

Examining the Roots of Logistical Failures: Four Illustrations From the World of Retailing

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The world of retailing has undergone deep changes over the last twenty years in terms of the organization of marketing channels. Two models are today characterized by a strong dynamism: the brick & click model and the pure player model. An important literature focuses on the logistical dimensions associated with these two models, indicating that the performance of the physical distribution service is the key to success. This article takes a different point of view by exploring logistical failures from four well-known illustrations in the retailing world that could help to better understand the supply chain issues for brick & click retailers and pure player retailers.

Keywords: brick & click model, click & collect model, Covid-19, failure, logistics, marketing channels, pure player model, retailing

INTRODUCTION

For the most important retailers in the world, it has been quite traditional for the last two decades to highlight their successes, especially in the management of logistical activities (Ganesan *et al.*, 2009; Anand & Grover, 2015; Nguyen, 2017; Lagorio & Pinto, 2021). Textbooks for students are full of success stories that glorify *avant-garde* approaches initiated by this or that international retailer, or the successful implementation of innovative tools, such as RFID, blockchain or the process of hub-and-spokes platforming. It would be boring to list here such success stories, which are certainly real but do not exclude, on the contrary, the simultaneous existence of multiple dramatic failures, some of which have led companies to the brink of the abyss. We must admit that both researchers in the field and logisticians in companies love trains that arrive on time, in other words logistics that “work”, or even logistics that excel in order to offer a remarkable cost-relief-reactivity trade-off to customers. This is all the more unfortunate as learning from failures, or simply from the difficulties encountered, allows a corporate strategy to evolve in the next years.

It would therefore be clumsy to deny the fact that the consequence of failures is fatal for many retailers, in the short and medium term, in terms of loss of market share or erosion of their image. Even if Filser & Paché (2006) have argued in the past that a deterioration in physical distribution service¹ could be a source of competitive advantage for a low-cost retailer, such an option refers to a singular context of “low price dramatization” where logistical failure is the astute and efficient component of a winning strategy. This is the case, for example, in France with Brico Dépôt in the DIY sector, which stages one-off arrivals without worrying about the level of physical distribution service offered to its customers (Rouquet & Paché, 2017). In the present contribution, the argument is completely different. Through archetypal examples, it aims to

show that logistics, which top managers would have liked to achieve excellence immediately, has experienced profound dysfunctions, at the very moment when consumers were ready to change their purchasing behavior in depth. This has led to dramatic situations, including the bankruptcy of some companies, like Toys ‘R’ Us.

It is essential to learn from failures because major innovations are most often the result of a long process, punctuated by experimentation and mistakes. Insofar as failure is likely, managers should not be in denial, but on the contrary, it is in their interest to train themselves to fail in order to know how to overcome it and give the company the opportunity to progress. From this point of view, identifying the symptoms of failure is a key phase, using previously defined metrics, such as a sharp rise in costs, a drop in sales or an explosion in customer complaints, associated with a define-measure-analyze-improve-control model (Limsirivallop *et al.*, 2016). These indicators are warning elements that allow to react, at least if denial is not a dominant behavior in the company. This article is particularly interested in logistical failures in a deeply disrupted sector: retailing. With the rapid growth of online sales over the last years, the traditional brick & mortar model is threatened with a progressive collapse, in favor of Internet-based models. These models are based on a radically new logistical organization that is not easy to learn. Through four illustrations, it is possible to identify historical logistical failures for which a retroactive analysis must prevent their repetition. The methodology chosen relies on the use of secondary data from the professional press; this approach is also applied by many researchers in social science (Dionne & Fleuret, 2016).

BRICK & CLICK RETAILERS FAIL

The rise of brick & click, sometimes associated with click & collect, is now well known and widely studied in the academic literature (Gulati & Galino, 2000; Steinfield *et al.*, 2005; Doong *et al.*, 2011; Jones & Livingstone, 2015; Marmol & Fernández Alarcón, 2019). There are countless brick & mortar retailers that have understood how essential an Internet presence is to complement their physical stores, sometimes reduced to being involved only in showrooming (Gensler *et al.*, 2017; Flavián *et al.*, 2020). Brick & click model relies on a portfolio of marketing channels with the objective of promoting commercial activity, mixing for this purpose the advantages of online and offline, especially in terms of logistics. During the Covid-19 crisis, numerous TV reports in Europe were devoted to independent bookstores and pharmacies that implemented click & collect services so that customers could pick up orders placed online or by phone in store (Hussain & Dawoud, 2021) (see Figure 1). We could also talk about small restaurant owners who have tried to survive by organizing the collection of meals prepared on site and ordered via a mobile application (Paché, 2021). A logistical mechanism that is rather well established today, but which posed enormous problems for Toys ‘R’ Us more than twenty years ago.

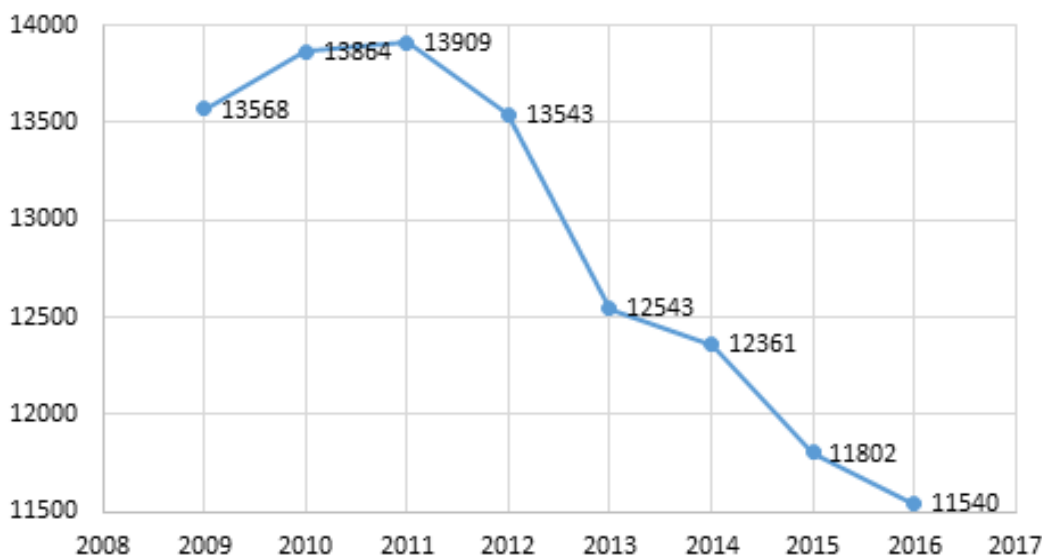
FIGURE 1 THE CLICK & COLLECT MODEL TO THE RESCUE OF FRENCH SMALL STORES

The click & collect shopping was introduced in France during the Covid-19 crisis to prevent that from happening by allowing customers to purchase goods through Internet or by phone and pick up the package in small stores. Bookstores and flower stores have jumped on the trend, and others are following suit. In October 2020, the French government has urged all stores to set up click & collect services to prevent their incomes from disappearing during the second lockdown, but also to offer alternatives to online store giants such as Amazon, which made big profits during the first lockdown of March-May 2020 and could benefit from the current lockdown’s proximity to Christmas. Online platforms such as Sessile can find a flower store nearby, while Epicery lists a whole set of local businesses – cheese stores, butchers, fruit & vegetables stores – where it is possible to click & collect. The click & collect shopping does not strictly require a website. A business may use the concept in the manner it prefers, through a website or via distributed forms (similar to takeout menus). However, a website would make it easier to promote the business’ delivery services and likely help the business boost sales.

Source: Adapted from The Local, November 2, 2020.

For the famous toy retailer, 1999 can be considered its *annus horribilis*, as online shopping began to take off. The retailer’s online sales department advertised heavily throughout the fall of 1999, promising customers Christmas delivery on all orders placed by December 10. The Toys ‘R’ Us website was overwhelmed with tens of thousands of orders, and although most of the toy inventory was in place in warehouses, the company could not pick, pack and ship all the items ordered online by the December 24 deadline. On December 22, an apology email was sent to customers, but the damage was done: the media went wild about the failure to deliver, and the brand’s image was devastated for years to come. In a brutal way, Toys ‘R’ Us realizes that the logistics associated with online are very different from the logistics associated with offline, which have been perfectly managed for decades. The failure of the retailer is now studied in all business schools, and even if the answer to the question is impossible, one can wonder if the “descent into hell” of Toys ‘R’ Us, declared bankrupt in 2018 after a continuous fall of its turnover (see Figure 2) (Lee & Raziff, 2021), and the maintenance of a significant debt, did not start in those days of 1999.

FIGURE 2
REVENUE OF TOYS ‘R’ US (IN USD MILLION)



Source: Televisory Financial Market Data (2018).

Some observers point out that this failure, which can be described as historic, is a long way from the 2020s, and that significant progress has been made in terms of supply systems, initiated and implemented by brick & click retailers, particularly with the support of increasingly competent logistics service providers, strongly involved or years in the development of innovative services (Su *et al.*, 2014). This is undeniable, even if history tends to repeat itself, indicating that logistical performance remains at the heart of the business model. For example, in December 2011, Best Buy, the powerful American multinational consumer electronics retailer, acknowledged that due to massive demand during November and December for certain “hot products” on the company’s website, shipping delays of several weeks were inevitable. In addition, the reimbursement of customers who did not want to keep their order was blocked due to recurring computer problems. Customers were so angry that the media seized on the logistical failure, even writing nastily “How Best Buy ‘the grinch’ stole Christmas”. No doubt the 2011 debacle was Amazon’s lucky day, and it will not be the last for brick & click retailers, as the Covid-19 crisis may have demonstrated in 2020 (Semuels, 2020).

PURE PLAYER RETAILERS FAIL

The notion of pure player is now used in a consensual way to describe retailers who sell their products and services only on the Internet, to the exclusion of any other marketing channel, and who therefore implement a specific organization of the physical distribution service (Xing *et al.*, 2010). At the beginning, Amazon was presented as the archetype, even the “Weberian ideal type”, of the pure player, with no sales outlet, before changing its strategy at the end of the 2010s. By extension, it is sometimes said that the term “pure player” can be used to describe any company that operates only on the Internet, and according to this broad approach, Facebook (Meta), Mediapart or Loopsider would be considered as such. We will only analyze retailers whose original and exclusive playground was the Internet, even if some of them later switched to the brick & click model². Here again, logistical failures have had disastrous effects in some extreme situations, as confirmed by the WebVan and Asos cases.

Over-Investment Syndrome

In 2001, WebVan, a California-based online grocery start-up, went down in the turbulent history of retailing as one of the most resounding failures in e-commerce. Launched with the promise of cheap groceries delivered to your door within 30 minutes of placing an online order, WebVan was supposed to completely redefine the way U.S. consumers purchased this type of convenience goods. The failure of the start-up in the midst of the dot-com bubble naturally challenged many observers (Lunce *et al.*, 2006; Aspray *et al.*, 2013). Indeed, when WebVan launched in 1999, it attracted huge amounts of capital from companies like Goldman Sachs and Yahoo. In order to capitalize on growth opportunities, WebVan deploys an aggressive strategy and spends several million dollars in building a powerful supply chain to cover the entire North American territory as quickly as possible (Hays *et al.*, 2005), in reference to an assumed policy of vertical integration.

Shareholders quickly become concerned when they learn of the heavy (over-)investment in mega-distribution centers equipped with the best automated technology. For example, sophisticated algorithms are being developed to steer products along five miles of conveyor belts in the distribution center in Oakland, California. After the products are routed to automated carousels (see Figure 3), the entire process is repeated until the order is completed and placed on the shipping dock. Additional real-time inventory management algorithms ensure that if a customer orders a carton of milk from the website, it is available in stock. Other algorithms are responsible for directing delivery vehicles on routes while minimizing driving time. Finally, a software integrated to the drivers’ Palm Pilots processes in real time the delivery confirmations and the possible returns.

We must admit that the shareholders’ concerns are legitimate since WebVan finally took off like a rocket, only to crash a few months later. The main reason? By massively overestimating the demand, WebVan developed a sophisticated and voluminous supply chain that far exceeded its real needs. For example, with over 35,000 square meters, each distribution center is capable of handling 8,000 orders per day and holding up to 50,000 consumer sales units (CSUs). In reality, each distribution center stores only about 20,000 CSUs and receives just over 2,000 orders per day. Because the logistical facilities are more than double what WebVan actually needs, they cost the company several hundred million in capital costs each year. To make matters worse, WebVan takes a standardized approach to each new U.S. state the company enters, regardless of differences in shopping behavior (faster or slower acceptance of online sales) and urban density, forgetting that Wyoming is not California, and thus multiplying the overcapacity problem until the retailer finally has no choice but to file for bankruptcy.

FIGURE 3
EXAMPLE OF CAROUSEL IN A WEBVAN AUTOMATED DISTRIBUTION CENTER



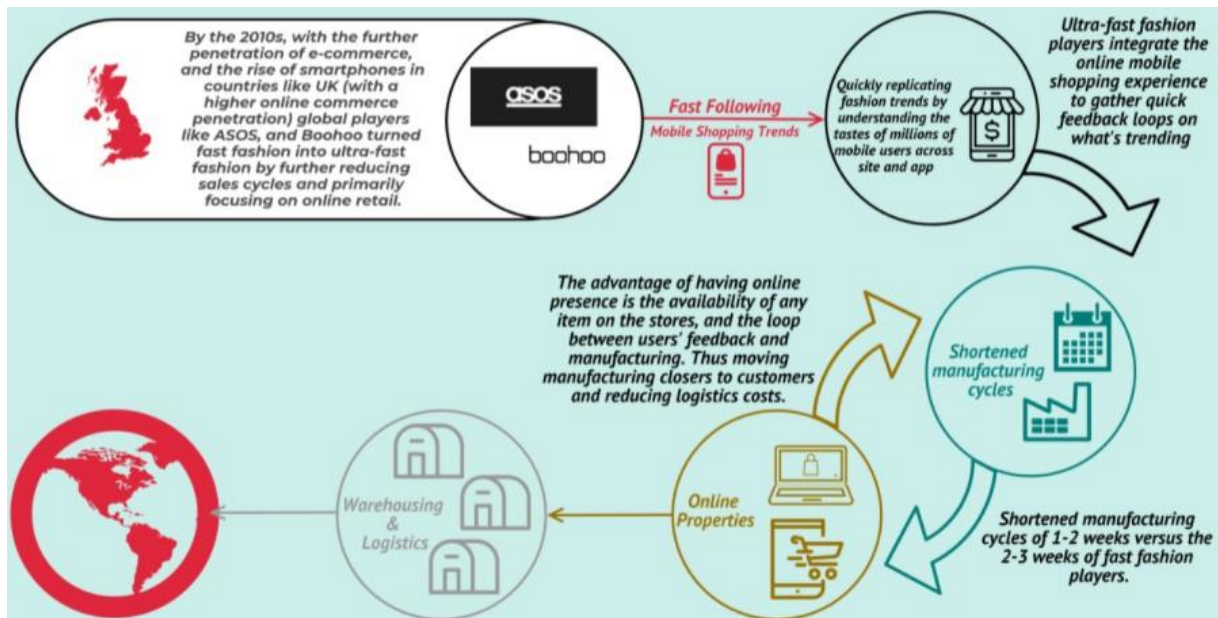
Source: Hays *et al.* (2005).

Uncontrolled Growth Syndrome

At the end of July 2019, the managers of Asos, a pure player retailer created in 2000 in London, and specialized in the online sale of clothing and cosmetics aimed at a young clientele, tell investors that a major problem related to the information system has cost the company tens of millions: the failure of the inventory management software designed to record the entry and exit of products prevents the updating of their availability on the website. This was a very serious failure that directly threatened the level of service provided to customers. Yet, Asos is a very “trendy” company, selling 85,000 items in total, growing steadily every week, and with a high level of customer attachment (Ashman & Vazquez, 2012). One of the keys to the business model is the presence of shortened manufacturing cycles, as shown in Figure 4, linked to an ultra-fast fashion supply chain management (Camargo *et al.*, 2020). For several weeks, the inventory management software is unable to handle the weekly new items listed on the website, committed restocking and customer returns. As a result, top management recognized that it was completely unprepared for the complexities of planning logistical operations in a fast-growing market.

Combined with problems related to computer exchanges with 175 suppliers worldwide, visibility of available inventory, as reported on the company’s website, is severely limited for customers located in Germany, France and the U.S. This logistical failure stems from the fact that the products entering the inventory, and their correct assignment in the database, is not generally considered a key performance metric by Asos, but also by most online retailers. Software solutions that allow disparate data, such as marketing data and supply chain data, to connect in real time are absolutely essential, at the risk of making it impossible for the website (front office) and the warehouses (back office) to be perfectly interfaced. This is the price to pay for the benefits of warehouse automation, as other major players such as JD.com and Alibaba are investing heavily in such automation to enable them to sort and prepare customer orders more quickly (see Figure 5).

FIGURE 4
THE ASOS BUSINESS MODEL



Source: Retrieved from <https://fourweekmba.com/asos-business-model/> (Accessed July 6, 2021).

FIGURE 5
ALIBABA AND JD.COM: THE TRIUMPH OF AUTOMATED WAREHOUSES

In China, Alibaba has equipped its Huiyang warehouse with 60 automated guided vehicles (AGVs). These autonomous robots circulate on the ground, covered with QR codes, which allow them to identify their position to route the shelves containing the items to the order pickers. Each robot can carry up to 500 kg and has an autonomy of 4 to 5 hours for a 5-minute charge. Alibaba has reduced human labor in the Huiyang warehouse by 70%. Alibaba's competitor, JD.com, is pursuing an identical strategy. Its Shanghai warehouse is fully automated, from receiving items to shipping orders. An articulated arm depalletizes, scans the boxes and places them in standard bins. These bins are transported on conveyors and stored by AGVs in stacker cranes. Picking is also automated, as is the packaging and labeling of the packages. Robots place individual packages on AGVs, which place them in bags on a lower level. The bags are transported by other autonomous robots to the shipping dock, before being loaded into trucks.

Source: Retrieved from <https://fourweekmba.com/asos-business-model/> (Accessed July 6, 2021).

By leveraging its ever-expanding network of warehouses and investing in automation technologies, Asos aims to expand its logistical facilities to speed up the shipment of every item sold and offer its customers a simplified experience, including (free) returns. However, the problem encountered during the summer of 2019 highlights a major constraint: for a pure player retailer, optimized flow management requires knowledge of the real amount of its stocks, at the risk of confronting the customer with a shortage that will be all the more unpleasant if a promise of delivery in a few hours has been made. Moreover, Grant (2014) underlines that *time compression* is now one of the major challenges of supply chain performance. Without such visibility, it is a mad dash without a dashboard or a “cockpit” with the supply chain information needed to maintain a high level of service and responsiveness. This is a trivial observation, but one that is sometimes underestimated. The success of a pure player retailer depends on the implementation of an efficient alert system for stock resources that can cope with online demand, a demand for which the display of the product on a website is only coherent if its delivery does not experience any delay or error.

DISCUSSION AND CONCLUSION

The health crisis that started in 2020 has led to an increase, if not a real boom in online sales, with the exception of tourism and long-distance travel³. However, the most interesting thing to note is the acceleration of the “boundaries blurring” between online and offline sales. Consumers have learned to adapt their purchasing behavior to the conditions imposed on them, for example, limited accessibility to physical stores. They have not hesitated to switch from one marketing channel to another, depending on the opportunities for access to products and the delivery conditions granted. More broadly, consumers now have a better understanding of the interconnections between online and offline, arbitrating according to opportunistic criteria (price, choice, proximity, delivery times and locations, etc.). With Covid-19, consumers have experienced all the benefits of the combination of click *and* mortar (especially with the development of click & collect system) (see Figure 6), but also the strength of click alone through the pure player model. The transformation of the retailing world was already well underway, but in the space of a few months it has undergone an evolution that is undoubtedly irreversible. Under these conditions, given the importance of physical distribution service in consumer satisfaction (Xing & Grant, 2006; Murfield *et al.*, 2017), it is impossible to ignore the monitoring of supply chains associated with the click & mortar model and the pure player model.

FIGURE 6 WELCOME TO THE CLICK & COLLECT CONSUMER

The Covid-19 pandemic acted as a forcing function for consumers – especially among the older cohorts – to try out new shopping formats and obtain essential goods during lockdown periods. Click & collect is not a new service and is in fact well established in the U.K. and continental Europe, but it became an essential channel offering for retailers during the pandemic. Initially, its adoption was accelerated due to safety concerns, but it has evolved into a convenience factor for many shoppers. With the advantages of being faster and cheaper than delivery service, click & collect is overtaking in-store shopping as well as online delivery shopping. This favors retailers with a local physical presence. In the U.K., improved online capability and click & collect purchases helped to lessen the impact of declining non-essential retail sales during the second lockdown when compared to the first one, and food retailers suggested that click & collect orders had boosted their online sales.

Source: Deloitte Global Report. Retrieved from <https://www2.deloitte.com/global/en/pages/consumer-business/articles/global-retail-digitized-route-likely-to-continue.html> (Accessed December 29, 2021).

What can we learn from the four examples presented in this article, which provide a quick look at the reality of some logistical failures? Although the contexts and issues are different, and even if few works are focused on “performance measurement systems for enhancing the design and operational efficiencies of supply chains” (Naslund & Williamson, 2010, p. 22), it is possible to highlight one key element: more than ever, operational logistics planning is essential to lead the action and avoid failures with more or less serious consequences. According to Tixier *et al.* (1983), operational logistics planning has four complementary dimensions: (1) medium- and short-term demand forecasting, associated with continuous monitoring of orders placed; (2) scheduling of logistical operations, with the objective of optimal use of resources so as to satisfy demand; (3) efficient and effective programming of human and material resource requirements; and (4) performance control in the execution of logistical operations themselves. The four examples discussed explicitly indicate the presence of failures on at least one of the four dimensions: failures on dimension (1) for Toys ‘R’ Us and Asos; on dimension (2) for Best Buy; on dimension (3) for WebVan; and probably failures on dimension (4) for all four companies.

To explore logistical failures, an in-depth analysis based on Kahneman’s (2011) work on decision-making is an interesting perspective. Kahneman (2011) introduces an original theory based on two modes of thought resulting from the fact that the human brain has two independent systems (see Table 1), one that deals with “automatic” tasks, and the other that deals with thinking: (1) System 1 makes causal and quick

connections between events; this system relies on stereotypes that allow it to act with reference to habits; (2) System 2 kicks in when choices are less habitual, and when more calculation or reasoning needs to be performed; the seat of deduction and reflection, this system that serves to process more complex information (Kennedy, 2011). According to Kahneman (2011), the cohabitation of the two systems produces effective decision-making process, capable of reacting to abnormal situations. A reading of the four illustrations proposed here from the perspective of two modes of thought would undoubtedly allow for a better understanding of the decision-making process that led to the logistical failures, and in what way they testify to a faulty articulation between system 1 and system 2 when it came to overcoming them.

TABLE 1
SYSTEM 1 VERSUS SYSTEM 2: A SYNTHESIS

<i>General areas</i>	<i>System 1</i>	<i>System 2</i>	<i>Research questions</i>
Consciousness	Unconscious Implicit Automatic Low effort Rapid High capacity	Conscious Explicit Thoughtful High effort Slow Low capacity	When faced with logistical failures, do retailers make quick and standardized versus thoughtful and customized decisions?
Evolution	Evolutionary rationality Nonverbal Modular cognition	Individual rationality Linked to language Fluid intelligence	When faced with logistical failures, do retailers rely on a fragmented versus holistic resolution of the problem?
Functional characteristics	Domain specific Pragmatic Parallel Stereotypical	Domain general Logical Sequential Egalitarian	When faced with logistical failures, do retailers audit a specific area versus the whole supply chain?

Source: Adapted from Kennedy (2011).

Despite the existence of two very specific business models, namely the brick & click model and the pure player model, this article shows strong similarities in terms of the logistical problems encountered, and it is likely that the issue of supply chain resilience in the context of violent external shocks, highlighted in particular by Mwangola (2018), arises in comparable terms for the two business models. This is undoubtedly due to the universal nature of managerial approaches to flow management, which raise comparable questions about the constraints linked to physical distribution service. It is true that marketing channels differ morphologically, and the technologies used to ensure the delivery of products, particularly in the last mile, do not have the same characteristics. For example, it is possible to mention the city logistics problems encountered by a pure player retailer, which cannot use a network of stores for click & collect (Rodríguez García *et al.*, 2022). Nevertheless, we are undoubtedly faced with a homogeneous reality, which calls for a *general theory of supply chains* that has yet to be constructed. Indeed, given its youth, especially in relation to marketing science, research in logistics and SCM still often relies on the explanation of local phenomena, without having analyzed their universalism, especially in reference to Kahneman's (2011) systems 1 and 2. For the new generation of academicians, this is undoubtedly a major challenge.

ENDNOTES

1. Following Mentzer *et al.* (1989), physical distribution service is defined as the ability to provide time and place utility; it is a key element of the customer satisfaction level.
2. Amazon's progressive evolution is certainly the most representative case of the shift from the pure player model to the brick & click model (Berg & Knights, 2022). As early as 2015, the company launched its first physical stores (Amazon Books), before multiplying concepts, notably in food distribution (Amazon Go,

Amazon Fresh). The most important investment made by Amazon in physical stores remains the purchase of the supermarket chain Whole Foods in 2017. At the beginning of September 2021, the company owns around 600 physical stores worldwide (including 500 Whole Foods supermarkets).

3. According to the Europe e-commerce report 2021, produced by the Center for Market Insights of the Amsterdam University of Applied Sciences, 2020 was an exceptional year for online sales in Europe. For all European countries, e-commerce sales accounted for 757 billion euros, up 10% from 2019.

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