At the source of integrated interactions across channels

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Abstract

Purpose – This research studies what full channel integration means for customers, how channels should be combined so that this integration is perceived by customers and whether a retailer under study can act on the same channel attributes regardless of the type of customer.

Design/methodology/approach – The research design uses an online survey of a full sample of 1,015 multichannel buyers, extracted from the behavioral databases of a French specialized retailer. This full sample is segmented into four sub-samples. The data are treated with backward multiple linear regressions.

Findings – Based on research in marketing and psychology, this study conceptually demonstrates that integrated interactions perceived by consumers are the outcome of a judgment of congruence that seek to build relationships between them in order to combine them better. Testing three hypotheses, the empirical study shows that channel integration is a psychological process: cumulative (individuals incorporate the information provided by the different channels rather than comparing them), selective (customers never take into account all the attributes of the channels) and subjective (the channel image attributes taken into account differ in number and quality from one type of customer to another).

Originality/value – Contrary to what the literature assumes, without ever demonstrating it, full integration does not imply that the retailer in question homogenizes or even matches up all the attributes of its channels. The retailer is thus able to act on attributes that promote this integration, while being relatively free to cultivate the incongruence of other attributes more likely to smoothly guide customers to a particular channel – in other words, a path midway between cross-channel and omnichannel.

Keywords Cross-channel, Integrated interactions, Congruence of channels

Paper type Research paper

1. Introduction

Integrating their distribution channels is by no means a new goal for retailers. As early as 2002, Steinfield *et al.* explained that the in-depth transformation of their business models would involve such integration, as the only way to generate synergies of different kinds. The goal of full channel integration has since been adopted by most multichannel specialists (Dholakia *et al.*, 2005; Rosenbloom, 2007; Weltevreden and Boschma, 2008) and subsequently by cross-channel and omnichannel specialists (Verhoef *et al.*, 2015; Cao and Li, 2015). Indeed, the more channels proliferate (Ailawadi and Farris, 2017), with their borders disappearing (Brynjolfsson *et al.*, 2013) and their use becoming simultaneous (Verhoef *et al.*, 2015), the more full channel integration seems to be indispensable for creating a seamless experience. Beck and Rygl (2015) thus suggest the idea of a *continuum* in the degrees of integration as multichannel progressively shifts toward omnichannel. Omnichannel retailing is also often defined as an integrated experience that combines the benefits of physical and virtual commerce (Rigby, 2011; Banerjee, 2014; Mladenow *et al.*, 2018; Li *et al.*, 2018).

Basically, channel integration defined as "the degree to which different channels interact with each other" (Herhausen *et al.*, 2015, p. 310), contributes to the omnichannel experience (Brynjolfsson *et al.*, 2013; Verhoef *et al.*, 2015; Saghiri *et al.*, 2017; Le and Nguyen-Le, 2020). The quality of channel integration positively affects customers' empowerment (Zhang *et al.*, 2018), engagement (Lee *et al.*, 2019), the perceived fluidity of their omnichannel experience (Shen *et al.*, 2018) and their overall satisfaction (Frasquet and Miquel, 2017). Indirectly, it augments consumers' trust (Zhang *et al.*, 2018), word of mouth and online and in-store loyalty intentions (Frasquet and Miquel, 2017; Lee *et al.*, 2019) and promotes omnichannel behavior (Shen *et al.*, 2018). Such integration of channels thus increases the overall performance

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and profitability of the company (Yan *et al.*, 2010). Nevertheless, depending on how it is conceived and executed, channel integration can be destructive of performance (Herhausen *et al.*, 2015), as when channels cannibalize themselves (show-rooming or web-rooming) or when their "synergy effects" become difficult to quantify (Mladenow *et al.*, 2018, p. 8).

However, implementing this integration comes up against multiple marketing and organizational obstacles. These obstacles illustrate the difficulty faced by mortar-to-click retailers in switching to the retail 2.0 imposed by the platforms (Hänninen *et al.*, 2019). They stem from the proliferation of channels (with the difficulty in coordinating them) and rapid changes in consumer expectations (Von Briel, 2018). Nevertheless, the main challenge is moving from a firm-centric approach to a more customer-centric approach, facilitating the omnichannel journey of their customers rather than trying by various means to control them (Verhoef *et al.*, 2015; Collin-Lachaud and Vanheems, 2016; Bèzes, 2019): according to an Eptica multichannel customer experience study (2016), only 23% of large British companies provided consistent information between two channels and only 8% on three channels.

To speed up the shift in their economic model (Steinfield, 2002) and to design "an integrated system" (Hossain *et al.* 2019, p. 161), retailers are looking for guiding principles (Gallino and Moreno, 2014; Von Briel, 2018). Yet many questions remain as to how to build this omnichannel integration and with regard to the actors contributing to it (Banerjee, 2014; Saghiri *et al.*, 2017). To partially fill this gap, this research aims to determine whether it is the retailer who should fully integrate channels by providing complete consistency of offerings, prices, etc. (Van Baal, 2014; Piotrowicz and Cuthbertson, 2014) or whether it is each customer who combines channels and thereby implements this omnichannel integration (Collin-Lachaud and Vanheems, 2016; Hossain *et al.*, 2019). Adopting a customer perspective oriented toward diagnosis and solutions (Chen *et al.*, 2018), it studies what full channel integration means for customers, how channels should be combined so that this integration is perceived by customers and whether a retailer under study can act on the same channel attributes regardless of the type of customer.

The first, theoretical section shows that although the word "integration" means little for customers, they are however quite able to perceive it from the congruence of the characteristics of the channels which they frequent when shopping. The second, empirical part shows that among consumers, integration is a cumulative, selective and subjective psychological process. Full integration of channels does not imply that the retailer concerned homogenizes or even matches all the attributes of its channels, at the price of cannibalizing the channel that seems to have the lowest added value in the eyes of the customers. A retailer is therefore able to act on the attributes of the channels that promote this integration, while having the relative freedom to cultivate the incongruence of other attributes (offering, price, advice) more likely to guide customers seamlessly to this or that channel. This also has consequences in terms of measuring integration.

2. Theoretical foundations and research hypotheses

Channel integration is a complex concept that can be viewed from the perspective of the company or its customers (Shankar *et al.*, 2011; Banerjee, 2014; Cao and Li, 2015; Lee *et al.*, 2019). For this reason, Cao and Li (2015, p. 200) define it as "the degree to which a firm coordinates the objectives, design, and deployment of its channels to create synergies for the firm and offer particular benefits to its consumers".

From the point of view of the company, its ultimate aim is to generate synergy effects based on a sharing of "resources, goals and skills" (Adelaar *et al.*, 2004, p. 168). For Wallace *et al.* (2004, p. 251), channel integration "involves a synergistic combination of channel functions". Lee *et al.* (2019, p. 90) even speak "synergetic integration of channels".

Implementing these synergies involves seeking maximum flexibility (Oh *et al.*, 2012) based on:

(1) The organization of omnichannel management defined as "the synergetic management of the numerous available channels and customer touchpoints, in such a way that the customer experience across channels and the performance over channels is optimized" (Verhoef *et al.*, 2015, p. 176). To prevent the teams from reproducing silo behaviors, this new type of management implies acceptance of change by the senior managers (Von Briel, 2018) and the rotation of staff between the different channels (Anderson *et al.*, 2010);

(2) Mastery of information technologies to make data "accurate, consistent, current, and complete across different channels, irrespective of the channel selected by customers to access services" (Oh *et al.*, 2012, p. 377).

From a customer perspective, integration is reflected in more intense and extensive interactions with the brand (Verhoef *et al.*, 2015), consistent information and communication across all distribution channels. It results in a seamless omnichannel experience that the customers feel able to activate freely throughout the buying process (Juaneda-Ayensa *et al.*, 2016; Zhang *et al.*, 2018). Marketing and logistics of the last mile are crucial here. The literature analyzes customer-perceived integration through the concept of channel integration quality, and more specifically its "integrated interactions" component (Sousa and Voss, 2006).

2.1 From the quality of channel integration to integrated interactions

Over time, many concepts in marketing tend to expand by bringing into play new concepts or to atrophy by losing dimensions that research has separated. Contrary to what Hossain *et al.* (2019) claim, the concept of channel integration quality has remained remarkably stable between Sousa and Voss's (2006) first conceptual work and the latest empirical work by Shen *et al.* (2018) or Lee *et al.* (2019).

Sousa and Voss (2006, p. 365) present the quality of channel integration as the third component of quality of multichannel service, alongside the quality of the website and the quality of the store. They define it as "the ability to provide customers with a seamless service experience across multiple channels". The quality of channel integration comprises two dimensions: channel configuration defined by Sousa and Voss (2006, p. 366) as the "quality of the available combination of services or service components and the associated service delivery channels" with two sub-dimensions (breath of channel choice and transparency of channel configuration); integrated interactions defined as the "consistency of interactions across channels, resulting in an uniform service experience" (Sousa and Voss 2006, p. 366) with two other sub-dimensions: content consistency ("information exchanged with the customer through different channels, including both outgoing and incoming information") and process consistency ("relevant and comparable process attributes of the front offices associated with the different channels").

With the exception of Frasquet and Miquel (2017), who evaluate multichannel integration on the basis of reciprocity and channel coordination, most empirical work faithfully reproduces these dimensions and sub-dimensions. It shows that the channel configuration, in particular the breadth of channel choice, improves the perceived fluidity of the omnichannel experience (Shen *et al.*, 2018), but also the customer's commitment (Lee *et al.*, 2019). Integrated interactions, for their part, have somewhat less influence on perceived fluidity but more on flow and customer engagement in the case of strongly involving products. By drawing an analogy with the history of e-commerce, we may ask whether these results do not mark two different stages in omnichannel integration. In the first stage, the retailer focuses on the

fluidity of the experience by making available to its customers in a transparent way a large choice of channels; channel configuration is therefore "a key premise" (Banerjee, 2014, p. 462). In the second stage, to maintain its differentiation from its competitors, the retailer must offer a better quality of interaction. Hence our desire to deepen the concept of integrated integrations. Figure 1 presents the different effects of the two dimensions of quality of channel integration validated in the literature (Sousa and Voss, 2006; Shen *et al.*, 2018; Lee *et al.*, 2019; Quach *et al.*, 2020; Le and Nguyen-Le, 2020) and the main antecedents of integrated interactions (store and website images).

2.2 From integrated interactions to the perceived congruence of channels

If the word "integration" is familiar to retailers and underlines their internal management problems, it is far too technical and opaque to mean much to their customers (Huré *et al.*, 2017). For this reason, researchers assess consumers' perception of integrated interactions, drawing on the concept of consistency of content and process (Sousa and Voss, 2006), or more appropriately, that of perceived congruence. Indeed, social psychology shows that for individuals, integration is simply the outcome of cognitive mechanisms based on judgments of congruence or of relational similarity (Bassok and Medin, 1997; Estes, 2003).

Operationalized in marketing by Meyers-Levy and Tybout (1989), congruence is defined as "the descriptive consistency between attributes and associated expectancies, contexts, or schemas" (Kirmani and Shiv 1998, p. 44). Gabisch and Gwebu (2011, p. 305) then define congruence of channels as "a consumer's perception of relatedness and compatibility between the virtual and offline marketing channels". Distribution channels are perceived as congruent when they share common characteristics (offerings, prices, services and other information provided), with the same positive or negative valence (Rokeach and Rothman, 1965), and are articulated around the same mental schema. However, the mechanisms that support judgments of channel congruence are still relatively unknown because the marketing literature and more generally the management literature draws little on the contributions of social and cognitive psychology (Bèzes and Mercanti-Guérin, 2017).

First, the literature in marketing still seems to assume that congruent channels result in a uniform (Zhang *et al.*, 2018) or identical omnichannel experience between channels (Weinberg *et al.*, 2007; Wu *et al.*, 2018). Yet congruent (vs similar) channels can in principle never deliver

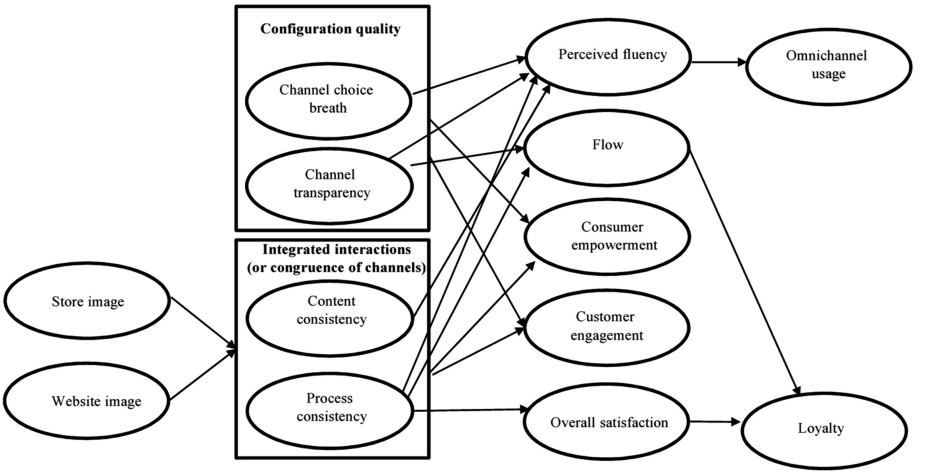

Figure 1.
Antecedents, dimensions and effects of quality of channel integration

the same experience since they are inherently different. Each channel remains valued by the customers for its own experiential qualities (Dholakia *et al.*, 2005). They can, on the other hand, combine to create a new holistic experience.

Second, with the exception of Badrinarayanan *et al.* (2012) and Shen *et al.* (2018), who respectively evaluate the congruence of channels and the consistency of content and process on the basis of reflective global constructs, almost all studies measure the congruence of content or process from the various channel image dimensions assumed to constitute it: congruent offers, congruence of prices and special offers, congruence of service, other links between the different channels and so on (Lee and Kim, 2010; Badrinarayanan *et al.*, 2014; Frasquet and Miquel, 2017; Huré *et al.*, 2017; Zhang *et al.*, 2018; Lee *et al.*, 2019; Li *et al.*, 2019; Le and Nguyen-Le, 2020).

But this approach, clearly motivated by the desire to identify levers of action for companies, does not go far enough. (1) With the exception of the work of Oh *et al.* (2012) carried out on managers, all these studies evaluate integrated interactions analytically using a multidimensional construct (offer, price, etc.) that would need to be validated not more reflectively but formatively, through specific procedures (Edwards, 2011; MacKenzie *et al.*, 2011). (2) In addition, none of these studies attempt to analyze how the attributes of each channel considered individually aggregate upstream to construct judgments of congruence or global integration.

This research therefore focuses on this methodological aspect, which is both theoretical and managerial. Through three hypotheses, it studies what full channel integration really means for customers, how channels should be combined so that this integration is perceived by customers, and whether a retailer under study can act on the same channel attributes regardless of the type of customer.

2.3 Hypotheses

The first hypothesis concerns the way in which the perceived characteristics of each channel (offering, price, service, etc.) do or do not contribute to the consumer's global judgment of congruence and therefore to the integration mechanism. Social psychology distinguishes two cognitive processes that individuals use to make judgments or establish new combinations between two objects: comparison and integration. Rather than acting sequentially, these processes can be activated independently of each other (Bassok and Medin, 1997; Wisniewski and Love, 1998; Gentner and Gunn, 2001; Estes, 2003). Literal similarity directly compares existing elements attribute-by-attribute when they are closely aligned (Tversky, 1977). The Choice by Processing Attributes' strategy (Bettman and Kakkar, 1977) is based on this mechanism, which highlights the differences between the objects being compared and encourages consumers to prefer one object over another.

In contrast, congruence or relational similarity studies in depth the structural relations that may exist between two objects. It integrates these objects within a more abstract judgment that emphasizes their symbolic or customary complementarity (Barsalou, 1983) rather than their substitutability (Estes *et al.*, 2012; Mao *et al.*, 2012). When a new object activates in the individual's working memory the same mental schema as an already known object, cognitive effort is reduced and the affect transfer process from the old to the new object is accelerated. Congruence thus connects objects of different natures – for example, a stimulus and a mental schema – on a more extrinsic basis and with higher levels of abstraction than literal similarity (Gentner and Markman, 1994; Gregan-Paxton and John, 1997; Ortony, 1979). This idea of relationship, very marked in Mandler (1982), allows congruence to combine and integrate non-alignable stimuli rather than opposing or denying them (Bassok and Medin, 1997; Estes, 2003). This integration mechanism is very visible in the assimilation strategy through which weak or moderate incongruences can be easily integrated into the initial mental schema (Mandler, 1982; Sujan and Bettman, 1989).

In terms of distribution channels, integration occurs when the channels merge into a single system that exploits natural complementarities (Steinfield *et al.*, 1999). This process takes a considerable time, because the additional channel is first perceived as a substitute for the other channel and then complementarity is established by the fact that the two mutually interact (Fornari *et al.*, 2016). Because channel integration is based on judgments of congruence and not of literal similarity, customers combine channel image attributes (offering, price, service, advice, etc.) rather than comparing them to build their own judgments of congruence. While in the literal similarity judgment, the image attributes of each channel would contradict each other, in the congruence judgment, they add up. This integration process, based on congruence judgment, would be therefore cumulative (complementarity vs substitution).

H1. The different image attributes of the store (offering, price, service, advice, etc.) add up rather than contradict each other of the website to build the perceived congruence of channels.

The second hypothesis concerns the action levers to be deployed to achieve full perceived integration of the channels. Without exception, all omnichannel specialists insist that this integration must be total and systematic, and no longer partial as at the time of cross-channel or multichannel. As early as 2006, Berger *et al.* showed that a strategy of full integration maximizes total profit. For Beck and Rygl (2015), the difficulty in creating a seamless experience is due to the limited integration of channels or rather to the integration of only part of the channels. According to Berman and Thelen (2004) and Cao and Li (2015), full integration involves the alignment of offerings, prices, services and loyalty programs, the centralization of the back office and knowledge sharing between channels. In other words, full integration involves a maximum level of integration for every image attributes (offering, price, service, etc.) of the possible channels.

H2. Within a logic of full integration of channels, every image attributes of the store and of the website considered affect the perceived congruence of channels.

Nevertheless, the process of integration is subjective and triggered when and how each consumer wishes (Collin-Lachaud and Vanheems, 2016; Verhoef *et al.*, 2015). For example, customers with the most utilitarian or hedonic orientations perceive greater channel congruence (Lee and Kim, 2010). Showing that store-attributes saliences differ across task definitions, Van Kenhove *et al.* (1999) provide a possible explanation. The weights of the image attributes of the channels taken into account in the judgment of congruence can thus vary according to the profile of multichannel customer.

H3. Depending on the profile of multichannel customer (Small multichannel buyer, Balanced multichannel buyer, Store-focused multichannel buyer, Large multichannel buyer), channel image attributes may be weighted differently with regard to perceived congruence of channels.

Figure 2 summarizes the conceptual model tested in this research.

3. Methodology

This model has only relationships between many independent variables and a dependent variable, without mediator variable. Its test does not justify the use of structural equation modeling. Backward multiple linear regressions is sufficient.

3.1 Sample

These hypotheses are tested on 1,015 multichannel customers who buy on both the channels of a French specialized retailer, with lengthy experience in cross-channel management. An online questionnaire was sent to 14,000 loyalty-card holders extracted from the

Figure 2.
Conceptual model

behavioral databases of this retailer and having purchased on both channels in the last 24 months (response rate: 7.25%). For each item, the respondent evaluates the retailer's website, then, immediately afterward, the retailer's store.

3.2 Measurement scales

As the main antecedents of integrated interactions (or perceived congruence of channels), each store and website image attribute (offering, price, layout, accessibility, promotions, customer service, connections to other channels, advice, reputation, institution) is measured

on the basis of the same items, with 7-point Likert scales (Bèzes, 2014). This approach facilitates the structural equivalence between the same construct applied to two different objects. In multichannel distribution, Verhoef *et al.* (2007), Badrinarayanan *et al.* (2012) and Yang *et al.* (2013) use identical items to compare the online and physical channels. Bèzes (2014) shows that the 10 channel image scales used measure a component of the overall channel's image. The perceived congruence of the website and the stores is evaluated from three items (the website and store X are equivalent; the website and the store X both made me think about the same things; the website and the store are consistent with one another), one of which was adapted from Kellaris *et al.* (1993). After an exploratory and a confirmatory factorial analysis, Table 1 presents the definitions and psychometric qualities of the measuring instruments used.

4. Findings

Based on the median number of their purchases on the website (11 products over two years) and in the stores (105 products over two years), the full sample is segmented into four groups of buyers to test in particular the third hypothesis (Table 2).

According to observations made by Gupta *et al.* (2004), no significant gender-related differences were noted between the four sub-samples ($\chi^2_{(6)} = 12.148\ p < 0.059$) and only group 1 is older than groups 3 and 4 ($F = 3.859\ p < 0.009$; significant Tukey Test). Nevertheless these groups, which are very similar to those identified by Konus *et al.* (2008), differ significantly in terms of the number of products purchased across all channels ($F = 179.56\ p < 0.000$), but also the number of products purchased in the stores ($F = 177.20\ p < 0.000$) and on the website ($F = 84.19\ p < 0.000$). After establishing the significance of Levene's test, Tukey's test shows that all these groups are different in terms of the number of products purchased in all channels combined. Because they live significantly further away from the stores ($\chi^2_{(15)} = 66.166\ p < 0.000$), groups 1 and 2 go there less often than groups 3 and 4. Not only are groups 2 and 4 bigger online shoppers, they are also the most frequent visitors of the online store. Groups 1 and 3 buy very little online but more than 80% of them visit the website every month. According to their inherent shopping predispositions in each channel, group 3 is both reluctant to make online purchases (Tamhane Test) and more predisposed to in-store shopping (Tukey Test) than groups 1 and 2. Group 2 is more predisposed to online shopping than group 4 and is much more likely to buy in physical stores.

Of the various groups, type 2 (balanced multichannel buyers) is certainly the most characteristic of omnichannel behavior since they buy just as much on each of the channels. Conversely, types 3 and 4, even though they buy two or three times as much as type 2, are more representative of a multichannel or classic cross-channel orientation, with a large predominance of in-store purchases (the traditional channel).

Table 3 presents on the full sample and the sub-samples, standardized coefficients derived from backward multiple linear regressions between the perceived attributes of the website and the stores (independent variables) and the perceived congruence of the channels (dependent variable) which can be partially predicted by the attributes of channels. The risk of multicollinearity, which can destabilize a regression, is excluded, as none of the VIFs are greater than 2.07 between the ten dimensions of the store image or 2.2 for the website, well below the ceiling of 3.3 (Diamantopoulos and Siguaw, 2006). Furthermore, an Anova test ($F = 0.127$) and a Tukey's test show no difference in congruence scores between the four groups: despite their different channel usage, their congruence scores are very close (4.39 for the type 1, 4.35 for the type 2, 4.34 for the type 3, 4.38 for the type 4). Table 4 summarizes the test of the hypotheses.

H1 suggests that the different image attributes of the store add up rather than contradict each other of the website to build the perceived congruence of channels. This hypothesis is

	Definition of constructs and number of items used	Stores	Website
Offering	Perception of brands, quality and choice of products offered on the channel (6 items)	CR = 0.93 AVE = 0.69 Mean: 5.71 Std dev.: 0.85	CR = 0.93 AVE = 0.69 Mean: 5.78 Std dev.: 0.83
Price	Perception of price competitiveness on the channel (5 items)	CR = 0.91 AVE = 0.67 Mean: 3.59 Std dev.: 1.07	CR = 0.91 AVE = 0.66 Mean: 3.63 Std dev.: 1.08
Layout	Perception of appearance, readability, ergonomics and channel layout (5 items)	CR = 0.91 AVE = 0.68 Mean: 5.23 Std dev.: 1.08	CR = 0.92 AVE = 0.70 Mean: 5.26 Std dev.: 1.05
Accessibility	Perception of ease of access to the channel (4 items)	CR = 0.88 AVE = 0.65 Mean: 5.63 Std dev.: 1.06	CR = 0.93 AVE = 0.77 Mean: 5.26 Std dev.: 1.05
Promotions	Perception of the frequency and visibility of promotions (4 items)	CR = 0.90 AVE = 0.69 Mean: 4.77 Std dev.: 1.06	CR = 0.91 AVE = 0.72 Mean: 5.20 Std dev.: 1.06
Customer service	Perception of the quality of the customer service as it appears on the channel (3 items)	CR = 0.87 AVE = 0.69 Mean: 4.86 Std dev.: 1.19	CR = 0.88 AVE = 0.71 Mean: 4.46 Std dev.: 1.08
Connections with the other channels	Perception of the connections between the focal channel and the retailer's other channels (4 items)	CR = 0.95 AVE = 0.83 Mean: 3.32 Std dev.: 1.23	CR = 0.85 AVE = 0.59 Mean: 4.60 Std dev.: 1.20
Advice	Perception of advice obtained on the channel (3 items)	CR = 0.91 AVE = 0.78 Mean: 5.12 Std dev.: 1.35	CR = 0.90 AVE = 0.75 Mean: 4.58 Std dev.: 1.21
Reputation	Perception of the retailer's reputation as conveyed by the channel (3 items)	CR = 0.97 AVE = 0.91 Mean: 5.74 Std dev.: 0.91	CR = 0.97 AVE = 0.90 Mean: 5.72 Std dev.: 0.91
Institution	Perception of the presentation of the retailer as featured in the channel	CR = 0.88 AVE = 0.72 Mean: 3.89 Std dev.: 1.21	CR = 0.90 AVE = 0.75 Mean: 3.76 Std dev.: 1.19
Perceived congruence of channels	Perception of the overall congruence between the website and the stores (3 items)	CR = 0.81 AVE = 0.59 Mean: 4.37 Std dev.: 1.18	

Table 1.
Confirmatory analyses of the measurement scales used

tested on the full sample. Regardless of their multichannel buying behavior, customers make their judgment of congruence by generally combining channel attributes cumulatively: website and store connections with the other channels (respectively $t = 3.25$ and $t = 4.31$), website and store layouts (respectively $t = 3.24$ and $t = 1.78$), retailer's reputation conveyed by the website ($t = 3.81$), information on the institution provided by the website ($t = 3.67$), offering and customer service proposed on the website (respectively $t = 2.54$ and $t = 2.35$). Individuals thus incorporate the information provided by the different channels rather than

	Website purchase –	Website purchase +
Store purchase –	*Type 1 – Small multichannel buyers ($n_1 = 264$)* *Observed purchase behavior* Average number of products purchased in stores over 24 months = 36.20 Average number of products purchased on the website over 24 months = 4.53 Average number of products purchased in total on both channels over 24 months = 40.73 *Demographic profile* (1) Male 73.48% (2) Average age: 49.38* (3) 58.34% in cities with fewer than 50,000 inhabitants* *Use of retail channels* (1) Visits to store: 41.28% at least once per quarter and 39.02% at least once per month (2) Visits to website: 44.30% at least once per month and 42.80% at least once per week	*Type 2 – Balanced multichannel buyers ($n_2 = 244$)* *Observed purchase behavior* Average number of products purchased in stores over 24 months = 43.57 Average number of products purchased on the website over 24 months = 41.22 Average number of products purchased in total on both channels over 24 months = 84.79 *Demographic profile* (1) Male 64.34% (2) Average age: 48.19 (3) 67.62% in cities with fewer than 50,000 inhabitants* *Use of retail channels* (1) Visits to store: 43.03% at least once per quarter and 28.28% at least once per month (2) Visits to website: 32.79% at least once per month and 62.30% at least once per week
Store purchase +	*Type 3 – Store-focused multichannel buyers ($n_3 = 236$)* *Observed purchase behavior* Average number of products purchased in stores over 24 months = 194.77 Average number of products purchased on the website over 24 months = 4.45 Average number of products purchased in total on both channels over 24 months = 199.22 *Demographic profile* (1) Male 69.92% (2) Average age: 46.25 (3) 37.39% in cities with fewer than 50,000 inhabitants and 36.02% in cities with more than 200,000 inhabitants *Use of retail channels* (1) Visits to store: 61.44% at least once per month and 20.34% at least once per week (2) Visits to website: 39.41% at least once per month and 52.12% at least once per week	*Type 4 – Large multichannel buyers ($n_4 = 271$)* *Observed purchase behavior* Average number of products purchased in stores over 24 months = 217.85 Average number of products purchased on the website over 24 months = 44.88 Average number of products purchased in total on both channels over 24 months = 262.73 *Demographic profile* (1) Male 63.47% (2) Average age: 46.53 (3) 58.24% in cities with fewer than 50,000 inhabitants and 31.73% in cities with more than 200,000 inhabitants *Use of retail channels* (1) Visits to store: 68% at least once per month and 15.13% at least once per week (2) Visits to website: 27.68% at least once per month and 66.79% at least once per week

Table 2.
Customer segments who buy on the website and in the stores of the retailer

contrasting and comparing them as in judgments of literal similarity. On the full sample, H1 is largely confirmed, except in the case of promotions: the sign opposition in the regression (0.107 vs −0.104) shows that multichannel customers compare promotions in-store and online.

H2 suggests that within a logic of full integration of channels, every image attributes of the store and of the website considered affect the perceived congruence of channels. The backward regressions carried out on the full sample as well as on the sub-samples show that

	Full sample	Sub-samples Type 1 Small multichannel buyers	Type 2 Balanced multichannel buyers	Type 3 Store-focused multichannel buyers	Type 4 Large multichannel buyers
Website attributes					
Website offering	0.086*	0.200**			
Website price					
Website layout	0.121**	0.251***	0.122*	0.221**	
Website accessibility					
Website promotions	−0.104**	−0.248**	−0.166*		
Website customer service	0.75*				0.121*
Website connections with the other channels	0.100**	0.141*	0.135*	0.175**	
Website advice	0.61		0.143*		
Website reputation	0.136***		0.181**	0.261**	0.221***
Website institution	0.115***	0.181**	0.295**		0.172**
Store attributes					
Store offering					
Store price			0.116*		
Store layout	0.059				
Store accessibility			0.118*	−0.123*	
Store promotions	0.107**	0.168*	0.156*		0.144**
Store customer service					
Store connections with the other channels	0.130***			0.295***	0.121*
Store advice					0.111*
Store reputation		0.112			
Store institution			−0.220*		
Adjusted R^2	*0.340*	*0.325*	*0.370*	*0.363*	*0.361*

Note(s): ***$p < 0.000$; **$p < 0.01$; *$p < 0.05$

Table 3. Standardized regression coefficients

Hypotheses	Results
H1- The different image attributes of the store (offering, price, service, advice, etc.) add up rather than contradict each other of the website to build the perceived congruence of channels	Confirmed, except in the case of promotion
H2- Within a logic of full integration of channels, every image attributes of the store and of the website considered affect the perceived congruence of channels	Disconfirmed
H3- Depending on the profile of multichannel customer (Small multichannel buyer, Balanced multichannel buyer, Store-focused multichannel buyer, Large multichannel buyer), channel image attributes may be weighted differently with regard to perceived congruence of channels	Confirmed

Table 4. Test of hypotheses

customers never take into account all the attributes of the channels, particularly website price, website accessibility and offering in store. Judgments of congruence thus are selective even for the multichannel customers who perceive the highest degree of congruence between channels. H2 is therefore disconfirmed: Contrary to what the literature has so far assumed, though never demonstrated, full channel integration does not imply that all channel attributes are aligned, that is, literally similar.

Lastly, H3 suggests that depending on the profile of multichannel customer, channel image attributes may be weighted very differently with regard to perceived congruence of channels. Overall, customers who buy the least on the historic channel of the stores (especially balanced multichannel buyers and small multichannel buyers) are those who most analyze the channels (7–10 attributes taken into account for the two channels analyzed), particularly the website. For example, small multichannel buyers, who tend to be reluctant to buy online, compare the most promotions in-store and on the website (respectively $t = 2.28$ and $t = -3.26$). More inclined to analyze value (with 10 attributes of the channels taken into account out of the possible 20), balanced multichannel buyers also encounter promotions on the website and in-store (respectively $t = -2.26$ and $t = 2.12$), as well as information on the institution provided by each of these channels (respectively $t = -2.73$ and $t = -2.14$). Conversely, those who buy the most in-store (store-focused multichannel buyers and large multichannel buyers) take into account many fewer attributes. Nevertheless, the attributes of the website are predominant in terms of the weight and number their congruence judgments, with the exception of large multichannel buyers who still rely on as many attributes of the stores as of the website. However, a comparison of the adjusted R^2 shows that these integration mechanisms are equally present for Store-focused multichannel buyers and Large multichannel buyers, as compared to Small multichannel buyers and Balanced multichannel buyers. H3 is therefore confirmed: Although the congruence scores are very homogeneous between groups, the integration mechanism is extremely subjective, since the attributes taken into account differ in number and quality from one type of customer to another.

5. Conclusion and implications

The literature is much more interested in the effects of omnichannel integration on customer behavior and retailer performance than in the factors that contribute to the perception among consumers of this integration. Drawing on advances in research in psychology that work on omnichannel integration has not addressed, this study first shows that integrated interactions perceived by consumers are the result of a judgment of congruence which, rather than opposing the channels, seeks to forge relations between them so as to combine them better. The fundamental distinction between literal similarity and congruence (or relational similarity) confirms an intensification in interactions between the multichannel stage and the omnichannel stage. Through the concept of perceived congruence, the empirical study shows that the perception of integrated interactions is formed and certainly activated at the initiative of each customer. This mechanism is subjective, in that it differs according to the type of customer even if they are all genuine multichannel buyers. It is cumulative, because it preserves and enhances the natural complementarities of the channels that are assembled into a single system. Like any perception, it is selective because no customer takes into account all the characteristics of the channels (10 channel image attributes taken into account in this study). This research has implications at both the managerial level and the theoretical and methodological level.

5.1 Theoretical and methodological implications

At the theoretical level, use of the concept of perceived congruence makes it possible to better understand the cognitive process that governs perception of the integration of channels,

valuing their complementarity rather than insisting on their substitutability as at the time of multichannel (Wang and Godfarb, 2017). Contrary to what the literature assumes, without ever demonstrating it, full integration of channels by no means entails homogenizing or even reconciling all the attributes of the channels. In line with Popper's falsificationist perspective, this research, even limited to a single case, suffices to refute this theory. This refutation may be more useful to marketing theory than a confirmation (Calder *et al.*, 1982). The assertion that "providing the same information across different channels is one of the key elements for channel integration quality" (Huang *et al.*, 2019, p. 4756) should be at the very least be deepened, particularly in terms of content consistency.

While the limit of the single case does not allow generalization of the results, the different channels are probably not perceived by consumers as completely interchangeable except in terms of certain functional aspects (collection and return of products). Even in an omnichannel environment that emphasizes the fluidity of the experience, evoking "semi-interchangeable alternatives" (Bendoly *et al.*, 2005, p. 314) would certainly be much more appropriate. Indeed, we should not confuse integration and mirror channels that by conveying exactly the same image would inevitably lead to the disappearance of one of them (e.g. the catalog to the benefit of the online store).

In terms of methodology, the scales used by the researchers to measure perceived integration should in most cases be reviewed. While the reflective scales that measure the overall consistency of content or process do not seem to be a problem, those that aim to evaluate the integration of channels on the basis of the congruence of offerings, prices, services and so on need to be corrected in at least two respects. (1) They should be validated formatively rather than reflectively, so as to exclude items that are not involved in the perception of integration or that seem to have too little effect on integration; in this study, characteristics such as the offering, price, service or advice, repeatedly mentioned in the channels' congruence or coherence measurement scales, are in fact little taken into account by customers. (2) At a semantic level, the scales should exclude the term "same" in their items (same prices, same offerings, etc.) in favor of less biased terms such as congruent, concordant or consistent. Although it has been adapted, the term "integrated" is comprehensible only to managers, not to their customers.

5.2 Managerial implications

Since the perceived integration of channels is subjective and is certainly activated by customers as and when they wish, retailers can make use of it, even though they are unable to control it. Accordingly, three guiding principles that run counter to the literature seem relevant.

Firstly, it would be very much in the interest of omnichannel retailers to create the conditions required for their customers to engage in this integration, by encouraging them to modify their consideration set formation. An experiment by Estes (2003) shows that if individuals are directly asked to analyze objects attribute-by-attribute, they engage in a comparison process that accentuates differences and may result in substitution effects; on the other hand, if they are asked to interpret the combinations of objects before comparing the elements that constitute them, they set in motion an integration process. Therefore, not emphasizing the alignable differences of the channels could be one of the conditions needed for this integration. It would no longer be a question of simplifying the customer's choice by aligning attributes (Chakravarti and Janiszewski, 2003), but on the contrary of enriching it quantitatively and qualitatively. In concrete terms, to avoid reinforcing value analysts' behavior, a retailer should encourage its customers to integrate channels rather than compare them. For example, its communication should not insist on the differences or even similarities between its website and its stores (price, number of references, etc.). In the same way, in-store

or online exclusivities should not be systematically shown, so that customers are obliged to undertake their own investigations. Finally, one channel should not simply be the mirror of the other.

Counter-intuitively, channel alignment should only be understood as the alignment "between organizational perception and customer expectation" (Banerjee 2014, p. 469), and not as the alignment of channel attributes in the minds of customers. In concrete terms, a retailer would be well advised to find organizational and technological synergies by integrating its back-office processes (information systems, supply and logistics systems common to all channels, database mergers, unified channel management). However, with regard to the front-office content visible to its customers, it should deliver congruent and complementary information, while ensuring that this information is not identical and uniform between its channels.

By voluntarily proposing multiple alternatives perceived as neither totally superimposable nor totally interchangeable, an omnichannel retailer could encourage its customers to engage in an integration process, and thus to identify the specific benefits of the different channels and determine their complementarities. Furthermore, consumer empowerment would not be a constraint that would force retailers to speed up the integration of their channels, but rather a practice to be encouraged in order to facilitate this integration mechanism for their customers and to increase their commitment and loyalty. Concretely, a retailer should create an optimal experience (flow), where intentional integration flaws offer its customers challenges commensurate with their own skills (Csikszentmihalyi, 1997).

Secondly, due to limited cognitive capacity, customers seem in this study to focus mainly on salient attributes that facilitate learning about the new channel (the website) and that reassure them, such as the layout of the website, the links between other channels and the website or store, the way in which the website communicates about the company and its reputation. This observation could support the idea that in the early days of omnichannel, customers were particularly concerned about what contributed directly to the fluidity of the experience, as well as promotions on the website and/or in-store.

The virtual absence of price may nevertheless be linked by the specificities of the retailer being studied, which like many other mortar-to-click retailers, does not seek to create significant price differences between its website and its stores. A high level of functional fluidity between the channels thus would facilitate the integration mechanisms, with an express condition: the breaks traditionally generated by natural boundaries of channels should be replaced by more artificial boundaries, which would enhance the incongruences of the different channels precisely in order to develop customers' new experiential freedom. It is here that the second stage of omnichannel unquestionably comes in, a stage more centered on what the retailer really offers, namely integrated interactions that place more emphasis on the consistency of commercial content.

Thirdly, full channel integration certainly does not imply that the retailers homogenize or even match all the attributes of their channels. As seen previously, this initiative would encourage customers to compare each of the channels in a very analytical way (similarity vs congruence) with a view to finally abandoning the channel that brings the least added value. A retailer can therefore act on certain attributes that favor such integration (in the case of the retailer studied, certain functional attributes are fairly consensual), while still having the relative freedom to cultivate the moderate incongruence of other attributes more likely to smoothly guide customers to a particular channel – in our study, offerings, prices and advice.

No doubt a middle path can be identified between customer-centricity and firm-centricity or omnichannel and cross-channel, where "the customer may choose through which channel to interact with the organization, while the organization can choose strategically how it wants to interact through each channel" (Berger *et al.*, 2006, p. 920).

5.3 Limitations and future research

Despite its limitations – focusing on the website and the store without adding the mobile channels and social networks that are part of an omnichannel system, studying only one retailer, not taking into account other dimensions known to contribute to integration quality, including the channel configuration, this study opens up various avenues of research.

A new track with high theoretical and practical potential would be to deepen the knowledge of the psychological mechanisms that activate and build omnichannel integration. Taking inspiration from the experimental work of Estes (2003) in psychology, it would be a matter of comparing two groups of customers' perception of channel integration: one group invited to compare the channels attribute-by-attribute from the outset, and the other that is required first to interpret combinations of channels before analyzing the attributes that constitute them. Beyond that, it would be a question of identifying specific personal or situational factors that would allow customers to integrate or not integrate the channels they frequent.

A logical next step would be to analyze how this perceived integration of channels contributes to building a holistic omnichannel experience that is tailor-made, and therefore for the customer does not reduce simply to the sum of the experiences of different information and purchase channels. This analysis of how consumers freely combine different experiences to arrive at a new, hybrid and coherent experience would benefit from drawing on the conceptual contributions of Wisniewski (1997) in psychology.

Another avenue of research could differentiate the contributions of perceived integration as omnichannel develops. A longitudinal analysis would certainly put into perspective the advanced stages of omnichannel and the importance of seamless fluidity compared to immersion (flow) or generating a "pleasurable, memorable and meaningful" experience (Antéblian *et al.*, 2013, p. 82).

Finally, this study should be repeated on different retailers to verify that certain variables of the retail mix such as, in this case, price are very little taken into account in customers' integration processes.

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