

# Amazon.com v.s. the Department Stores, a Revolution?

A historical study of the evolution of the universal  
provider model in the modern era

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## Introduction

If we ask someone living in the XXI<sup>st</sup> century to indicate a place where everything can be purchased, this person will very likely reply: “Amazon”. Created in 1995 as an online book store, Amazon.com became in twenty-five years one of the most successful retailer on the planet. Having reached 280,522 million USD in revenue in 2019<sup>1</sup>, the online-retailer is today a colossus present all over the globe where much more than books, nearly everything, can be bought. It outperforms well-established retailing actors like Barnes and Noble<sup>2</sup> or Walmart<sup>3</sup> and less than 10 clicks and three minutes are required to order a product that will be delivered within one day. In addition, Amazon went far beyond simple online-retailing by offering various services ranging from video streaming<sup>4</sup> to web-server hosting. Today, Amazon is not only one of the biggest retailing company on the planet but also an inevitable actor of the digital economy.

If the same question was asked one to two centuries ago, the answer could have been “Le Bon Marché”, “Selfridges” or “Steen og Størm” according to the geographical area. These names, being very often synonyms of refinement and elegance, have in common to be the standard bearers of a new retailing concept that conquered the whole western civilisation after the second half of the XIX<sup>st</sup> century: the Department Store. Set up in colossal buildings in the heart of urban areas, these stores offered a massive diversity of goods to sell in a new kind of environment. Although being presented as an “*The bourgeoisie’s world*”<sup>5</sup>, the customers as a “mass” and not only the highest classes of the society was in reality the targeted of these immense institutions thanks to the amount and plurality of goods made available coupled with an efficient control over their costs<sup>6</sup>. The “Grands Magasins” also proposed a wide range of services like deliveries or concierge services as well as tea rooms and social places<sup>7</sup>.

William Whiteley, the founder of the Whiteleys department in London, described himself as an “universal provider”<sup>8</sup>. Such a term tells a lot on the ambition of the newly-established department stores of the end of the XIX<sup>th</sup> century. One and a half century later, Amazon seems to have overtaken this plan of action and appears to have pushed it forward by offering a myriad of services as diverse as distant from simple retailing. **To what extent did Amazon.com revolutionized the universal provider model?**

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<sup>1</sup> Amazon 2019 Annual Report

<sup>2</sup> S. Kotha, *Competing on the Internet: The Case of Amazon.com*, European Management Journal Vol. 16, No. 2, pp. 212–222, 1998

<sup>3</sup> Streitfeld, David; Kantor, Jodi (August 17, 2015). “Jeff Bezos and Amazon Employees Join Debate Over Its Culture”. *The New York Times*.

<sup>4</sup> Amazon Prime, established in 2005

<sup>5</sup> M. B. Miller, *The Bon Marché – Bourgeois culture and the Department Store 1869-1920*, 1981

<sup>6</sup> S. Kotha, op. cit.

<sup>7</sup> E. D. Rappaport, *Shopping for Pleasure: Women in the Making of London’s West End*, 2000

<sup>8</sup> Lambert, Richard S., *The Universal Provider: A Study of William Whiteley and the Rise of the London Department Store*, London, George Harrap & Co., 1938

The western societies, shaken by two industrial revolutions since the XIXth century <sup>9</sup>, have radically changed within two hundred years. With the apparition of the secondary and tertiary economic sectors as a result of these technical changes, the needs and desire of customers have evolved as well as their shopping expectations. A bicephalous socio-technical context exists between the department stores and Amazon making any direct comparison irrational. A historical comparison of the functional similarities between these two store models under the prism of their relation to their customers, however, appears to be more relevant to address this question. This paper is therefore informed by the insights gained from economic and technical history, in particular the works of Bruno Jacomy<sup>10</sup> and Gustav Schmoller<sup>11</sup>.

Eventhough one century and a half have passed between the blooming of these two entities, Amazon only appears to have reused the Department Stores recipe for success. From the massification of the clients (I) to their individual approach (II), these model have well understood the needs of their customers (III).

## I) The client as a mass, similar strategies despite different approaches

The target of Amazon and the Department Stores is the same: the mass. Despite two different massification of sales approaches (A), the same strategy based on accessibility was used by these two universal providers to attract the largest amount of people (B).

### A) Vending to the mass

Amazon.com and the department stores both made enormous investments to be able to provide goods to tremendous amounts of people. With more than 185 warehouses on the planet of at least 100 000 square feet<sup>12</sup>, the global surface used by Amazon to store goods is today at least as big as the entire principality of Monaco. The Grands Magasins, on the other hand, were the biggest stores of their times<sup>13</sup>. If these models converge on the magnitude of their establishments, two opposing methods were used to “massify” the flow of customers.

Amazon’s expansion is based on making single type of product more affordable: books. In 1994, Jeff Bezos quits its job in a hedge fund to make the bet of challenging ancient and prominent actors like Barnes & Nobles. Before this tough competition, Amazon.com’s developed many competitive advantages. First, its catalogue contains way more book that any other bookstore could on the planet thanks to large warehouses and efficient turnover system<sup>14</sup>. In addition of the wide range of the offer, the price of the books was more advantageous on Amazon.com

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<sup>9</sup> F. Caron , *Les Deux Révolutions industrielles du XX<sup>e</sup> siècle*, Paris, Albin Michel,1997

<sup>10</sup> B. Jacomy, *Une histoire des techniques*, 1990

<sup>11</sup> G. Schmoller, *History of German Small Businesses in the 19th Century*, 1870

<sup>12</sup> N. Rattner, A. Palmer, *This map shows how Amazon’s warehouses are rapidly expanding across the country*, CNBC, 2020

<sup>13</sup> E. D. Rappaport, op. cit.

<sup>14</sup> S. Kotha, op.cit.

than anywhere else. Thanks to its optimized organization Amazon has a very low cost structure that enabled discounts on books between 10 to 40 percent<sup>15</sup> which was especially appreciated by big readers. Through this low-price selling approach, Amazon surpassed its competitors in less than a decade and has gained a sufficient recognition and savoir-faire to diversify its sales and grow exponentially bigger.

If the department stores' goal was also to sell to a mass, they were not interested in highlighting cheap products even though they sold some. Indeed, where Amazon.com intended to conquest the mass by advertising affordable books, the Grands Magasins adopted the opposite strategy through luxurious exhibitions where "*the bourgeois culture itself was on display*"<sup>16</sup>. More importantly, they innovated in proposing a myriad of different goods to be sold at the same place<sup>17</sup> instead of selling one type of product only as it was typically the case in shops at that time. This profusion of goods created a stimulating environment where anyone, not only bourgeois, could find something to buy regardless their social status and with the same exclusive treatment. By opening the bourgeois art-de-vivre to every eyes and wallets, the department stores initiated a movement that was the beginning of mass consumption.

## B) Enticing the mass, an accessibility question

Amazon and the Grands Magasins were both hung to an indispensable condition to expand: being accessible. This is why they both choose to established themselves on brand-new traffic roads right after their opening.

In the mid-XIXth century, the streets of central Paris had not evolved from the Middle Age and were highly insalubrious<sup>18</sup>. To address this problem, among others<sup>19</sup>, the authorities of the French Second Empire decided to renovate and change the face of the city under the direction of Baron Haussmann. In two decades, the small and dark streets were transformed into majestic "Haussmanniens" boulevards and the flow of people and merchandise in the capital optimized. People had consequently a better access to other neighbourhoods and, most importantly, shops. There is no coincidence that these new axes were chosen to establish the major Parisian Department Stores. The Printemps and the Galleries Lafayettes were founded Boulevard Haussmann, the Bon Marché is rue de Rennes and the Samaritaine on Boulevard des Capucines. These localisation, all the result of Haussmann's work, were both upmarket and accessible from nearly every other neighbourhoods of the French capital. They fitted perfectly the image the department stores needed and these large and straight-lined avenues simplified the coming of the desired mass of clients.

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<sup>15</sup> S. Kotha, op.cit.

<sup>16</sup> M. B. Miller, op. cit

<sup>17</sup> E. D. Rappaport, op. cit.

<sup>18</sup> Florence Bourillon, « *La loi du 13 avril 1850 ou lorsque la Seconde République invente le logement insalubre* », *Revue d'histoire du XIX<sup>e</sup> siècle*, n<sup>os</sup> 20/21, 1<sup>er</sup> juin 2000, p. 117–134

<sup>19</sup> The limitation of popular urpising was also a reason for reorganizing the streets of Paris, as stated in a letter from Haussmann to Persigny in 22 June 1857

Amazon makes no exception to the rule as it is located on today's most accessible avenue from anywhere in the world: the internet. Born in the 1960's in labs funded by the American Department of Defence<sup>20</sup>, internet is a network of interrelated computers communicating that includes today 31 billion devices, is present all around the world<sup>21</sup> and connects 57% of the global population<sup>22</sup>. If Amazon was a physical department store, it will be placed at the intersection of 31 billion streets and half of the planet could enter it 24/7 in less than a second. Eventhough Amazon can receive all of these connexions at once, such an accessibility is without doubt one reason of its success, which reminds the department stores' establishment on the new and accessible avenues one and a half century later.

## II) The client as an individual, keystone of the Universal provider model

To be able to attract a mass, an important organization is required to satisfy every customer composing it. To achieve this goal, Amazon uses very advanced targeting means that could make it appear as an innovator and pioneer in retailing (A). As a matter of fact, the online retailer only translated the department stores techniques into the digital world (B).

### A) Amazon, a *prima facie* innovative targeter

As 40% of Amazon's customers are repeated customers<sup>23</sup>, client loyalty is crucial for Amazon. One of its main success lies in its ability to build a tailor-made environment for every customer to foster such an indispensable loyalty. In 1998, Amazon launched a very powerful algorithm designed to recommend, advertise and highlight items that could interest the customer based on purchases made by clients with a similar profile<sup>24</sup>. Such an impressive adaptation capability originates in the prodigious evolution in mathematics during the XIXth century.

In 1844, the French mathematician Auguste Bravais introduced a concept that will become the basis of the internet economy one and a half century later : correlation<sup>25</sup>. Aiming to quantify the "*connection or relationship between two or more facts*"<sup>26</sup>, this concept found an alternative application to purely scientific purposes when four decades later when the English polymath Francis Galton brought in the idea that correlation coefficient could also be applied to social

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<sup>20</sup> I. Peter, "So, who really did invent the Internet?", The Internet History Project, 2004

<sup>21</sup> G.D. Maayan, *The IoT Rundown For 2020: Stats, Risks, and Solutions*, Security Today, 2020

<sup>22</sup> S. Amsili, F. Maussion, *L'usage d'Internet dans le monde en cinq chiffres*, Les Echos, 2019

<sup>23</sup> S. Kotha, op.cit

<sup>24</sup> Smith, Linden, *Two decades of recommender system at Amazon.com*, IEEE internet computing, 2017

<sup>25</sup> A. Bravais, *Analyse mathématique sur les probabilités des erreurs de situation d'un point*, 1844

<sup>26</sup> « Correlation », *Cambridge dictionary*

sciences<sup>27</sup>. On the basis of Galton's intuition, the English mathematician Karl Pearson develops in 1904 a mathematical model that is still used today : the Pearson Correlation<sup>28</sup>. This formula takes in input two sets with the same number of points, compares them and outputs a number between 0 and 1 (the "coefficient"). The closest the coefficient is to one, the more correlated these sets are. If these sets consist of products ratings by two different clients, it is then possible to assess how "close" these clients are by comparing these ratings. If the coefficient is close enough to 1, it will be relevant to recommend to each of these client a product that was bought by the other one. With 310 millions of clients worldwide in 2016<sup>29</sup>, it is very easy for Amazon to find two customer profiles with a high correlation coefficient.

But Amazon's recommendation abilities go further thanks to one of the most powerful mathematic tools: the matrix. Amazon's matrix is gigantic: each row is a client (310 millions) and each column is a product available on the website (288 millions). Every interaction of a client with an item on the web site is constantly recorded in the matrix whether it has been compared, bought or simply looked at. On the basis on the information stored in this gigantic table, the products displayed to every client is constantly updated to suit him. This tremendous set of computation requires a computer power that only a few actors on the planet can afford. Such a practice, automatized with computers or not, appears to be beyond the primitive studies made by the department stores to know their clients<sup>30</sup>. Amazon might have consequently revolutionized retailing with these techniques.

## B) The targeting of Amazon, a digital application of the Department Stores techniques

If we come back to the fundamentals of commerce, a shop is "*a place where you can buy goods or services*"<sup>31</sup>. Its first aim will then consist of providing something to the client. However, another dimension, more judgmental, comes along: customer experience<sup>32</sup>. It is in the latter that lies on of the major cause of the Department Stores expansion and also the basis of Amazon's recommendation techniques.

The Grands Magasins make us dream. Built to represent "*the bourgeoisie's world*" but making it accessible to anyone<sup>33</sup>, the experiences lived in such a place were way beyond the ones of

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<sup>27</sup> Clauser, Brian E. (2007). "The Life and Labors of Francis Galton: A Review of Four Recent Books About the Father of Behavioral Statistics". *Journal of Educational and Behavioral Statistics*. **32** (4): 440–444.

<sup>28</sup> Pearson, Karl (1904). *On the Theory of Contingency and its Relation to Association and Normal Correlation*.

<sup>29</sup> "Amazon : décryptage du business case en 10 chiffres clés", isa-conso.fr, 2016

<sup>30</sup> L.M. McDermott, *Why People Buy at Department Stores*, 1936

<sup>31</sup> « shop », Cambridge Dictionary, 2020

<sup>32</sup> Verhoef, Peter C.; Lemon, Katherine N.; Parasuraman, A.; Roggeveen, Anne; Tsiros, Michael; Schlesinger, Leonard A., "Customer Experience Creation: Determinants, Dynamics and Management Strategies". *Journal of Retailing. Enhancing the Retail Customer Experience*, 2009

<sup>33</sup> Miller, 1981, op. cit.

regular small shops of the XIXth century. The example of the two Department Store on Boulevard Haussmann in Paris, the Galleries Lafayette and the Printemps, are very revealing of this phenomenon. First, their localisation has granted an access to a formerly inaccessible, wealthy and charming neighbourhood to mass of people for the first time at a time where Paris was socially partitioned into neighbourhoods<sup>34</sup>. Even before entering the shop, going to “Les Galleries” or “au Printemps” had an exclusive aspect. Furthermore, the resources engaged to provide an unforgettable experience to the customer were enormous : 70 000 square-meters, a gigantic Art-Nouveau dome<sup>35</sup>, a colossal Christmas tree in December, and most of all an army of salesperson dedicated to assist the clients. Finally, the display of goods in the shop was not left no chance and was a pillar of the department stores marketing strategy as every items were carefully selected to create an attractive environment and stimulated the sales<sup>36</sup>. The latter technique has been well understood as displaying goods on the web page is the aim of Amazon’s recommendation algorithm.

Amazon has not replicated this strategy of exclusiveness to attract and keep clients as demonstrated in I) A). It did not do so because it simply could not. First, going to Amazon.com is miles away from walking down Chaussée d’Antin or Rue de Sèvres. It takes one second to access it on a relatively small screen, and most of the time this is done from the customer’s home. Nothing seems more accessible. Furthermore, if only expensive items were highlighted on the website, the customer could be discouraged of searching for affordable items and simply think that this website does not contain what it wants. Consequently, Amazon found another way of attracting the client: moving from displaying items that every client want to showing items that each client want. Consequently, the website is transformed into an attractive environment which stimulates the sales as well as the Grands Magasins strategies described above. This extreme personalization takes also the role of one of the Grands Magasins’ cornerstone: vendors. According to the International Standard Classification of Occupations of the International Labour Organization, the salesperson’s job consists of, among other tasks, “*ascertaining nature and quality of the product desired by the customer*” and “*assisting customer in making a choice*”<sup>37</sup>. These two duties are extremely similar with the function of Amazon’s recommendation algorithm described above. It is the simple implementation of a vendor’s duties into the digital world. Entering Amazon is consequently “*as if you walked into a store and the shelves started rearranging themselves, with what you might want moving to the front, and what you’re unlikely to be interested in shuffling further away*”<sup>38</sup>.

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<sup>34</sup> R. Descimon et J. Nagle, « *Les quartiers de Paris du Moyen Âge au XVIII<sup>e</sup> siècle, évolution d'un espace plurifonctionnel* », Annales, Économies, Sociétés, Civilisations, vol. 34, n° 5, 1979

<sup>35</sup> « *Galleries Lafayette. Dans les coulisses d'une machine à vendre* », Le Monde Magazine, 19 décembre 2009, p. 29.

<sup>36</sup> T. Kernsom, N. Sahachaisaeree, *Strategic merchandising and effective composition design of window display: a case of large scale department store in Bangkok*, 2019

<sup>37</sup> ISCO CITP5220, « *SHOP SALESPERSONS AND DEMONSTRATORS* »

<sup>38</sup> B. Smith, G. Linden, op. cit.



### III) Two epochs, two customer's needs

Just by looking at the list Amazon's goods and service offer<sup>39</sup> one might think that the extreme diversification of Amazon have surpassed the Universal Provider model (A). This tremendously broad offer is just an actualization of this model to the XXIst century needs. (B).

#### A) The evolution of Amazon, a diversification beyond retailing

Amazon's empire goes today way beyond simple retailing. In 2006 was established Amazon Web Services<sup>40</sup>, a subdivision of Amazon dedicated to the offer of advanced digital services to tech companies. One of its core business, cloud computing, is very revealing of the innovative and extreme diversification of Amazon. This relatively new technology consists of providing a wide range of digital services from website hosting to analytics tools in a decentralized form. The client does not buy a software nor a computer to administrate a website but accesses remotely the ones of Amazon for their personal use. For example, Netflix<sup>41</sup>, the biggest on-demand video streaming service on the planet, do not own any datacenter<sup>42</sup>. All its content is hosted by Amazon. So when a video is viewed on the platform, it actually comes from Amazon's installations and not Netflix's. To make an analogy with a movie theatre, Netflix is the company owning the name of the cinema and in charge of advertising, selecting the programs and selling the tickets. But once in the cinema, everything is handled by Amazon from the seats to the projectors. And Netflix is not Amazon's only client. Amazon Web Service has 34% market share over global cloud computing with a serious step ahead historic IT actors such as Microsoft (11% market share) and IBM (6%). Amazon has therefore shaped itself into an indispensable actor of the web economy, far away from the selling of books.

More interestingly, Amazon extended worldwide in 2016 an on-demand video streaming platform which was created a decade later. With Amazon Prime Video, a direct competitor for Netflix, Amazon is in now charge of the whole movie theatre. Next in order, Amazon made great advancements in algorithmic that encroach on the tech giant's savoir faire. With Alexa, its virtual Artificial Intelligence assistant, Amazon has no reasons to envy Google Assistant or Apple's Siri, two other AI assistants. In addition of seeming to move away from simple retailing, Amazon seems to tend toward a hegemonic model in the tech economy.

This extreme diversification that tends to cover every facet of the economy is at first sight absent from the traditional Universal Provider Model. Eventhough the department stores have increasingly become diversified in their offer<sup>43</sup>, they never reached such a diverseness level. Furthermore, they never moved away from their core business which is retailing. The only profession that were introduced, such as few restaurants or tea rooms or occasional shows<sup>44</sup>, mainly served a social and loyalty purpose as developed above. Therefore, by developing a

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<sup>39</sup> Wikipédia.com , *List of Amazon products and service*

<sup>40</sup> « *Amazon Web Services About Us* », Amazon.com, 2011

<sup>41</sup> « *Study Case Netflix* », Amazon Web Service website

<sup>42</sup> Y. Chavanne, « *Netflix n'a plus de datacenter* », The ICT Journal, 2016

<sup>43</sup> Miller, 1981, op.cit.

<sup>44</sup> Such as the famous Christmas-animated shopping windows at the Galleries Lafayette Boulevard Haussmann in Paris

myriad of non-related-to-retail activities, Amazon seems to have surpassed the Universal Provider model.

## B) Addressing the needs of a time

In modern economic theory, the economy is divided into three main economic sectors<sup>45</sup>. With the industrial revolution arose the second economic sector, consisting of manufacturing industries<sup>46</sup>, in opposition with the primary sector based on agriculture. With the development of information technology came the third sector based on services. Both of these Universal Provider models emerged right after the rise of one of these economic sector with the same ambition to fulfil the entire needs these sector engaged in the society.

With the explosion of urban populations and the soaring industrialization of the mid-XIXth century, the consumption habits from the whole society shifted from utilitarianism to extreme individualization. In West-London, the “squares” made of sumptuous houses identical on the outside are nothing alike on the inside anymore<sup>47</sup>. Goods as luxuriant as diverse took possession of these bourgeois homes and this trend is gradually expanding to the lowest classes of the population. These furnishings were supplied by the department store which, by proposing a myriad of novelties, tended toward the catering of the totality of the needs of the late XIXth century society. Where the traditional stores simply addressed Maslow’s “basic needs”<sup>48</sup> of the population, the department stores satisfied the entire needs of Maslow’s Pyramid. The belongingness and love need was fulfilled in the social dimension brought by these stores through their tea rooms and restaurants. The esteem need was addressed by the prestige given to the client through the high-class dimension of these stores, their luxurious environment and the irreproachable service. Finally, the self-fulfilment need was accomplished by the possibility to find goods, among many others, that are not common and will express the personality of the one buying them.

But during the XXth century the needs and the society have drastically changed with the emergence of the service sector of the economy. Customer do not only consume food, clothes or material goods anymore but also immaterial services. Communications, storage and even entertainment are massively consumed through non-material forms that Amazon has succeeded in anticipating. By positioning itself skilfully on the cloud service sector, Amazon is today able to satisfy both material and nonmaterial demand from its customers. Moreover, private individuals are not the only ones having needs for these services. If during the XIXth century the private companies’ needs concerned mainly raw materials like coal that the department stores could not provide, the situation has changed throughout the XXth century. Amazon is able provide to any company the raw materials on the XXIst century: storage and

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<sup>45</sup> M. Rosenberg, *Sectors of the economy*, 2017

<sup>46</sup> Definition of Secondary Sector, French National Agency for Statistics

<sup>47</sup> F. Wilner, *Trois villes à la conquête du monde : Amsterdam, Londres, New York*, Arte (documentary)

<sup>48</sup> Physiological needs and safety needs according to Maslow’s hierarchy of needs, see A.H.Maslow, “A theory of human motivation”, 1943, *Psychological Review*.

computing power. The online-retailer has therefore never trespassed the boundaries of its universal provider role, it is the boundaries of the demand that have expanded.

## Conclusion

Despite the fact that both Amazon and the Department Stores are offering a large amount of goods to their customers, they seem very distant from each other. Whereas the Department Stores welcome their customers in luxury buildings, Amazon sells his goods directly from their living rooms. Amazon also proposes tremendous amounts of goods and services with no link to retailing absent from the Grands Magasins offer. In a word, Amazon seems to have outperformed the Grands Magasins. However, these two entities have more in common in their inner structure and relation to customers than it might appear at first sight.

First, both of these model is based on the same overall strategy: targeting the mass. Their infrastructure and cost-reduction methods are designed to contempt the larger amount of customer as possible. To achieve this goal, they use a common method. Amazon uses recommendation techniques that are based on outstanding technological advancements. They are in fact the simple digital implementation of the accompaniment of clients by vendors from department stores: highlighting desired products and accompanying the customer in its choices to make the most suitable purchase among the myriad of goods. Finally, the deep diversification operated by Amazon at the beginning the XXIst century is not unrelated to the Universal Provider model. The times have changed, the needs and demand have changed, but the desire to provide the client a solution to all of these is the same for Amazon and the department stores. Amazon is the XXIst century department store.

## References

Amazon 2019 Annual Report

S. Kotha, *Competing on the Internet: The Case of Amazon.com*, European Management Journal Vol. 16, No. 2, pp. 212–222, 1998

Streitfeld, David; Kantor, Jodi (August 17, 2015). "Jeff Bezos and Amazon Employees Join Debate Over Its Culture". *The New York Times*.

M. B. Miller, *The Bon Marché – Bourgeois culture and the Department Store 1969-1920*, 1981

E. D. Rappaport, *Shopping for Pleasure: Women in the Making of London's West End*, 2000

Lambert, Richard S., *The Universal Provider: A Study of William Whiteley and the Rise of the London Department Store*, London, George Harrap & Co., 1938

F. Caron , *Les Deux Révolutions industrielles du XX<sup>e</sup> siècle*, Paris, Albin Michel, 1997

B. Jacomy, *Une histoire des techniques*, 1990

G. Schmoller, *History of German Small Businesses in the 19th Century*, 1870

N. Rattner, A. Palmer, *This map shows how Amazon's warehouses are rapidly expanding across the country*, CNBC, 2020

Florence Bourillon, « *La loi du 13 avril 1850 ou lorsque la Seconde République invente le logement insalubre* », *Revue d'histoire du XIX<sup>e</sup> siècle*, n<sup>os</sup> 20/21, 1<sup>er</sup> juin 2000, p. 117–134

Lette de Haussmann à Persigny du 22 Juin 1857

I. Peter, "So, who really did invent the Internet?", The Internet History Project, 2004

G.D. Maayan, *The IoT Rundown For 2020: Stats, Risks, and Solutions*, Security Today, 2020

L.M. McDermott, *Why People Buy at Department Stores*, 1936

S. Amsili, F. Maussion, *L'usage d'Internet dans le monde en cinq chiffres*, Les Echos, 2019

Smith, Linden, *Two decades of recommender system at Amazon.com*, IEEE internet computing, 2017

A. Bravais, *Analyse mathématique sur les probabilités des erreurs de situation d'un point*, 1844

Clauser, Brian E. (2007). "The Life and Labors of Francis Galton: A Review of Four Recent Books About the Father of Behavioral Statistics". *Journal of Educational and Behavioral Statistics*

Pearson, Karl (1904). *On the Theory of Contingency and its Relation to Association and Normal Correlation*.

"Amazon : décryptage du business case en 10 chiffres clés", lsa-conso.fr, 2016

Verhoef, Peter C.; Lemon, Katherine N.; Parasuraman, A.; Roggeveen, Anne; Tsiros, Michael; Schlesinger, Leonard A., "Customer Experience Creation: Determinants, Dynamics and Management Strategies". *Journal of Retailing. Enhancing the Retail Customer Experience*, 2009

R. Descimon et J. Nagle, « *Les quartiers de Paris du Moyen Âge au XVIII<sup>e</sup> siècle, évolution d'un espace plurifonctionnel* », *Annales, Économies, Sociétés, Civilisations*, vol. 34, n° 5, 1979

« Galeries Lafayette. Dans les coulisses d'une machine à vendre », *Le Monde Magazine*, 19 décembre 2009, p. 29.

<sup>1</sup> T. Kernsom, N. Sahachaisaeree, *Strategic merchandising and effective composition design of window display: a case of large scale department store in Bangkok*, 2019

<sup>1</sup> ISCO CITP5220, « SHOP SALESPERSONS AND DEMONSTRATORS »

Wikipédia.com , *List of Amazon products and service*

« *Amazon Web Services About Us* », Amazon.com, 2011

« *Study Case Netflix* », Amazon Web Service website

Y. Chavanne, « *Netflix n'a plus de datacenter* », *The ICT Journal*, 2016

<sup>1</sup> M. Rosenberg, *Sectors of the economy*, 2017

F. Wilner, *Trois villes à la conquête du monde : Amsterdam, Londres, New York*, Arte (documentary)

Physiological needs and safety needs according to Maslow's hierarchy of needs, see A.H.Maslow, "A theory of human motivation", 1943, *Psychological Review*.