

REVIEW

Impact of E-Commerce on Business Competitiveness and Customer Satisfaction

Impacto del Comercio Electrónico en la Competitividad Empresarial y la Satisfacción del Cliente

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ABSTRACT

Introduction: the study analyzed how e-commerce transformed business models at the global, regional, and national levels, driven by globalization, the internet, and recent socioeconomic changes.

It highlighted that, during 2020, e-commerce grew significantly in all regions, with Latin America being one of the most dynamic, and that in Peru the sector experienced a notable increase, with 55 % growth compared to the previous year.

Development: international, national, and local research was reviewed, demonstrating the positive relationship between e-commerce and variables such as customer satisfaction, profitability, and business performance. Among the findings, it was evident that the proper adoption of e-commerce offered positive experiences for consumers and strategic benefits for businesses. The theoretical framework addressed e-commerce concepts, advantages and disadvantages, business models, and the agile SCRUM methodology, along with key dimensions such as content, virtual store design, and purchase security. Factors associated with purchase satisfaction, such as product search, promotion, and the purchase process, were also included.

Conclusion: e-commerce has established itself as a strategic tool for increasing business competitiveness, improving customer experience, and expanding market reach. In Peru, its expansion represented an opportunity for innovation, although challenges related to security, logistics, and differentiation persisted. The application of methodologies such as SCRUM and the efficient management of e-commerce dimensions were presented as keys to sustainable growth.

Keywords: E-Commerce; Customer Satisfaction; Profitability; SCRUM Methodology; Digital Transformation.

RESUMEN

Introducción: el estudio analizó cómo el comercio electrónico transformó los modelos de negocio a nivel global, regional y nacional, impulsado por la globalización, el internet y los cambios socioeconómicos recientes. Se destacó que, durante 2020, el e-commerce creció de forma significativa en todas las regiones, siendo América Latina una de las más dinámicas, y que en el Perú el sector experimentó un incremento notable, con un 55 % de crecimiento respecto al año anterior.

Desarrollo: se revisaron investigaciones internacionales, nacionales y locales que demostraron la relación positiva entre el comercio electrónico y variables como la satisfacción del cliente, la rentabilidad y el desempeño empresarial. Entre los hallazgos, se evidenció que la adopción adecuada del e-commerce ofreció experiencias positivas a los consumidores y beneficios estratégicos para las empresas. El marco teórico abordó conceptos de e-commerce, ventajas y desventajas, modelos de negocio y la metodología ágil SCRUM, junto con dimensiones clave como contenido, diseño de tiendas virtuales y seguridad en las compras. También se incluyeron factores asociados a la satisfacción de compra, tales como la búsqueda de productos, la

promoción y el proceso de compra.

Conclusión: el comercio electrónico se consolidó como una herramienta estratégica para incrementar la competitividad empresarial, mejorar la experiencia del cliente y ampliar el alcance de mercado. En el Perú, su expansión representó una oportunidad para innovar, aunque persistieron retos relacionados con la seguridad, la logística y la diferenciación. La aplicación de metodologías como SCRUM y la gestión eficiente de las dimensiones del e-commerce se presentaron como claves para un crecimiento sostenible.

Palabras clave: Comercio Electrónico; Satisfacción del Cliente; Rentabilidad; Metodología SCRUM; Transformación Digital.

INTRODUCTION

In recent years, market and business trends have led to a series of global changes in the economic, social, political, cultural, and technological spheres, with the internet being one of the many technologies that have transformed people's purchasing behavior.⁽¹⁾ Likewise, globalization and its seriousness in conducting trade have advanced the emergence and improvement of e-commerce, which is impacting the approach to the sale and purchase of products and services through the web.⁽²⁾ In this sense, e-commerce is progressively creating better productivity in associations around the world, due to the different advantages it offers.⁽³⁾

Globally, e-commerce grew by 27,6 % during 2020. This growth was initially projected to be only 16,5 %, but ended up being much more positive. In the United States, revenue generated by e-commerce reached \$431 billion in 2020, with a projected growth to \$563 billion by 2025. In addition, in the e-commerce market, the number of users by 2025 is expected to reach 4 billion people.⁽⁴⁾

In Latin America, growth was 36,7 %. This is an encouraging scenario compared to the 3,4 % drop in traditional sales. Furthermore, Latin America is currently the most attractive market for local and international online stores willing to take advantage of a market where commerce is expected to grow by 30 % each year until 2025. In Brazil, online sales grew 75 % year-on-year in 2020, making it the largest market in Latin America. The Brazilian e-commerce association reported 68 % growth in 2020 to around 126 billion reais. Meanwhile, in Mexico, e-commerce generated nearly 316 billion pesos in 2020, representing annual growth of 81 % and accounting for 9 % of total retail sales.⁽⁵⁾

At the national level, the technology sector is growing rapidly, highlighting an apparent contrast with the multitude of areas that are developing in the long term.⁽⁶⁾ The business sector has always been one of the biggest beneficiaries of these advances, and today, in Peru, organizations seeking to be more competitive end up in a cycle of continuous improvement linked to innovation and development, which in turn leads to improvements in the products and services they offer. As a result, the country's e-commerce industry grew by 55 % compared to 2020, generating US\$ 9,3 billion. Furthermore, e-commerce continues to grow, a trend that has continued into 2021. Overall, there has been an increase of more than 55 %, driven by purchases through digital wallets. This means that many Peruvians began shopping online for the first time. According to the trade association, by the end of 2021, 41,8 % of Peruvians (13,9 million) had made purchases through this channel.⁽⁷⁾

DEVELOPMENT

Background to the research

International

Salas et al.⁽⁸⁾, in their scientific article entitled "Intention, attitude, and actual use of e-commerce." Scientific article. The objective was to analyze consumer behavior by observing the relationship between attitude, composed of benefits and degree of complexity, and acceptance of e-commerce: a quantitative study, basic type, and non-experimental design. The sample consisted of 450 customers. They applied a survey as a technique and a questionnaire as an instrument. They concluded that perceived benefits and degree of complexity have a high impact on the individual's attitude and its influence on the intention to use the Internet as a means of purchase.

Taufik et al. in their research entitled "The adoption of e-commerce by SMEs towards the consumer experience." Scientific article. *Gestión y Desarrollo Libre* magazine. Their objective was to analyze e-commerce as a process of purchasing, selling, moving, and managing data via the Internet. The study was fundamental, quantitative, and non-experimental in design. The study sample consisted of 205 customers. They used a survey as a technique and a questionnaire as an instrument. They concluded that e-commerce suitable for adoption can provide an impressive experience for consumers who have made transactions on SME e-commerce websites.

National

De la Vega and Mancilla⁽⁹⁾ in their research entitled "Relationship between e-commerce and customer

satisfaction in a retail store in the district of Puente Piedra 2021.” Universidad Privada del Norte. Lima. Their objective was to determine whether an online business is connected to consumer loyalty in a retail store. The study was basic, with a relational scope, a quantitative approach, and a non-experimental cross-sectional design. The study sample consisted of 120 citizens from the district. The authors applied the survey technique and used a questionnaire as their instrument. They concluded that e-commerce was indeed related to customer satisfaction, with a Pearson’s r of 0,744.

Palomino et al.⁽¹⁰⁾ in their article “E-commerce and its importance in times of COVID-19 in northern Peru.” Scientific article. Venezuelan Management Journal. Their objective was to recognize the impact of the coronavirus on the momentum of online shopping among residents of northern Peru. The study was basic, with a relational scope and a non-experimental design. The sample consisted of 3 193 people. The technique applied was a survey, and the instrument used was a questionnaire. They concluded that e-commerce was an alternative purchasing model that was promoted and accepted by people, making it a successful means of profitability for companies.

Curo and De La Cruz⁽¹¹⁾ in their research “Impact of e-commerce on the performance of agro-exports in the Central Region of Peru.” Scientific article. Acta Logistica. Their objective was to evaluate whether e-commerce was related to the performance of agro-exports in the central district of Peru in 2020—quantitative, non-exploratory, cross-sectional, causally related research. Using the study method, two surveys were conducted with 95 agro-exporters. They concluded that the compatibility and ease of use of e-commerce positively influence the performance of communication efficiency in agro-exports, and the perceived usefulness has a positive impact on the performance of distribution efficiency in agro-exports of companies in the central region of Peru.

Local

Ushiñahua and Vásquez in their research entitled “E-commerce and its impact on sales during the pandemic at the company GRUPO HECALIRO JIA, Tarapoto, 2021.” Undergraduate thesis. César Vallejo University. Tarapoto. Their objective was to establish the relationship between e-commerce and sales in the organization. The research was applied, quantitative, deductive, relational in scope, and non-experimental, cross-sectional in design. The total population was 32 company employees. The survey technique was applied, and a questionnaire was used as the instrument. They concluded that e-commerce was related to transactions, as proven by Spearman’s Rho statistic of 0,895.

Chanta and García⁽¹²⁾ in their research entitled “E-commerce in the profitability of the Repuestos Leguía company in times of social distancing, Tarapoto - 2020.” Undergraduate thesis. César Vallejo University. Tarapoto. Their objective was to evaluate the effect of e-commerce on the profits of the Repuestos Leguía organization amid the social distancing measures in Tarapoto in 2020. The study was basic, with a quantitative approach, a non-experimental cross-sectional design, and a relational scope. The total population was 500 customers, while the sample consisted of 196 customers. They used a survey as the technique and a questionnaire as the instrument. Their results show that the e-commerce variable fundamentally affected the company’s profitability.

Theoretical foundations

E-commerce

E-commerce is the exchange of products or services using computer networks, specifically the Internet. E-commerce can be carried out through a variety of applications: email, catalogs and shopping carts, electronic data interchange (EDI), file transfer protocol (FTP), and web services.⁽¹³⁾

These are commercial activities that are supported by programs and servers within the organization, i.e., exchanges are carried out directly on the web. According to Erdmann and Ponzio⁽¹⁴⁾, they are characterized by a broad reach in the acquisition of products through online purchase and sale, alongside traditional cash commerce. Furthermore, for Singh (2019), online businesses allowed companies to keep up with or work on existing ones, enabling modest circulation and brilliant partnerships for their products or services. Finally, Olivo⁽¹⁵⁾ notes that larger retailers with a more robust web-based business benefit from exploiting buyer information, enabling them to plan, ship, and offer new, unique, and premium products, as well as more creative brands.

Advantages of E-commerce

With the use of online businesses, you enjoy specific benefits that help in the development of organizations, as shown below:

- E-commerce enables the organization to offer a wide range of customer support services.
- E-commerce significantly reduces administrative work.
- E-commerce has increased the efficiency of the association.
- Web-based business offers the option of virtual approvals.

- Web-based commerce (e-commerce) gives customers more options to consider and select the best and least expensive option.

Some business cycles will never lend themselves to online business, for example, short-lived food sources and significant expense items that may be difficult to review from a distant location. Consequently, Internet commerce also has drawbacks due to curiosity and the rapid advancement of fundamental innovations.

Disadvantages of E-commerce

According to Akkaya, the most notable disadvantages of web-based businesses are the merchant's inability to sell and the fact that customers do not have the valuable opportunity to see and try the product they want to buy.

E-commerce business models

According to EALDE Business School⁽¹⁶⁾:

Business to consumer: This consists of a commercial contract made over the Internet, in which a consumer visits a company's website and makes a purchase in order to acquire a product or service.

Business-to-business: This refers to a transaction between two companies. Generally, one of the companies needs to purchase products or supplies from the other.

E-business with consumer-to-consumer models: This refers to sales between individual consumers. Individual consumers carry out their commercial transactions through a website in exchange for, usually, a commission on each sale. Consumer to Business

The consumer sets the terms of sale to the companies offering the product or service. M2C and M2B.

These focus on mobile technology. Users and companies connect through mobile Internet environments, increasingly integrating social networks.

SCRUM methodology

Scrum is an agile framework that provides ongoing control over the software's current state. The customer sets the priorities and the SCRUM team self-organizes to discover how to achieve the best results. Scrum prioritizes individuals and interactions over processes and tasks; that is, much of the project's success is based on how the team organizes itself to work, emphasizing team cohesion, since success is not individual, but rather the result of the collaboration of the entire team, who push forward members who are not in tune with the team.⁽¹⁷⁾ Likewise, Scrum uses an incremental approach based on empirical process control theory, which is based on transparency, inspection, and adaptation.

Elements of the SCRUM methodology

Product backlog: This is a prioritized list of requirements or features that must be implemented in the final product. It is managed by the Product Owner.⁽¹⁸⁾

Sprint backlog: This is the list of tasks that the Scrum team commits to completing during a sprint.⁽¹⁹⁾

Increment: This is the part of the product that is delivered at the end of each sprint and is functional.⁽²⁰⁾

Roles: According to Ilimit⁽²¹⁾, the roles are:

- Product Owner: Represents stakeholders and is responsible for the Product Backlog.
- Scrum Master: Facilitates the Scrum process and helps the team follow practices.
- Scrum Team: Responsible for delivering the product increment at the end of each sprint.

Events: According to Ilimit⁽²¹⁾, events are:

- Sprint Planning: Where items from the Product Backlog are selected for the sprint.
- Daily Scrum: A 15-minute daily meeting to coordinate work.
- Sprint Review: Review of the increment with stakeholders.
- Sprint Retrospective: Reflection on the last sprint and how to improve.

Dimensions of E-commerce

The online business variable has the following dimensions: Website promotion, online stores, and purchase security:

Content: The main component of the online business variable is the site content. Web content refers to all textual, audio, or visual resources published on the web platform, including any creative elements such as text, applications, images, data, audio, and video files.⁽²²⁾ Once your site is live, you need to post quality content to engage your target audience and attract the desired amount of traffic, which will enable you to achieve your planned sales objectives.⁽²³⁾

Virtual store design: Design is one of the key aspects of e-commerce, defined as the integration of strategy,

personality, and philosophy, which are key aspects that customers consider relevant when entering the platform. With design, the virtual platform can be tailored to the needs of your customers or potential customers.⁽²⁴⁾ Next is the appearance of online stores. Varela et al. demonstrated that, in a virtual store, the customer's point of connection is created through the site. Therefore, its assumptions must be fulfilled, as they can easily create a certain distance from the competition.

Purchase security: The final dimension is purchase security.⁽²⁵⁾ demonstrated that purchase security plays a crucial role in enhancing buyer confidence online, and that adequate web security draws the buyer's attention, thereby boosting the website's reputation.

Purchase satisfaction: Satisfaction is the measurement of consumers' response to a specific brand's service or product. Ratings serve as a benchmark for improving the service offered and for understanding in detail what customers need.⁽²⁶⁾ In this sense, satisfaction has a lot to do with the shopping experience. It is defined as the sum of the emotions, feelings, and stimuli that a customer experiences in a shopping situation.

Importance of purchase satisfaction: This can have an effect both at the time of purchase and when consuming or using the product at a later date, as well as on loyalty. The shopping experience also encompasses points of sale, with e-commerce playing a significant role. In this case, the shopping experience is the feeling that the Internet user will have when browsing and shopping on your website.⁽²⁷⁾

Dimensions of purchase satisfaction

The following dimensions will be studied:

Product search: This tool, found within e-commerce or electronic sales platforms, offers a customizable series of entries that allow users to personalize their search and locate the desired product.⁽²⁸⁾ Also known as awareness, the customer realizes that they have a need or a problem that needs to be satisfied. In other words, the person finds themselves in a situation of conflict between a state they want to be in and a real state they are in now. Likewise, the potential customer is already aware that they have a problem and begins a process of searching for information to find out how to solve it. In this case, the person will seek information internally and externally, so it will also be essential to know what the determinants of the purchasing process are.^(29,30)

Promotion: Purchase promotion strategies aim to create a sense of opportunity for the customer, encouraging them to buy by increasing the perceived value of the product or service at that moment. It is also known as a marketing strategy that a company uses to generate consumer interest and create demand for its products, services, and offers through short-term campaigns. The author mentions that it is important because it aims to increase the number of purchases in the short term, as well as create customer loyalty and enthusiasm for the brand.^(31,32)

Purchasing process: The purchasing process is defined as the path a customer takes until they make a purchase, also known as the customer's journey to buy the product or contract the service. This process is important because it allows for an increase or decrease in customer satisfaction with the company, whereby the customer may choose to continue consuming with the company or leave for another where they may find greater satisfaction.⁽³³⁾

Definition of terms

Customer: Any individual or legal entity that purchases a product or receives a service and maintains a commercial relationship with the company.⁽³⁴⁾

Information: A set of data, ready and cited for understanding, that provides new information to an individual or framework on a particular topic, subject, issue, or element.⁽³⁵⁾

Product: A set of attributes that the consumer considers a particular good to have in order to satisfy their needs or desires.⁽³⁶⁾

Safety: Security is characterized as the absence of risk, harm, or danger.⁽³⁷⁾

Website: A collection of web pages that are grouped together and usually connected in various ways.⁽³⁸⁾

System: A set of parts or components (subsystems) connected through a chain of exercises that attempt to achieve a common goal.⁽³⁹⁾

CONCLUSION

The analysis shows that e-commerce has become a key part of how businesses are changing around the world, in regions, and countries. The rapid adoption of e-commerce, driven by globalization, technological advances, and, in particular, the conditions created during the COVID-19 pandemic, has had a significant impact on how companies interact with consumers, optimize their processes, and expand their market reach.

The studies reviewed, both international and national, agree that the proper implementation of e-commerce not only increases profitability but also strengthens customer satisfaction and loyalty, key factors for competitiveness in dynamic environments. Likewise, it is highlighted that the shopping experience, transaction security, the design of virtual stores, and strategies such as "promotion, and personalization directly influence

consumer perception and purchasing decisions.

In the Peruvian context, the remarkable growth of the sector reflects the opportunity for companies to innovate their processes and adapt to an increasingly digitized market. However, it is also recognized that e-commerce presents challenges, such as the need to ensure high security standards, efficient logistics, and a differentiated value proposition. In this regard, the integration of agile methodologies such as SCRUM and the proper management of the dimensions of e-commerce are emerging as essential strategies for sustaining sustainable and competitive growth over time.

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