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EDITORA

DROPSHIPPING IN THE OMNICHANNEL ERA: CONCEPTS AND PROJECTIONS FOR RESEARCH

PROJEÇÕES E DESAFIOS DO DROPSHIPPING NA ERA OMNICHANNEL

EL DROPSHIPPING EN LA ERA DEL OMNICANAL: CONCEPTOS Y PROYECCIONES PARA LA INVESTIGACIÓN

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ABSTRACT

Since the emergence of e-commerce extracted from the traditional retail of physical stores in the beginning of the year 2000, many retailers have found themselves independently serving the online and in- store channels (multichannel retail) and currently integrating both channels to provide a perfect front not current omnichannel retail. Consequently, companies had to adjust their supply chain and logistics management processes through dropshipping, from order fulfillment for each channel to the integration of channels without back-end (omnichannel service). A systematic review of dropshipping in the omnichannel era demonstrates that adaptation to this new system is mirrored by a growing flow of academic publications related to the subject abroad and little explored in Brazil.

Keywords: Dropshipping. Logistic. E-commerce. Fulfillment. Omnichannel.

RESUMO

Desde o surgimento do e-commerce extraído do varejo tradicional de lojas físicas no início do ano 2000, muitos varejistas se viram atendendo de forma independente os canais online e em loja física (varejo multicanal) e atualmente integrando ambos os canais para fornecer uma frente perfeita no atual varejo omnichannel. Consequentemente, as empresas tiveram que ajustar seus processos de gerenciamento de cadeia de suprimentos e logística por meio do dropshipping, desde o atendimento de pedidos para cada canal separadamente até a integração de canais no back-end (atendimento omnichannel). Uma revisão sistemática sobre dropshipping na era omnichannel demonstra que a adaptação a esse novo sistema é espelhado por um fluxo crescente de publicações acadêmicas relacionadas ao assunto no exterior e pouco explorado no Brasil.

Palavras-chave: Comércio Eletrônico. Logística. E-commerce. Fulfillment. Omnichannel.

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RESUMEN

Desde la aparición del comercio electrónico extraído del comercio minorista tradicional de las tiendas físicas a principios del año 2000, muchos minoristas se han encontrado sirviendo de forma independiente los canales en línea y en la tienda (venta minorista multicanal) y actualmente integran ambos canales para proporcionar un perfecto front no retail omnicanal actual. En consecuencia, las empresas debían ajustar sus procesos de gestión de la cadena de suministro y logística a través del dropshipping, desde el cumplimiento de pedidos para cada canal hasta la integración de canales sin back-end (servicio omnicanal). Una revisión sistemática del dropshipping en la era omnicanal demuestra que la adaptación a este nuevo sistema se refleja en un flujo creciente de publicaciones académicas relacionadas con el tema en el exterior y poco exploradas en Brasil.

Palabras clave: Comercio Electrónico. Logística. Comercio Electrónico. Cumplimiento. Omnicanal.

1 INTRODUCTION

With such a globalized system and being so connected, it is difficult to imagine ways to perform some activities without the help of the most diverse forms of technology that surround us. In this aspect, the internet plays a fundamental role in the dispersion of knowledge and adoption of various technologies. Due to the growth in the number of internet users, we observe every year the rapid growth of e-commerce content, also known as *e-commerce* (Coelho, 2013).

According to the ICT survey conducted by the *ICT Household Survey*, of the CETIC.br (Brazilian Internet Management Committee), in 2018 there were 126.9 million people connected to the internet in Brazil, which is equivalent to 70% of the population over 10 years old (G1 news portal, 2019). In 2016, 64.7% of the population was connected to the internet (G1 News Portal, 2018). Because of the increasing penetration of digital media, organizations increasingly include digital communication in their marketing strategy.

According to Turban et al. (2018), the fact that the end consumer does not need to go to a physical store changes products, processes, and relationships between customers, companies, suppliers, and intermediaries. All these changes require good supply chain management, which we will address from two perspectives, considering the supply chain based on *Dropshipping*, with supply in other countries, by a supply chain that uses a *fulfillment* company established in Brazil, as a logistics service provider.

Despite the economic instability in Brazil, national *e-commerce* revenue reached R$ 75.1 billion, 22.7% higher than in 2018, according to a report by NeoTrust (*E-commerce* Brasil, 2020). In November 2019, Brazilians had their best Black Friday in history, a 23.6% increase in revenue compared to 2018 (*E-commerce* News, 2019).

According to the study, the consumer's purchasing power did not change significantly in the period, showing an average value of purchases made of R$ 420.40 (an increase of only 0.2% compared to 2018). Therefore, the significant increase was mainly related to the volume of orders placed: in 2019, 178.5 million purchases were made, a figure that represents an increase of 22.5% compared to the previous year.

The year 2019 was one of strong recovery for digital retail, with several factors that drove growth, with emphasis on the consolidation of the marketplace model *in the* country, greater multichannel integration, in addition to the increase in the number of consumers who made at least one online purchase.

It is worth noting that without considering the pandemic (COVID-19) there were

projections pointing to a trend that the number would increase even more in the coming years, since in Brazil the number of internet users also grew every year. The fundamental basis for the success of the business of the world economy and economic entities is the stability and certainty of global, regional and local markets. Without business stability and security, global and regional economies, as well as market participants, cannot operate progressively and successfully.

The emergence of the COVID-19 pandemic has completely changed the behavior of the state, society, and the individual. Consequently, in addition to the loss of human life, the biggest consequences of the COVID-19 pandemic are economic. It is a global phenomenon that can already be evaluated as historical, whose consequences are the same in all contexts, and it will be long-term, without a clear certainty of its final impact, but we have observed that the population's consumption pattern has changed and that digital platforms will have a strong impact in relation to physical stores in the coming years (Davis et al., 2021; Pantelimon et al., 2020). However, physical stores now have another important role, which is to stock products and enable digital platforms to deliver these products faster, that is, in hours and even a few days. Thus, making it possible to reduce the economic impact generated by the pandemic on shopkeepers.

The impact of government policies in terms of measures to limit the spread of the virus that have consequently affected the economy and the way businesses operate under these circumstances will determine the impact of the COVID-19 pandemic on business. Consequently, change in the way market participants conduct business in the context of the application of different *e-commerce concepts* in the coming years will determine who will or will not remain in the market (Chen et al., 2020). In this way, knowing the Dropshipping logistics process and how *fulfillment* works can help reduce the impacts resulting from the pandemic.

Internet availability (Zhang et al., 2010), international competition (Pacagnan and Rampazo, 2008), and changes in consumer profile (Brynjolfsson et al., 2013) have forced retailers to incorporate innovative strategies to stay in the market. This is particularly true for those who work with consumers who are increasingly connected.

One of the retail strategies is to offer different channels of service / sales to customers, in the concept called in *marketing theory* as multichannel (Lionello

et al., 2013). According to Motta et al. (2019), the *Internet* and technological advances have transformed the profiles of business competition in retail and the Internet of Things (IoT) will revolutionize the sector in the coming years, making computational intelligence can direct the behavior of the population.

The digital revolution has promoted changes in the concept of space, time and mass, making it possible to create an online retail space available anywhere and anytime. Parente and Barki (2014) observed that the *Internet* and technological advances have transformed Brazilian retail to such an extent that the survival of the traditional store format is questionable.

Technology enables retail to meet consumer demand through *offline* and *online channels*. These channels include brick-and-mortar stores, traveling showrooms, direct marketing, e-commerce*, m-commerce,* and social media, among others. In addition, the practicality and ease of use and access to the *Internet* on *smartphones* and *tablets* have significantly changed consumer buying habits and behavior (Verhoef et al., 2015).

Mobility and *internet* connectivity have empowered consumers, enabling purchases anywhere in the world at any time (Brynjolfsson et al., 2013; Piotrowicz and Cuthbertson, 2014). Reliance on a local physical retail store is no longer mandatory. The *online* marketing of products and services is directly affecting market strategies and service and sales channels in the retail industry.

According to Araujo and Zilber (2013), a new business model is necessary with implications for the organization's structure, processes and strategies. Aubrey and Judge (2012) believe that, despite the rapid growth of *online retail*, the physical store will not cease to exist. Piotrowicz and Cuthbertson (2014) point out that not all customers are attracted by technological advances and that the physical store is an option adapted to this type of consumer. However, it is noticeable that the new digital channels are transforming business models in *offline* and *online retail*.

According to Herhausen et al. (2015), studies provide evidence that shoppers prefer a retail business with integrated channels. Kersmark and Staflund (2015) noted that customers expect an integrated shopping experience that combines different channels to suit their preferences. The complexity and speed of the Internet have created a dynamic and competitive environment. In this environment, a multichannel approach may not be enough. An *omnichannel* approach may be needed to meet consumer desires (Piotrowicz and Cuthbertson, 2014) and the integration of retailers (Kersmark and Staflund, 2015).

Omnichannel is a new concept developed as an extension of multichannel. According to Kersmark and Staflund (2015), the difference between the two is in the level of integration. *Omnichannel* requires seamless and complete integration, while multichannel can be virtually non-existent. The integrated and simultaneous approach through different marketing channels, including *offline* and *online* stores, is an important innovation possibility for the retail market (Aubrey and Judge, 2012; Brynjolfsson et al., 2013; Herhausen et al., 2015; Gao, Shao and Yang, 2017).

The academic literature on *Omnichannel* is still limited (Beck and Rygl, 2015; João and Pastore, 2017; Mirsch, Lehrer and Jung, 2016; Morais et al., 2016; Mosquera et al., 2017), but studies conducted in other countries show that retailers are more frequently adopting this innovative concept internationally (Gao et al., 2017; Kersmark and Staflund, 2015), and most studies agree that companies should focus on the *Omnichannel approach* (Mirsch et al., 2016).

However, these studies report that retailers face a long road ahead to achieve channel integration with numerous challenges expected along the way. Following the global trend, Brazilian retail needs to understand and be prepared to use the integration of different service and sales channels (*offline* and *online*). Brazilian retail needs to know how to add value to the consumer through *Omnichannel*. We understand that innovations in marketing, service and sales channels need to add value to consumers who are already born in the information-hungry technological environment.

In this sense, the supply chain and each of its links play a fundamental role in the formation of the final price of a product, whether it is offered *online* or *offline*. The choice of the type of operation that will be used in the management of the supply chain of an e-commerce has great importance in the added value for the final consumer. For this, we will address supply chain management from the perspective of an e-commerce considering *dropshipping* and a *fulfillment* company assisting in the provision of logistics service in the model for *omnichannel service*.

To avoid doubts about definitions, it is worth highlighting the main divergent point between *e-business* and *e-commerce*. According to Patel (2020), "*e-commerce* is like a by-product of *e-business. E-business* occurs about the entire process of negotiation that a company does over the *internet* and *e-commerce* about the commercial transactions of goods and services *online*".

According to Botelho and Guissoni (2016), in this context, Brazil is currently the only country in Latin America that is among the ten largest e-commerce markets in the

world.

With the rapid development of information technologies and the *Internet*, commerce on *e-commerce* platforms has grown a lot in the last decade. Many companies open an *online* store on retail platforms for example paid *online* services, Uber; beauty and cosmetics, Boticário; travel, *Booking*; sporting goods, Netshoes; food, iFood and various products on Mercado Livre, Americanas, Ali Express, Submarino, Netshoes, Magazine Luiza, Amazon, Carrefour, Casas Bahia and Wish. Then the products are sold to consumers *online* directly. Businesses must pay an allocation fee or share part of their revenues with the platform. Under such an arrangement, the *online* store determines the retail price and packages and delivers the products to *online consumers* (Lombardi et al., 2020). Other agreements are also made between businesses and retail platforms, such as reseller agreements.

Under a reseller agreement, the online retailer first sells products to the platform at the wholesale price, and then the platform determines the retail price and resells the products to end consumers. In practice, to better satisfy the needs of consumers, many companies not only open a store on a platform, but also resell their products to a retail platform, such as App Inc. and Xiaomi marketed in Brazil. Generally, the *online* store and the Retailer determines product prices and promotion efforts, respectively. Therefore, for the same product, the retail price listed on a store and *online* platform may be different or the same (He et al., 2021).

In addition, the efficiency of product delivery for *online* orders also varies between *online* stores and retail platforms. The platforms often operate multiple warehouses in major markets across the country so they can use the nearby warehouses to fulfill *online* orders for fast delivery. Today, consumers are more time-sensitive, and many expect their orders to be delivered quickly. These time-sensitive consumers pay more attention to the delivery time of the product than the price of the product. To satisfy the needs of time-sensitive consumers, retail platforms such as Americanas and Magazine Luiza have launched express logistics services that allow consumers to order in the morning and receive products in the afternoon of the same day. Amazon also offers different fulfillment options; Consumers can receive their products faster by paying extra shipping fees or signing up for the platform. However, most *online* retailers can establish only a few warehouses in a country to fulfill all *online* orders, leading to longer delivery times for consumers. Therefore, time-sensitive consumers always prefer to buy products from a platform.

Relying on advanced technologies such as *big* data and artificial intelligence,

companies can master the production, circulation, and sale of commodities in real time. Companies can deeply integrate *online services,* offline *experiences,* and modern logistics through operational innovation to improve the consumer shopping experience (Lima, 2015).

The era of *omnichannel* retail is imminent (Rigby, 2011; Verhoef et al., 2015). In the context of *omnichannel* retail, many *online* and platform retailers have opened physical stores to attract consumers and achieve performance improvements by adopting *omnichannel* operating modes. For example, Xiaomi, a first-known *online smartphone* supplier in China, used to sell products only through its own *online store* or retail platform (JD.com), and the company announced that it would open physical stores in 2017. After the opening of physical stores, Xiaomi's shipments increased by 70% compared to the previous quarter.

Meilele, a pioneering Chinese furniture retailer on the *internet*, has also opened physical stores across the country (Zhang et al., 2020). The opening of *offline* channels and the implementation of *omnichannel strategies* have brought advantages to online retailers. For example, a retailer can use the store's physical inventory to fulfill some *online* orders, which is known as an *omnichannel* fulfillment option, the store's shipping approach. Approximately one in three *omnichannel* retailers implemented the ship-from-store option in 2016 (Roggio, 2017). This option benefited time-sensitive consumers as a retailer could ship a product from stores near consumers.

A Chinese snack food retailer with *both online* and *offline* channels fulfilled a "Double Eleven" order in just 11 minutes, utilizing inventory from its nearest store (Deng, 2017).

One fashion retailer, Zara, was able to get same-day delivery and even two-hour delivery by adopting the Send from Store option (Thau, 2018). In addition, a study empirical has shown that early *online retailers* opening offline stores can increase retailers' total sales (Bell et al., 2018).

In Brazil, even with the economic crisis that began in 2015, the retailer Magazine Luiza opted to carry out a digital transformation with an emphasis on *omnichannel* initiatives. This objective leveraged sales in *e-commerce* and physical stores, providing a growth of 241% and 51%, respectively, from 2015 to 2018. Its success is reflected in the share price, which went from around R$8 in January 2015 to more than R$180 in January 2019 (Grant, 2019).

For an out-of-court recovery plan in August 2018, the sales machine, owned by brand owner Ricardo Eletro, also put into practice *omnichannel initiatives* and with this

strategy recorded a 150% increase in sales in 2019. In this way, Samuel Henrique Belo, president of Ricardo Eletro expects the customer to enter the retail chain's website and have a complete experience before, during and after the purchase. For this, the chain has been using artificial intelligence and a sales machine integrating physical stores and *e-commerce*.

The general objective was to investigate, through a systematic review in the literature, the processes and operational challenges that suppliers face in e-commerce, considering *dropshipping* and a *fulfillment* company assisting in the provision of logistics service in the model for *omnichannel service*.

Having presented the main objective of this article, there are also complementary points to be clarified during this study, due to the importance they have in the logistics field and how they can contribute to the improvement of the service provision and contribute to reach the desired general objective:

- Conceptualize *Dropshiping* in the *Omnichannel Era*
- Recognize the importance of proper logistics planning;
- How the application of *Dropshipping develops* in general;
- How a *fulfillment company* can assist in the provision of logistics services in the omnichannel service model.
- Establish how the application of *Dropshipping* in e-commerce would be.
- Provide opportunity for the Brazilian academic community to take more leadership in terms of developing knowledge, propose ways for the industry to search for channel integration to implement *dropshipping* in the *omnichannel era*.

It is expected to establish whether *Dropshipping* and a *fulfillment* company can assist in the provision of logistics services in the model for *omnichannel* service. Through the systematic review of the literature, direct researchers and the community on *dropshipping* in the *omnichannel era* about its adoption and future perceptions.

Dropshipping is one of the newest *e-commerce shipping strategies* and its application in *Omnichannel* presents numerous opportunities for today's shippers. *Dropshipping* effectively eliminates the burden of holding inventory and opens the door to less risk within an organization. Supply chain leaders, however, need to understand that *Dropshipping* in *Omnichannel* brings challenges as well as benefits. Following a few simple tips and best practices can mean the difference between success in the connected supply chain and lost revenue.

Thus, there are some challenges facing *Dropshipping* which we can mention: Limited technologies, little collaboration between supply chain partners, failure to implement and integrate new systems and technology, and limited visibility of practices in this system.

To overcome some of these challenges, this systematic review leads us to believe that *Dropshipping* in the *Omnichannel* process can benefit supply chains in profound ways, and can also be a model to be adopted in Brazil. It will be crucial for fast and eco-friendly shipping as *Dropsshipping* eliminates the middleman and reduces delivery time, in *Omnichannel* it leads to increased revenue and increases customer service.

2 METHOD

The methodological framework of this article is divided into: type of research; bibliographic research; data collection and data analysis on the subject of *Dropshipping* in the *Omnichannel era*

This research is considered descriptive and exploratory. Descriptive, because in the process of bibliometric analysis, it classifies the articles according to their relevance and comprehensiveness by the number of citations of the theme and seeks proposals from their authors, journals and universities (Gil, 1999). Exploratory, because it presents in the selection stage of the bibliographic database (BDB) the search for a more in-depth analysis of the preliminary concepts on the subject of *Dropshipping* in the *Omnichannel era* (Beuren, 2008).

The approach to the problem proposed in this article is qualitative, because the selection of BDB articles was carried out according to the understanding and perceptions of the researcher (Richardson and Peres, 1985).

The research logic was of an inductive nature, that is, knowledge was sought in the observation of the empirical reality and the researched problem that is still unexplored, bringing new clarifications to the scientific environment (Richardson and Peres, 1985) on the theme *of Dropshipping* in the *Omnichanel era.*

The bibliographic research was carried out from 2020 to 2021 in the *google scholar* database and *web of Science* – CAPES/Brazil through the keywords: *E-commerce, Crossdocking, Dropshipping, Omnichannel and Fulfillment*. To obtain more recent articles published, we use those published in the last 10 years.

Data collection came from secondary data, found through the analysis of scientific articles selected in databases presented by the *google scholar database* and

web of Science – CAPES/Brazil (Richardson and Peres, 1985) according to the theme under study.

In the research strategy, bibliographic research was adopted through a systematized process of searching for scientific articles using the systematic review guidelines established by Mulrow (1987), the Cochrane collaboration (Higgins & Green, 2011), Campbell (2016), Tranfield et al. (2003), Taylor et al. (2019) as well as Silva and Freire (2020). These authors use a process that systematizes the search method in the chosen database, obtaining as a result the BDB, which represents the state of the art on the researched theme. The Systematic Review is considered a synthesis of primary studies with objectives and methods defined and explained through a clear and reproducible methodology (Greenhalgh, 1997). The data were presented in graphic form, tables and/or figures to facilitate the presentation of the results.

For the development of the bibliographic database (BDB), data collection based on systematic reviews proposed by Durach et al. (2017) was adopted, which succinctly summarizes these guidelines and adjusts them for use by researchers focused on supply chain management, condensing them into a set of six sequential steps as adapted to our reality (Table 1).

Table 1

Data collection based on systematic reviews of the literature based on Durach et al. (2017)

Step Description	Goal	Research team actions
Step 1: Define the research question	Establish relevance and opportunity. Highlight contribution and establish initial theoretical framework.	Define the research question to assess the research state of the current omnichannel supply chain management. Timeliness and relevance are set out in the introduction. The contribution of this effort is to summarize the current state of research and thus be able to identify gaps in the literature and opportunity for future investigations

Step 2: Determine the Necessary characteristics of primary studies	Create inclusion/exclusion criteria, such as research method, focus of study, language, etc.	Defined by the novelty of *the omnichannel concept in supply chain management research, a very inclusive approach was chosen. Articles from all theoretical contexts and methods were included. In the initial collection process, we considered articles from all business disciplines and only selected in marketing* vs articles related to supply chain management in a secondary step. In a final step, articles that did not belong to the term *omnichannel were eliminated*. Due to the nature of the research, only the articles in English were reviewed. In addition, this provides comparability of the results, since English is the predominant indioma in the research of supply chain management.
Step 3: Retrieve literature samples Potentially relevant	Determine search procedures, such as databases and cross-references. Select initial keywords	The search platforms Web of Science and Google Scholar were used. The following list of keywords was selected. Different spellings and acronyms have always been sought. Keywords were initially selected based on seminal articles in the field and were expanded throughout the search process to capture as many articles as possible: ***Omnichannel*** *or Omni-channel or Omni channel* *or Omnichannel or Omni-chanel or Omni channel* ***Dropshipping*** *or Drop shipping or Drop-shipping* *Drop shipping or Drop-shipping and Omnichannel* *and Omnichannel and DC* *or Drop shipping and Omnicchannel* *or Drop shipping and Omni cchannel and fulfillment* *or Drop-shipping and Fulfillment or Drop shipping and Fulfillment and Omnichannel and Fulfillment and Omni channel and Fulfillment* ***Crossdocking*** ***E-commerce*** *and Crossdocking and Dropshipping and Drop shipping and Omnichannel and Omni channel and Fulfillment* *and Crossdocking and dropshipping and Crossdocking and dropshipping and Omnichannel* *and Crossdoking and dropshippinf and Omnichannel and fulfillment*

Step 4: Select a Pertine Literature	Apply inclusion/exclusion criteria	All articles returned by the keyword search pertaining to logistics and supply chain management were included. All articles from later analyses that showed a focus on direct marketing were excluded . The selection was made independently. Next, the selection was reviewed and the inclusion/exclusion of individual articles was discussed and decided.
Step 5: Synthesize the literature	Apply Coding Schema to Extract pertinent information. Synthesize studies and integrate findings	First, the almost 600 selected articles were systematically analyzed based on what was written, such as publication date, output, method, etc. Next, the manuscripts were coded based on the omnichannel fulfillment strategies identified in the literature. Possible omnichannel *definitions were identified* and other perceptions that were considered pertinent were summarized. Based on the analysis, the selected manuscripts were systematically compared and verified in multiple iterations, establishing a structure for this presentation of the results.
Step 6: Report results	Report results, provide a descriptive overview, and discuss findings	Present the results separated by discussion about the articles, the definition of *omnichannel* and the emerging flows in the literature. Discuss the insights I had based on *omnichannel fulfillment strategies and key takeaways. Finally, new proposals were made.*

research in the body of the dissertation.

The systematic review of the literature was carried out based on the search platforms: *Google Scholar* and *Web of Science*. For the search, the publication interval was considered, limiting a period that comprised the year 2001 to 2021. The following terms were used in the research: *Omnichannel, Dropshipping, E-Commerce* as well as their variants for a systematized search (Table 2).

For example, for the main word *omnichannel*, the results produced 11300 results on *Google Scholar* and 211 results on *the Web of Science* (*Thomson Reuters Scientific*) (scientific articles only) – made available by the Coordination for the Improvement of Higher Education Personnel (CAPES), of the Ministry of Education of the University of São Paulo.

Brazil, which offered international scientific content (CAPES/MEC, 2019). Since *Google Scholar* does not offer a "scholar journals only" option, it was only used to augment the Web *of Science* results and it was checked if any interesting articles could be added to our study. This procedure was repeated for all keywords and the output of this keyword search is summarized in Table 2.

Table 2

Keyword search results via google scholar and Web of Science in the specific range considering the years 2000 to 2021. Research updated on 01/29/2021

Keyword	*Google* Academic	No. of *Web of Science entries*
Omnichannel	11300	211
or Omni-channel	2330	379
or Omni channel	2360	536
or Omnichannel or Omni-channel or Omni channel	2330	536
Dropshipping	409	1
or Drop-shipping	175	62
or Drop shipping	120	531
Drop shipping or Drop-shipping	307	533
and Omnichannel	25	0
and Omnichannel and DC	8	0
or Drop shipping and Omnicchannel	17	1
or Drop shipping and Omni cchannel	28	2
and fulfillment	82	0
or Drop-shipping and Fulfillment	74	22
or Drop shipping and Fulfillment	217	24
and Omnichannel and Fulfillment	20	0
and Omni channel and Fulfillment	29	0
Crossdocking	12600	72
E-commerce	808000	10149
and Crossdocking	2250	1
and Dropshipping	878	1
and Drop shipping	12800	22
and Omnichannel	6710	48
and Omni channel	7720	41
and Fulfillment	23200	161
and Crossdocking and dropshipping	66	0
and Crossdocking and dropshipping and Omnichannel	16	0
and Crossdoking and dropshippinf and Omnichannel and fulfillment	11	0

After a review of the titles and abstracts, most of the identified manuscripts may be eliminated from further evaluation. This process resulted in 62 and 536 articles that were considered relevant to *Dropshipping strategies in the* Omnichannel *era*, respectively.

3 FINDINGS

This section provides an overview of the findings in the literature considering the Google Scholar and Web of Science database regarding the key topics of the

Dropshipping and Omnichannel research. Consistent with other systematic reviews of the literature, this overview discusses descriptive material, such as publication dates, methodologies, means of publication, among others, that provided us with a "general setup" of research on Dropshipping strategies in the Omnichannel era.

An overview of articles by date of publication indicates limited research activity on the topic of *Dropshipping* and *Omnichannel* between 2000 to 2020 and 2000 to 2015, respectively, in the sense that no more than 10 articles were published in a given current year for these two topics. In this sense, it is worth noting that *Omnichannel* is a more recent methodology and for this reason we observed more publications in this period than for *Dropshipping*. In contrast, it also indicates that 145 of the 536 (or 27%) of the articles on the topic of *Omnichannel* were published in 2020 and that if we consider a range from 2016 to 2021, this figure goes to approximately 82% of the articles published on this topic. As for *Dropshipping*, only 8 of the 62 articles (or 12%) of the articles were published in 2020 and less than 50% were published in the period from 2016 to 2021.

This increase in research since 2015 suggests that *omnichannel* fulfillment is poised to become an increasingly common topic in academic literature, reflecting the growing importance in the industry. Due to the expectation of an increase in articles published with *Dropshipping,* we believe that the combination of the two methodologies can benefit the logistics process for the e-commerce sector.

The review process also tracked each author's organizations with respect to the academic discipline (as reflected by an author's university website). Through this information, it was possible to direct the theme of our research proposal and refine the articles that are really in our area of expertise. It is worth noting that most of the organizations that are working in the area are from the United States and China for both themes. Also, in this research, the Federal University of Pernambuco was identified with two articles published on the theme *Drop-shipping*. In the search for the *web of Science* , no national research groups were found working with *an Omnichannel theme.* However, it is worth highlighting a research carried out at Harvard University using a database of companies installed in Brazil with the theme (Agrawal, 2019).

The Coordination for the Improvement of Higher Education Personnel (CAPES) has already funded two projects that are engaged with this research on the topic of *Dropshipping*. The topic of *Dropshipping* and *Omnichannel* are among the research priorities in the logistics and *e-commerce* sector. Thus, we believe that in the coming years research projects involving the theme of *Dropshipping* and *Omnichannel* may be

funded by the funding agencies of Brazilian agencies and/or those international that seek partners in scientific investigations.

It was observed that all areas of activity between *Dropshipping* and *Omnichannel* are well aligned with regard to logistics. It is worth noting that most of the articles *published Omnichannel is much more business-oriented*. However, *Omnichannel* is also closely related to operations management, as is also observed for *Dropshipping*. From this perspective, we once again reinforce the possibility of the two processes coming together to promote a more efficient logistics chain in *e-commerce*.

It turned out that only 26 of the 62 articles on *Dropshipping* and 66 of the 536 articles on *Omnichannel* involved the topic of management science and operations research. More specifically, while *Omnichannel* fulfillment involves *marketing*, logistics, supply chain, and operations activities in companies, to date there is little research that incorporates these different perspectives considering *Dropshipping*. In addition, we did not find manuscripts that include authors from the areas of strategy, organizational behavior, accounting, or finance, all of which are areas potentially impacted by Dropshiping fulfillment strategies in the *Omnichannel era.*

Moving forward, there seem to be clear opportunities for authors from various areas of expertise to collaborate in research on processes and operational challenges that suppliers face in e-commerce considering *Dropshipping* and *fulfillment* companies assisting in the provision of logistics services in the model for *Omnichannel service.*

However, it can still be observed that the authors are well segmented and that they have not yet worked on the same theme.

Only one exception was found, the researcher Cheng, T. C. E. from the *Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University*, Kowloon, Hong Kong who has been working on his research with the two themes, that is, *Dropshipping* and *Omnichannel*.

To provide visibility in relation to the journals that emerged from this analysis, an overview of the media of the articles was included. Thus, the Dropshipping theme is published in several areas of activity such as logistics, distribution and transportation, without presenting a selection of a specific journal for publications. On the Omnichannel theme, most of the articles were published in the *International Journal of Retail distribution Management (34); Journal of Retailing and Consumer services (21) and International Journal of Physical distribution Logistics Management (16).*

In a global assessment, it was observed that the United States of America, followed by China, are the countries that published the most on the topics under study. Brazil has published two articles on the topic *of Dropshipping* (Jimenez et al., 2020 and Jimenez et al., 2019) and seven articles on the *topic of Omnichannel* (Borba et al., 2020; Barreto et al., 2020; Mainardes et al., 2020; Morais et al., 2019; Varotto, 2018; Mundin et al., 2018; Webber et al., 2016), demonstrating once again the importance of the theme for the national scenario of these two methodologies for distribution logistics processes in *e-commerce.*

It is clear that the international language used to publish the theme is English. Even the Brazilian journals Geintec Journal – Management, Innovation and Technologies, Brazilian Journal of Marketing and Administration in Dialogue Journal publish their productions in English. We found only 4 articles with the theme *Omnichannel* being them (Morais et al., 2019; Texeira et al., 2017; Voratto, 2018; Webber et al., 2016) and none with the theme *Dropshipping* published in these journals.

It was possible to observe that the research methodologies used indicate that approximately 77% of the research depends on one of the three methodologies – which involve analytical, empirical qualitative and empirical quantitative evaluations. The content analysis of the articles indicates that the analytical and empirical currents are totally isolated from each other. That is, analytical information rarely refers to the empirical work that is detailed for a given proposal.

Only a few individual citations were observed in the introduction in order to present the relevance of the research. Another important aspect observed is that empirical articles totally ignore the *insights* of analytical modeling. Thus, as a perspective for the future, a promising path was seen to advance research on the topic of *Dropshipping* and a *fulfillment* company assisting in the provision of logistics service in the model for *Omnichannel service*.

Only three of the manuscripts reviewed are literature reviews, which has guided the current research. Specifically, two reviews (Beck and Rygl, 2015; Galipoglu et al., 2018) focus on the literature around the general concept of *Omnichannel* and that made us see the possibility of joining the concept of *Dropshipping* to assist in logistics processes. The third review by Melacini et al. (2018) identifies network design, capacity management, delivery planning and execution as major issues related to *e-commerce* and product distribution. Our work complements Melacini et al. (2018) review of the existing literature, identifying and explicitly delimiting six *Omnichannel* service

strategies based on three parameters - purchase origin, service links, and purchase receipt. Melacini et al. (2018) observed four of the *Omnichannel* strategies identified in this systematic review of the literature: buy *online* and pick up in-store, buy *online* and ship to store, buy *online* and return in-store, and *Omnichannel distribution centers*. Because buy in store and pick up in store and buy *online* and ship to store involve picking up orders from online kiosks or in the stores' network, Melacini et al. (2018) did not delineate between the two strategies. As *Omnichannel* service strategies, the buy in stores and pick up in store and buy *online* and send to store service links are not the same. The buy *online* pick up store utilizes store inventory and store resources and can be accomplished in hours (Taylor et al., 2019). Buy *online* and ship to store uses inventory from a distribution center or other store, and resources and orders are typically fulfilled within a period of days (Gao and Su, 2017; Murfield et al., 2017). Omnichannel *Dropshipping* is also identified as an *Omnichannel* fulfillment strategy (Taylor et al., 2019). We observed that the fulfillment link is made available by the retail supplier to increase the retailer's network inventory when necessary (Khouja & Stylianou, 2009; Simon et al., 2015).

According to Taylor et al. (2019), between 2002 and 2014 the articles referring to *Omnichannel* adopted almost exclusively analytical and empirical-quantitative methods. According to the same author, most of the pre-2015 analytical articles approach the topic from a purely theoretical perspective and the author is emphatic in saying that this theory does not reflect on processes applied in the market. The buy *online* and ship from store survey was one of the first efforts of analytical researchers; Bendoly (2004) used simulation to demonstrate situations where buy-online-and-ship-from-store implementations could reduce, and in some cases completely deplete store inventory, which it could lead to lost sales in the store. Similarly, Seifert et al. (2006) used optimization models to demonstrate that integrating fulfillment for retailers' e-stores with retailers' in-store replenishment network resulted in significant savings in separate channel fulfillment networks. At the time, most retailers were looking for dedicated channel fulfillment capabilities, and many retailers were still using third-party vendors for *online* ordering. However, with the high demand for *online* shopping observed with the COVID-19 pandemic, we have observed a growing number of complaints due to delayed delivery and this should be observed to design new tools to avoid demotivation of *online shopping* by the consumer.

Through a more critical analysis of the literature, it was possible to observe that from 2002 onwards the "*bricks and clicks*" business models (a company integrates

offline and *online* presences, sometimes with the third extra touch, being able to offer sales support via telephone) or "*click-and-mortar*"" (traditional methods of negotiation, in conjunction with internet trading) transcended from industry and news outlets into academic discourse in supply chain and logistics, but seemed to be used interchangeably and lacked an established meaning or definition. Early publications often employed the term "*multichannel," which — unlike* "*Omnichannel*" — doesn't necessarily require any form of cross-channel integration. Gradually, starting in 2010, the vocabulary evolved into terms such as "*cross-channel*" or "*integrated multi-channel*". According to Piotrowicz and Cuthbertson (2014) the term "*omnichannel*" did not appear as a title or in the author's keywords "Lockie, 2014" until 2014. The first appearance of conceptual work on *Omnichannel fulfillment appeared in 2014. In the same year, the first publications that pursue* qualitative empirical methods appeared, such as case studies as observed in the work of Lockie (2014). From this period on, it generated a flow of manuscripts through a broader set of methods, with an emerging homogeneity in terminology.

To summarize, the analysis of research methodologies suggests that the integration of inventory and service channel resources is becoming an important objective of *Omnichannel service management* and that integrating it with *Dropshipping* can facilitate the logistics process bringing more profitability to the sector (Rigby, 2011; Beck and Rygl, 2015; Gao and Su, 2017; Austran de Morais et al., 2019; Mainards et al., 2020; Borba et al., 2020). The previous literature provides important developmental steps towards integration (Bendoly, 2004; Boyer and Hult, 2006; Agatz et al., 2008). Often, retailers have moved forward with *omnichannel initiatives* before the theoretical understanding of the implications. For example, *Manhattan and Associates (Manhattan Momentum*, 2017) suggest that broader-based department store retailers such as *Walmart* and *Macy's* are generally seeking higher service levels from their *Omnichannel fulfillment* management, while specialty retailers tend to seek better inventory utilization. Appropriate *omnichannel* strategies based on the retailer's attributes are not well understood. Industry-specific research was conducted necessitating widespread extension to retailers (De Koster, 2002; Boyer and Hult, 2006; Castillo et al., 2018). We believe that these findings are important because they provide a clear opportunity for the academic community to take more of the lead in terms of knowledge creation, proposing paths for the industry's search for channel integration to successfully implement the Dropshipping business model in the *Omnichannel era* in Brazil.

We clearly observe that nationally these models have been applied, favoring the development of companies and increasing their profitability. For this analysis, among the pioneering companies that have been using the main *e-commerce events* and that have already started adopting *Omnichannel* through *Dropshipping*, we highlight Magazine Luiza, followed by Mercado Libre and Americanas Table 3 (Melo et al., 2020).

Table 3

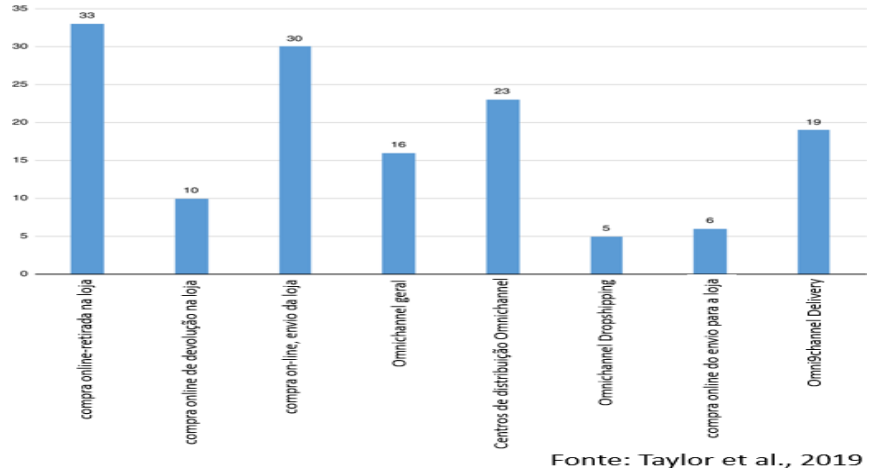
E-commerce events in Brazil

Enterprise	Code	Business Model	E-commerce history	Source
Magazine Luiza	MGLU3	brick-to-click	In 1992, MGLU3 had it's first withe-commerce trial. In 2016, MGLU3 launched its strategy called "Transformation Digital".	(MGLU3, 2018)
Amazon Brazil	AMNZ	brick-to-brick Click	In 2016, AMNZ entered Brazil selling all physical products (not just books).	(EXAM, 2017)
Market Free	MELI	brick-to-brick Click	In 1999, it was found in Argentina.	(MELI, 2018)
Walmart Brazil	WMT	brick-to-click	In December 2017, WMT launched a Marketplace. In May 2019, WMT gave up on e-commerce.	(Canaltech, 2019; Reuters, 2017)
Carrrefour Brazil	CRFB3	brick-to-click	In 2010, the CRFB launched *e-commerce*. In 2012, CRFB3 closed *e-commerce*. In 2017, CRFB3 launched its *online* platform	(E-Commerce News, 2018c)
B2W	BTOW3	brick-to-click	In 2006, the company emerged from the merger of Americanas.com with Submarino (a digital retail company).	(BTOW3, 2018)
American	LAME4	brick-to-click	In 1999, LAME4 began selling *online*.	(LAME4, 2018)

Taylor et al. (2019) shows the *fulfillment* strategies that appeared in at least 30 articles, being them online purchase-in-store pickup and online purchase, in-store shipping. This demonstrates that companies looking for *omnichannel opportunities* leverage their stores both for online order collection and to become local distribution centers for *online* orders. The popularity of *Omnichannel* distribution centers, comprising 23 articles, appears to align with the industry trend, moving away from the traditional model of separate fulfillment operations between in-store and *online* orders to allow inventory to travel flexibly between channels. The articles that discuss what the author describes as "Omnichannel overall" are mostly conceptual pieces that have only more recently provided formalized definitions of *Omnichannel* in the literature.

Figure 1

Articles by Omnichannel strategy obtained from the literature



Fonte: Taylor et al., 2019

4 CONCLUSION

It is concluded with this work that companies had to adjust their supply chain management and logistics processes through *Dropshipping*, from order fulfillment for each channel separately to channel integration on the *backend* (*Omnichannel fulfillment*). However, Brazil has not yet addressed the topic of *Dropshipping* in the *Omnichannel* era in the supply chain and product distribution logistics.

This systematic review on *Dropshipping* in the *Omnichannel era* demonstrated that the adaptation to this new system is mirrored by a growing flow of academic publications related to the subject abroad and that it should be further explored in Brazil in order to help other sectors of the commercial chain that venture into *e-commerce* nationally in order to increase their profitability.

There have been several approaches to making better decisions regarding individual *omnichannel* fulfillment strategies, particularly in analytics research. Several articles address individual *Omnichannel* service strategies and end up not considering *Dropshipping* in this strategy in distribution centers.

National researchers should take advantage of the fact that this area of activity and research is on the rise, as seen by the pronounced increase in publications in academic journals in the period from 2000 to 2020 on the topic of *Dropshipping* and *Omnichannel. As seen in this work, Dropshipping* is still being little explored in the *Omnichannel* era. Thus, there is a great deal of room for empirical, analytical and case study research to improve and optimize strategies involved in the supply chain, thinking about logistics that is increasingly

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