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NEW TECHNOLOGY OR NEW MONOPOLIES? AMAZON'S ELUSIVE RETAIL REVOLUTION

Abstract. *Technology companies are often described by their founders and analysts as holding the potential to disrupt the industry and revolutionise the world. In this article, we focus on Amazon Inc. as one of the trillion-dollar technology companies that are credited with having disrupted its industry. The article provides an evaluation framework built around disruptive innovation and radical innovation theories. This framework is used to assess the extent to which Amazon Inc. has revolutionised retail industry. Based on this framework, it is argued that Amazon is not a disruptor because it has not created new markets but entered existing ones. We use this framework to analyse the retail sales process and its components and show that Amazon's technology has not brought architectural changes to the retail sales process or radically change its component parts. It is concluded that Amazon's success is not the result of technology and innovation but arises from its monopoly that has been built on the traditional retail model.*

Keywords: *new tech, retail, disruptive innovation, radical innovation, Amazon*

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Introduction

Over the past 20 years, new and established technology companies have sought to emulate the message of Steve Jobs, the first digital entrepreneur to market computers, when claiming that Apple devices were useful not only for scientists doing complex computing but also for non-technical people and everyday tasks. He sold personal computers as tools to liberate the masses and give (computing) power to the people, to expand their abilities and assert their liberties and their freedom from the oppressive world of political institutions and corporate monopolies (Isaacson, 2011).

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Steve Jobs had good reason to use the vocabulary of a revolution. Revolution referred to the tearing down of the monopoly power of big corporations like IBM while “liberation” and “power to the people” were slogans that helped create a *new market* for personal computers. In the 1980s, the idea of a mass market for computers was simply unthinkable. Computers were seen as business machines used by engineers and technically literate workers. No one really saw how computers could be of any use to non-technical buyers, much less how a business machine could be turned into a household appliance. By stressing the empowering potential of computers, Steve Jobs was breaking the enigma of computing and starting to create the mass market that we now take for granted. By enthusing about liberation, he bypassed the traditional technology giants that then dominated the computing market and created new demand for personal computers. New tech companies today often rely on the same revolutionary vocabulary as they try to stir up emotions among investors in the hope of driving their share prices up. They talk of freedom, liberation and, most consistently, about disruption. While many highflying concepts often ring hollow and convey little other than the simplistic liberal attitudes of the techno elites, the core concept in their self-description is disruption.

Although Amazon has refrained from using this vocabulary while presenting itself in public, much of the professional public has often referred to Amazon in these terms, crediting the company for having started the “retail revolution” (Stone, 2003). Capital markets view Amazon as a disruptor that uses technological innovation to establish dominance in e-commerce, giving it the valuation of a tech company rather than a retailer (Galloway, 2017). While Amazon has changed the ways customers do some of their shopping, the question remains of whether these changes amount to a retail revolution. In this article, this claim is critically assessed while considering the question of the extent to which Amazon Inc. has truly revolutionised the retail industry.

To accomplish this, two additional questions are asked: to what extent has Amazon disrupted the retail industry and to what extent has Amazon’s use of technology changed the retail sales process? Using the disruptive innovation (Christensen, 2000; Christensen et al., 2018) and radical innovation theory (Tushman and Anderson, 1986), we develop an evaluation framework for conducting a systematic assessment, which is presented in the first section. In the second section, we describe ongoing changes in the retail industry to provide context to help understand the specificities of e-commerce generally and Amazon in particular. The third section evaluates evidence in two steps. First, an attempt is made to determine to what extent Amazon acts as a disruptor in the retail industry. Second, we analyse the retail sales process that Amazon employs and compare it with the process

used by traditional retailers. The analysis is conducted on the component level, which makes it possible to make a judgment on the radical innovation of components and the process architecture (Henderson and Clarke, 1990). We conclude that Amazon did not revolutionise the retail industry. Instead, it has successfully used technology to mitigate the inefficiencies of online retail business and then used its technological advantage and market power to establish a near-monopoly in e-commerce.

The dynamics of technological change: evaluation framework

To determine the extent to which Amazon Inc. has revolutionised the retail industry, it is necessary to construct a framework to evaluate the extent of technological change that it has introduced. In this section, we develop a two-stage framework for the analysis, one at the industry level and the second at the technology level. In the first stage of analysis, we examine the retail industry and try to answer the following question: To what extent has Amazon managed to disrupt the retail industry? This question specifically refers to the model of disruptive innovation (Christensen, 2000). In the second stage, we lower the level of analysis from the industry to the company level and examine Amazon's retail processes and technologies in order to establish whether its technology is radical, architectural or sustaining (Henderson and Clark, 1990). This second stage will build on radical innovation theory (Tushman and Anderson, 1986).

This framework derives from the broad literature on technological innovation that since the pioneering work of Schumpeter (1942) has addressed the question of the nature and dynamics of technological change (Tushman and Nelson, 1990). The central concern of this literature is the distinction between incremental and radical innovation. Tushman and Anderson observed "that the core technology of an industry evolves through long periods of incremental change punctuated by technological discontinuities" (1986: 442). Incremental innovation occurs when an existing product is improved by small technical changes that originate from the existing knowledge of a firm. Radical innovation in contrast results in new products with new applications and is based on new scientific concepts and engineering approaches. While the distinction between incremental and radical innovation is intuitively appealing, it lacks analytical foundation and predictive power.

Tushman and Anderson (1986) approached this problem by pointing out that incremental and radical innovation should be distinguished based on the type of knowledge that provides the foundation for technological changes. Incremental innovation is based on existing knowledge, skills and capacities. Radical innovation, in contrast, requires new knowledge

often derived from new paradigms and new fields of scientific research (Abernathy and Clark, 1985). The difference between a new and an old knowledge base holds serious consequences for companies. From the company point of view, incremental innovation is competence-enhancing because it builds on existing knowledge that has already been mastered by the company and been used to develop specific skills, processes, strategies and structures. Incremental innovation therefore enhances the core competencies of firms involved in developing this type of innovation. In comparison, radical innovation tends to be competence-destroying because existing knowledge and supporting company structures can become irrelevant. Companies that seek to catch up with radical new technology often find that their core competencies are insufficient to benefit from radical innovation since that requires “new skills, abilities, and knowledge in both the development and production of the product. The hallmark of competence-destroying discontinuities is that mastery of the new technology fundamentally alters the set of relevant competences within a product class” (Tushman and Anderson, 1986: 442).

According to this argument, the criterion of radical innovation is the extent to which innovation destroys the organisational capabilities and competitive position of a firm (Nelson and Winter, 1982). Incremental innovation enhances the competitive advantage of a firm while radical innovation weakens or destroys its market position (Anderson and Tushman, 1990). The criterion for distinguishing radical from incremental innovation is therefore purely non-technical and can be inferred solely from business consequences arising from a firm in the market. An important implication of this theory is that incremental innovation does not only involve minor improvements but can also include large changes in the technical basis of technology so long as the technology is competence-enhancing.

These ideas were further developed by Christensen in his theory of disruptive innovation (2000) and its later refinements (Christensen et al., 2018). Christensen conducted detailed analysis of technological change in various industries to demonstrate that radical innovation is *rarely* competence-destroying. He showed that radical innovations are often developed within existing firms, yet are often neglected or abandoned by the management because it prioritises the company’s existing markets dedicating its resources to the technologies that its key customers expect. When new technologies can be successfully marketed to existing customers, the new technology is classified as sustaining regardless of the nature and extent of technological change and the associated knowledge and skills required for its development. Sustaining innovation is any innovation that can be used by existing companies to sustain and grow their business with existing customers. When new technology is rejected by existing firms because existing

customers do not find it valuable, a window of opportunity opens for new firms to try to discover new applications for the new technology and find new customers. Once new firms find new applications and new customers, they can gain an advantage over the incumbent firms and may disrupt or even destroy their market position. Disruptive innovation is therefore any innovation that substantially disrupts the market position of existing firms (Christensen, 2000).

Christensen's theory therefore draws a line between sustaining and disruptive innovation based on market criteria. Technology is sustaining when it allows firms to enhance their competitive position in the market and uphold their business model, customer base, and market position. Technology is disruptive when it strongly disturbs the market structure for existing firms by allowing new entrants to find new applications for technology and new markets. Disruption only happens when new firms establish themselves in new markets while leaving the existing firms to follow or fail. Again, the criterion of technological change has little to do with technical details and the nature of technology: "In other words, [disruption] was not a technology problem; it was a business model problem" (Christensen, 2006: 43). The advantage of Christensen's disruptive innovation theory is that its key criterion of "new markets" is more readily observable from industry analysis than the "competence destruction" proposed by Anderson and Tushman, which requires detailed inside company knowledge. We use disruptive innovation theory as the key criterion in the first stage of our evaluation framework.

The second part of the evaluation framework brings analysis from the industry down to the company level. While radical innovation theory may be difficult to apply directly, so as to evaluate the nature of the innovation introduced by Amazon, a version of this theory – architectural innovation theory – made important improvements that provide useful suggestions on how to analyse technology and its changes. Henderson and Clarke (1990) analysed the nature and dynamics of technological change by looking at technology as a system composed of parts or components. By considering the components and the ways in which components are linked to form a product or technology, they were able to identify the third dimension of technological innovation: architectural innovation. Radical innovation might not be easily identified by looking at the scientific, technical and practical knowledge involved in the new technology as a whole. The analysis should focus on its components and the way the components are linked together in a product because component and architectural innovation may require new competencies concerning how "knowledge is organized and managed" (Henderson and Clark, 1990: 13).

The theory of architectural innovation holds several important

implications for how to view and analyse technological innovation. First, technology is conceptualised as a set of components integrated into a system in a way that may be specific to a firm. This means we need to move our analysis from the technology level to the firm level. Second, the products and services of a firm are the result of how components are linked together within a final product. We must therefore focus the analysis on how the customers are served by a company under scrutiny. Technological innovation that underpins the product or service can be used in very different ways. As long as the customer experience stays the same, it is hardly relevant whether the technological innovation is classified as incremental or radical. The extent to which innovation is radical should hence be measured in terms of the changes to the manner in which a firm delivers its products or services to its customers. Third, it is accordingly necessary to analyse the nature and dynamics of technological change in a firm by looking at the process by which companies deliver value to their customers. When companies continue to serve their customers by using processes that are established in the industry, an innovation cannot be considered radical, regardless of its technological underpinnings.

These implications of architectural innovation theory are considered in the second part of the evaluation framework. We examine the core process of the retail industry whereby a retailer delivers value to its customers, i.e., the retail sales process. This process is a system made up of different components. The analysis will focus on how Amazon has used technology to organise and reorganise the retail sales process. Taking ideas from Henderson and Clark (1990), we first look at how technological innovation has changed the components of the retail sales process and then examine the extent to which Amazon has used new technology to link the components in new ways so as produce changes in the retail sales process.

The results of the analysis in both stages of the evaluation framework will make it possible to systematically determine to what extent Amazon used technological innovation to revolutionise the retail industry.

E-commerce in the context of the retail industry's evolution

The retail business involves the distribution of goods to the final consumer. According to the North American Industry Classification System, retail trade includes entities “engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise” (NAICS, 2011). The sector therefore consists of re-selling physical goods and digital items without transforming them. The emphasis on the absence of transformation is particularly important in the analysis of online e-commerce because it requires a careful distinction between retail and

logistical activity, both being inextricably combined in e-commerce. Thus, Amazon as one of the major players in e-commerce is a retailer that is reselling merchandise without transforming it and a logistics company that is adding value through its logistics operations.

Retail has undergone extensive transformations in the past century. While Galloway (2017) talks about seven revolutions in retail, this article adopts the view that the history of retail has seen four technology-driven disruptions: department stores, mail-order houses, big discounters, and e-commerce (Christensen and Tedlow, 2000). In this brief review, we focus primarily on the USA since it presents the most relevant context for the rise of Amazon.

Mail-order houses

The first national retailers emerged following the development of the mail-order retail business. In 1861, Price-Jones created a new way of selling by distributing catalogues across the UK and promising the fast delivery offered by railways. His customers were royalty, the aristocracy, and wealthy urban classes. In the USA, the first catalogue retailer was Aaron Montgomery Ward who commenced business in 1872 and quickly expanded his offering to 20,000 items in a 540-page catalogue catering to the prosperous urban middle class. It was quickly overtaken in sales by Sears Roebuck and Co. that concentrated on the hitherto underserved customer base of “American farms and villages” (Chandler, 1962: 226) and exploited the national policy of a free postal service to rural America. In 1895, Sears Roebuck and Co. became the largest and most respected mail-order retailer. Buying directly from manufacturers, mail-order houses meant middlemen were removed and the savings could be passed on to customers via much lower prices that generally appealed to rural customers who enjoyed the low prices and unprecedented choice. The success of department stores added to the competitive pressures on mail-order retailers that started to see their sales decline. This led many of them to open chain stores in the 1920s and 1930s. By 1929, Sears had 324 stores whereas Montgomery Ward was operating close to 500 stores (Chandler, 1962). Surviving into 21st century, mail-order houses have provided the business model for e-commerce with its stress on low price, a broad selection, a delocalised market and the convenience of shopping from home.

Department stores

The rise of the department store may be regarded as revolutionary in both the context of the retail industry and the broader social context. The new

concept of selling to customers was inspired by London's Great Exhibition in 1851 held in architecturally revolutionary building called Crystal Palace constructed from 300,000 glass panes. This bright and transparent building allowed a huge variety of designs and technological wonders to be displayed to the curious middle-class visitors. Crystal Palace became Europe's largest department store in 1905. One of the first and most ambitious department stores in the USA, Marshall Field's in Chicago, was co-founded by Harry Gordon Selfridge, who built the eponymous department store in London in the style of a classical museum building where an army of well-appointed saleswomen would guide customers through its departments and displays. By the 1930s, department stores had become the dominant retail venue for the aspiring middle class everywhere from London, Moscow, New York through to Tokyo. Driving this was the discovery that a single store could offer a broad variety of goods and successfully sell them by creating a unique shopping experience combined with attentive professional service. With a broad array of services geared toward women (men could withdraw to reading rooms while their wives shopped), the department store became a public space where middle-class women could enjoy social life in a safe and controlled environment (BBC, 2015). As America's suburban sprawl continued, it was accompanied by the rise of shopping malls, which dominated the retail landscape of the 1980s and 1990s. Shopping malls typically included a well-known department store as an anchor with many smaller shops providing an additional range of goods. With full services and amenities for customers, shopping malls can be considered an extension of the department store retail model, including their social function.

Discounters

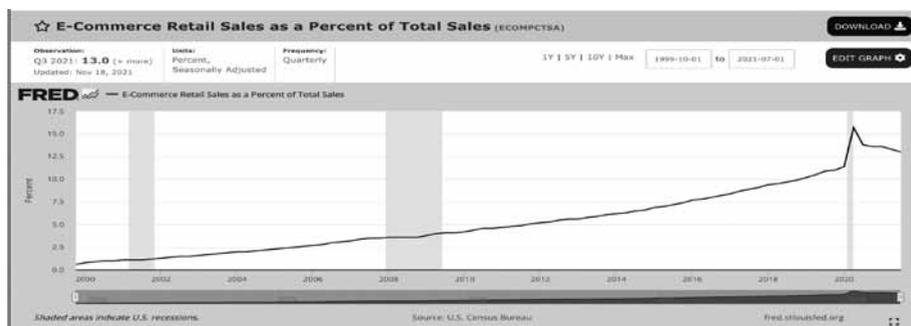
By the 2000s, malls were in decline and becoming supplanted by specialty retailers and large discounters (Hortaçsu and Syverson, 2015). The power of discounting had already been discovered by mail-order companies at the turn of the 20th century, proving that low prices could be the key driver of growth. Discounters started to open stores in the 1960s based on the premise that a higher turnover of quality goods sold at lower margins and lower prices would earn them equal or higher profits than competitors offering full prices. With the repeal of the US retail price maintenance law in 1980, discount retailers quickly became the dominant retail format. Super centres and warehouse clubs became the dominant form of retail by 2000 and continue to do so today, attracting customers from all social strata with a wide variety of goods and low prices. Their rise, which came at the expense of department stores, indicated that the recalibration of consumer expectations had been thoroughly completed. "The retail sector has therefore seen

a major shift in the way that stores selling multiple varieties of merchandise operate, with a shift from the traditional service-oriented department store toward a lower-cost model that in some dimensions borrows the logistics techniques of the wholesale sector” (Hortaçsu and Syverson, 2015: 102). By providing a broad choice at a low price in exchange for little or no service coupled with exploitative labour practices, the largest of the discounters Walmart became the biggest retailer in the USA. The discounting retail low-price-low-service model set the stage for the rise of e-commerce.

E-commerce

In the USA, e-commerce retail started to gain a foothold in 2000 and coincided with the rise of discounters. The data in Figure 1 show that e-commerce retail sales accounted for 0.8% of all US retail sales in the first quarter of 2000. Its share rose to 4.2% in 2010, reaching 11.4% in the first quarter of 2020. The COVID pandemic led to the closure of many retail establishments in March 2020, which lifted the share of e-commerce retail sales to 15.7% in the second quarter of 2020. As stores reopened in June 2020, the share of retail sales fell to 13% in the third quarter of the same year (U.S. Census Bureau 2022). Global data reveal a similar trend with the share of e-commerce retail sales approaching 20% due to high levels of online retail sales in China.

Figure 1: E-COMMERCE RETAIL SALES AS A SHARE OF TOTAL SALES (IN PERCENT)



U.S. Census Bureau, E-Commerce Retail Sales as a Percent of Total Sales [ECOMPCTSA]
 Source: FRED, Federal Reserve Bank of St. Louis, accessible at <https://fred.stlouisfed.org/series/ECOMPCTSA>, 2. 1. 2022.

In the USA, growth in e-commerce has had surprisingly little effect on employment in the retail sector. While we might expect the rise in e-commerce retail sales to lead to lower employment figures in the sector, the

data for the USA show that the share of employment in retail remained stable between 1940 and 2020 at around 10% of all employment (U.S. Bureau of Labor Statistics 2022). Similarly, data on value added as a proportion of GDP indicate that retail is still lagging behind in productivity (U.S. Bureau of Economic Analysis, 2022). Accounting for roughly 10% of employment, the share of value added of the retail sector dropped from 6.5% of GDP in 2005 to 5.5% of GDP in 2020. Productivity growth in the sector is limited to new retail establishments that invest in information technology while there is little productivity growth within traditional stores (Foster, Haltiwanger and Krizan, 2006). In spite of the fivefold increase in e-commerce retail sales during this period, productivity of the sector failed to increase relative to US industry. Industry data show that e-commerce retail's impact on the entire sector is still limited. The increasing online sales have not (yet) threatened employment in the retail sector as a whole and nor has its heavy investment in information technology affected productivity and added value of the entire sector. The purportedly revolutionary forces of e-commerce have therefore had a negligible impact on the retail industry as a whole. The narrative of the e-commerce juggernaut crushing old retail finds no support in the data. It appears that the proclamations of the "death of retail" are greatly exaggerated.

Has Amazon revolutionised the retail industry?

To answer this question, we employ the two-stage evaluation framework described above. In the first stage of the analysis presented in this section, we consider whether Amazon can be considered a disruptor in the retail industry. In the second stage of analysis in the following section, we try to determine to what extent Amazon has changed the components and architecture of the retail sales process.

Amazon Inc.

With sales of USD 469 bn in 2021, Amazon Inc. is the second-largest retailer in the USA after Walmart, which dominates the retail industry with sales of USD 572 bn. However, Amazon is the undisputed leader in the US e-commerce market holding a 39% market share in 2020, a big advantage over the second-largest eBay with its 5% market share.¹ Founded in July 1995, Amazon started as an online bookstore but soon expanded into music and video DVDs and other categories like electronics, clothing, shoes and jewellery, home and kitchen, sports and outdoors, automotive parts and many others. According to Stone (2013), the company's strategy has

¹ Accessible at <https://www.macrotrends.net/stocks/charts/AMZN/amazon/revenue>, 20. 4. 2022.

remained unchanged from when it was founded until today: to offer the broadest selection of merchandise at the lowest prices. Amazon has often been willing to sacrifice profitability in order to add new product categories and broaden the offer of its e-store while keeping prices competitive. To enhance the range and scope of its offering, Amazon allows other merchants to sell goods on its website in exchange for 5%–20% of the sales price. The emphasis on a broad selection of merchandise at low prices quite resembles the strategies of discounting that were in ascendance in retail at the time of Amazon's founding. The growing significance of discount superstores and warehouse clubs in traditional retail is closely mirrored by Amazon in its online retailing. Amazon seems like a good disciple of Walmart by trying to recreate its model in the e-commerce domain. Today, Amazon is a complex business with different divisions that emerged from its efforts to build The Everything Store (Stone, 2013). The stock market considers Amazon as a tech company valued at around USD 1.5 trillion in April 2022. For the purposes of this article, Amazon is treated as an online retailer.

Is Amazon a disruptor?

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While the lack of e-commerce's economic impact may provide a hint about the absence of revolutionary change in the retail industry, there is also little evidence of a retail revolution on the company level of analysis. Christiansen (2000) states that the key indicator of a disruptive innovation is its ability to create a new market. By this measure, e-commerce generally and Amazon in particular have failed to create new markets. The true disruption was the invention of the catalogue and mail-order business that tapped into the unmet demand of rural America at the end of the 19th century. Another retail disruption was department stores that established a new market by turning retailing into a service-intensive industry, responding to the new demand of middle-class women who were given a unique public space where they could do their shopping in a safe and socially accepted way. E-commerce, in contrast, created neither a new market nor new demand. It evolved from the mail-order business replacing the printed catalogue with a cheaper electronic catalogue. It tapped into an existing market, relying on a similar value chain as its mail-order predecessor. Internet technology has not triggered changes in the sales process, although it offers opportunities for efficiency gains.

At the start of its operations as a bookstore, Amazon simply took the catalogue Books in Print on CD-ROMs by R. R. Bowker and placed it on the Internet to allow customers to browse through the online pages on its website rather than the offline electronic databases in bookstores (Stone, 2013). Before building its first warehouse, Amazon ran its business on demand:

after receiving an order from a customer, it placed the order with the distributor. Once received, Amazon repackaged the book and sent it to the customer by mail. This inefficient operation took more than 1 week to deliver the order to the customer. As it expanded into new categories, Amazon was always looking at the existing markets and making decisions based on volumes and suitability for e-commerce. It expanded either by acquiring other e-commerce businesses in often ruthless ways or entered the existing market with the express aim to run competitors down to the ground. Amazon has never tried to find or develop new markets.

The same holds for Amazon Marketplace, namely, part of the Amazon store available to independent sellers that use Amazon's platform to sell their merchandise. It has been argued that Amazon Marketplace has created an entirely new market. Yet, this characterisation fails to take account of the fact that the marketplace for third-party sellers was already developed by E-bay. For several years, Amazon was looking with envy at E-bay's auction platform and attempting to enter into its market. After initially failing to draw users to its auction marketplace, it decided to open up its platform to sellers on a separate platform. Failing again, Amazon decided to further simplify and allow sellers on its main website, thereby mixing the products sold by Amazon with the products of third-party sellers. Only then did Amazon Marketplace become a major success. Today, it represents 62% of sales in Amazon store and hosts 185,000 third-party sellers.

Such large numbers lead analysts to credit Amazon with having created a new marketplace. While Amazon made it possible for many small, niche sellers to enter the marketplace, it was E-bay and not Amazon that created the market for third-party sellers. Amazon Marketplace was not an attempt to establish a new market but a successful entry into an existing one where it managed, once again, to establish dominance and drive its main competitor to the verge of obscurity.

In the light of these arguments, Amazon cannot be considered a disruptor because it has not developed new markets. By taking advantage of e-commerce's lower entry barriers for existing markets and by employing the strategy of discounters, it has managed to establish retail sector dominance, often driving traditional retailers out of business. Amazon has definitely shaken up business as usual. However, it has done so via fierce competition in existing markets. Amazon has failed to deliver disruptive innovation to the retail industry and hence cannot be considered a disruptor.

Has Amazon revolutionised the retail sales process?

The retail business entails a process of purchasing, storing and bringing and selling goods to the end customer with the occasional extension of this

process as the home delivery of purchased goods. This process has remained roughly the same throughout human history. E-commerce has slightly modified this general retail process whereby home delivery has become an integral element rather than an optional add-on extension, replacing delivery at the point of sale with delivery to the customer's residence. Since the purpose of retail is to distribute merchandise to individual end users, it is difficult to imagine that anyone could find ways to revolutionise these basic steps in the general retail process.

The retail sales process: a customer perspective

When tech companies claim they have revolutionised retail, they are referring to a much narrower retail sales process, one that the American National Retail Association refers to as the "path to purchase". Unlike the general retail business process focused on a retail company, the retail sales process is centred on the customer. It refers to the steps a customer takes to complete a purchase, the act that a retailer records as a closed sale.

The promise of an Internet-based economy lies in its new capacity to engage with huge numbers of individuals. The revolutionary potential of web-based technologies is precisely in that it makes it relatively effortless to reach unprecedented numbers of individuals and gives them easy-to-use ways in which they can interact with companies and among themselves. It is now possible to address and engage hordes of individuals and link them directly to companies and to other customers. This technology holds the potential for revolutionary change. What was once mass communication whereby companies blanketed the consumer masses with their one-way messages suddenly became a multi-way conversation. This stripped some of the power from the companies and put it in the hands of individual consumers². The revolutionary potential of e-commerce therefore lies not in the broad retail business process but in the way in which customers carry out their purchases. This means we should carefully examine the retail sales process from a customer perspective because this is where the revolutionary potential of new technology-based e-commerce lies.

Marketing scholars have developed a behavioural model of the buyer decision-making process that involves five stages: problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behaviour (Kotler and Keller, 2012). Since this model has been

² *This potential has been seized upon by tech companies. However, they quickly discarded the individuals and turned them into users. They tried to lock them into their proprietary platforms and demanded a subscription payment for the privilege of the new captivity while also submitting them to constant surveillance, appropriating their data and selling it on to the highest bidder in the global marketplace (Zuboff, 2018).*

developed from a marketing perspective that considers the viewpoint of a seller, we use a streamlined model that retains the focus on the customer. We refer to it as a retail sales process.

From the customer perspective, the retail sales process involves four stages of customer behaviour that must be served by a retailer before the sales process can be completed: desire, search, choice and fulfilment (Figure 2). The start of the retail sales process always begins with customers' desires. Desire transforms individuals into potential customers motivating them to take action to satisfy their desires. Whether they are gatherers or hunters (Galloway, 2017), desire leads them to start searching for products or services that can bring them satisfaction. Once the products are found, they must make a choice not only regarding what product to acquire from among different alternatives but also to make a decision whether the desire can be satisfied with the product at all. Once the choice is made, a customer makes the final step and fulfil their desire by making the purchase and consuming the product.

Figure 2: SALES PROCESS FROM THE CUSTOMER POINT OF VIEW



Source: Adapted from Kotler and Keller (2012): Model of the customer decision-making process.

Traditional retailers use well-established ways to address these four stages. Retailers invest on average about 10% of sales proceeds into marketing, trying to awaken desire and lure customers into their stores through incessant advertising and promotions suggesting that their desires can be satisfied in their stores. Once a customer enters the store, the retailer needs to strike a balance between the convenience of helping customers quickly find the products they desire and excitement, leading them through the store to present various merchandise in the hope of arousing additional desires. To encourage choice, retailers often use promotion, one of the four P's of marketing, that involves displays, discounting and service, all of which are expensive ways to steer customers towards choice. When a choice is made and the payment completed, customers experience instant gratification by fulfilling their desires. There is no uncertainty about the suitability of the purchased item and no delay in its delivery and gratification.

Online retailers must address all four stages of customers' path to purchase. Compared to traditional retailers, they have a very different array of tools at their disposal that have the potential to revolutionise the entire

retail sales process. To assess the extent to which Amazon has realised this revolutionary potential, we need to examine Amazon's retail sales process and evaluate every component of it along with its architecture, bearing in mind three key questions. First, is Amazon's retail sales process significantly different from the traditional one with notable architectural changes in the sequence and relationships among the components? Second, are any of the components radically different such that they transform the retail sales process? Third, has there been any major change in the balance of power between Amazon and consumers in favour of the latter as predicted by the visionary founders of tech companies?

In the next section, we conduct such analysis using the case of Amazon Inc., the biggest online retailer in the USA and one of the largest in the world at the forefront of technological development. It is also a well-documented case with several books and case studies that provide detail insights into the company. In our analysis, we draw primarily on the authoritative book on Amazon entitled *The Everything Store* (Stone, 2013).

Amazon's retail sales process: components

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Amazon's retail sales process is not very different from that used by traditional retailers. It includes the same four components: desire, search, choice and fulfilment. Below, we analyse each component of Amazon's sales process and compare them with traditional retailers to determine the extent to which technological innovation has revolutionised the components and architecture of the retail sales process.

Desire

Amazon has never invested much in building 'desire'. Competing on price, it has believed that deep discounts will persuade customers to visit its store. Following the example of other discounters, it spent only 10% of its total sales on advertising compared with other Internet companies of the late 1990s that on average were then spending 119% of their total sales advertising their goods or services. Its attitude to advertising spending has remained unchanged even today. In 2015, it spent 92% of its marketing budget on search and only 3% on digital advertising³.

In its early days, Amazon employed a well-established practice of trying to address the desires of its customers by sending promotional emails tailored to customer preferences. The practice stopped after complaints by customers and was abandoned altogether.

³ Accessible at <https://www.frac.tl/work/marketing-research/retail-marketing-budget-study>.

Amazon's smaller investment in desire management is the result of its strategic decision to build Earth's Biggest Store, with the decision also implied in the company's name (the Amazon is the longest river on the planet). By relentlessly pursuing this strategy, Amazon has managed to grow its shopping platform sufficiently large and diversified in its offer that today customers use Amazon rather than Google to search for information and reviews concerning a particular product. The near-unlimited selection of merchandise in the Amazon store gives customers a firm assurance that they will always find what they are looking for, which guarantees visits its website. Once there, customers are encouraged to join the 200 million subscribers of the Amazon Prime service to enjoy faster shipping, entertainment and other services assuring customer loyalty all the while generating subscription revenue for Amazon.

Amazon has not revolutionised this component of the retail sales process. It found it could leave much of the advertising burden to the producers and sellers, knowing that customers will probably visit its store to check its features and prices and make purchases.

Search (and Find)

Amazon started as an online discount bookstore. It was founded on the idea that it could offer a much broader selection of books than physical bookstores at lower prices. Physical stores such as Barnes and Noble required 6500 sq. m of retail space to display 1 million books. On the first day of its operations, Amazon could offer millions of books from the digital catalogue Books in Print out of a modest garage space, allowing it to pass the savings on to the customers by charging lower prices. The ability to maintain a large selection of merchandise at the fraction of the cost of traditional retailers has proven to be the key part of Amazon's unexpected success (Stone, 2013).

Amazon realised that success of its store depended not on "search" but on "find". If customers can find everything in its store, they will keep returning. It was this realisation that set in motion the strategy of The Everything Store. Amazon has relentlessly pursued this strategy, often taking considerable risks to broaden its selection and largely relying on acquisitions of established online retailers like Zappos and Diaper.com (Stone, 2013).

The key to expanding the selection was Amazon Marketplace, a service that allowed third-party retailers to sell their merchandise in the Amazon store. The innovation pioneered by eBay allowed Amazon to offer its platform to independent sellers while charging them 5%-20% of their sales and appropriating their sales information. This helped Amazon broaden its selection of merchandise even more, without needing to invest in inventory

and without financial risks. “In 2020, third-party sellers accounted for 62% of the total sales volume on Amazon websites, bringing in \$295 billion, up from \$200 billion in 2019. As a result, traditional distribution chains (‘pipelines’) have been replaced by a market structure which is more and more dominated by digital intermediaries (‘platforms’)” (Busch, 2021: 5). In March 2021, Amazon was offering 75.1 million of its own products, among which 57.2 million were books. In addition, close to 300 million products were sold on Amazon Marketplace by third-party retailers, bringing the total number of products sold on Amazon to 354 million.⁴ The Marketplace has turned the Amazon store into an e-commerce platform.

Despite its impressive growth, Amazon did not revolutionise the search process. It adopted the mail-order business model and built its store around an ever-expanding electronic catalogue with a search functionality. The idea of a broad selection at low prices was taken from Walmart. The marketplace idea was copied from eBay. And the Amazon Prime membership concept was borrowed from Costco. The search stage itself has remained unchanged. The age-old practice of displaying merchandise on stalls and later on shelves was replaced by an online display for easy access and searchability. Apart from making it more efficient, the search process has essentially remained unchanged.

Choice

The ‘choice’ stage of the retail sales process is when a customer arrives at the decision to buy a certain product. The choice stage is decisive for retailers because it represents the closure of a sale and income for the retailer. Retailers encourage the choice by employing the 4Ps promotion mix, which includes a bag of tricks ranging from carefully placing the product in the store, to providing service to guide the customer toward the decision, to offering discounts or financing for purchases. All of these are used to nudge customers toward making the final decision to buy. Online retailers cannot engage the customer in the same way as traditional retailers. The interaction with customers is largely automated and attempts to add a human service element in online stores is usually limited to a chat function that has limited appeal.

Amazon approached the challenge of ‘choice’ by focusing on two areas of innovation: the convenience of the checkout and Big Data. In 1997, in the second year of its operation, Amazon introduced an easy checkout process called 1-Click Shopping. To encourage choice, Amazon wanted to remove as much friction as possible from the payment process. Registered customers could store their delivery and credit-card information and make

⁴ Accessible at <https://www.retailtouchpoints.com/resources/how-many-products-does-amazon-carry>.

purchases with a single click of their computer mouse. Amazon continued to search for technological substitutes to human service to stimulate choice. In 2014, it went further by introducing Echo. Echo is a digital assistant that can accept verbal orders for goods and services from Amazon, providing the illusion of a conversation. The technology failed to solve the complexity of choice: by 2020, just 2% of Echo owners had made at least one purchase. Although both the 1-Click Shopping and the digital assistant added convenience, they did not change the existing sales process.

To encourage choice, Amazon introduced customer reviews and product rankings. It also employed gamification strategies to create a sense of scarcity and rush customers towards making a purchase. The effort to steer customers towards a purchase includes a generous return policy, offering free 30-day returns for Prime customers. In theory, this should incentivise customers toward choice. However, in practice it seems that generous return policies lead to high rates of returns among online retailers. On average, online sales return rates reached 20.8% in 2021, which were not very different from previous years (NRF, 2022). Amazon's free return policy has actually encouraged choice but also increased the return rate, leading the company to limit the number of returns and reserving the right to block the accounts of customers with too many returns.

The second innovation that addressed the 'choice' stage was big data analytics. Amazon realised that its store was generating rich information on its customers. It has aggressively unleashed a "customer and competitor surveillance" program using software and hardware to accumulate information that is used to manage the search and choice stages of the retail sales process (Hanley, 2021). There is overwhelming evidence that Amazon is using this information to manipulate searches of prospective buyers, presenting them with products that benefit Amazon itself. The data are also used to 'personalise' search results for every customer, meaning that customers are presented with products that they are most likely to buy. Big data therefore allows Amazon to channel customers toward choice without them realising that they have been manipulated from the moment they entered the store.

Amazon has tried more than other online retailers to master the 'choice' stage in the retail sales process. Yet, the innovation was used to replicate the customer experience in the online environment and extract additional efficiencies rather than to fundamentally change this component of the mentioned process.

Fulfilment

Fulfilment is the final stage of the retail sales process that is traditionally closely coupled with choice. In physical stores, once customers make

their choice and pay for the product they immediately take possession of the good. There are a few categories of goods that need to be transported or made to order, requiring customers to wait for their delivery. Still, in the vast majority of sales situations fulfilment in retail sales process is characterised by the customer's immediate gratification. Online retailers are unable to provide this. Their sales process is interrupted in the fulfilment stage. Customers who made a choice and have paid must wait for the good they have purchased to be delivered.

The problem of delayed gratification cannot be solved because the online sales process is conducted in a virtual space that permits customers to interact with its store without physically being present, thus making the exchange of physical goods following payment impossible. Amazon has been trying to manage this problem by investing huge amounts of capital in ensuring rapid delivery to the customer. When it started as an online bookstore, it took orders from customers, placed orders with book distributors, waited for delivery to its garage in Seattle and then packed the individual orders and dropped them off at the post office. Customers were asked to wait for their book for more than 1 week. In 2007, it partially resolved the delayed gratification problem with Kindle, an e-book reader that made it possible to dematerialise the books and deliver them instantly to customers in electronic format. However, other merchandise that could not be digitalised still required complex logistics.

In 1997, Amazon realised that it needed to have its own warehouse, like any other off-line retailer. As the business expanded, the logistics of processing orders and delivering goods became increasingly important. In 2000, Amazon offered free shipping for orders over USD 100 and 2 years later lowered the threshold to USD 25, upon realising that the customer shipping costs were offsetting its low-price proposition. In 2005, it introduced the Amazon Prime subscription service providing unlimited express shipping, which had doubled in price by 2022. In 2019, it cut delivery times in certain locations from 2 days to 1 day as it began to offer Prime Free One Day Shipping. Amazon spared no effort to cut the delivery time in the hope of minimising the problem of delayed gratification in fulfilment.

The logistics challenge for Amazon is defined not only by its promise of rapid delivery but by the 354 million different products in its warehouses, its 300 million active users and 200 million Prime members who frequently place orders. Amazon initially learned about logistics from industry leader Walmart, which has 2,800 suppliers and 4,740 stores in the USA that are served by 158 distribution centres, but it had to adapt its distribution network to accommodate millions of suppliers and customers and billions of shipments. In 2019, Amazon was operating 1,093 distribution facilities around the world, of which 477 were located in the USA (Moody, 2020).

The number included 223 large sortation and fulfilment centres that make up the backbone of Amazon's logistics with an average surface area of 7.4 hectares. In 2022, Amazon will operate 355 large fulfilment and sortation centres with a total surface area of 3,000 hectares preparing 7 bn packages for shipment to customers (BigRentz, 2022).

This requires a huge investment in physical infrastructure and information technology. Capital expenditure that in 2016 was USD 7.8 bn (5.7% of sales) and in 2018 USD 13.4 bn (5.8% of sales) had jumped to USD 40 bn (10.4% of sales) in 2020 and USD 57 bn (12.4% of sales) in 2021. This is reflected in the value of assets in company financial reports, which amounted to USD 382 bn in 2021 with logistics amounting to USD 310 bn of total assets of the company⁵. These numbers show that Amazon is a capital-intensive company with assets exceeding Walmart's USD 244 bn or the USA's largest automobile manufacturer General Motors' USD 238 bn. To make distribution work, Amazon employs 1.6 million people to work alongside 200,000 robots. In 2020, shipping costs reached USD 61.1 bn, almost 16% of its USD 386 bn in sales. Amazon is investing in vertical integration as a logistic operator to control shipping costs and capture value in logistics (Dans, 2021). It is expanding its Amazon Air cargo airplane fleet and buying trucks and vans for warehouse-to-customer delivery. It recently bought 20,000 shipping containers and started operating its own ships to bring goods from China. In short, Amazon is spending vast amounts in order to shorten the time needed to deliver goods to its customers and to compensate for the failure in the fulfilment stage.

However, the complex logistics of home delivery only work if customers are home, which is often not the case. Amazon is building parcel lockers and contracting with post offices and retail establishments to receive and hold packages for pickup by customers. This raises the question of futility: if one needs to place an order online, then wait for delivery and then visit a physical store to collect a package, what then is the point of e-commerce?

To summarise, the fulfilment component in Amazon is similar to mail-order retail and differs from in-store retailing in its failure to provide instant gratification of customers. Amazon has made a huge capital investment in logistics, introduced innovation and deployed human effort to simply patch up the interrupted retail sales process and manage the delayed gratification experienced by its customers. While Amazon may have improved the efficiency of logistics, it has done so to replicate rather than innovate and change the fulfilment component of the retail sales process.

⁵ Accessible at <https://finbox.com/NASDAQGS:AMZN/explorer/capex>.

The architecture of Amazon's retail process

The above analysis shows that Amazon has never attempted to radically change the four components of the retail sales process. Instead, it has tried hard to faithfully reproduce the customer experience of retailing in the online environment.

The same can also be said for the architecture of Amazon's retail process. Its retail sales process is basically the same as in traditional retail, with one glaring exception in fulfilment that is the feature of e-commerce. Amazon has never attempted to reimagine and change the architecture of the retail sales process using technology and innovation to replicate rather than innovate and revolutionise the retail sales process. There is an irony in the fact that the most impressive investment in innovation and technology that earned Amazon the title and valuation of a technology company was made to alleviate the inefficiencies of e-commerce and recreate the traditional retail sales process rather than revolutionise the retail industry. Without a profound change in the components and architecture of the retail sales process, attempts to find efficiencies in an inefficient e-commerce sales process are as stunning as they are wasteful.

Amazon has not triggered a revolution of retail but instead used its size to become the dominant player in the retail business dictating the terms to its customers, sellers and competitors alike

Conclusion

In this article, we set out to answer the question of to what extent has Amazon revolutionised the retail industry, where the answer was that it has not. It has never attempted or managed to revolutionise the retail industry. Its lasting impact on the industry has been to achieve an unprecedented size, allowing it to behave like a new monopolist. This conclusion stems from analysis on two levels. On the industry level, we showed that Amazon has never attempted to create new markets but always attempted to enter and dominate established ones with proven demand and profitability. Using this criterion, Amazon cannot be considered a disruptor of the retail industry. The second part of the analysis was conducted at the company level and looked at the components and architecture of Amazon's retail sales process compared with traditional retailers. While Amazon has invested tremendous sums in various technologies, it has never fundamentally altered the retail sales process. Technology and capital have been deployed to faithfully recreate the components and architecture of the retail sales process engaged in by traditional retailers. Hence our conclusion that Amazon has never attempted or started a revolution in the retail industry.

This conclusion is at odds with the prevailing view that Amazon is a tech company given its success with innovation and its unique business model. In the discussion, we suggest an alternative hypothetical answer: Amazon's success is a paradoxical result of an e-commerce monopoly rather than efficiency and a revolution in retail. Three interrelated factors have helped Amazon establish near-monopoly status: its focus on the broadest and deepest selection of merchandise, its ruthless acquisition or elimination of the competitors, and its huge investment in logistics that have made Amazon the least-inefficient e-retailer in the Western hemisphere.

First, Amazon realised early on that e-commerce has one big advantage over traditional retailers: the digital catalogue which, in theory, allows for an unlimited selection of goods. The strategy of The Everything Store created a platform on which customers can find almost everything they can conceive of. With its promise of lower or at least competitive prices, customers have less reason to visit other sites for their purchases. This has created a gravitational pull for customers who have abandoned other physical and online retailers for the convenience of shopping on the Amazon platform.

Second, building The Everything Store required a ruthless strategy of dealing with competitors and suppliers. Amazon intensely studied other e-commerce retailers and often chose to acquire successful competitors, relying on questionable business practices to drive down the price of the companies it was to acquire (Stone, 2013). In rare cases when Amazon entered the market on its own, it usually entered into a serious price war in an attempt to drive competitors out of business. Amazon has employed equally questionable tactics with its customers. Third-party sellers in the Amazon Marketplace must share their sales and customer data with Amazon, in turn enabling Amazon to offer successful items under its own brand and manipulate search results in a way that favours its own merchandise. The Everything Store was built with questionable business practices reminiscent of early 20th century robber barons who relied on the unrestrained use of power rather than business prowess.

Third, Amazon soon realised that the greatest weakness of e-commerce is its failure in the area of fulfilment, i.e., the fact the customers must wait for what they have already paid for. Its high valuations and continuous access to primary financing allowed Amazon to access 'free' capital and pour immense sums of money into warehouse expansion and automation. Smaller competitors could not keep up with the investment and today face the choice of buying logistical services from Amazon or go out of business. The free capital enabled Amazon to turn the key weakness in fulfilment into a competitive advantage, establishing itself as a near-monopolist in online retail.

All three factors combined have helped Amazon become an almost-monopolist in online retail. It has leveraged its status as a tech company in

two ways. A paradoxical aspect of its success is that it has succeeded not by becoming the best retailer in the world but by becoming the least-bad among e-commerce companies.

Still, this does not mean that the fates of other global retailers are sealed. Customer preferences are constantly changing. The retail sales data for 2021 indicate the first drop in online sales whereas sales in traditional retail outlets rose significantly. There are concerns regarding the sustainability of e-commerce. With only 15% of retail sales in the USA, e-commerce is already creating negative externalities in the form of congestion and pollution in cities and questionable labour practices in its warehouses struggling to process 7 billion packages a year. Now that its trucks and vans have clogged the streets, Amazon has won approval to start delivering by drone in 2022, thus promising to also invade the sky. It is hard to imagine that e-commerce can grow unhindered to 30% of retail sales without causing a serious regulatory review. Yet, Amazon has little to worry. While the future of e-commerce may be uncertain, Amazon has already leveraged its capabilities in business-to-business markets. Its profitability relies on Amazon Web Services for other businesses while its logistics serve other businesses, some of which are direct competitors of its Amazon store. It is not unimaginable that Amazon will exit the low-margin retail business altogether in the next 5 years to concentrate on high-margin business support services. The near-monopoly that Amazon currently enjoys in online retail may soon migrate to other industries.

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