Challenges of Service Design and User Experience Design in e-commerce after COVID-19 pandemic

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Abstract

Service Design (SD) and User Experience Design (UXD) share the focus on user experience which is required for a broader design perspective along the customer journey through different touchpoints. User experience has been intensified by e-commerces during COVID-19 pandemic to create rapid solutions for these digital consumers. The objective of this paper is to address the challenges of UXD and SD integration in e-commerces during pandemic. In this context, the literature has shown that SD and UXD are facing challenges, particularly related to integrated product-service solutions. This integrated perspective has promoted a better user experience in complex systems characterized by a multi-channel and multi-touchpoint customer's journey. Thus, the pandemic has provoked a demanding user profile and design innovations which increasingly require the integration of SD and UXD. The contribution of this paper is to clarify about the user, the combined product and service innovations in e-commerce impacted by COVID-19 pandemic.

Keywords: service design; user experience; e-commerce; COVID-19

Introduction

With COVID-19 and the establishment of the lockdown in several countries around the world, the digital environment has become an important ally for the user, especially in coping with the disease and adapting to this new lifestyle and interactivity (Datsenko, 2020; Pandey et al., 2021). With social distancing, numerous activities such as shopping, work, and entertainment have shifted from offline to online mode, resulting in digital innovation to meet the various needs and segments of the population (Vargo et al., 2020). In this global pandemic scenario, despite the reduction in general economic activity, the use of digital technology has increased the online way of doing business through virtual platforms, i.e., e-commerce (United Nations Conference, 2021). This purchase modality was essential for consumers, which has led to an increase in demand for digital products and services offered in various channels (Koch et al., 2020). With the increase in e-commerce, consumers have become increasingly demanding throughout their product acquisition journey.

In this panorama of digital acquisition of services and products, the interaction process assumed a relevant global role, and today, with the resumption of face-to-face commerce, interactions have become even more complex. In this current format, the consumer transits through physical and digital channels to purchase a product, research, compare prices, get in touch with the establishment and make payments. This buying journey is a much broader interaction process with different touchpoints. This scenario has required constant innovation from online businesses to promote their services, integrating Service Design (SD) and User Experience Design (UXD) to provide a better experience for their consumers.

In this article, we address the concepts and challenges of Service Design and User Experience Design and discuss the integration of these disciplines. We focus on the application of this approach in e-commerce, and we discuss the impacts suffered by these online businesses and on consumers during the pandemic period.

Service Design and User Experience Design

Service Design (SD) is a human-centered, participatory co-creative approach (Costa et al., 2018; Holmlid, 2009; Meroni & Sangiorgi, 2011, apud Costa et al., 2018) that originally emerged from the domains of marketing and management, and over time, developed into a design discipline (Yoo et al., 2019). This approach is multidisciplinary, incorporating contributions in design, interaction design, service marketing, user experience design, among others. Service Design employs an iterative process (Holmlid & Evenson, 2008) to analyze and orchestrate interactions between different types of socio-material elements (Kimbell, 2011, apud Costa et al., 2018), with a special focus on the service interface and customer experience

(Secomandi & Snelders, 2011, apud Costa et al., 2018). Service Design extends beyond the traditional product centric design paradigm by taking into account a complex network of stakeholders (Yoo et al., 2019). Service Design provides methods and tools aiming to orchestrate interactions between people, institutions, and technological systems in innovative ways (Teixeira et al., 2017, apud Costa et al., 2018). This approach offers innovate services that includes understanding the experiences of customers, customer journey and service providers in their respective contexts in order to create new service system interactions and possible service futures (Holmlid & Evenson, 2008). This approach has maintained a focus on different areas: the service encounter: the touchpoints where customers engage with a service; co-creation of value: how services create opportunities for customers and services to each generate value for the other during the performance of a service at a touchpoint; and the socio-material arrangement of the service: the ecology of people, places, and things within which the service exists and functions (Kimbell & Blomberg, 2017, apud Roto et al., 2021; Roto et al., 2021).

Service Design and User Experience Design (UXD) originate from different disciplinary backgrounds – UXD from Human-Computer Interaction (HCI) and SD from operations management and marketing. They both share the focus on user/customer experience, they often use the same methods (e.g., personas, customer journey maps, iterative prototyping), and they often overlap on projects (Roto et al., 2021).

The term user experience (UX) has gained more and more acceptance, use and momentum, becoming one of the central topics of Human-Computer Interaction (Kuutti, 2010). The definition of what the user experience term is and how it affects people's lives and businesses can be viewed from different perspectives (Quaresma et al., 2022). The multidisciplinary nature of UX can be seen as a phenomenon, as a field of study, or as a practice and has led to several perspectives on UX field, each approaching the concept from a different point of view (Roto et al., 2011). Thus, UX has been widely defined as a broad term for designing, evaluating and studying the experiences that people encounter while using a particular product, system or service, in a specific context (Rambli & Irshad, 2015; Roto et al., 2011). The user-experience can be defined as a result of the user interaction with a digital interface, considering as essential the usability of the interface, which is a quality attribute that assesses how easy user interfaces are to use. User experience is also a broader concept, interpreting as the totality of the perceptions and interactions of the user with an ecosystem, where the digital interface can be included or not (Quaresma et al., 2022). UX is generally understood as inherently dynamic, given the ever-changing internal and emotional state of a person and differences in the

circumstances during, and after an interaction with a product (Hassenzahl, 2008; Law et al., 2009, apud Vermeeran et al., 2010). UX should not only be seen as something evaluable after interacting with an object, but also before and during the interaction (Vermeeran et al., 2010). UX research is moving from product and user needs-centric design towards more holistic design for services (Roto et al., 2018).

The work of user experience designers has been faced expanding beyond single digital products towards designing customer journeys through several service touchpoints and channels (Roto et al., 2020). Greater understanding of the Service Design approach and the interplay between Service Design and UX Design is required for a broader design perspective along the customer journey through different touchpoints (Roto et al., 2020). A systemic perspective of Service Design, with its concern taking into account the network of stakeholders, have been working satisfactorily in support of creating and delivering a design strategy. This strategy could complement design briefs that might drive the detailed and iterative work of UXD, often focused on the needs of users at a single touchpoint or channel within a service (Roto et al., 2021).

Designing for experiences moves towards from single product focus to multiple customer touchpoints and channels (Roto et al., 2018). UXD has been increasingly demanded by business companies looking for innovation in their offers to consumers by creating more complete solutions that combine product and service components. The rising efficiency of online business requires a lot of effort from the company for alternative solutions and innovative way for selling using online platforms. Such modality of business involves UXD expertise since the consumer is considered a primordial stakeholder to gain higher profits in e-commerce sales (Davidavičienė et al., 2020).

E-commerce features

Online business or electronic commerce (e-commerce) is the center of the digital economy, and defined by the Organization for Economic Cooperation and Development (OECD) as ‘the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders’ (United Nations Conference, 2021). This mode of purchase is not limited to just buying and selling over the Internet, but it also focuses on serving customers and building relations with business partners and customers (Singh et al., 2018).

The variety of available applications makes electronic shopping appealing for both customers and entrepreneurs (Eyal & Milo, 2001). From the customer’s point of view, the provision of electronic stores makes comparative shopping possible, allowing

customers to browse, compare, and order goods selectively. From the entrepreneur's point of view, the variety of available applications generates new business opportunities for providing new services by integrating, enhancing, or customizing existing e-commerce applications (Eyal & Milo, 2001). Efficient and contextually appropriate user experience matters more than ever since inefficiency in human-computer interactions directly impacts the organization's productivity and its ability to compete in this digitally business world. Digital proliferation needs to be accompanied with care and connection towards all the stakeholders (Kaur & Kaur, 2020). This digital commerce has expanded considerably since it provides a great freedom to consumers, ensuring flexibility of schedules and payment methods, in addition to the availability of several sales channels, which can be made available in web or mobile versions, via applications (Vázquez, 2021).

This complex interconnectivity between stakeholders and e-commerce from the perspective of Service Design is presented in Figure 1. Stakeholder mapping is a tool capable of helping and better understanding who the groups and/or organizations involved are, their interrelations in order to improve the performance of the organization processes and the best consumer experience. Within each group and/or organization there are interrelationships with their respective chains of processes that are influenced by different agents. For a simple journey, for example, that of the consumer in e-commerce, the steps involved in the journey can highlight critical points and provide opportunities for improving the user experience (Figure 2).

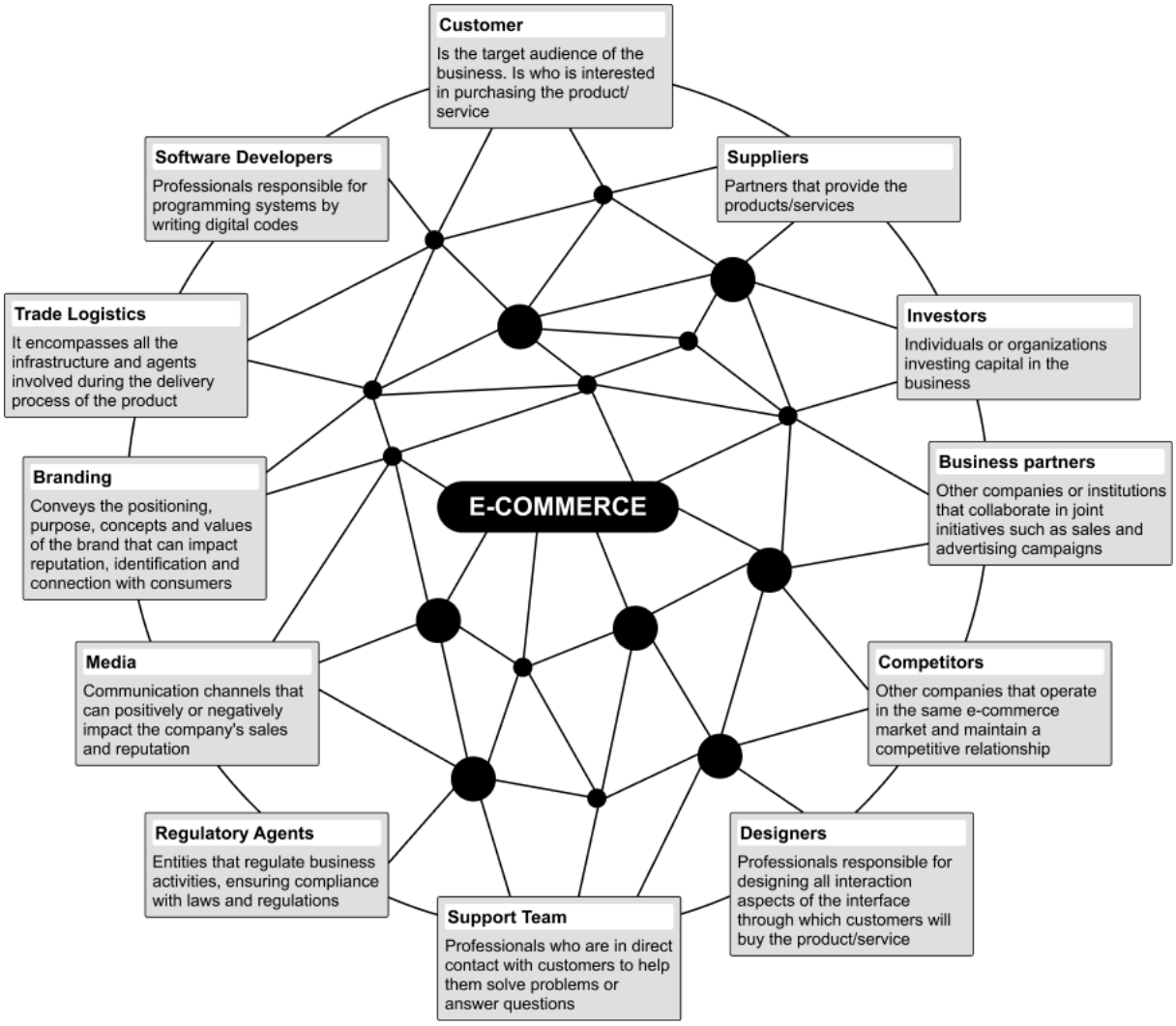

Figure 1. Stakeholder Mapping groups in e-commerce activity

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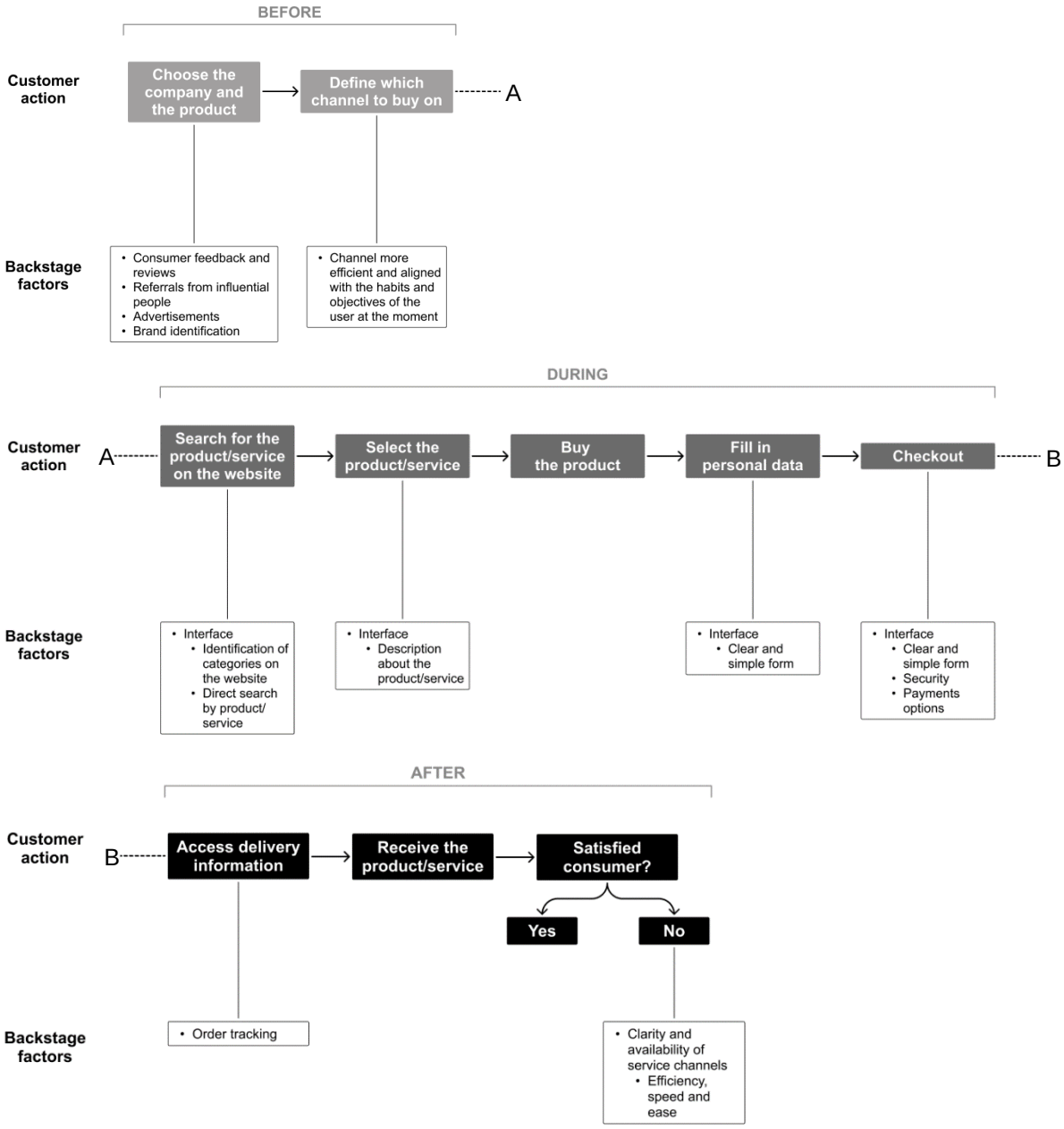

Figure 2. Simple Customer Journey in e-commerce

E-commerce and COVID- 19 pandemic

The dynamism of e-commerce was intensified by the pandemic, which focused on digital transformation across ventures, including retail. Businesses have distinguished and put resources into apparatuses and systems to react to sky-rising online business action with new products, services, and shopping encounters (Avşar, 2021). The rapid inclusion of this business in the digital world has led consumers to

adapt to this new mode of purchase in order to be more integrated, which in turn transformed users into more demanding customers with the services offered digitally (Hajro et al., 2021).

Another impact arising from the pandemic was the shift from a simple retail approach with different integrated communication channels to a complete multi-touchpoint journey. These touchpoints include channels such as stores, branches, call centers and websites, but also emerging interactions including apps, social media, mobile sites, SMS messages and interactive advertising across smartphones, tablets, cars and even appliances (De Pasquale & Brugnoli, 2013). The new customer's journey, from the first contact with a product to the purchase, involves a wide and growing range of encounters with a product or brand, in a complex and non-linear way with multiple entry/exit point and different levels of user's involvement (De Pasquale & Brugnoli, 2013).

In this increasingly multi-channel world, there are many significant interdependencies along the customer's journey (He et al., 2020, apud Majchrzak-Lepczyk, 2020). Before the decision to make a purchase, the consumer looks for information, checks the terms of purchase in the electronic store, at the same time visiting the stationary outlet to see and evaluate the product in person. The consequence of such behavior are the effects of research online, purchase offline, and research online, test offline, purchase online which come down to searching for information about the product on the web, then going to a brick-and-mortar store to try it out and to finally make a purchase in the online shopping (Majchrzak-Lepczyk, 2020). This non-linear customer's journey has become one of the main characteristics of consumption habits impacted by the COVID pandemic (Majchrzak-Lepczyk, 2020). A new user profile has been defined, and now there is a concern to research price and product before shopping, making in-store purchases and using apps to manage coupons and take advantage of rewards programs (Avşar, 2021). Digital experiences have multiple benefits, however, businesses must effectively connect the offline mode of purchase in order to improve client retention and deals completion (Avşar, 2021).

Conclusion

SD and UXD are facing increasing challenges, particularly in regard to designing systemic, integrated product-service solutions in the post-global pandemic. This short paper addressed these challenges with the development of a new integrative approach that supports online business companies. The context of the COVID-19 caused rapid changes in user interaction with products and systems, requiring quick

local responses and innovative strategic problem-solving capabilities. For these challenges, it is increasingly necessary to promote the integration of Service and UX Design, especially in e-commerce platforms. This combined perspective has promoted a constant update and contributed to the design-oriented HCI since it offers insights and a better user experience application in complex systems characterized by a multi-channel and multi-touchpoint customer journey. The application of the combined SD and UXD in this new challenge requires designers and design innovations and exploration of new possibilities for their practices throughout the distinct stages of the design process.

This article reveals the importance of SD and UXD integration for the application of a broader approach capable of considering an increasingly complex user journey to provide an adequate experience. As the context of analysis was based on a recent health event, records are still limited, making it difficult to have a more accurate analysis of this content. Moreover, despite being shown a global trend in the changes in habits and the adoption of digital, it is necessary to carry out more in-depth local studies to identify specific factors that may influence the purchasing processes of these users. We hope that the knowledge discussed here can be applied to research that will have an impact on design practice.

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