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ZIGZAG CONSUMERS AND THE CONVERGING ONLINE AND OFFLINE RETAIL CHANNELS

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Abstract: The Brazilian retail industry follows the global economic trend, with rapid online and omnichannel sales growth, leading to fiercer competition. This can be seen in the zigzag consumer pattern, with consumers going back and forth between brick-and-mortar and online retail during the shopping process. In this context, companies are embracing an omnichannel strategy that connects the various shopping alternatives during the sale. This article offers important evidence that support these conclusions and reinforce the finding that this structural change in retail demand and supply intensify the convergence of the online and offline channels.

Keywords: Antitrust, Retail, Zigzag Consumer, Omnichannel, Dynamic Markets.

Introduction

The recent literature on dynamic market settings, including many that use digital technologies, has been challenging the traditional tools for

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³ We acknowledge financial support from Amazon. The opinions in this paper are the authors' sole responsibility. Please send your comments to: silvia.almeida@lcaconsultores.com.br

defining relevant markets.¹ In these dynamic settings, static metrics and indicators such as market share and the Herfindahl-Hirschman Index (HHI) tend to generate inaccurate conclusions, as market size may be over- or underestimated (EVANS; SCHMALENSEE, 2013). To circumvent this issue, when setting the limits of a relevant market, antitrust authorities must pay heed to the competitive dynamics of a rapidly evolving marketplace, as well as to the potential for new services or products to alter relative consumer preferences (PETIT; SCHREPEL, 2020).² In this context, analysis of competitive drivers is key to enable understanding the specific competitive circumstances of a market in constant flux.

For the retail market specifically, the DEE Book³ states that traditional brick-and-mortar retail must be considered apart from digital commerce because of the limited Web-access conditions that a large portion of consumers experience (CADE, 2021). Note that, however, most of the cases that the book analyzes date from 2016 or earlier, and only two are more recent (from 2018 and 2019).⁴ As this paper will discuss, we find that the industry's recent dynamics tends to challenge this conclusion. The possible boundaries

¹ As Teece (2012) points out, dynamic competition takes place in a space where the entry of new firms occurs chiefly by means of elements of disruption and innovation, both from the strictly technological point of view and in terms of the strategies embraced.

² According to the authors:

The problems of static market definition are not mitigated by analysis of “potential competition”. The conventional assessment of potential competition determines whether firms in other markets or industries have incentives to repurpose assets to compete in close-to-perfect substitutes with established firms. In digital markets, firms often compete by supplying non-substitute products or highly imperfect ones. In particular, competitive pressure might be exercised by products relying on different technological infrastructures or supported by distinct business models. (...) Against this background, we propose that the new market definition notice considers the competitive pressure exerted by complementary and non-substitute products, services, and business models in digital markets. (PETIT; SCHREPEL, 2020, p.2)

³ A reference guide of the Brazilian antitrust watchdog's (CADE) Economic Studies Department (Departamento de Estudos Econômicos – DEE)

⁴ Concentration Acts 08700.002377/2019-36, 08700.002809/2018-28
08700.007768/2016-02, 08700.006753/2016-19, 08700.002066/2015-43,
08700.001483/2014-98 08012.008449/2011, 08012.004168/2010-47,
08012.010473/2009-34 and AC 08012.004857/2009-18.

between the online and offline channels are getting blurrier and blurrier, with important evidence of the two converging.

This paper has been subdivided into four sections to fulfill its purpose of showing how online and offline channels are converging.

The next section presents the Brazilian retail industry's recent evolution, changes in consumer behavior, and how retailers are modifying their business strategies by introducing the omnichannel business model. The section will also analyze the rise of "zigzag consumers" a term derived from the pattern of switching between the online and offline channels throughout the purchase process, choosing the channel that best suits the moment of purchase (RAMOS; MILAGRES; MACHADO, 2021).

Section 3 presents evidence of convergence between brick-and-mortar and digital retail as a reflection of changes in the retail industry's various competitive drivers – such as price and differentiation/quality.

Finally, the conclusion underscores the paper's principal findings and points out competitive benefits.

The retail market's recent evolution: zigzag consumers and retailer strategies

The online and offline channels converge as consumers alternate between them during the shopping process and retailers adopt omnichannel strategies to adapt to new market demands. This section of the paper addresses data on the evolution of retail, the representativeness of the online channel in total retail, the new pattern of consumer behavior, and the rise of the omnichannel strategy as a reflection and cause of the change in consumer behavior to understand how those processes effectively took place and their consequences for the retail sector.

One of the retail market's current trends is the rise of the omnichannel model, where retailers combine elements of both online and offline channels. Note that the shopping journey was already becoming less linear before the pandemic (i.e., until 2019) and consumers went back and forth between channels before making a purchase decision – using practices such as showrooming and webrooming,⁵ for example. As the paper discusses

⁵ Showrooming is an in-person visit to a brick-and-mortar store to search for products based on their features for later purchase on the Web at the best price and shortest delivery period. That is, the brick-and-mortar store serves as a showroom.

below, retailers are also increasingly using other strategies that combine online and offline channels, such as allowing consumers to buy online and pick up, return or exchange a product in-store.

Since 2020 and the pandemic, the multichannel journey intensified as consumers not only began to buy more online, but also began using online search tools with high frequency before finalizing a purchase online or offline (RAMOS; MILAGRES; MACHADO, 2021). Consumers are expected to have become used to this behavior and incorporated it into their routines and, even with the lifting of quarantine and social distancing rules, they are not expected to go back to their pre-pandemic behavior but continue instead to rely on the different channels during the shopping process to identify the best offering and greatest convenience. This behavior is becoming so common that actors going back and forth between the online and offline channels have been termed “zigzag consumers” (Ibid.), and do not follow a single-channel pattern, that is, they do not buy everything either online or offline, and make the best choice for each shopping opportunity, depending on conditions and convenience.

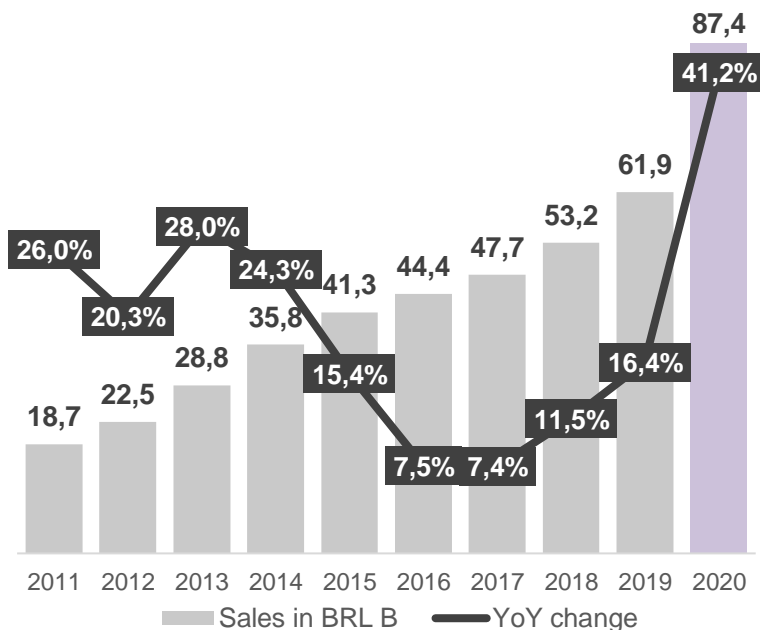
The rise of zigzag consumers goes hand-in-hand with the ascent of online retail. Data from the 43rd E-Bit | Nielsen Webshoppers survey (2020) indicate that, from 2011 to 2020, the online retail market increased from BRL 18.7 billion to BRL 87.4 billion in sales, indicating the segment’s expansion in the past decade (Figure 1, below), and recently leveraged by the pandemic.

Figure 1 also shows how the pandemic added momentum to consumer behavior changes, increasing the representativeness and relevance of the retail industry’s digital segment. Sales growth in 2020 was 41.2%. Although online retail’s share of overall retail is relatively small (10%), it has increased in recent years, reaching 41.2% growth in 2020.⁶

Webrooming is the search for products on a virtual space, comparing product features and prices on a Website, while retaining the ability to purchase the item on other platforms, or even from brick-and-mortar stores.

⁶ ALVARENGA, D., **Com pandemia, comércio eletrônico tem salto em 2020 e dobra participação no varejo brasileiro**. G1. São Paulo. February 26, 2021. Available at: <https://g1.globo.com/economia/noticia/2021/02/26/com-pandemia-comercio-eletronico-tem-salto-em-2020-e-dobra-participacao-no-varejo-brasileiro.ghtml>. Last viewed on: August 26, 2021

Figure 1 – Online retail evolution in Brazil (2011-2020)



Source: Ebit/Nielsen Webshoppers 43

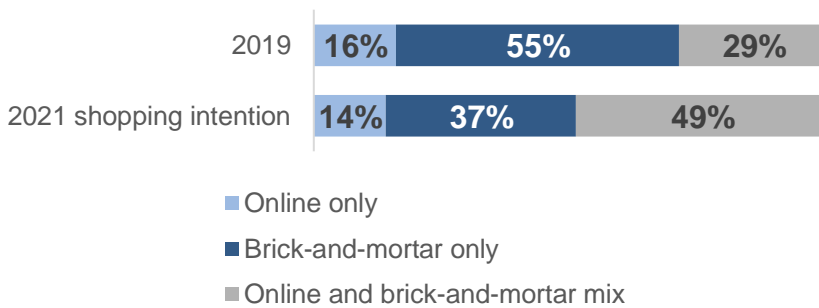
In the same vein, the Brazilian E-Commerce Association (ABComm) estimated that, in 2020 alone, more than 20 million Brazilians shopped online for the first time, and approximately 150 thousand new stores went digital (ALVARENGA, 2021). Furthermore, consumers that already shopped online intensified their use of the channel. A Kantar and Google study⁷ indicates that one-third of Brazilians purchased at least one new product category online during the pandemic.

The online segment's growth affects the dynamics of the offline channel and of retail in general. This is because consumers who previously were restricted to shopping in brick-and-mortar stores do not usually migrate completely to the digital channel, but rather merge both channels through zigzag behavior and because retailers invest in delivering an improved omnichannel service. A 2020 Social Miner study, conducted in partnership

⁷ Google/Kantar TNS, global, Shopping Preferences Study, U.S., U.K., Brazil, India. October 2018.

with Opinion Box, indicates that the mixed use of the online and offline channels is rising. As seen in Figure 2, below, approximately 49% of consumers intend to consistently switch between online and offline shopping in 2021, while the relevance of online-only purchases remains steady or even decreases. Thus, the growth of online affects the entire retail because the consumer uses both channels together, taking advantage of online and offline facilities at the same time.

Figure 2 – Channel usage mix (2019 vs. 2021)



Source: Social Miner and Opinion Box.

In the light of the evidence that consumers will increasingly choose to mix and match across retail channels, a large portion of traditional retailers are adopting omnichannel strategies, migrating into the digital space while continuing to leverage their existing brick-and-mortar structure. Similarly, native e-commerce players are beginning to use a brick-and-mortar presence to reinforce their online structures (ZHANG ET. AL., 2017). The latter is illustrated by Amazon, which is opening brick-and-mortar stores in the US, and by Mercado Livre, which has recently begun to expand its physical presence in Brazil by opening branches (partnership with storeowners) where goods can be physically picked up (Ibid.). Another example in Brazil is Evino, Latin America's largest wine e-commerce. The company announced this year that it would begin to embrace offline-channel sales strategies that will include restaurants, hotels and supermarkets. At supermarkets, Evino shelves will be tagged with the brand's logo (DOLIVEIRA, 2021).

A large portion of the increased share of online retail in consumer channel usage mix has to do with the rising adoption of the marketplace model, which enabled online retail in Brazil to expand based on the consolidation of more robust logistics structures for sellers and the ensuing offer of a wider range of products. ABCComm data indicates that the

marketplace-related share of revenues in the online retail segment has increased from 35% in 2019 to 51% in 2020 (PINHO, 2021).

The adoption of the marketplace model is a trend that has been developing over the course of the past decade and has not been limited to retailers focusing on general offerings of products for various markets. The model has also been quite significant for the expansion of players focusing on niches like sports (e.g.: Netshoes), furniture (e.g.: Mobly), interior design (e.g.: Westwing), and fashion/clothing (e.g.: Amaro), increasing the competitive pressure on more established, larger retailers, aside from giving sellers of all sizes access to consumers, as discussed before. Figure 3 shows the model's adoption by several firms.

Figure 3 – Online retailers’ entry into the online market and adoption of the marketplace model



Prepared by the authors.

This competitive dynamics may be illustrated with one of the most relevant segments of traditional retail in Brazil – the supermarket segment. Adoption of the marketplace model by meal delivery apps like iFood, Rappi, and Cornershop (Uber) allowed them to enter the grocery deliveries segment based on their existing logistics structure. This takes place simultaneously with the expansion of supermarket chains' direct e-commerce services and the entry of large retailers like Mercado Livre, Amazon, Americanas¹, and Magazine Luiza into sales of everyday items. This shows the segment's intense competitive dynamics, with competitive pressures arising from players in correlated markets.

We find that, as the retail industry evolves and new technologies are introduced, changes occur in the behavior of consumers, who now switch between online and brick-and-mortar shopping. This is known as multihoming, which is present in the retail industry.² This pattern of consumer substitution drives retail competition, which is intensified by the growth of online retail. (BRYNJOLFSSON, HU, RAHMAN, 2013).

Zigzag behavior on the part of consumers has been encouraging retailers to embrace omnichannel strategies so that they may offer consumers a wider range of shopping options and greater convenience. These changes, as the next section will show, have great impact on the dynamics of and interaction between the digital and brick-and-mortar segments.

Convergence of the online and offline channels

This section covers topics that show the convergence between online and offline retail channels. To this end, it presents data on price convergence between channels, investments in logistics to reduce costs and delivery time, the impact of the inclusion of the omnichannel and investments in the quality of services through the integration of the physical with the digital, and data showing that consumers are increasingly moving between channels.

¹ In support of this dynamics, in August 2021, Americanas acquired grocery store chain Natural da Terra, gaining ground in a segment deemed strategic for the supermarket retail segment (REUTERS, 2021).

² AKMAN (2021), based on 11,151 users in 10 countries, indicates the presence of multihoming across digital platforms in Brazil and that a majority of users associate it with increased personal satisfaction and improved probability of consumption.

As discussed above, consumers have been adopting zigzag behavior and retailers are converging on omnichannel business models. As a result, clearly defining competitive boundaries becomes more challenging as the two channels converge. As we will discuss ahead, the dynamics involving the main competitive drivers supports the convergence of the online and offline channels.

According to the previously mentioned Kantar and Google survey (done in October 2018), the elements with the greatest influence on Brazilian consumers as they shop online are price, logistics (shipping), service quality, and variety for durable goods, (see table 1) non-durable goods and everyday items.³

Table 1 – What factors influence Brazilian consumers when shopping online for durable goods?

Most influential	Least influential
Lowest product price	Previous purchase at the same store
Free shipping	Previously purchased brand
Distress, discount or promotional sale	Delivery date and time estimate
Non-credit card payments	Ability to chat with seller
Warranty availability	Friends'/relatives' opinion
Fast delivery	Local brand/company
Product specifications (e.g.: battery life)	Loyalty rewards program
Price comparison among several stores	How-to video
High-scoring consumer service	Easy sharing on social media for opinions
Customer reviews of the article	Social-media popularity
Customer reviews of the store	

³ n=1500 consumers aged 18-64 who made a purchase in the past 6 months in each country. Durable goods = electronics, appliances, sporting equipment, toys, tools and car parts. Non-durable goods = clothing, footwear, interior design, bed linens, towels, jewelry and watches. Everyday items = health and beauty products, packaged food, pet products, cleaning products and office supplies. Source: https://www.thinkwithgoogle.com/feature/online-shopping-trends/values/br/hard-goods?lang=pt_BR

Most influential	Least influential
Simple returns	
Product availability	

Note Factors listed by decreasing importance. Thus, product price is more important than free shipping and so forth.

Source: *Think with Google*. Prepared by the authors

In retail, as new technologies are introduced and as new business models emerge and online channels (and marketplaces in particular) grow, comparing product prices becomes simpler for consumers. Even before the advent of marketplaces, e-commerce already had price comparison Websites that expedited product searches by comparing the prices of different retailers and including product descriptions and reviews. Marketplaces further facilitate the process by enabling comparing the same product on offer from different sellers on a single marketplace.

Cavallo (2017) shows an important interaction between online and offline retail prices. To this end, the author tracks the prices of 56 large retailers operating both brick-and-mortar stores and the online segment in 10 countries from 2014 to 2016. The study found that online and offline prices were identical in 72% of cases analyzed.

Based on the data provided by Cavallo (2017) at the Harvard Dataverse Website, we were able to replicate the international exercise for the specific case of Brazil. We compared the percentage difference between retailers' online and offline prices in May 2015 and March 2016.⁴ The data was calculated based on the following formula:

$$Difference = \frac{(Price_{online} - Price_{offline})}{Price_{offline}} \times 100$$

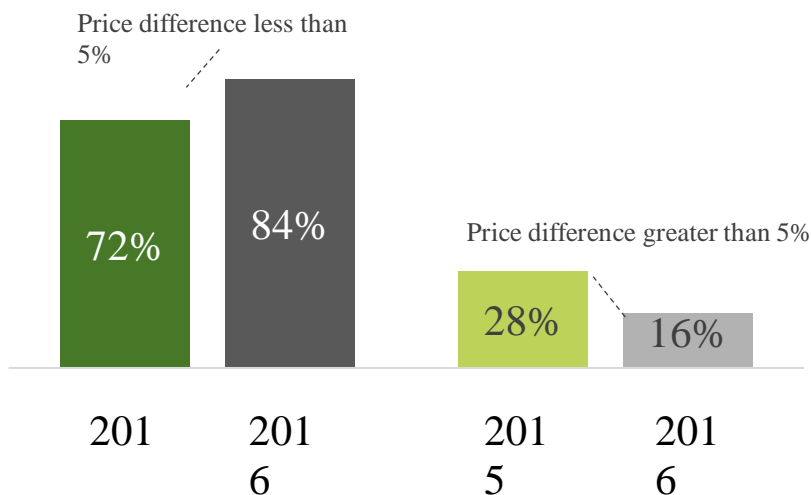
A positive difference means that the online price of a certain product is higher than at brick-and-mortar stores and *vice versa*.

Figure 4, below, presents the results of this exercise succinctly by dividing the difference in product prices into 2 categories for price differences

⁴ Due to the high dependence on several factors, such as parcel weight, place of delivery and parcel size, the author chose not to include shipping in online product prices.

above and below 5%. The data shows that 72% of the products analyzed in June 2015 had a difference of under 5% between online and offline prices and 28% had a price difference higher than 5%. In March 2016, the products with a price difference between channels smaller than 5% increased to 84% of products (only 16% had a difference above 5%), indicating the channels' price convergence in Brazil as in the other countries from the Cavallo (2017) study.

Figure 4 - Price difference between online and offline channels



Prepared by the authors.

In addition to price, logistics is also an important element of the purchasing process for both channels. It is so important in retail that, in many cases, immediate access to a product is a decisive factor leading consumers to choose to make their purchases at a brick-and-mortar store. Therefore, as seen in Table 1, above, shipping time and cost are among the most relevant characteristics of online consumer purchase decisions, because consumers always have the substitute option of a brick-and-mortar store where they can have immediate access to the desired product.

The evolution of logistics models is directly connected with the growth of the retail industry itself. For brick-and-mortar, as consumers and orders increase in numbers, retailers can better plan their logistics structures, exploring economics of scale, optimizing routes, and operating distribution centers with reduced idleness and improved geographic allocation. To compete with brick-and-mortar alternatives, retailers with a presence in the

online channel have invested to increase logistics efficiency, with reduced shipping costs and delivery times.

Additionally, the tendency toward the omnichannel model has enabled companies to even further innovate and organize their delivery centers. Streamlined delivery routes, reduced shipping costs and shorter delivery times are examples of improvements led by companies that are adopting this business model. Consequently, the online and offline channels are growing closer together. For example, for non-durable goods and everyday items, efficient logistics with low or near-zero delivery cost on the online channel will tend to capture more sales from the offline channel. The idea is that the faster the delivery, and the lower the impact of shipping cost on a product's end price, the more attractive a retailer will become from the consumer's point of view and the greater the online vs. offline competition (DE SOUZA FRANCO, 2018). Note, also, the introduction of the ability for consumers to physically pick up online purchases from nearby locations, which increases consumer options and magnifies the interconnectedness of brick-and-mortar and digital retail.

The relevance of logistics as a competitive driver can be seen in the focus on this strategy and on the investments made by e-commerce companies in Brazil and around the world. Mercado Livre, for example, announced in August 2021 the opening of two new distribution centers using the fulfillment model, one crossdocking center, and 26 last-mile centers (FONSECA, 2021). All told, the company will have 18 crossdocking and 100 last-mile distribution centers in Brazil. While announcing these investments, the Mercado Livre executive emphasized that the main goal is to "improve consumer experience" (Ibid.). Similar investment can be seen in other companies in the industry. Magazine Luiza, for example, acquired the Sode ultra-fast delivery platform in hopes of increasing the number of cities where it can make same-day deliveries, and even deliver in a few hours (REUTERS, 2021). Another example is B2W's acquisition of Courri and Pedala (MATTOS, 2019).

Another element that fosters the omnichannel model's growth is the perceived quality of the shopping experience. For example, when a purchased item must be returned, difficulty making the return when it has been purchased online may be perceived as lower quality service. However, with the introduction of the omnichannel model, companies have facilitated the return process – enabling online purchase and product exchange at physical stores – , increasing perceived service quality during the purchase and providing consumers with an experience closer to that at a brick-and-mortar store.

A 2020 European Commission study on antitrust and e-commerce showed that, as consumers adapted to migrating between channels, mixing online and offline searches and shopping, brick-and-mortar stores began to incorporate new logistics tools and online searches to accommodate consumer shopping patterns.⁵

Furthermore, the 13th annual consumer outlook survey by Zebra Technologies⁶ shows that brick-and-mortar retail is also introducing consumer service innovations, such as self-checkouts, moneyless payment methods, and technologies for staff to provide more personalized service – such as computers and tablets enabling price and stock checks. The outcome of these changes is increased service quality provided at brick-and-mortar stores and, as the previous sections have shown, increased physical and digital price convergence.

In sum, the context of retail innovations together with consumer zigzag does show increasing convergence of the online and offline channels, given the increased proximity and interconnectedness of the main competitive drivers: (i) converging prices on the two channels; (ii) adoption of the omnichannel model by retailers, with differentiation strategies and improved shopping experience; (iii) reduced shipping costs and delivery time.

⁵ *First, price transparency increased with online trade, since consumers are able to instantaneously obtain and compare product and price information online and to switch swiftly from one channel to another (i.e. from online to offline and vice versa). (...) Second, the ability to compare the prices of goods and services across online retailers leads to increased price competition affecting both online and offline sales. While such increased price competition has beneficial effects for consumers, it may affect competition on parameters other than price, such as quality, brand and innovation. Third, increased price transparency allows businesses to monitor more easily the prices at which their goods or services are distributed and the prices of competitors.* European Commission. **Commission Staff Working Document Evaluation Of The Vertical Block Exemption Regulation.** Brussels, p.31, 2020,.

⁶ ZEBRA. **A experiência essencial do consumidor: segurança, rapidez e conveniência:** Annual survey of Zebra consumers, 2021. Available at: <https://www.mobiletime.com.br/wp-content/uploads/2020/12/retail-vision-study-2021-shopper-study-pt-br.pdf>>. Viewed on: September 23, 2021.

Conclusion

As this paper shows, Brazilian retail has been undergoing many changes in recent years. Consumers began to switch more frequently between the online and offline channels while shopping, using digital tools to optimize their choices, making comparisons from price to the quality of the product itself, irrespective of the channel on which they place actual orders. Comparing brick-and-mortar store prices with online ones, or trying products at brick-and-mortar stores before making a purchase online has become commonplace, characterizing consumer zigzagging. While this feature could already be seen for durable consumer goods, it can now be observed in other retail segments.

The rapid growth of the digital channel's importance for retail, as for other industries, intensified with the pandemic and restrictive social distancing measures. And, in line with consumer behavior changes, players with a relevant presence on the offline channel have invested in logistics and consumer service, thereby also becoming more relevant on the online channel.

Therefore, the brick-and-mortar and digital channels are growing closer, boosting omnichannel strategies, keeping up with consumer multihoming not only across platforms, but also between channels. This dynamics may foster increased industry efficiency. As channels interconnect, alternative forms of cost optimization may be explored,⁷ enabling reduced expenditures and more aggressive pricing policies. At the same time, benefits exist in connection with product searches, price comparisons, and other attributes during the shopping process. In addition, the comparison takes place involving a wider range of sellers and products. That is, the digital channel and omnichannel strategies increase consumer choices and favor competition on the various dimensions, with the price variable retaining its relevance for consumer decisions.

Thus, on the sides of both supply and demand the physical and digital retail channels are increasingly connected, challenging the understanding that the online and offline segments stand as different relevant markets for competitive analysis purposes.

⁷ Such as, for example reduced need for inventories at central locations, with these serving as showrooms, but with products delivered to the consumer's door, aside from other economies of scale.

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