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User Experience in Online Shopping: A Systematic Literature Review with the Preferred Reporting Items for Systematic Reviews and Meta-analyses Method

Evy Nurmiaty[1], Arsy Mahabbah Abdillah[2], Jackson Ismail Bisker Sitanggang[3*], Muttaqin[4]

[1,2]Department of Information System, UIN Syarif Hidayatullah Jakarta, Indonesia
[3] Department of Management, UIN Syarif Hidayatullah Jakarta, Indonesia
[4] Department Master of Information Technology, UIN Syarif Hidayatullah Jakarta, Indonesia

[1]evy.nurmiaty@uinjkt.ac.id
[2]ar.sy23@mhs.uinjkt.ac.id
[4]muttaqin24@mhs.uinjkt.ac.id
*biskerjackson@gmail.com

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Abstract

The rapid growth of e-commerce has made user experience (UX) a critical determinant of online shopping success, yet existing research in this domain remains fragmented and conceptually dispersed. Prior studies frequently examined isolated aspects of UX, often overlooking the holistic integration of functional and emotional dimensions. This fragmentation has created a significant gap in understanding how these dimensions collectively influence consumer perceptions, decision-making processes, and long-term behavioral outcomes. To address this issue, the present systematic literature review (SLR) synthesized recent empirical findings on UX in online shopping environments. The study pursued three primary objectives: to identify key UX factors (RQ1), to examine their impact on customer satisfaction and loyalty (RQ2), and to evaluate prevailing methodologies as well as emerging research gaps in UX evaluation (RQ3). Following the PRISMA protocol, 10 peer-reviewed articles published between 2022 and 2024 were systematically selected from ScienceDirect and analyzed using thematic synthesis. The findings revealed that Structural Equation Modeling (SEM) was the dominant analytical technique employed across studies. Results consistently demonstrated that both functional factors (e.g., usability, navigation efficiency, and information quality) and emotional factors (e.g., trust, enjoyment, and perceived security) significantly influence satisfaction and loyalty. Satisfaction and trust emerged as critical mediating variables linking UX attributes to behavioral intentions. Furthermore, hybrid methodologies, such as SEM-RFC, were identified as promising approaches to overcoming limitations of traditional models. Overall, this review underscores the multidimensional nature of UX and its pivotal role in shaping online shopping behavior while offering actionable insights for more user-centered e-commerce design strategies.

Keywords: Customer Satisfaction, E-Commerce Loyalty, Online Shopping, Systematic Review, User Experience

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I. Introduction

The rapid growth of e-commerce platforms has transformed consumer behavior and expectations, making user experience (UX) a critical determinant of success in online shopping environments [1]. As competition intensifies in the digital marketplace, online retailers are increasingly focused on delivering seamless, personalized, and engaging shopping experiences [2]. UX in online shopping is multifaceted, encompassing website usability, trust, visual aesthetics, interactivity, and emotional responses [3]. An optimized UX not only improves user satisfaction but also enhances brand loyalty and increases the likelihood of repeat purchases [4].

Given the expanding research landscape, a systematic literature review (SLR) is essential to synthesize and evaluate the existing body of knowledge regarding UX in online shopping [5]. Without a structured synthesis, findings across studies remain fragmented and inconsistent, limiting theoretical advancement and practical implementation [6]. SLRs are particularly valuable for identifying key UX factors, evaluating their impact on consumer behavior, and revealing methodological patterns and gaps in the literature [7]. Moreover, conducting a systematic review using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) ensures transparency, replicability, and scientific rigor [8].

This study focuses on systematically exploring the UX in online shopping by addressing three primary research questions:

- RQ1: What factors of user experience are most commonly examined in online shopping contexts?
- RQ2: What is the impact of user experience on customer satisfaction and loyalty in online shopping?
- RQ3: What methodologies have been employed to evaluate user experience in online shopping, and what are the research gaps?

II. Related Works

Research on user experience (UX) in online shopping has grown rapidly alongside the growth of e-commerce. UX is viewed as a key factor determining the success of digital platforms, as it encompasses functional aspects such as ease of navigation, system security, and information quality, as well as emotional aspects such as trust, enjoyment, and social engagement [9], [10]. Various studies have examined how these elements interact and influence consumer behavior.

From the perspective of UX factors, research indicates that functional and emotional dimensions complement each other. [11] identified that functional components (e.g., interactivity, informativeness, visual appeal) and psychological components (trust, convenience, enjoyment) collectively shape consumer perceptions of online shopping platforms. [12] added that information quality, system quality, service quality, and product quality are key determinants of user satisfaction. Meanwhile, [13] highlighted the role of ease of use, security, product variety, and on-time delivery as antecedents of trust. On the other hand, [14] emphasized that perceived risks—such as information risk, privacy risk, and financial risk—can inhibit purchase intentions, especially among less experienced consumers.

Regarding the impact of UX on loyalty and satisfaction, many studies have found that satisfaction acts as a mediator between experience and loyalty. [15] demonstrated that online shopping experience and product quality significantly influence satisfaction, which in turn increases consumer loyalty. Trust also serves as an intervening variable connecting perceptions of ease and security with loyalty [16]. Furthermore, research by [17] showed that utilitarian and hedonic shopping values triggered by social interaction can enhance user stickiness toward platforms. In the context of impulse buying, [18] found that visual stimuli, audio, and social influence trigger arousal and pleasure that drive spontaneous behavior.

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From a methodological perspective, Structural Equation Modeling (SEM) has become the dominant approach for evaluating relationships among UX constructs, as applied by [1], [2], and [10]. However, some researchers have begun combining SEM with other methods to address its limitations. [5] employed a hybrid SEM-Random Forest Classifier to predict factors affecting shopping cart abandonment, while [8] integrated moderation analysis within SEM to test the effects of scarcity and serendipity. The Stimulus-Organism-Response (SOR) framework has also been widely used to explain the mediating role of emotions [6], [7].

Although the literature has provided substantial insights, research gaps remain. Most studies are still focused on Asian markets, so generalization to other cultural contexts requires further investigation. Additionally, the integration of affective and multisensory aspects into UX models remains underexplored [7]. The use of qualitative methods is also limited, even though they could enrich understanding of user motivations and subjective experiences [5]. Therefore, this systematic review is necessary to synthesize recent findings, identify methodological patterns, and uncover research gaps that can serve as a foundation for future studies.

III. Research Methods

A. PRISMA Protocol

This study utilizes the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method to ensure a transparent, systematic, and reproducible literature review process. PRISMA is widely recognized as the gold standard for systematic reviews in both healthcare and interdisciplinary research due to its methodological rigor. By following PRISMA guidelines, researchers can enhance the quality of evidence synthesis, reduce bias, and increase clarity in reporting [6]. The PRISMA 2020 flow diagram (see Figure 1) was employed to structure the article selection process, which consists of four phases: identification, screening, eligibility, and inclusion. The process began with a comprehensive article search in the ScienceDirect database on May 27, 2025, using the search string: online shop experience applied to article titles, abstracts, and keywords. This resulted in 25,931 articles during the identification phase.

After excluding 25,380 articles that did not contain the specific keyword "online shop experience", the remaining 551 articles were screened. Further exclusions were made based on document type: review articles (17), encyclopedia entries (4), book chapters (5), data articles (1), editorials (2), short communications (3), and others (2), resulting in 517 articles. From the 517, 360 articles were excluded for being locked or paywalled, and 147 articles were excluded for being outside the business domain. Ultimately, 10 articles from the years 2022 to 2024 were included in the final review, as they met all inclusion criteria and addressed all three research questions (RQ1–RQ3) of this study. This meticulous filtering approach not only increases the quality of the selected studies but also ensures their direct relevance to the UX context in online shopping.

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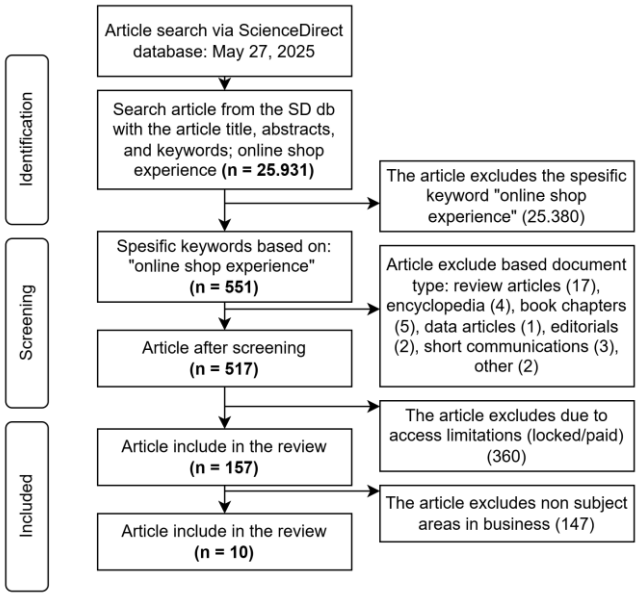

Figure 1. SLR information flow using PRISMA.

B. Inclusion and Exclusion Criteria

To maintain relevance, quality, and focus, the following inclusion criteria were applied:

- Articles published between 2022 and 2024;
- Peer-reviewed journal articles;
- Full-text availability (open access or institutionally accessible);
- Articles written in English;
- Articles directly addressing user experience (UX) in online shopping contexts;
- Articles answering all three research questions (factors of UX, impact on satisfaction and loyalty, and methodologies used).

The exclusion criteria were as follows:

- Articles not using the exact keyword "`online shop experience`";
- Non-journal documents such as reviews, book chapters, editorials, encyclopedias;
- Articles behind paywalls or locked access;
- Articles outside of the business subject area;
- Articles only addressing one or two RQs without comprehensive UX discussion.

The selection of only 10 articles from an initial pool of 25,931 is a deliberate decision based on strict adherence to both methodological rigor and research relevance. Many articles addressed only partial aspects of UX (e.g., only visual design or only trust), while this review required a holistic treatment covering all RQs. Articles that did not assess UX impacts on both satisfaction and loyalty or lacked methodological transparency were excluded to preserve consistency and analytical depth. This approach ensures that the selected studies provide not only rich conceptual insights but also empirical and methodological contributions, necessary to map out the current state of research and identify future directions.

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IV. Results And Discussion

The studies reviewed in this systematic literature review demonstrate a relatively consistent understanding of the critical role user experience (UX) plays in shaping consumer behavior in online shopping environments. A wide array of UX components—ranging from technical attributes to emotional engagement—have been examined to uncover their influence on satisfaction, loyalty, and purchasing decisions. The following table presents a consolidated summary of each selected study based on authorship, methodology, key findings, and its relevance to the formulated research questions.

TABLE I. THE FINDINGS OF ARTICLE

No	Author	Title	Method	Sample Size	Key Findings	Relevant RQs
1	[19]	The Influence of Product Quality and Online Shopping Experience (OSE) on Consumer Loyalty Through Customer Satisfaction on Local Skincare Products	Quantitative (SEM-PLS)	383	OSE and product quality significantly affect customer satisfaction and loyalty; OSE has the strongest effect; satisfaction mediates the impact.	RQ1, RQ2, RQ3
2	[20]	Antecedents of trust and customer loyalty in online shopping: The moderating effects of online shopping experience and e-shopping spending	Quantitative (SEM-AMOS)	285	Trust is significantly influenced by perceived ease of use (PEoU), perceived security (PS), product variety (PV), and on-time delivery (OD); trust mediates the effects on loyalty. Experience and spending moderate these relationships.	RQ1, RQ2, RQ3
3	[21]	Understanding the impact of online customers' shopping experience on online impulsive buying: A study on two leading E-commerce platforms	Quantitative survey, SEM	1,489	Functional (e.g., interactivity, informativeness) and psychological (e.g., trust, enjoyment) UX dimensions significantly influence online impulsive buying. Attitudinal loyalty mediates this relationship; self-control negatively moderates it.	RQ1, RQ2, RQ3

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4	[22]	Assessing customers' perception of online shopping risks: A structural equation modeling–based multigroup analysis	Quantitative survey, SEM + multigroup analysis	558	Three major perceived risks (information, privacy, financial) significantly influence online purchase intention. Experience moderates risk impact.	RQ1, RQ2, RQ3
5	[23]	Utilizing SEM-RFC to predict factors affecting online shopping cart abandonment during the COVID-19 pandemic	SEM + Random Forest Classifier (RFC)	1,015	Significant predictors of shopping cart abandonment: self-efficacy, attitude, emotional ambivalence, attribute conflict. UX factors like ease of use, safety, and convenience are central.	RQ1, RQ2, RQ3
6	[24]	The role of online interaction in user stickiness of social commerce: The shopping value perspective	Survey + regression + SEM (SOR model)	183	Online interaction (perceived ease of use, usefulness, social interactivity) positively affects utilitarian & hedonic shopping value, which in turn boosts user stickiness. Social interactivity has strongest effect.	RQ1, RQ2, RQ3
7	[25]	A comprehensive study on factors influencing online impulse buying behavior: Evidence from Shopee video platform	PLS-SEM (quantitative survey)	438	External stimuli (e.g., sound, visuals, social influence) significantly impact emotional states (arousal & pleasure), which mediate online impulsive buying behavior.	RQ1, RQ2, RQ3

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8	[26]	Understanding the cosmetics purchase intention in the Chinese mobile commerce environment	SEM (AMOS) with moderation analysis	988	Situational factors (interpersonal influence, visual appeal, portability) significantly impact hedonic and utilitarian browsing, which in turn affect purchase intention. Scarcity and serendipity strengthen these relationships.	RQ1, RQ2, RQ3

As shown in the table, various methodological approaches have been applied to evaluate UX in the context of online shopping, with most studies supporting the positive influence of UX on both consumer perceptions and behavioral outcomes. Whether through hedonic value, system usability, or emotional engagement, user experience is consistently framed as a determinant of customer satisfaction and platform loyalty. The following subsections provide a detailed explanation of the findings with respect to each research questions :

A. RQ1: Key Factors Influencing User Experience (UX) in Online Shopping Platforms

A wide range of factors have been identified as influential to user experience (UX) in online shopping. Fundamentally, studies converge on the importance of both functional and emotional dimensions. [19] categorize these into functional aspects such as interactivity, informativeness, visual engagement, and ease of navigation and psychological aspects, including trust, convenience, and enjoyment. These combined elements shape how consumers perceive and engage with e-commerce environments, significantly influencing their shopping behaviors [20]. Similarly, [21] emphasize five UX-related constructs in their adaptation of the DeLone and McLean IS success model: information quality, system quality, service quality, product quality, and user satisfaction. Among these, information quality emerged as the most influential factor ($\beta = 0.374$), followed by system quality ($\beta = 0.329$), reinforcing the centrality of clarity, accuracy, and reliability in enhancing UX. Supporting this, [22] found that perceived ease of use, security, product variety, and on-time delivery serve as antecedents of trust another core UX element.

Other research highlights risk perception as an emotional inhibitor of UX. [23] identify information risk, privacy risk, and financial risk as critical concerns that negatively affect consumer decision-making. These perceived risks represent a user's cognitive evaluation of platform safety and transparency, with financial risk being particularly significant [24]. In the context of mobile commerce and video-based platforms, experiential and psychological UX factors are increasingly prominent. [25] show that attribute conflict, self-efficacy, emotional ambivalence, and attitude are major contributors to UX, particularly influencing cart abandonment behavior. These reflect users' inner cognitive struggles and confidence in completing purchases emphasizing the psychological nature of digital UX. [26] further expand on this by identifying sound, visuals, and social influence as emotionally charged stimuli that influence arousal and pleasure. Notably, sound was found to have the strongest effect on arousal ($\beta = 0.304$), while social influence most strongly affected pleasure ($\beta = 0.173$), illustrating the hedonic and affective pathways through which UX operates.

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Studies by [19] and [20] also underline the role of interactivity, ease of use, and social engagement in shaping both utilitarian and hedonic value perceptions. Social interactivity, in particular, was the most dominant factor influencing both types of shopping value [21]. [22] demonstrate how visual appeal, portability, and interpersonal influence contribute to user engagement in mobile commerce, significantly affecting both hedonic and utilitarian browsing experiences. In more technologically advanced interfaces, such as Augmented Reality (AR), [23] found that media richness and interactivity significantly enhance telepresence, which in turn strengthens perceived utilitarian and hedonic value. These immersive experiences improve users' emotional involvement and operational satisfaction with the platform [24].

Lastly, [25] directly relate online shopping experience (OSE) encompassing ease of use, accessibility, product information, and price transparency as a determinant of both customer satisfaction and loyalty. These factors collectively shape the perceived value and ease of interacting with online platforms, confirming that UX is multi-dimensional and extends beyond interface design into trust, emotion, and perceived value.

B. RQ2: The Impact of User Experience (UX) on Customer Satisfaction and Loyalty

The reviewed studies consistently show that user experience (UX) plays a central role in shaping customer satisfaction and loyalty in online shopping platforms. [20] found that both online shopping experience (OSE) and product quality have a direct and significant effect on customer satisfaction, which in turn mediates the relationship between UX and consumer loyalty particularly in product categories like skincare. This mediation effect suggests that a positive UX not only improves satisfaction but also strengthens long-term loyalty. Several studies highlight trust as a key mediator that links UX dimensions to loyalty outcomes. [23] demonstrated that perceived ease of use (PEoU), perceived security (PS), product variety (PV), and on-time delivery (OD) influence trust, which subsequently impacts customer loyalty. Trust, therefore, emerges as a result of a reliable and emotionally secure user experience, reinforcing consumers' intentions to repurchase and recommend.

Similarly, [22] emphasized that attitudinal loyalty acts as a mediating factor between UX components both functional and psychological and impulsive buying behavior. Their findings suggest that loyalty formed through positive experiences significantly drives consumer actions: "The effect of the OCSE components on customers' online impulsive purchasing behavior is mediated by customers' attitudinal loyalty". While not all studies measure loyalty directly, several examine purchase intention, checkout behavior, or platform stickiness as strong behavioral proxies. For example, [20] observed that negative UX especially involving perceived risks such as financial, privacy, or information risk diminishes trust and weakens consumer intention. However, experienced users show reduced risk sensitivity, which may enhance their loyalty over time: "Customers with previous online shopping experience tend to be less concerned about all forms of risk and uncertainty…".

In the domain of checkout behavior, [22] explored how UX-related variables such as emotional ambivalence and attitude influence shopping cart abandonment (SCA). While not directly examining loyalty, they found that hesitation during checkout reflects low satisfaction and reduced intention to complete purchases: "The result showed that people have a high hesitation during checkout, which has something to do with the EA… thus abandoning their shopping cart". Other studies adopt broader interpretations of loyalty through user stickiness**.** [23] discovered that both utilitarian ($\beta = 0.436$) and hedonic ($\beta = 0.376$) shopping values driven by interaction quality positively influence platform stickiness. This finding reinforces the idea that a rewarding and smooth user experience, both functionally and emotionally, encourages continued platform use: "Both the utilitarian shopping value and the hedonic shopping value generate significant and positive effects on user stickiness".

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[24] support this view by showing that arousal and pleasure, triggered by UX stimuli like visuals, sound, and social influence, are strong predictors of impulsive buying. While the study focuses on spontaneity, it underscores how emotionally resonant UX encourages engagement and satisfaction: "Arousal exerts a greater influence than pleasure... underscoring the critical role of emotional responses in driving impulsive purchasing decisions on online platforms". In m-commerce settings, [23] found that hedonic and utilitarian web browsing fueled by visual appeal, portability, and interpersonal influence significantly impact purchase intention (HWB: $\beta = 0.234$, UWB: $\beta = 0.211$). These browsing behaviors illustrate how both emotional enjoyment and functional efficiency enhance the likelihood of purchasing, a behavior tied to loyalty in repeat shopping cycles. In augmented reality (AR) contexts, [23] demonstrated that telepresence, resulting from high media richness and interactivity, improves both utilitarian and hedonic values. These values, in turn, significantly affect behavioral intentions such as willingness to purchase, recommend, and revisit clear indicators of satisfaction and loyalty: "Consumers... experience greater utilitarian and hedonic values and exhibit greater intentions to purchase, recommend, and revisit".

Finally, [24] confirm that UX elements particularly information quality, system quality, and service quality positively impact user satisfaction, which then influences purchase intention ($\beta = 0.161$). Although loyalty is not measured directly, the study indicates that repeated positive experiences built on clear information and reliable service drive future purchase behavior and potential loyalty: "User satisfaction has a significant positive effect on purchase intention… [and is] influenced by product quality and system quality".

C. RQ3: Common Methodologies Used to Evaluate UX in Online Shopping and Gaps in Current Research

Across the reviewed studies, the most dominant approach for evaluating user experience (UX) in online shopping contexts is Structural Equation Modeling (SEM), including its variants such as PLS-SEM and SEM-AMOS. This method allows researchers to examine complex relationships among latent variables like perceived ease of use, satisfaction, trust, and loyalty. For instance, [20] used PLS-SEM to explore the relationships between UX constructs and consumer satisfaction and loyalty, while also highlighting a gap in integrating Flow Theory and Social Presence Theory for local skincare products pointing to theoretical underutilization in specific cultural contexts.

Similarly, [23] employed SEM-AMOS, which is frequently used for its robust estimation capabilities in behavioral research. His study contributed by integrating several UX variables perceived ease of use, security, and delivery reliability into one comprehensive model, something rarely done in emerging market settings like South Africa. These approaches confirm the central role of SEM in evaluating both functional and emotional aspects of UX in diverse e-commerce environments.

[22] also relied on SEM to validate a dual-dimensional UX construct, incorporating both functional (e.g., navigation, interactivity) and psychological (e.g., trust, enjoyment) elements. The authors noted that previous research often neglected psychological UX factors, which their study addressed directly: "Most of the prior research on the OCSE has primarily focused on various aspects of the functional dimension… this study combines both". This underscores a common gap in the literature UX models that fail to integrate emotional or affective dimensions holistically.

[23] expanded the use of SEM through multigroup analysis**,** examining UX risk perceptions across different demographic groups. They found that functional, physical, and delivery risks traditionally emphasized were not significant, suggesting that prior models may overgeneralize UX risks without considering contextual factors. As they state, "the results of the present study show no significant support for the influence of functional risk... on online purchasing decision", opening avenues for cultural or contextual UX modeling.

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To address some of SEM's limitations, [22] introduced a hybrid methodology by combining SEM with Random Forest Classifier (RFC). This combination allowed them to better capture latent variable influences, particularly mediating variables like emotional ambivalence and attribute conflict, which are often underpowered in traditional SEM. "SEM produces low to no significant latent variables due to the indirect effect… RFC highlights the most significant factors despite mediation", showcasing how machine learning can complement statistical UX models. Another methodological innovation comes from Qu et al. [23], who combined multiple regression and SEM to enrich the Stimulus-Organism-Response (SOR) framework in the context of social commerce. Their study integrated social interactivity alongside traditional metrics like perceived ease of use (PEOU) and perceived usefulness (PU), bridging emotional engagement with functional utility. "This paper enriched the SOR model in the field of online interaction… expanding the theoretical framework of the SOR model", reflecting a shift toward more experience-centered UX evaluation model.

[24] used PLS-SEM to measure emotional UX outcomes such as arousal and pleasure as mediators an approach rarely explored in earlier literature. Their study also incorporated multisensory UX stimuli like visuals, sounds, and social cues. This represents a valuable enrichment to UX literature by foregrounding the affective responses that influence online impulse buying. As noted, "this study addresses this gap by exploring the intricate relationship between external factors... and the generation of arousal and pleasure". Other studies applied advanced modeling techniques to expand theoretical insights. [23], for instance, incorporated moderation analysis into SEM to test how scarcity and serendipity influence the impact of UX on purchase intention. Their use of hedonic and utilitarian web browsing within the SOR framework offered a motivational dimension to UX assessment, often neglected in prior behavioral e-commerce studies.

In the context of immersive technologies, [20] applied single-group and multi-group SEM to analyze how telepresence mediates the effects of media richness and interactivity on consumer value. This fills a methodological gap in augmented reality (AR) UX research, where telepresence had not been sufficiently tested as a psychological construct. "This study provides empirical evidence that telepresence increases perceived value in AR, for which limited evidence exists in the literature". Lastly, [24 used SEM along with Pearson correlations to operationalize the DeLone and McLean IS Success Model in an e-commerce environment. This allowed for simultaneous evaluation of system, service, and product quality factors. Their methodological rigor—demonstrated through reliability testing (Cronbach's alpha > 0.7) and KMO analysis—illustrates how classic IS frameworks remain relevant when adapted to UX settings: "We explored key factors influencing purchase motivation… validated through SEM and correlation analysis".

D. Discussions

This systematic literature review aimed to explore the key factors that influence user experience (UX) in online shopping (RQ1), how UX affects customer satisfaction and loyalty (RQ2), and the methodologies commonly used to evaluate UX along with research gaps (RQ3). The synthesis of 10 recent peer-reviewed articles reveals consistent patterns, emerging themes, and methodological trends that inform both academic inquiry and practical e-commerce strategies.

In addressing RQ1, the reviewed studies consistently identify UX as a multidimensional construct encompassing both functional and emotional elements. Functional components such as ease of navigation, system security, product variety, information quality, and service responsiveness are widely reported to shape positive experiences [23]; [24]. Meanwhile, emotional dimensions—including trust, social interactivity, visual engagement, and pleasure demonstrate strong influence over user perception and engagement [22]; [24]. Some studies go further by including cognitive factors like self-efficacy and emotional ambivalence [20], or immersive experience drivers such as telepresence in augmented reality settings [23]. These findings collectively underscore the importance of designing experiences that are not only usable and efficient, but also engaging, trustworthy, and emotionally fulfilling.

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For RQ2, there is substantial evidence that UX directly contributes to customer satisfaction, which in turn strengthens loyalty, either attitudinal or behavioral. Multiple studies identify satisfaction as a mediating factor between UX elements and loyalty [20]; [24], while others highlight trust as a key emotional bridge in this relationship [23]. Though some studies focus on related outcomes like purchase intention, user stickiness, or impulse buying, these constructs serve as strong behavioral proxies for loyalty and satisfaction [20]; [23]. The role of hedonic and utilitarian value is especially prominent, showing that both emotional gratification and functional efficiency are important for fostering return behavior and platform advocacy.

In terms of RQ3, Structural Equation Modeling (SEM) is the dominant methodological approach for evaluating UX in online shopping. SEM provides the analytical rigor needed to model complex interrelations among latent variables such as satisfaction, trust, intention, and loyalty [20]; [24]. However, recent studies have expanded upon SEM by incorporating complementary methods like Random Forest Classifier (RFC) [22], moderation analysis [23], and multi-group comparisons [20] to address SEM's limitations in handling mediation, interaction effects, and contextual variables. Notably, several papers emphasize a research gap in the integration of affective UX components, social interaction dynamics, or multisensory stimuli areas that remain underrepresented in traditional UX evaluation models.

Despite providing rich insights, this review is subject to several limitations. First, the review is based solely on open-access articles published between 2022 and 2024, which may exclude influential works in earlier years or in subscription-based journals. Second, the geographic scope of the studies while varied still leans heavily on consumer behavior in Asian markets (e.g., China, Vietnam, South Korea), potentially limiting generalizability to Western or emerging economies. Third, most included studies use self-reported surveys, which may introduce bias in measuring perceptual variables like trust or satisfaction. Finally, while SEM and its variants dominate the methodological landscape, the reliance on quantitative data may underrepresented richer, qualitative insights into user motivations and experience.

V. Conclusion

This systematic literature review synthesizes recent empirical studies on user experience (UX) in online shopping, focusing on three main aspects: key influencing factors (RQ1), the impact of UX on customer satisfaction and loyalty (RQ2), and the common methodologies used in UX evaluation along with their research gaps (RQ3). The findings reaffirm that UX is a multidimensional construct shaped by both functional and emotional factors, such as system usability, information quality, trust, enjoyment, and social interactivity. These components are critical not only in shaping the immediate shopping experience but also in influencing long-term customer outcomes such as satisfaction, repurchase intention, and loyalty. Furthermore, the review shows that UX exerts its influence on consumer behavior both directly and indirectly often mediated by constructs such as trust, satisfaction, emotional value, and perceived usefulness. Behavioral outcomes like impulse buying, cart abandonment, and user stickiness are found to be closely associated with the quality of UX. These results underscore the strategic importance of designing e-commerce platforms that are not only technically functional but also emotionally engaging.

Methodologically, Structural Equation Modeling (SEM) remains the dominant analytical tool used to investigate UX-related relationships. However, recent studies have started incorporating advanced and hybrid methods such as Random Forest Classifiers, moderation analysis, and SOR-based frameworks to address SEM limitations and better capture affective, cognitive, and contextual variables. These developments indicate a growing methodological sophistication in UX research, yet also reveal gaps in integrating qualitative insights, multisensory experiences, and culturally diverse user profiles. In sum, this review highlights the centrality of UX in driving online shopping behavior and provides a roadmap for future studies to expand beyond traditional evaluation models by incorporating emotional, social, and immersive dimensions of the user journey.

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REFERENCES

[1] Abigail, J., Sari, V. P., & Saputra, D. (2024). The influence of product quality and online shopping experience (OSE) on consumer loyalty through customer satisfaction on local skincare products. Procedia Computer Science, 234, 537–544. https://doi.org/10.1016/j.procs.2024.03.037
[2] Akram, U., Ansari, A. R., Ulhaq, I., & Yan, C. (2023). Cosmetics makers have always sold 'hope in a jar'! Understanding the cosmetics purchase intention in the Chinese mobile commerce environment. Journal of Retailing and Consumer Services, 73, 103337. https://doi.org/10.1016/j.jretconser.2023.103337
[3] Alnawas, I., & Aburumman, N. (2021). The impact of user experience on customer satisfaction and loyalty in online shopping: Mediating effect of trust. International Journal of Internet Marketing and Advertising, 15(1), 17–35. https://doi.org/10.1504/IJIMA.2021.111221
[4] Alrawad, M., Lutfi, A., Alyatama, S., Khattab, A. A., Alsoboa, S. S., Almaiah, M. A., Ramadan, M. H., Arafa, H. M., Ahmed, N. A., Alsyouf, A., & Al-Khasawneh, A. L. (2022). Assessing customers perception of online shopping risks: A structural equation modeling–based multigroup analysis. Journal of Retailing and Consumer Services, 71, 103188. https://doi.org/10.1016/j.jretconser.2022.103188
[5] Amin, M., Isa, Z. M., Fontaine, R., & Saleh, M. I. (2022). Factors influencing customer satisfaction in e-commerce: An empirical investigation. Journal of Retailing and Consumer Services, 66, 102950. https://doi.org/10.1016/j.jretconser.2022.102950
[6] Beleiu, I., Crisan, E. L., & Nistor, R. (2020). How do users experience websites? Empirical study on trust, usability, and UX metrics. Procedia Computer Science, 176, 1339–1348. https://doi.org/10.1016/j.procs.2020.09.152
[7] Budiarto, R. A., Subriadi, A. P., & Suryadi, K. (2023). Mapping the effect of UX on loyalty in e-commerce: A systemized approach. Heliyon, 9(3), e14487. https://doi.org/10.1016/j.heliyon.2023.e14487
[8] Gulfraz, M. B., Sufyan, M., Mustak, M., Salminen, J., & Srivastava, D. K. (2022). Understanding the impact of online customers' shopping experience on online impulsive buying: A study on two leading E-commerce platforms. Journal of Retailing and Consumer Services, 68, 103000. https://doi.org/10.1016/j.jretconser.2022.103000
[9] Jain, P., Aagja, J., & Bagdare, S. (2020). Customer experience – A review and research agenda. Journal of Service Theory and Practice, 30(1), 21–50. https://doi.org/10.1108/JSTP-03-2019-0067
[10] Li, L., Tian, W., Guo, Y., & Chen, M. (2021). PRISMA-based quality assessment in systematic review research: A bibliometric study. Journal of Informetrics, 15(4), 101185. https://doi.org/10.1016/j.joi.2021.101185
[11] Ma, L., & Sun, B. (2021). How and when customer experience affects repurchase intention in online shopping. Electronic Commerce Research and Applications, 46, 101044. https://doi.org/10.1016/j.elerap.2021.101004
[12] Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2015). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. PLoS Medicine, 6(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097
[13] Mofokeng, T. E. (2023). Antecedents of trust and customer loyalty in online shopping: The moderating effects of online shopping experience and e-shopping spending. Heliyon, 9(5), e16182. https://doi.org/10.1016/j.heliyon.2023.e16182
[14] Ngo, T. T. A., Nguyen, H. L. T., Nguyen, H. P., Mai, H. T. A., Mai, T. H. T., & Hoang, P. L. (2024). A comprehensive study on factors influencing online impulse buying behavior: Evidence from Shopee video platform. Heliyon, 10(15), e35743. https://doi.org/10.1016/j.heliyon.2024.e35743
[15] Nguyen, T. T. H., Simkin, L., & Canhoto, A. I. (2020). The dark side of digital personalization: An agenda for research and practice. Journal of Business Research, 116, 209–221. https://doi.org/10.1016/j.jbusres.2020.05.017
[16] Ong, A. K. S., Dejucos, M. J. R., Rivera, M. a. F., Muñoz, J. V. D., Obed, M. S., & Robas, K. P. E. (2022). Utilizing SEM-RFC to predict factors affecting online shopping cart abandonment during the COVID-19 pandemic. Heliyon, 8(11), e11293. https://doi.org/10.1016/j.heliyon.2022.e11293
[17] Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71
[18] Qu, Y., Cieślik, A., Fang, S., & Qing, Y. (2023). The role of online interaction in user stickiness of social commerce: The shopping value perspective. Digital Business, 3(2), 100061. https://doi.org/10.1016/j.digbus.2023.100061
[19] Sivapalan, S., Masri, R., & Basir, N. M. (2023). Enhancing online shopping experience through UX strategies: Evidence from digital native consumers. International Journal of Human–Computer Interaction, 39(2), 183–200. https://doi.org/10.1080/10447318.2022.2062110
[20] Sutcliffe, A. G., Alrayes, F. S., & Berkovsky, S. (2022). User experience research in e-commerce: A critical review and future research directions. ACM Transactions on Interactive Intelligent Systems, 12(3), 1–35. https://doi.org/10.1145/3487561
[21] Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., ... & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. Annals of Internal Medicine, 169(7), 467–473. https://doi.org/10.7326/M18-085

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Volume 1, (2) 2025, p. 94-106
E-ISSN: XXXX-XXXX

[22] Widyastuti, F., Sudibyo, Y. A., & Handayani, P. W. (2023). The influence of digital customer experience on brand loyalty in e-commerce. Heliyon, 9(4), e14859. https://doi.org/10.1016/j.heliyon.2023.e14859
[23] Yahia, I. B., Al-Neama, N., & Kerbache, L. (2020). Investigating the drivers for social commerce in social media platforms: Importance of trust, social support and the platform perceived usage. Journal of Retailing and Consumer Services, 55, 102089. https://doi.org/10.1016/j.jretconser.2020.102089
[24] Yoo, J. (2023). The effects of augmented reality on consumer responses in mobile shopping: The moderating role of task complexity. Heliyon, 9(3), e13775. https://doi.org/10.1016/j.heliyon.2023.e13775
[25] Zhao, Y., Cormican, K., & Sampaio, S. (2024). Clicks vs. bricks: Exploring the critical success factors for consumer purchase intention in e-commerce. Procedia Computer Science, 239, 590–597. https://doi.org/10.1016/j.procs.2024.06.211
[26] Zhou, F., & Wang, Y. (2021). Understanding consumers' continuance intention toward online shopping: An integrated model of trust, user experience, and technology acceptance. Journal of Retailing and Consumer Services, 63, 102750. https://doi.org/10.1016/j.jretconser.2021.102750