

E-commerce as a driver of craftsmanship in native peruvian communities

El comercio electrónico como motor de la artesanía en comunidades nativas peruanas

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ABSTRACT

In recent decades, e-commerce has established itself as a key transformation of the global economic landscape, driven by technological advances and growing digital connectivity. This modality has revitalised local economies and revalued traditionally marginalised sectors, such as handicrafts. Research in Portugal has shown that UX/UI design on digital platforms has facilitated the revitalisation of handicrafts. In France, the pandemic accelerated the digitisation of the sector, while in Thailand, an e-commerce system was developed to preserve traditional crafts. In Peru, studies in Cusco confirmed the influence of e-commerce on purchasing behaviour, and in Tarapoto, the implementation of the ODOO ERP system improved sales, customer portfolio and process efficiency. The theoretical framework addressed e-commerce concepts and models (B2C, B2B, C2C, among others), types of platforms and their advantages and disadvantages. User-centred design (UCD) and the ISO 13407 standard were also highlighted as approaches to ensure solutions tailored to the needs of artisans and consumers. Marketing was presented as a comprehensive process that includes prospecting, presenting the offer and building customer loyalty. In the Peruvian context, the limited application of e-commerce in indigenous communities such as the Shawi was highlighted, representing a strategic opportunity to integrate cultural tradition and the global market. The research concluded that e-commerce, when implemented in a planned and participatory manner, not only boosts sales and economic development, but also strengthens cultural preservation and the international projection of artisanal heritage.

Keywords: E-Commerce; Crafts; User-Centred Design; Indigenous Communities; Cultural Preservation.

RESUMEN

En las últimas décadas, el comercio electrónico se consolidó como una transformación clave del panorama económico global, impulsada por los avances tecnológicos y la creciente conectividad digital. Esta modalidad permitió dinamizar economías locales y revalorizar sectores tradicionalmente marginados, como la artesanía. Investigaciones en Portugal evidenciaron que el diseño UX/UI en plataformas digitales facilitó la revitalización artesanal. En Francia, se observó cómo la pandemia aceleró la digitalización del sector, mientras que en Tailandia se desarrolló un sistema de e-commerce para preservar artesanías tradicionales. En Perú, estudios en Cusco confirmaron la influencia del comercio electrónico en el comportamiento de compra, y en Tarapoto, la implementación del sistema ODOO ERP mejoró ventas, cartera de clientes y eficiencia de procesos. El marco teórico abordó conceptos y modelos de comercio electrónico (B2C, B2B, C2C, entre otros), tipologías de plataformas y sus ventajas y desventajas. También se destacó el Diseño Centrado en el Usuario (DCU) y el estándar ISO 13407 como enfoques para garantizar soluciones adaptadas a las necesidades de los artesanos y consumidores. La comercialización se presentó como un proceso integral que incluye prospección, presentación de la oferta y fidelización de clientes. En el contexto peruano, se subrayó la escasa aplicación del comercio electrónico en comunidades nativas como los Shawi, lo que representa una oportunidad estratégica para integrar tradición cultural y mercado global. La investigación concluyó que el e-commerce, cuando se implementa de forma planificada y participativa, no solo impulsa ventas y desarrollo económico, sino que también fortalece la preservación cultural y la proyección internacional del patrimonio artesanal.

Palabras clave: Comercio Electrónico; Artesanía; Diseño Centrado en el Usuario; Comunidades Nativas; Preservación Cultural.

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INTRODUCTION

E-commerce has emerged as one of the most significant transformations in the global economic landscape, redefining the dynamics of production, distribution, and consumption. This evolution has been driven by rapid technological advances, growing digital connectivity, and the need to adapt business processes to an increasingly globalized and interconnected market. Within this context, multiple studies have highlighted its potential not only as an engine of economic growth, but also as a strategic tool for the revaluation and sustainability of productive sectors traditionally marginalized from the digital economy, including crafts.

Craftsmanship, understood as a cultural and productive expression deeply linked to the identity of communities and territories, faces significant challenges in the face of industrial standardization and global competition. However, its incorporation into the dynamics of e-commerce has proven to be a catalyst for expanding markets, preserving traditions, and generating economic opportunities. Research carried out in different geographical contexts, such as Portugal, France, Thailand, Peru, and specific cities such as Tarapoto and Cusco, shows how the adoption of digital platforms and user-centered design strategies not only increases sales management efficiency but also strengthens the link between producers and consumers.

This phenomenon must also be analyzed from a comprehensive perspective, combining theoretical foundations on e-commerce, platform models and typologies, inherent advantages and limitations, as well as methodological approaches such as user-centered design and international standards such as ISO 13407. At the same time, it is important to consider the role of marketing and its impact on the value of artisanal products, as well as the cultural and economic relevance of producer communities, particularly indigenous communities in Peru, such as the Shawi people. This research is therefore part of a framework that combines technological innovation, cultural preservation, and economic development to provide evidence and proposals applicable to the handicraft trade in the national context.

DEVELOPMENT

Background

In Portugal, Martins et al.⁽¹⁾ aimed to demonstrate how the process of designing an e-commerce platform, throughout its different phases, can contribute to the revitalization of traditional craft industries. The methodologies they adopted consisted of studying best practices in UX and UI design, including wireframe design, user flows, persona definition, prototype development, and style guides. Among their results, usability tests carried out on the prototype allowed for a gradual improvement of the solution, culminating in confirmation of its effectiveness. They concluded that digital technology, i.e., an e-commerce solution, could bring buyers and sellers closer together, thus being a tool with great potential for the dissemination and sustainability of the craft industry.

In France, Ithurbide et al.⁽²⁾ discussed the extent to which the pandemic has strengthened the use of digital platforms and accelerated specific reconfiguration processes within the craft industry. E-commerce platforms have recently been investing in this sector, from local entrepreneurs' initiatives and government interventions to large e-commerce platforms, attempting to adapt labor dynamics in a largely informal and precarious

sector, changes in platform strategies, and how the pandemic may have reinforced processes of dependence on certain digital actors. They concluded that the revolutionary and emancipatory potential of digital technologies must be confronted with fieldwork analysis and ethnographic methodology. At the same time, ongoing changes must be put into perspective within a political economy approach to understand their integration into broader dynamics better.

In Thailand, Mutchima et al.⁽³⁾ proposed developing an e-commerce system for traditional Thai handicrafts. The research instruments used for data collection were in-depth interviews and questionnaires. The main results reported were: 1) The content of traditional Thai handicrafts that were registered as national cultural heritage in 2009-2015 and that can become a creative economy consists of the year of registration, history, production, production area, special characteristics or identity, value, and utility; 2) The e-commerce system developed divides the work into four groups: non-member users, buyers, sellers, and administrators to support the comprehensive work. They concluded that the e-commerce system is considered a way to help preserve Thailand's traditional crafts so that they can remain in Thai society.

In Peru, Ojeda et al.⁽⁴⁾ examined the relationship between e-commerce and consumer behavior, investigating individuals of both genders, aged between 18 and 60, residing in the city of Cusco. The results revealed that 91,1 % of the sample made online purchases, while 75 % were aware of e-commerce. This suggests that new technologies and the digital environment directly influence the purchasing decisions of Cusco consumers, as they offer a more attractive experience. This behavior change when purchasing products and services through online platforms is a phenomenon that must be appropriately interpreted. They concluded that there is a significant relationship between e-commerce and consumer behavior in the city of Cusco, given that the significance value of 0,000 was less than 0,05 and that Spearman's Rho coefficient has a value of 0,549.

In Tarapoto, García Casaverde aimed to evaluate the impacts of introducing the ODOO ERP e-commerce system on sales management at JP Inversiones. To do this, they used applied research and a pre-experimental design. The population considered was composed of the various processes related to sales management, while the sample included all of these processes, with a total of eight sales management processes. To collect data, they used a questionnaire and an observation guide as instruments. The results showed the successful implementation of an ODOO E-commerce ERP, following the IPEE methodology and respecting its fundamental stages: initiation, planning, execution, and evaluation. The adoption of the technology increased sales by 37,5 %, increased the customer base by 40,0 %, and led to substantial improvements in process efficiency, with an average reduction in times of 62,80 %. They concluded that the adoption of ODOO ERP E-commerce had a significant impact on JP Inversiones' sales management.

The background information shows the positive impact of incorporating e-commerce on product sales in different sectors. In the case of Ecuador, very little research has been done on its use for the handicraft trade, a need that this project addresses.

Theoretical foundations

E-commerce

E-commerce refers to commercial transactions carried out

through electronic means, mainly the internet. In other words, it involves the purchase and sale of goods, services, or information through digital platforms and computer networks. This concept encompasses a wide range of commercial activities, including online retail, business-to-business (B2B) trading, direct sales to consumers (B2C), and other modalities.

E-commerce has experienced significant growth due to technological advances and the increasing penetration of the internet into everyday life. Online transactions can be carried out through websites, mobile applications, social networks, or other digital platforms. This type of commerce makes it easier for consumers to make purchases from the comfort of their homes. It provides businesses with a global reach, in many cases eliminating geographical restrictions.

E-commerce involves aspects such as transaction security, consumer privacy, delivery logistics, and user experience in digital environments. Its impact ranges from small businesses to large companies, transforming the way commercial transactions are carried out and managed in the digital age.

E-commerce models

E-commerce models refer to the various ways in which commercial transactions are carried out in digital environments. The models describe the interaction between buyers and sellers, as well as the dynamics of the transaction. Below are some standard e-commerce models:⁽⁵⁾

Business to Consumer (B2C): In this model, transactions occur directly between a company and individual consumers. It is the most familiar type of e-commerce and encompasses most online retail activities.

Business to Business (B2B): Here, transactions are carried out between two companies. This model is used for the purchase and sale of products or services between companies, such as the acquisition of supplies by a manufacturer.

Consumer to Consumer (C2C): In the C2C model, consumers conduct transactions directly with each other. Online marketplace platforms, such as eBay, are examples of this model, where consumers can sell products directly to other consumers.

Consumer to Business (C2B): In this case, consumers offer products or services to businesses. A typical example is influencer marketing, where influential consumers offer their promotional services to businesses.

Business to Administration (B2A): This model involves transactions between businesses and government entities. It can include services such as online tax filing and electronic government tenders, among others.

Consumer to Administration (C2A): In the C2A model, consumers conduct transactions with government entities. Examples include online tax payments, license renewals, and other electronic government services.

Peer to Peer (P2P): Similar to the C2C model, P2P involves direct transactions between peers, but in a broader context. Cryptocurrencies and exchanges between individuals are examples of this model.

Mobile Commerce (m-commerce): This model involves transactions made through mobile devices, such as smartphones and tablets. Shopping apps and online transactions via mobile devices are examples of m-commerce.

Types of E-Commerce Platforms

There are several types of e-commerce platforms designed to

meet different needs and business models. Below are some types of e-commerce platforms:⁽⁶⁾

a) **Online store platforms:** These are the most common platforms, ranging from solutions for small businesses to large retailers. Examples include Shopify, WooCommerce (for WordPress), and Magento.

b) **Marketplace platforms:** These facilitate connections between buyers and sellers in an online environment. Some of the best-known are Amazon, eBay, and Etsy, which allow multiple sellers to offer their products in one place.

c) **Online auction platforms:** These allow users to bid on products and services. Examples include eBay, where users compete with each other to get the best price in an online auction.

d) **Social commerce platforms:** These integrate e-commerce features into social media. Facebook Marketplace is a prominent example, allowing users to buy and sell products directly through the platform.

e) **Dropshipping platforms:** These platforms allow sellers to offer products without having to maintain inventory. Shopify and Oberlo are popular examples for starting a dropshipping business.

f) **Omnichannel e-commerce platforms:** These enable a seamless shopping experience across multiple channels, such as physical stores, websites, and mobile devices. Salesforce Commerce Cloud is an example that unifies the customer experience across multiple touchpoints.

Advantages and disadvantages of e-commerce

Based on the work of Niranjnamurthy et al.⁽⁷⁾ and Taher⁽⁸⁾, the following advantages of e-commerce have been identified:

- **Global reach:** It allows you to reach customers worldwide, eliminating geographical barriers and significantly expanding the potential market.
- **24/7 access:** It offers constant availability, allowing customers to make purchases at any time of the day, providing flexibility and convenience.
- **Reduced operating costs:** Can reduce costs associated with operating a physical store, such as rent, staff, and overhead.
- **Data analysis:** Provides detailed data on customer behavior, facilitating decision-making based on concrete information.
- **Personalization and segmentation:** Allows for personalization of the customer experience and audience segmentation to offer more relevant products and services.
- **Greater competitiveness:** Allows small and medium-sized businesses to compete on equal terms with large companies, thanks to online visibility.
- **Fewer barriers to entry:** Facilitates market entry for new entrepreneurs, as it does not require significant investment in physical infrastructure.
- **Ease of price comparison:** Customers can easily compare prices and product features, which encourages competition and benefits the consumer.

Among the disadvantages are:

- **Security and privacy:** Concerns about transaction security and customer data privacy can affect trust in

e-commerce.

- Technological dependence: The need for a robust technological infrastructure can be a barrier for some companies, especially smaller ones.
- Initial costs: Although it can reduce operating costs, the initial implementation of e-commerce platforms requires a significant investment.
- Logistics issues: Managing inventory, shipping, and returns can present logistical challenges, especially for small businesses.
- Dependence on internet connections: The quality and availability of internet connections can affect the user experience and business operations.
- Online fraud: The possibility of online fraud, such as identity theft and the use of fake credit cards, is also considered an ongoing concern.

User-Centered Design

User-centered design (UCD) is a design philosophy and approach that places the end user at the center of the development process, from conception to implementation of a product, service, or system. It is based on the premise that, in order to create successful solutions, it is crucial to thoroughly understand those who will use and benefit from those solutions.

UCD is important in contemporary development. By thoroughly understanding the needs, behaviors, and expectations of users, UCD not only seeks to create aesthetically appealing products and services but also aims to generate solutions that improve people's lives. This user-centric approach not only contributes to customer satisfaction but also reduces errors, friction, and support costs, promoting loyalty and the long-term success of products in the market.

The importance of DCU extends beyond the commercial sphere, having a positive social impact by advocating for inclusion and accessibility. By designing with diversity of abilities and cultural contexts in mind, DCU contributes to the creation of solutions that are truly useful for a wide range of users. Furthermore, this approach promotes innovation, encouraging designers and developers to think creatively and adapt to the constant evolution of user needs and expectations, thus providing more adaptable and sustainable solutions over time.⁽⁹⁾

ISO 13407 Standard

The ISO 13407 standard is a regulation that establishes guidelines for DCU, providing a systematic and structured framework to ensure that the design of products or systems is carried out with adequate consideration of the needs and expectations of end users. This standard focuses on the user experience and covers everything from the conception to the implementation of a product or service.

The four main phases defined by ISO 13407 are:

- a) Contextual understanding: In this phase, the aim is to understand the context in which the product or system will be used. Detailed research is carried out to identify user characteristics, goals, conditions of use, and any other variables that may influence the design. Understanding the context lays the foundation for the rest of the design process.
- b) Requirement specification: In this stage, user requirements are defined and documented. This includes

the functions that the product or system must fulfill, as well as performance criteria, ergonomic factors, and any other specifications that are crucial to effectively meeting user needs.

c) Solution development: Here, various design solutions are generated based on the established requirements. Prototyping and iterative design techniques are used to create tangible models that users can evaluate. This phase involves collaboration between designers, developers, and users to refine and improve the proposed solutions continuously.

d) Evaluation: The final phase focuses on evaluating the design solutions developed. Tests are conducted with real users to gather feedback on usability, effectiveness, and satisfaction. The information obtained is used to make final adjustments to the design before full implementation.

Commercialization

Marketing is a dynamic set of business strategies and activities ranging from supervision and planning to execution, aimed at enhancing the conditions for selling a product in the market. It is a comprehensive process that involves identifying opportunities, designing effective strategies, adapting to demands, and continuously optimizing to ensure successful positioning in the competitive business environment.⁽¹⁰⁾

Li et al.⁽¹¹⁾ mention that the importance of marketing lies in its ability to create the right conditions for a sale to happen. By focusing on understanding and meeting consumer needs, marketing helps build long-term relationships between the brand and customers. According to a search, marketing is divided into two types of processes:

Micro-marketing: Refers to the specific strategies and actions that a company implements at the individual level to market its products or services. It involves detailed decisions about product design, pricing, distribution, and promotion, aimed at a particular target market.

Macromarketing: Addresses broader considerations and focuses on more general aspects of the business environment, such as market trends, legislation, ethics, and social responsibility.

Marketing process

The marketing process refers to the activities that a company carries out to bring a product or service from the development stage to the final sale and customer satisfaction. This process involves a series of interrelated steps that seek to identify, anticipate, and satisfy the needs and desires of the target market. The stages of the marketing process are generally described below:

Prospecting: Begins with actively searching for new potential customers to build a solid portfolio.

Initial contact: This varies depending on the sector, but is commonly done through phone calls, emails, or letters.

Needs identification: It is essential to understand the potential customer's needs in order to assess the suitability of the product offered.

Presentation of the offer: This involves presenting the proposal as the optimal solution to meet the customer's needs, based on information gathered in previous stages.

Handling objections: Anticipate and overcome objections, especially regarding prices and terms, to successfully close deals

and streamline the sales process.

Closing the sale: This consists of bringing the deal to a conclusion and obtaining the customer's signature.

Repeat sales and referrals: Monitoring customer satisfaction facilitates repeat sales and referrals, strengthening market presence.

Craft

According to Ruiz-Carta⁽¹²⁾, craftsmanship is understood as the set of disciplines, techniques, materials, and utilitarian products made mainly by human action, representative of a cultural environment. These can be reproducible, marketable, and adapted for specific uses, but are not consumable in their use. Although crafts may be similar to each other, they have distinct characteristics. Craftsmanship is considered a skill and an expression of a community's life that is manifested through particular objects.

Types of crafts

Crafts can be categorized in various ways, but in general, an evolution from more traditional approaches to more modern and contemporary perspectives can be observed. Although there are several classifications in the literature, one of the most appropriate, according to Suárez Martín⁽¹³⁾, distinguishes eight main types of crafts:

Contemporary crafts: Avant-garde, innovative crafts that respond to new trends and social needs, confront tradition with modernity, incorporate technology, move between the identity of the territory and its global development, play with materials, and whose main protagonist is design.

Sumptuous craftsmanship: Craftsmanship where value lies in exclusivity, luxury, and the sophistication of tradition.

Folk crafts: Popular crafts, typical of fairs and markets, focused on low-cost decorative objects and souvenirs.

Informal craftsmanship: Craftsmanship linked to the DIY (do it yourself) movement, whose primary values are ecology, sustainability, and social awareness.

Technological craftsmanship: Craftsmanship that arises from the incorporation of digitalization in production processes and operates in collaborative experimental fields.

Artistic craftsmanship: Craftsmanship of excellence, as masterfully defined through 11 essential elements.

Ethnographic crafts: Traditional crafts that seek to maintain and defend historical manufacturing processes in order to revalue their identity and cultural references.

Recreational craftsmanship: Experiential, educational craftsmanship taught in workshops and courses for the general public, to pass on skills and stimulate interest in craft activities.

Native communities in Peru

Indigenous or native peoples refer to communities whose origins date back to times prior to the formation of the state in a given region or country, whose groups preserve all or part of their distinctive institutions and maintain a collective awareness of their indigenous or native identity. Currently, in Peru, there are 55 known indigenous peoples, of which 51 are located in the Amazon and 4 in the Andes, according to the List of Indigenous Peoples from the Indigenous Peoples Database.⁽¹⁴⁾

Shawi Native Community

The Shawi, also known as Chayahuita, according to a

narrative of their culture, believe that their men and women originated from raw peanuts, called chawa-huita in their native language. However, to refer to themselves, they use terms such as "campo piyapi," which means "our people," or simply "piyapi," which means "people." The Shawi language, like Shiwilu, belongs to the Cahuapana language family, and due to their geographical location and historical tradition, they are associated with the Shiwilu and Muniche peoples.⁽¹⁴⁾

Definition of basic terms

Artisan: An individual skilled in the manual creation of products using traditional techniques and specific skills, often related to the production of artistic or functional items.^(15,16)

Digital wallet: An electronic application or platform that allows users to store, manage, and conduct financial transactions using electronic devices, such as mobile phones.⁽¹⁷⁾

Native community: A group of people who share cultural, historical, and territorial ties, usually connected by their relationship to a specific geographical region and its ancestral traditions.⁽¹⁸⁾

Digitization: The process of converting analog information, documents, or processes into digital format, facilitating their storage, management, and access through electronic devices.⁽¹⁹⁾

Web design: The planning and creation of the visual and functional structure of websites, including aspects such as content layout, navigation, and user experience.^(20,21)

Software: A Set of programs and data that enable a computer system to function, providing the tools necessary to perform specific tasks.^(22,23)

Testing: Systematic and comprehensive evaluation of software or a system to identify errors, verify its functioning, and ensure the quality of the final product.⁽²⁴⁾

Usability: Measure of the ease with which a user can interact with a product, system, or website, evaluating the efficiency and satisfaction of the user experience.⁽²⁵⁾

Online sales: Process of marketing products or services through digital platforms, allowing consumers to make purchases using the internet.⁽²⁶⁾

CONCLUSIONS

The integration of e-commerce in the craft sector is a strategy with high potential to boost local economies, expand markets, and ensure the cultural and productive sustainability of craft communities. The international experiences examined—from the revitalization of Portuguese crafts through UX/UI design to the development of specialized systems in Thailand and the adaptation of digital strategies in France—demonstrate that the convergence of technology, user-centered design, and well-structured marketing strategies can generate tangible results in terms of sales, operational efficiency, and cultural preservation.

In Peru, although progress has been made in specific sectors and contexts, the use of e-commerce for the marketing of handicrafts, especially those linked to indigenous communities such as the Shawi, remains a field with little academic exploration and practical application. The need to implement digital platforms adapted to the cultural, productive, and commercial characteristics of these communities presents a strategic opportunity to link traditional craftsmanship with the demands of the contemporary market.

Ultimately, e-commerce should not be seen solely as a sales channel, but as a comprehensive ecosystem that includes design,

marketing, logistics, digital training, and an ethical commitment to the preservation of cultural identities. The evidence reviewed suggests that its implementation, when developed in a planned and participatory manner, can become a transformative tool that drives not only the economic growth of artisans but also the global projection of their cultural heritage, thus contributing to a more inclusive, sustainable, and competitive development model at the national and international levels.

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CONFLICT OF INTEREST

None.

AUTHOR CONTRIBUTION

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