be inevitable to open an online channel, not just to provide information and search capabilities to customers but also to be able to sell their products. Even though the researched country is not among the countries with the highest levels of e-commerce, the customer groups where members show high levels of online purchase preferences make up 48.1% of the market. In addition, positive cross-channel synergies and lock-in effects were found, which underlines the importance of and shift from a solely brick and mortar strategy to an omnichannel strategy. The segmentation approach introduced in this research can be applied to identifying clusters and comparing them based on channel preferences, which serve as mediator variables between customers’ need for touching products and webrooming or showrooming behaviour. Managers could assess the level of NFT and measure channel preferences among their customers to make decisions about the omnichannel strategy. In case of high NFT and a higher prevalence of the showrooming-oriented customers they need to focus more on in-store displays and facilitating online ordering solutions. For webrooming-oriented consumers, it is inevitable to provide information about product availability in stores and try-outs. However, in order to provide equal benefits to all customers, policymakers should encourage retailers to make these benefits and technological solutions accessible to everyone by providing education and guidance in this new shopping environment.

Limitations

We strongly believe that our results are well-founded and of wide interest, but despite all that, many limitations arise. Among contextual factors it is needed to state that the current availability and development level of omnichannel purchase solutions as well as the technological advancement level in the given country could have an impact on the segmentation results. Furthermore, the online survey took place after the COVID19 pandemic, which caused a rapid shift in the acceptance rate of e-commerce sites and online channels for information seeking and purchasing.

We could not validate our clusters for different product categories, where we would have found similarities, but even more differences in other markets. Therefore, we need to limit our findings to sports and leisure goods (since according to Aw et al. (2021) NFT can depend on the product category). Furthermore, our empirical results should be tested on a different sample too, therefore, instead of an online survey, an offline data collection should be used to cross-validate findings. The prevalence of clusters and their distribution cannot be generalized, it is assumed that different countries show differences in technology adoption in the retail sector. Also, we must draw our limitations from the structural model, since R^2 values of the two omnichannel behaviour constructs are rather small, which means that the selected variables explain only a smaller proportion of the variance within showrooming and webrooming. Extended literature has already addressed these behaviour types by many variables (e.g.: technological acceptance (Juaneda-Ayensa et al., 2016), smart shopping goals (Flavián et al., 2020)) but in this research we have aimed for the ones selected in our model. In future studies a more robust model could be built to identify the predictors of omnichannel behaviour, however, the aim of our research was to observe the role of need for touch and channel preferences to examine the mediation effect of preferences and to underline the decision for our clustering variable.

Future studies could address these limitations by extending the model and by reassessing the segmentation approach proposed in this article. Also, there is a need for cross-cultural validation since customer journeys may vary across countries due to not just cultural differences but socioeconomic factors or privacy concerns as well (Nam & Kannan, 2020). Although within the Central European region many similarities exist, information search, purchase and channel preferences, technological advancements, prevalence of omnichannel solutions or attitudes could vary across many countries with less similarities and this could result in interesting, novel findings and different segmentation results.

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Appendix

Appendix 1. Previous customer segmentations in case of omnichannel customer behaviour

Study	Phases	Touchpoints	Sample	Method	Segments	Product category	Country
Keen et al (2004)	purchase	physical store, online store, catalog	281	cluster analysis	Generalists (34%) [no general preference] Formatters (16%) [physicalstore] Price sensitives (26%) [online or catalog] Experiencers (24%) [no preference]	electronics	US
Bhatnagar & Rose (2004)	purchase	physical store, online store	1330	LCA	Segment 1 (23%) [no generalpreference] Segment 2 (69%) [physicalstore] Segment 3 (8%) [online]	multiple categories	US
Thomas & Sullivan (2005)	purchase	physical store, online store, catalog	4162	LCA	Segment 1 (27%) [catalog] Segment 2 (73%) [physicalstore]	multiple categories	US
Knox (2005)	purchase	Online store, catalog	1819	LCA	Migration segment (58%)[online] Offline segment (42%)[physical store]	not specified	US
Konus et al. (2008)	search, purchase	physical store, onlinestore, catalog	364	LCA	Uninvolved shoppers (40%) Multichannel enthusiasts(37%) Store-focused consumers(23%)	multiple categories	Netherlands
Schröder & Zaharia (2008)	"information prior to purchase" and "purchase"	physical store, online store, catalog	525	a priori segmentation	Information and purchase store (66.2%) Information and purchase catalog (15.3%) Information and purchase online (10.4%) Information online and purchase store (8%)	apparel, toys, electronics	Germany
Montaguti & Valentini (2011)	from trial to posttrial stage	catalog, internet, store	1018 households	transactional data analysis	1. Learners–predominantly multichannel users 2. Stayers–mainly single-channel users	book retailer	Europe
Wang et al. (2014)	search, purchase		1325		1. Innovative consumer 2. Conventional consumer	apparel, computers, television sets, jewelry, toys, books, MP3/MP4 players, headphones, and cars	China
De Keyser et al. (2015)	search, purchase, after sales	physical store, onlinestore, call center	314	LCA	Research shopper (46%) Web-focused shoppers (31%) Store-focused shoppers(19%) Call center-prone shoppers(4%)	telecom	Netherlands

Study	Phases	Touchpoints	Sample	Method	Segments	Product category	Country
Frasquet et al. (2015)	search, purchase, delivery, post-sales	physical store, online store	1553	cluster analysis	Online shoppers (26.1%/26.1%) Reluctant multichannel shoppers (12%/16.5%) Uninvolved multichannel shoppers (11.3%/16.7%) True multichannel shoppers (17.9%/32.2%) Offline shoppers (32.7%/8.5%)	apparel, electronics	UK and Spain
Sands et al. (2016)	search, purchase, after sales	mobile, social media, internet, physical store	930	LCA	Research online, purchase offline: anti mobile/social media (35.9%) Multichannel enthusiasts (22.4%) Social media enthusiasts (15.8%) internet focused anti mobile (14%) Multichannel enthusiasts (11.9%)	clothing, consumer electronics, holiday travel	Australia
Nakano & Kondo (2018)	information search, purchase	store, mobile, pc, social media	2595	LCA	1. Store-focused customers/anti-digital 2. Store-focused light customers/anti-digital 3. Store-focused light customers/multimedia & social 4. Store-focused customers/multimedia 5. Uninvolved shoppers/average 6. Online-favored multichannel enthusiasts/PC 7. Store-favored multichannel enthusiasts/Multimedia and social media	panel data in low involvement purchase categories such as groceries, beverages, sundries, cosmetics, drugs	Japan
Herhausen et al. (2019)	search, purchase	Physical store, onlinestore, catalog, competitorphysical store, competitoronline store, competitorcatalog, search engine,brand website,comparison portal, socialmedia community, newportal, word of mouth	Two data sets: T1: 2,443 T2: 2,649	LCA	Store-focused shoppers (22% 24%) Pragmatic online shoppers(23% 22%) Extensive online shoppers(21% 13%) Multiple touchpoint shoppers(13% 14%) Online-to-offline shoppers(20% 26%)	multiple categories	D-A-CH

Study	Phases	Touchpoints	Sample	Method	Segments	Product category	Country
Cortinas et al. (2019)	whole purchase process, considering purchase history	physical stores, online stores	450	multinomial logit model	mono-channel (Type 1) 17,3% mono-channel (Type 2) 23,6% omni-channel purchasers (Type 3) 59,1%	international fast-fashion retailer	Spain

Source: Own research.

Appendix 2. Cluster comparisons based on channel preferences

Mean results of preferences

		offline enthusiasts	neutral majority	online information enthusiasts	webrooming-oriented	online shopping enthusiasts	showrooming-oriented	Mean
attractive	ONLINE information seeking	4.39	4.66	6.32	6.39	6.62	5.77	5.54
	ONLINE shopping	1.86	3.76	5.88	3.58	6.21	4.78	4.42
	OFFLINE information seeking	5.73	4.68	3.41	2.36	1.56	4.42	3.94
	OFFLINE shopping	6.22	4.75	4.21	5.17	2.05	4.84	4.59
appropriate	ONLINE information seeking	5.08	5.05	6.62	6.51	6.72	6.04	5.86
	ONLINE shopping	2.41	4.69	6.46	4.43	6.69	5.84	5.23
	OFFLINE information seeking	5.61	4.57	2.86	2.08	1.47	4.22	3.71
	OFFLINE shopping	6.2	4.68	3.22	4.32	1.48	4.33	4.13
satisfactory	ONLINE information seeking	4.73	4.74	6.2	6.38	6.67	5.6	5.54
	ONLINE shopping	2.32	4.35	6.02	3.95	6.6	5.35	4.87
	OFFLINE information seeking	5.94	4.94	3.95	2.9	1.9	5.04	4.36
	OFFLINE shopping	6.29	4.97	4.44	5.23	2.11	5.18	4.79

Source: Own research.