

REVIEW

E-commerce, artificial intelligence and the pandemic: a new consumer paradigm

E-commerce, inteligencia artificial y pandemia: un nuevo paradigma de consumo

Lucía Aylén Arena Cacciagiú¹, Javier Romero¹

¹Universidad Siglo 21, Licenciatura en Comercialización. Córdoba, Argentina.

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ABSTRACT

Introduction: over the last few years, Argentine consumer behaviour has undergone a significant change driven by technological advances and the COVID-19 pandemic. The growth in smartphone use and high level of connectivity have positioned Argentina as one of the most digitised countries, which has directly affected consumer habits.

Development: a large part of the population began to research and purchase online, increasing the volume and frequency of digital transactions. In 2020, more than one million Argentines made their first online purchase, and e-commerce sales grew by 124 %. The most favoured sectors were technology, food and household goods. In addition, it was noted that 91 % of Argentine consumers were influenced by pre-purchase searches. In this new ecosystem, concepts such as the 'Zero Moment of Truth' (ZMOT) became relevant, as users began their purchasing process with digital research. At the same time, Artificial Intelligence began to play a key role in personalising experiences, improving customer service, streamlining processes and strengthening digital marketing strategies.

Conclusion: Argentine digital consumers established themselves as active, informed and demanding players. Against this backdrop, companies that adopted technologies such as AI, automation and UX were better positioned in the market. This change forced brands to rethink their business models and focus on the user experience as a strategic axis.

Keywords: Digital Consumer; Artificial Intelligence; E-Commerce; User Experience; Pandemic.

RESUMEN

Introducción: durante los últimos años, el comportamiento del consumidor argentino experimentó un cambio significativo impulsado por el avance tecnológico y la pandemia del COVID-19. El crecimiento del uso de smartphones y el alto nivel de conectividad posicionaron a Argentina como uno de los países más digitalizados, lo cual afectó directamente sus hábitos de consumo.

Desarrollo: se observó que una gran parte de la población pasó a investigar y comprar de forma online, aumentando el volumen y la frecuencia de las transacciones digitales. En 2020, más de un millón de argentinos realizaron su primera compra en línea, y las ventas por comercio electrónico crecieron un 124 %. Los rubros más favorecidos fueron tecnología, alimentos y artículos del hogar. Además, se destacó que el 91 % de los consumidores argentinos fue influenciado por búsquedas previas a la compra. En este nuevo ecosistema, conceptos como el "Momento Cero de la Verdad" (ZMOT) cobraron relevancia, dado que el usuario inició su proceso de compra desde la investigación digital. Paralelamente, la Inteligencia Artificial comenzó a desempeñar un papel clave en la personalización de experiencias, mejorando la atención al cliente, agilizando procesos y fortaleciendo las estrategias de marketing digital.

Conclusión: el consumidor digital argentino se consolidó como un actor activo, informado y exigente. Frente a este escenario, las empresas que adoptaron tecnologías como IA, automatización y UX se posicionaron mejor en el mercado. Este cambio obligó a las marcas a repensar sus modelos de negocio y a centrarse en la

experiencia del usuario como eje estratégico.

Palabras clave: Consumidor Digital; Inteligencia Artificial; E-Commerce; Experiencia De Usuario; Pandemia.

INTRODUCTION

Currently, an estimated 32,4 million Argentines own a smartphone;⁽¹⁾ and thanks to a study conducted by We Are Social, we know that Argentina ranks fifth worldwide in connectivity, -people are connected an average of 9 hours and 39 minutes-.⁽²⁾ Thanks to these figures we can conclude that the Argentine consumer spends a large part of his day selecting what to watch, how to watch and when to watch according to what might interest him.

On the other hand, Google states that during 2020 “12 % of Argentine Internet users made their first online purchase and, those who were already buying, today do it more frequently”.⁽³⁾ In a recent study published in February of this year by the Argentine Chamber of Electronic Commerce, it is stated that in Argentina online sales grew 124 % compared to 2020 where a turnover of \$905 143 million pesos is registered.

In the same report, the items that most benefited from e-commerce purchases are mentioned:

1. TV, Smartphone;
2. Food, beverages and cleaning supplies;
3. Household items;
4. Household appliances;
5. Tickets and cars.

Gonzalo Latugaye states that Argentina “became the country that registered the highest growth worldwide, with an annual increase of 79 % in online sales”.⁽⁴⁾

Globally, 51 % of consumers say that they use Google to search for information about a purchase they plan to make online. A 59 % of them consider shopping from their smartphones an important factor when deciding on a brand or supplier. Internet influences the purchase decision of Argentines, “7 out of 10 research online before making a purchase and 91 % consider that their final purchase was influenced by previous online research”.⁽⁵⁾ In turn, 51 % use brand websites for information, and 76 % of users trust them even though it is not their main source of information, the study states that it is mainly due to a good previous experience according to 81 %, “the purchase website (65 %), the brand (62 %), the good opinions of buyers (48 %) and the online trust seal (40 %)”.⁽⁶⁾

Transactions are increasing year after year, and the consumer is looking for convenience, and leisure time. Eighty-five percent of Argentines are looking for new ways to streamline their time and 80 % shop online to gain free time. What motivates the Argentine consumer to shop online according to CECE statistics is 75 % effort and energy, 54 % time and 27 % security. Argentine companies are aware of these figures and are adapting to these information tools thanks to the increase in technologies resulting from the pandemic, for example, BBVA has 97 % of queries made by customers through Artificial Intelligence.⁽⁷⁾ 38,2 % of Argentine businessmen use Whatsapp Business as a consultation tool.⁽⁸⁾

Argentina ranks third in implementation and development of Artificial Intelligence in Latin America.⁽⁹⁾ For their part, more than 57 % of Argentine companies in 2020 admitted to be in the experimentation phase of new technology, or adoption with 37 % in some business unit. In other words: more than half of the entrepreneurs are not yet using this potential.⁽¹⁰⁾

KPMG in 2018, predicted in a way, that by 2020 85 % of transactions will be based on artificial intelligence.

⁽¹¹⁾ The curious thing, is that these figures are not far from reality. For the first half of 2020, 60,4 % of Argentine businessmen used Google Ads for their marketing strategies, and 53,3 % have a budget allocated to this tool.

⁽⁸⁾ Nearly 25 % of companies spend time on mobile optimization as one of their main SEO tactics.⁽¹²⁾ Artificial Intelligence collaborates in improving customer service, and streamlines processes that they are no longer interested in performing. Thanks to Machine Learning, the machine participates in the data we generate, arriving at results automatically.⁽¹³⁾ In turn, 68 % of companies use automation in some way to streamline mechanisms.⁽¹²⁾ In fact, thanks to a study conducted by Gatner Survey, it was estimated that the use of artificial intelligence increased by 240 % over 2019. Compared to 2 % in 2017 that used this technology in Argentina.⁽¹⁴⁾ According to the study conducted by Futurum Research12 in 2019, 78 % of companies consider that consumers are not comfortable with the use of artificial intelligence, however, 65 % state that this is not the case. Similarly, companies are investing money based on AI, and bet 53 % on augmented reality.⁽¹⁵⁾ On the other hand, Google in 2018 states that thanks to the use of artificial intelligence, it is possible to predict with 76 % readmission effectiveness from 24 to 48 hs.

A 2019 study estimated that by 2030 thanks to augmented reality, \$1,5 billion will be gained in the global economy.⁽¹⁶⁾

Globally 2020 has been a year with changes, and we have had to adapt as we would have never thought, considering digital shopping as necessary. Thanks to statistical data issued by the Argentine Chamber of Electronic Commerce, we know that 1 284 960 million new buyers have increased, of which have generated a 10 % increase in web banking transactions.

DEVELOPMENT

For history, technology means a change of mentality and paradigm. The world had to adapt to the events of the last decade, and still have to adjust to them, with greater speed, in the area of information technology (ICT) and scientific advances, allowing companies to reduce costs in hardware, software, communication and increased use of Smartphones with the growing use of social networks, has generated a wide range of possibilities at the enterprise level, however not everyone is familiar with them. This last aspect can leave companies behind if they do not update quickly and constantly in various areas, as does the consumer of the 21st century (a new type of customer, more informed, with greater power, who demands transparency from organizations). Through ICT, companies manage to define and develop information processes for their business models, obtaining an advantage in cost reduction and streamlining processes.⁽¹⁷⁾

In the context of pandemic, facing the phenomenon that we are currently experiencing, the “COVID-19”, forces people not to leave their homes and to solve their purchases and problems online, immersing themselves in the virtual and computerized modality, to be able to carry out their chores, jobs, tasks and find a way to “reinvent themselves”. Regardless of age, gender, or race, it affects everyone equally. Because of this, internet sales are booming. As BBVA mentions, online shopping is a phenomenon that can be observed throughout Argentina. “Websites stopped being the main shop window to be the only store open”.⁽¹⁸⁾ Laura Fischer and Josep Espejo⁽¹⁹⁾ propose the term internet marketing as the set of activities that collaborate in satisfying customer needs through this medium; “E-commerce will become an inherent solution”. Consequently: companies must change their business models to position themselves in the new market context, and to be able to endure in their business life hand in hand with the market and the customer.

As mentioned by Schiffman and Kanuk, “online browsing allows consumers to find the best prices for products and services, to participate in auctions of different marketing offers, to bypass distribution points and middlemen, and to buy goods from all over the world at any time of the day”.

In 2011, it changes the traditional scheme studied so far, which only counted three steps: stimulus, purchase and experience. Google includes the concept of “Zero Moment of Truth” that occurs before the consumer decides on a product.⁽²⁰⁾ This new step, introduces the user to use the Internet to search for information about products and brands - “they embark on an adventure of discovery: about a product, a service, a problem or an opportunity”-, and brings with it a paradigm shift that places the informed and educated user at the center.

On the other hand, and following the line of e-commerce and Internet marketing, the concept of user experience (User eXperience or Ux) is incorporated as the process that evaluates interactions between people and products with the aim of offering a quality experience in the use of any system.⁽²¹⁾

From this point of view, perfecting the UX increases the level of consumer satisfaction with the brand and the product. The integration of UX and Artificial Intelligence (AI) -which will be discussed later-, must create a space for interaction between people and technology efficiently, and must adapt the medium through design so that the user can interact with the AI solution in an effective and friendly way.

In view of the above concepts, this paper develops an analysis of the increase in online shopping and investigates determining aspects for the consumer when accessing information, with recent background information, mainly extracted from the Argentine Chamber of Electronic Commerce (CECE) and the Argentine Digital Marketing Association (AMDA), which provides us with information on their official sites.

It is stated that the consumer buying process has changed, due to changes in consumer habits resulting from the pandemic. Kotler and Keller⁽²²⁾, develop a buying process that was previously stipulated by John Dewey in 1910, such process consists of the following 5 steps:

1. Recognition of the problem;
2. Information search;
3. Evaluation of Alternatives;
4. Purchase decision;
5. Post-purchase behavior.

As stated by the consulting firm Deloitte, “Many of the assumptions and hypotheses on which our business models are based have been broken”. From this perspective, the proposed model is partially obsolete and in need of changes to new technologies. McKinsey raises a new model that happens in a circular way:⁽¹²⁾

1. Initial consideration;
2. Active Evaluation;
3. Timing of purchase;
4. Post-purchase experience.

From this point on, emphasis is placed on the first two steps. Starting with a brief definition of both processes to then compare them and obtain a better understanding of the subject.

Kotler and Keller⁽²²⁾ define problem recognition as follows: “The buying process is initiated when the buyer recognizes the presence of a problem or need as a consequence of a series of internal or external stimuli”.

On the other hand, McKinsey, considers the first step as an “initial consideration” of the subject, who limits his need or desire, based on the number of exposures or recommendations of his peers (Martha Madero, 2017).

Comparatively and at first glance, the recognition of the problem and the initial consideration, are similar, being in both the moment in which the consumer recognizes that he has a need, a desire or a problem, an internal process that each customer goes through. The difference lies in how the consumer investigates and ends up discovering this state of recognition. The buyer is driven to recognize the need based on the information that is permanently manifested to him, being the external influence that is exposed in the digital context of the Internet. The consumer is inevitably attracted (attraction) to certain brands or products thanks to the constant contact with multiple screens, through techniques such as content marketing, SEO (Search Engine Optimization), network marketing, among others. This concept is defined as inbound marketing, which consists of two stages: attraction, already mentioned, and automation, which “would be the conversion of that user into a record (lead) and its preparation to receive an offer of a commercial nature”.⁽²³⁾ On the other hand, there is the stimulus, which enters into awareness with the environment to trigger the decision-making process.⁽²²⁾ In this way the medium becomes a trigger of concepts and information leaving the consumer to receive and interpret such stimuli.

The second step proposed by McKinsey entitled as active evaluation, Kotler and Keller propose it as information search and evaluation of alternatives, its difference lies in the streamlining of the process in the online environment incorporating two concepts in one. As mentioned by Kotler and Keller⁽²²⁾, most of the information on products and services that consumers receive comes from companies, from commercial sources. In this way, the consumer begins to collect data and learn about features and brands. Through evaluation, the consumer enters a procedure in which he/she develops a set of beliefs about the attributes he/she considers relevant, and about those brands that offer them. With this context in mind, marketers must know how to recognize those attributes that guide consumers in their decision making, define them in a hierarchical manner, with the intention of understanding the competing forces and how these sets are shaped. This process of recognition in a hierarchical way is known as market request; which not only collaborates in understanding the customer in a superficial way, it helps to understand our segment with precision. To go deeper, we take into account concepts proposed by Lecinski.⁽²⁰⁾

Traditionally, there was the model of stimulus, purchase (FMOT, First Moment of Truth or Gondola) and user experience (SMOT or Second Moment of Truth); but Google incorporates the Zero Moment of Truth (ZMOT) due to the need to include in the model the increased use of the Internet in the purchase process. The user uses this tool in order to perform a detailed analysis of his purchase and alternatives, i.e., he searches for information while comparing brands and products, with the aim of obtaining the best purchase decision. As stipulated by Lecinski⁽²⁰⁾, the consumer takes the lead in his own experience by searching for information on the Internet every time he wants or has a need, and immediately, thanks to the reach of any device.⁽²⁰⁾ Faced with the diversity of purchasing possibilities offered to customers at all times, entrepreneurs must analyze and develop more precisely their branding, i.e. corporate identity, because it is decisive to appear in the consumer’s alternatives. According to Lecinski⁽²⁰⁾, the search for information is a critical process in the final decision making process in the online environment, since this is where the consumer becomes aware of those relevant attributes, and it will be the company who must appear in those options to achieve success.

It is in this way, that the consumer leaves aside his passive behavior, and begins to appear a new actor to consider, an active consumer that must be taken into account when establishing marketing strategies. Communication is no longer unidirectional and bidirectional, but multidirectional. The consumer becomes a prosumer;⁽²⁴⁾ an actor who participates, debates and gives his opinion on the network, expresses his point of view and his interactions with the world, both for other consumers and for the Internet itself, which recognizes these actions for the future. “What used to be a message is now an interaction”.⁽²⁰⁾ In this way, it is possible to group according to their lifestyles, the characteristics that influence their buying process, consumption habits, and in this context, entrepreneurs must begin to consider that traditional segmentation is no longer viable, and hypersegmentation is the new future. For this reason, personalization is key; the greater the variety, the greater the personalization.

The Internet is no longer just a place to search for prices, it is a tool to solve problems. The consumer is permanently leaving a digital footprint with every purchase digital footprint in every purchase, the photos we post on social networks, places we visit, or any other action. Google, the main search engine worldwide, social networks, recognize this data to facilitate and provide us with the ability to acquire information and solve problems, through algorithms and Big Data that will be analyzed in more detail later. The main search tool is commercial sources, those that come through advertising and web pages.⁽²²⁾ Entrepreneurs can reach

their specific target, be present in the user's alternatives and in their evaluation process, improving their user experience, finding an opportunity in every "Zero Moment of Truth", being the search for information decisive to figure in the consumer's decision making process.

Artificial Intelligence

Artificial Intelligence (AI) is one of the most significant advances of the last 60 years. Following Hugo Banda "Artificial Intelligence comprises the scientific and technological research of intelligent systems." Intelligent systems are deep and permanent learning, thanks to complex algorithms that are able to reason, learn, help simplify and segment information, making it easier for the consumer to search for information.

Artificial Intelligence collaborates in improving customer service, and streamlines processes that they are no longer interested in performing. The information search or active evaluation mentioned in previous paragraphs is developed in less time and in a more agile way with the purpose of saving time to the consumer, discarding data that will not be relevant.

Some applications that use this tool to speed up the decision-making process and improve the customer's online shopping experience are Google (as mentioned above), social networks such as Facebook and Instagram, removing inappropriate and "uninteresting" publications for the consumer, and Mercado Libre and Amazon, which send products and advertisements to the customer before they make the purchase.^(13,25,26,27)

Following Martorell⁽²⁸⁾, the challenges of this discipline are mentioned from the viewpoint of the diverse appreciations that society has. It includes technophiles and technophobes, hopeful and apocalyptic, who are located from a position of an ideal world but with a dystopian, imaginary vision.⁽²⁹⁾

From this point, three main actions that can be improved thanks to the use of Artificial Intelligence are broken down following Irene Pecorino⁽³⁰⁾ and the Asociación Marketing Digital Argentina (AMDAR).⁽⁸⁾ Considering the studies conducted the latter, we describe which are the most used in 2020 in Argentina.

CONCLUSIONS

The analysis carried out shows that the Argentine consumer has undergone a radical transformation in its purchasing behavior, especially as a result of the impact of the pandemic and the sustained advance of digitalization. The digital environment has ceased to be a complementary option to become the main channel for searching, deciding and acquiring products and services. This evolution is strongly conditioned by the growth of internet access, the massive use of smartphones and the time dedicated by users to online activities.

The data presented indicate that online shopping has not only grown in terms of volume and frequency, but has also become more sophisticated: consumers research, compare and evaluate their options with more awareness and autonomy. Concepts such as the "Zero Moment of Truth" (ZMOT) reflect this new model, where information is key and where the user experience becomes a competitive differentiator.

In this new scenario, Artificial Intelligence plays a central role. Its incorporation by Argentine companies has not only optimized customer service, but has also made it possible to speed up processes, predict behavior and personalize offers. Although many companies are still in the early stages of technological adoption, there is a growing trend towards the implementation of AI and automation-based tools.

Finally, it is clear that companies that understand and adapt to these changes - integrating technology, improving UX and leveraging data - will be better positioned to respond to new market demands and the profile of the 21st century digital consumer.

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AUTHORSHIP CONTRIBUTION

Conceptualization: Lucía Aylén Arena Cacciagiú, Javier Romero.

Data curation: Lucía Aylén Arena Cacciagiú, Javier Romero.

Formal analysis: Lucía Aylén Arena Cacciagiú, Javier Romero.

Research: Lucía Aylén Arena Cacciagiú, Javier Romero.

Methodology: Lucía Aylén Arena Cacciagiú, Javier Romero.

Project Management: Lucía Aylén Arena Cacciagiú, Javier Romero.

Resources: Lucía Aylén Arena Cacciagiú, Javier Romero.

Software: Lucía Aylén Arena Cacciagiú, Javier Romero.

Supervision: Lucía Aylén Arena Cacciagiú, Javier Romero.

Validation: Lucía Aylén Arena Cacciagiú, Javier Romero.

Visualization: Lucía Aylén Arena Cacciagiú, Javier Romero.

Writing - original draft: Lucía Aylén Arena Cacciagiú, Javier Romero.

Writing - proofreading and editing: Lucía Aylén Arena Cacciagiú, Javier Romero.