AN OVERVIEW ON OMNICHANNEL RESEARCH: INTELLECTUAL FOUNDATIONS AND IMPLICATIONS FOR RESEARCH

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ABSTRACT

Retailers are currently experiencing the transition from multichannel to Omnichannel and its several implications. Consumers are taking advantage of new opportunities to interact both online and offline with retailers during their customer journeys. Omnichannel represents a huge challenge for practitioners that are called to integrate the online and offline channels to offer a seamless customer experience. Omnichannel is also emerging as a relevant topic for researchers. In academic research, so far, Omnichannel has been discussed from different perspectives and in diverse research fields, thus eliciting the need for a comprehensive overview of the topic, reconciling its different facets and conceptual developments.
The present work develops a systematic literature review with the support of bibliometric techniques and aims at identifying the theoretical foundations of Omnichannel and at providing a comprehensive definition of Omnichannel retailing and its features. The ultimate goal of this work is to propose a research agenda for future studies in the Omnichannel domain.

KEYWORDS: Omnichannel retailing; literature review, bibliometric analysis

TRACK: RETAIL & OMNI-CHANNEL MANAGEMENT

1. Introduction

Nowadays, many companies are developing Omnichannel strategies by integrating and adapting their assets to face the growing variety of interactions occurring between companies and consumers at different touchpoints. As Beck and Rygl (2015) pointed out, Omnichannel can be considered as a form of multiple channel retailing – similarly to multichannel and cross-channel – in which retailers have control over full channel integration, as difficult as it may be. The Omnichannel phenomenon comes with a progressive increase in complexity of the market environment, also due to the continuous developments as far as digital technologies. The adoption of digital technologies has, in fact, generated rapid and bold changes in consumers' lifestyles and their relationships with products, companies and brands. Companies are also facing the need for managing their products/services and information in order to maintain a substantial consistency of brand values, attributes and overall image across the different services, experiences and channels provided (Payne, Peltier, and Barger, 2017).

Academics are increasingly devoting their attention to the topic of Omnichannel retailing. As pointed out by Saghiri, Wilding, Mena, and Bourlakis (2017), Omnichannel is a complex and layered concept with an extremely wide scope, which has led academics to develop different streams of research that analyze this phenomenon. As it will be shown, the abovementioned research streams, ranging from management to consumer behavior, adopt different theoretical foundations, with different objectives, leaving scholars with a puzzling variety of contributions and with the challenge to draw a comprehensive and consistent view of Omnichannel retailing, both on the firm and consumer sides.

As bridging such fragmented research requires an assessment of the distances and similarities among the studies in the different research streams, three research questions have been identified to guide our efforts:

RQ1. What are the main streams of research with respect to the Omnichannel phenomenon?

RQ2. What are the theoretical foundations of Omnichannel across contexts and research streams?

RQ3. What emerging opportunities for new research on Omnichannel can be identified?

To address the abovementioned questions, the present study implements a systematic literature review by adopting a bibliometric co-citation and a thematic content analysis to map the Omnichannel research landscape and to understand which main components contribute to the theoretical definition of "*Omnichannel*". In fact, previous literature reviews on the topic

have been largely developed by adopting a focus on one specific research stream, such as retail operations, big data analytics or social media use (Prodanova and Van Looy, 2019; Caro, Kok, and Martinez De Albeniz, 2020). The present work differs from previous reviews as it identifies and compares the multiple research streams concerned with Omnichannel to uncover the respective intellectual foundations that each has employed to deal with the concept. We aim to contribute to the marketing and retailing literature by providing an integrated theoretical perspective on Omnichannel literature across different domains and by identifying future research directions.

2. Literature review

The Omnichannel phenomenon has emerged in literature as one of the changes in marketspaces originated by the digital transformation.

Defining Omnichannel is challenging, since this concept is complex and related to other constructs, such as Customer Journey, Touchpoints and Customer Experience. Lemon and Verhoef (2016) state that any Omnichannel strategy must necessarily take into account the fact that the variety of channels used by customers leads to the need to manage and monitor a growing number of touchpoints of different nature and owned by different actors.

Touchpoints can be defined as interactions of every kind between the company or the brand and customers, including information exchange or purchase transactions (Baxendale, McDonald, and Wilson, 2015). Each touchpoint constitutes a variable influencing the Customer Experience (Herhausen, Binder, Schoegel, and Herrmann, 2019), i.e., the multidimensional consumer's response which encompasses the interaction with stimuli such as products, services, shopping spaces and brands (Brakus, Schmitt, and Zarantonello, 2009). The Customer Experience contributes dramatically to the final evaluation made by the customer, thus influencing the impulse to repeat the purchase, and customer loyalty in the long term (Srivastava and Kaul, 2016).

Integrating touchpoints is also a competitive advantage for Omnichannel retailers: "*in omnichannel retailing (...) retailers will be able to interact with customers through countless channels - websites, physical stores, kiosks, direct mail and catalogs, call centers, social media, mobile devices, gaming consoles, televisions, networked appliances, home services, and more. Unless they are able to integrate (...) into a single seamless omnichannel experience they are likely to be swept away" (Rigby, 2011, p. 4).* As such, an exhaustive study of the Omnichannel phenomenon cannot disregard the investigation of both sides of

consumption and management. Moreover, it is to be noticed that, when identifying Omnichannel's key features, authors in literature have done it from the perspective of their specific field of interest. This emerges by comparing, for instance, the views expressed by Juaneda-Ayensa, Mosquera and Sierra Murillo (2016) and Melacini, Perotti, Rasini and Tappia (2018). While the former express that "*the dominant characteristic of the omnichannel retailing is that the strategy is centered on the customer and the customer's shopping experience* (...)" (p. 3), the latter state that "*OC* [omnichannel] *retailing is first and foremost a major logistics challenge because e-commerce differs from the traditional retail in many aspects*" (p. 392). An even wider perspective on Omnichannel is proposed by Saghiri et al (2017, p. 54), which try to define Omnichannel as a system involving not only consumers and retailers, but an entire supply chain as well "*The idea of the omni-channel has been introduced, where a holistic view of all channels is provided to the consumer and supply chain members* (...)".

Furthermore, it is to be noticed that, even amongst studies pertaining to the same field, different papers can stress different aspects as key to Omnichannel. From example, in logistics, Hubner, Holzapfel, and Kuhn, state that "*Omnichannel (...) requires 'real-time, channel agnostic visibility' across the distribution systems*" (2016, p. 257), while Herhausen et al stress that "*Omni-channel integration may appear in combination by simultaneously providing online terminals in physical stores and a physical store locator in mobile channels*" (2015, p. 322).

What emerges from these few examples and comparisons of different conceptualizations is that it is important to clarify the intellectual foundations of Omnichannel academic literature.

3. Methodology

To accomplish the abovementioned goal a systematic literature review has been conducted on a dataset of articles spanning the various fields that have contributed to the research on Omnichannel. The articles were selected through the PRISMA diagram procedure (Moher, Liberati, Tetzlaff, and Altman, 2009), in order to ensure an effective reporting of sources. The data were retrieved from the electronic database ISI Web Of Knowledge Core collection. This source has been acknowledged as particularly useful in bibliometric analysis, since it provides researchers with standardized reference items and a rich set of metadata (Fetscherin and Heinrich, 2015) belonging to multiple disciplines of research (Merigó, Mas-Tur, Roig-

Tierno, and Ribeiro-Soriano, 2015). Moreover, as reported in Harzing and Alakangas (2016, p. 791), it "*has long been considered the gold standard for citation analysis*".

The search was conducted by title, subject and abstract terms. The keyword used included the word "Omnichannel" in its different writings, such as "Omnichannel", "Omni-channel" (with delimiters), "omni channel", so to identify a wider set of contributions. The dataset was then refined by considering articles with an available abstract and written in English, and filtered by excluding grey literature, non-academic literature and conference proceedings. While the search was conducted on the entire timespan available on the ISI database (1985-2020), the first articles date back to 2011. Eventually, 314 articles were retrieved, and the corresponding bibliographic metadata were extracted and processed.

The following three techniques were then applied on those 314 articles, with the purpose of identifying the most relevant contributions in literature, to be subjected to a thorough qualitative analysis and interpretation.

Preliminary descriptive bibliometric measures allowed us to gain a wider understanding of the dataset. We were able to compute the annual growth rate of scientific production in the Omnichannel field – 70,67%, depicting a strong increase in publications -, and to identify most dedicated journals and authors for this topic, namely the International Journal of Retail and Distribution Management and Santiago Gallino, respectively. For further details on descriptive bibliometrics, we refer to Bradford's Law (Brookes, 1969) and Lotka's Law (Pao, 1985).

A co-citation analysis was then applied on the dataset. This statistical method uses references as the main unit of measurement of affinity and proximity between papers, therefore it is particularly useful in drawing the intellectual foundations of a scientific discipline (White and Griffith, 1981; Ramos-Rodriguez and Ruiz-Navarro, 2004; Galipoglu, Kotzab, Teller, Hüseyinoglu, and Pöppelbuß, 2017). Co-citation analysis is defined through the concept of "citation frequency", namely a unit of measurement given by the total number of citations of a single document within all references in the sample (Garfield, 1979). Co-citation analysis applies this principle of "citation frequency" by using a pair of documents. It "*occurs when both papers are cited in a third article*" (Aria and Cuccurullo, 2017, p.969). This process is then iterated for every paper in the sample and results in the identification of patterns and research clusters. We chose to conduct the co-citation procedure with a Louvain Clustering Algorithm, an algorithm based on the maximization of modularity that has been developed for community detection in very large networks (Blondel, Guillaume, Lambiotte, and Lefebvre, 2008). It has been successfully used also for clustering procedures in bibliometrics, where

modularity is considered as a key measure; moreover, being a non-hierarchical algorithm, it helps the researcher discover the total number of clusters (Traag, Waltman, and van Eck, 2019).

Moreover, co-citation analysis provides the betweenness centrality index for each paper of the different clusters. In information networks, betweenness centrality identifies which objects in the cluster represent "bridges" among other papers, namely "nodes", conceptually linking theories and research contributions (Abbasi, Hossain, and Leydesdorff, 2012).

Our co-citation analysis was conducted with the support of the "*Bibliometrix*" software, an R-based, validated tool for science mapping analyses (Aria and Cuccurullo, 2017).

Last, but not least, a content-based analysis (Seuring and Gold, 2012) was applied to the papers that emerged from the co-citation procedure. Topics were identified per each cluster, providing a deeper understanding of the fields of research involved and their interrelations.

4. Results

The co-citation cluster analysis allowed us to identify 4 research clusters within the network of Omnichannel literature, and a total number of 50 papers, that have been accounted by peers as most relevant for the field. A robustness check is in progress to further validate the choice of four clusters. Core papers per cluster are also identified – those that display a high betweenness centrality measure. The content analysis was performed on each cluster, which will be briefly described below in terms of main themes and perspectives.

Cluster 1 is entirely focused to Consumer Behavior and channel use from a customer's perspective. It includes 18 papers, amongst which 3 literature reviews and 1 methodological paper, and a mean year of publication of 2010. The issues addressed by the papers belonging to this cluster are manifold, for example, the phenomenon of channel migration and the effects of adding new channels (namely, the online and mobile channels) on Customer Experience and loyalty. Authors have explored the determinants of channel choice studying B2C and B2B customers' behavior (Konus, Verhoef, and Neslin, 2008; Kumar and Venkatesan, 2005), following the evolution of multichannel and cross-channel retail environments. The concept of touchpoints, and its relatedness to brand experience and customer experience is introduced later, in papers such as Baxendale et al (2015), and Lemon and Verhoef (2016). It is interesting that in none of the Cluster 1 papers the term "Omnichannel" is explicitly discussed, with the exception of Verhoef, Kannan, and Inman (2015), which introduces the evolution of markets towards Omnichannel, and Grewal,

Motyka, and Levy (2017). Remarkably, both papers are theoretical contributions, introductions to two special issues on the Journal of Retailing. Verhoef et al (2015) is also the main node of the cluster, with a centrality measure of 38,61.

Cluster 2 is concerned with Strategy and Management issues. It is composed of 9 papers, and has a mean year of publication of 2014. Most of these papers are studying companies' management of Omnichannel through the adoption of new technologies and the definition of new competition strategies. For instance, the main node of the cluster (centrality 15.78) Brynjolfsson et al (2013), points to new directions and best practices for physical and online retailer management depending on product categories. Seamless customer services are considered as a strategic lever for differentiation that could create additional value and guide consumer preferences. Ofek et al (2016) stress that in-store services are crucial in generating profit, especially considering the competitive pressure deriving from price promotions in online channels. The other 7 contributions in this cluster are focused on considering pros and cons of showrooming and Buy-Online-Pick-up-in-Store (BOPS), both in multichannel and omnichannel retailing contexts.

Cluster 3 is rooted in Supply Chain Management and Logistic Operations literature and includes 14 papers. 4 of these papers are literature reviews. All contributions besides Agatz, Fleischmann, and van Nunen (2008) have been published after 2014 (mean year of publication for this cluster is 2015). Similarly to Cluster 2, the majority of these papers are specific to Omnichannel, and share a supply chain perspective. Here, transition to Omnichannel is seen as an impending challenge given the lack of integration between supply chain processes and supply relationships. Retailers' adoption of Omnichannel strategies is therefore studied from a company structure and operations' point of view: Piotrowicz and Cuthbertson, (2014) (centrality 10,84) gather practitioners' opinions through focus groups, pointing to the need for a complete redesign of supply chains in Omnichannel environments. Papers in this cluster point to information as a key driver for change in Omnichannel supply chains, since it allows the different actors to coordinate seamlessly. Specifically, two perspectives are identified within this cluster. On the one hand, authors like Cao, 2014, and Picot-Coupey, Hurè and Pivetau, 2016, call for a renovation of internal information systems and company departments by integrating back and front office operations. On the other, other authors are focusing on outsourcing dynamics and integration with suppliers and Third Party Logistics providers. In this perspective, a key topic under study is information exchange, with respect to product availability, inventory operations or return management (Hubner, Holzapfel and Kuhn, 2015; Bernon, Cullen and Gorst, 2016).

Finally, Cluster 4 is centered on Channel Integration, both from the consumer and the management perspective. Of the 9 papers included in this cluster, 2 are methodological papers. The mean year of publication is 2008. Notably, Cao and Li, 2015, the cluster's main node (centrality 10,47), expresses the double nature of Omnichannel by comparing customers' and companies' views of channel integration. Within this cluster, management papers analyze and compare the integration strategies implemented by companies, and encourage retailers to invest in technological resources and competencies (Zhang et al, 2010; Oh, Teo, and Sambamurthy, 2016). Customer-centered works, on the other hand, such as Herhausen et al, 2015, or Juaneda-Ayensa et al, 2016, aim to identify integration-related variables that influence consumers' perception.

Results from the analysis thus confirm the variety of contributions and intellectual foundations that emerges around the topic of Omnichannel. At the same time our work finds "integration" as the core of omnichannel reseach, be it from a management or consumer perspective.

5. Conclusions and expected implications

Developing a map of the conceptual frameworks with reference to a certain topic allows to obtain a holistic view of the topic itself, to enhance the understanding of the relationships between the topic and other key research subjects and areas and to attract attention towards emerging research gaps (Ferreira, Fernandes, and Ratten, 2016). According to the present study's results, Omnichannel research is rooted in the abovementioned 4 key areas of Consumer Behaviour; Strategy and Management; Supply chain and Logistics; Integration.

It is interesting to notice that many papers amongst the most cited ones do not explicitly or directly refer to Omnichannel. This information can be evaluated considering that Omnichannel itself is very recent as a research topic - 2018 is the mean year of publication. We show that the Omnichannel research field of Consumer Behavior (and, partially, Channel Integration) feature perspectives and sub-topics rooted in traditional consumer behaviour literature and proved theories. Conversely, scholars in other research fields (e.g. Supply Chain and Logistics, Management) have developed omnichannel-focused studies that have already been adopted by peers as theoretical foundations. As anticipated, this reflects the substantial absence of a widely accepted definition of Omnichannel, with many studies still focusing on the difference between multi- and omni- rather than on the development of a comprehensive and articulated definition of Omnichannel.

Based on our analysis of the 4 clusters, Channel Integration seems to emerge as the distinguishing, core element of Omnichannel. Channel Integration represents the necessary requirement for developing Omnichannel systems at the managerial or Supply Operations level, to be connected in order to seamlessly provide services and experiences. As such, a vision of Omnichannel as an integrated system emerges from publications in the integration research area (e.g., Saghiri et al, 2017). In Management studies, Omnichannel is mostly considered as a strategic orientation towards which companies are moving in a competitive perspective, aiming for differentiation, whose achievement is strictly related to the development of an adequate infrastructure. In Consumer Behavior studies, instead, Omnichannel is seen as a mere environmental condition affecting consumers, which are experimenting new purchase possibilities as companies provide new touchpoints or reshape traditional ones, bringing their expectations to higher ground.

Looking at Omnichannel by adopting a perspective centered around Channel Integration, we then propose the adoption of a classification of studies according to the nature of the discussed integration, namely whether it is offline-driven or online-driven. This allows to distinguish between studies focusing on the new role assumed by the physical store in Omnichannel retailing, and studies centered on the progressive integration of online channels (including mobile).

Omnichannel integration requires companies to manage or to deal with multiple platforms and touchpoints, often connecting with different actors. We therefore suggest, as a second classification layer, to pay attention to the subject controlling the platform, touchpoint or channel. This extends Beck and Rygl's model (2015), where multi-, cross-, and omnichannel are identified according to how many and which channels are integrated and whether integration is trigged by the customer or the retailer. We include the integration with third parties, coherently with Baxendale et al's 2015 classification of touchpoint ownership (brand owner, retailer, third party) that could be useful to synthesize this information, enriching the emergent Omnichannel conceptualization.

By using the two dimensions of: a) integration direction and b) control, we aim to develop a future research agenda on Omnichannel, also stressing the differences with respect to the disciplines of Consumer Behavior, Management, Supply Chain and Logistics. This approach could be especially useful in identifying gaps and research opportunities across disciplines. While our comprehensive research agenda is currently under finalization, we may suggest, as an immediate research direction, the development of a grounded theory framework of Omnichannel Retailing from the managerial perspective, across management and logistics

research areas, that could corroborate our 4 cluster results, our finding that the core of omnichannel is "integration" within the company and outside the company with other players, and help academics to better understand managers' view on the boundaries of Omnichannel.

KEY REFERENCES: since the work is an extensive literature review of 314 papers, we are listing only main references; for the full bibliography please refer to the authors.

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