Model for Digital Service Satisfaction: extending Expectation Confirmation Theory for online food ordering platforms

Ahluwalia.B.Anupama,

Maddulety, K

Abstract

Extending the expectation confirmation theory (ECT) and the value-belief-norm (VBN) theory, this study investigated the role of lifestyle convenience motivation (LCM), platform service quality (PSQ), and platform eco-consciousness (PEC) as cognitive antecedents impacting digital service satisfaction (DSS) for online food ordering platforms. Quantitative research was conducted among current millennial consumers of online food ordering services. SmartPLS 4-SEM was used to analyze the findings. The results indicate that LCM, PSQ, and PEC significantly impact DSS. Collectively, LCM, PSQ, and PEC explain 70.6% of the DSS variance. Furthermore, PEC has a mediating role in the influence of LCM and PSQ on DSS. The study makes critical theoretical contributions by examining DSS within digital service environments using the extended ECT. Moreover, this study integrates VBN into the ECT framework for online food ordering services.

The study offers actionable insights toward understanding new age consumer expectations. The findings provide strategic direction to online food businesses, service platforms, cloud kitchens and sustainability advocates, to identify new opportunities to engage with digital-first consumers. Platform and digital service managers would benefit to incorporate belief-based metrics into all developments pertaining to UX design, AI and embed sustainability as a core in communication strategies for building deeper consumer connect.

Keywords: online food ordering; lifestyle convenience motivation; service quality; eco-consciousness; digital service satisfaction

Introduction

In the current digital era online food delivery services are a dominant consumer touchpoint especially for millennials (Runruangjit & Charoenpornpanichkul, 2023). The manner in which the millennial generation of consumers in the age range of 29–44 years connects with online food services is unique (Zhuang et al., 2021). Consumers of online food delivery services seek a fusion of convenience, efficiency, and on-demand satisfaction (Yeo et al., 2017). Consequentially, there has been a significant increase in platform investments on models based on machine learning towards managing operations in real-time and replacing standardized algorithms and heuristics with customized solutions to address specific problems (Ashraf & Bardhan, 2024). Platforms also need to modify their stochastic scheduling and routing challenges, which are impacted by huge fluctuations in demand for meal deliveries (Zhao et al., 2025). Therefore, building a deep and ongoing understanding, from a customer-centric perspective, is necessary to increase the platform's digital service satisfaction (DSS) and strengthen operational efficiencies. This in turn would facilitate opportunities for the food delivery platform's growth (Schlagwein et al., 2024).

Extant literature has examined the influences on consumer behavior regarding online food platforms, but several critical gaps remain. Prior studies have focused on individual elements, such as delivery, including the impact of late deliveries on repurchase behaviors (Harter et al., 2024), speed of deliveries, or customer satisfaction. Hedonism, orientation towards price saving and trust are some of the factors contributing towards online food delivery services user experience (Ahmad et al., 2025). Some studies have examined service quality and customer satisfaction within digital platforms (Suhartanto et al, 2018).

Furthermore, previous studies such as Ray et al. (2019) have focused on the drivers of motivation for online food delivery service apps building on the Uses and Gratification Theory (UGT) (Ruggiero, 2000). However, they have not holistically explored how various belief-led factors interact and contribute toward building DSS for online delivery platforms, especially through the lens of Expectation Confirmation Theory

(ECT), and particularly in emerging markets, such as India. This presents a critical gap is the modeling of DSS with belief-based constructs using the theoretical lens of expectation confirmation theory (ECT).

In a departure from traditional applications of ECT, this study focuses on the impact of three individual belief systems—lifestyle convenience motivations (LCM), platform service quality (PSQ) and platform eco-consciousness (PEC)—on consumers' DSS (Alshahrani et al., 2024).

Although foundational to the research areas of consumer behavior and post-purchase evaluation, ECT (Oliver, 1980) is underleveraged in modeling user experience within digital service environments—specifically online food delivery platforms. Service satisfaction is defined within ECT, which was originally developed by Oliver (1980) and extended by Bhattacherjee (2001), as a function linked to whether expectations are upheld or denied later. While ECT has been mainly applied to study website effects (Lin et al., 2005), as well as to understand continuance intention or overall satisfaction of customers in online service contexts, these applications have typically been selective in exploring the granular and multiple dimensions of digital service experience (Oliver, 1980). DSS in food delivery apps, especially the highly algorithmic ones, implies outcomes beyond expectations, referring to efficiency, safety, and fairness concerns, as well as emotional resonance that gives users the satisfaction and sense of safety they need, while also maximizing profits at lower costs (Ting & Ahn, 2025). Additionally, ECT has yet to consider consumers' pre-existing beliefs, evaluations, and motivations, which have a significant influence on the affective and evaluative components of user experience (Ishaq et al., 2025).There is an imminent need to extend ECT to evaluate DSS given the increasing digitalization of economies. Extending ECT to digital service environments would also increase its explanatory power and provide a more dynamic framework for interpreting service satisfaction in time-sensitive and preference-sensitive digital markets, such as online food ordering platforms (Taylor et al., 2023).

While this study advances the discourse by proposing a belief-based conceptual framework integrating LCM, PSQ, and PEC to understand DSS among consumers of online food ordering platforms, prior research such as Nguyen & Nguyen (2024), applying UGT reinforces the role of convenience through digital and value seeking as significant factors influencing consumer loyalty in the context of food delivery. Millennials comprise a large cohort ordering from online food service platforms; as digital natives who have grown up fluent in the digital environment, they are value-driven, as they seek complimentary experiences, transparency in the display of sustainability efforts, and service quality efficiency of platform services (Chen et al., 2020). Despite this centrality, few empirical studies have investigated how the millennial generation's beliefs directly lead to their DSS evaluation following interaction with online food delivery service platforms. Furthermore, only a few attempts have systematically linked millennial users' DSS variables, such as efficiency, safety, and fairness, with a belief-based confirmation framework that meets this generation's preferences and sustainability imperatives (White et al., 2019).

ECT suggests that users will be satisfied if their expectations regarding post-use performance are exceeded. However, during the process of applying ECT to modern digital platforms, it must be extended to incorporate changing consumer belief systems, considering digital lifestyle enablers, service delivery innovations, and sustainability orientations (Zhao & Bacao, 2020; Rose et al., 2012). By contrast, standard theory, based on the conventional input–output approach, lacks the ability to capture the complexity of the pre- and post-event belief-driven perceptions that pave the way for forming expectations in digital environments. To overcome this theoretical limitation, this present study incorporates Stern's value-belief-norm (VBN) theory and behavioral sustainability models to strengthen ECT's explanatory power related to online food ordering platforms (Stern et al., 2000).

Research gaps

In terms of defining food delivery behavior for millennials, LCM is a defining feature in the context of time efficiency and ease-of-use (Cho et al., 2019). Some studies have found that consumers increasingly associate digital service efficiency with platform success (Kimes, 2011). Moreover, millennials navigating between their careers, education, and social lives opt for services that remove routine work, such as cooking (Ray et al., 2019).

However, convenience is not a transactional attribute; it is a lifestyle enabler that demonstrates broader digital engagement habits. Hence, its impact on satisfaction should be measured considering its cognitive and experiential resonance in belief-based models (Michalco et al., 2015).

Second, it is important to understand the role of post-usage evaluations regarding such aspects as pricing transparency, variety, and user interface responsiveness of PSQ (Atapattu et al., 2016). Empirical work, by contrast, has emphasized functional performance metrics without systematically considering how the service's characteristics harmonize with elements of pre-formed consumer beliefs and how the confirmation of the beliefs influences the perceptions of fairness and safety (Jin et al., 2013).This is particularly salient considering that online food ordering platform environments now increasingly utilize artificial intelligence (AI) and augmented reality (Naik et al., 2025) recommendations, affecting the consumer choice architecture (Cortes & Herrmann, 2021).

Third, the role of PEC (i.e., values related to eco-friendly packaging and cutlery, waste reduction, reduced carbon emissions, and responsible sourcing) should be investigated in service satisfaction models. The global climate crisis is in the spotlight, and millennial consumers are increasingly aware of environmental considerations, expecting service providers to reflect their own values (White et al., 2019). However, the post-usage status of eco-conscious beliefs has received little attention with regard to how these beliefs translate to confirm DSS judgments. Past studies have examined environmental concerns as an antecedent of purchase (Roh & Park, 2019), but few have explored how sustainable practices affect service evaluations within the digital food ordering context.

Research questions

This study poses three interrelated research questions (RQs) to address the identified research gaps.

RQ1: How does LCM impact DSS in the context of online food ordering services?

RQ2: How does PSQ impact DSS in the context of online food ordering services?

RQ3: How does PEC impact DSS in the context of online food ordering services?

Research objectives

This study poses the following research objectives (ROs) to address the research questions.

RO1: To examine the influence of LCM on DSS among millennial consumers of online food ordering platforms.

RO2: To examine the influence of PSQ on DSS among millennial consumers of online food ordering platforms.

RO3: To examine the influence of PEC on DSS among millennial consumers of online food ordering platforms.

Literature review

With the increased digitization of food services, online food ordering platforms are growing, enabling consumers to connect with a variety of food providers digitally. Individuals' daily use of mobile apps and algorithmic interfaces has created an experiential space that goes beyond product quality and is increasingly driven by (or at least perceived to be influenced by) user experience, understood as a multidimensional construct that includes efficiency, satisfaction, trust, emotional engagement, and post-use reflection. (Zhao & Bacao, 2020). Among millennial consumers, whose consumption is characterized by digital fluency, time scarcity, and value-driven preferences, user experience is also shaped by technological affordances and belief-driven expectations (Chen et al., 2020). While several studies have examined satisfaction and service quality in online food ordering platforms, few have leveraged a belief-based view using ECT to systematically investigate user experience.

Digital service satisfaction

DSS, in relation to online food delivery, is a multi-dimensional construct comprising usability, service efficiency, emotional satisfaction, and value alignment (Rose et al., 2012). While traditional satisfaction is outcome oriented, DSS represents a process evaluation that includes how the service environment interacts with the user's beliefs, expectations, and goals. DSS for millennials is more about speed, transparency, credibility, and matching their lifestyle and ethical norms (Chen et al., 2020). Yeo et al. (2017) argued that, for millennials, it primarily means

perceived control, personalization, and little friction—DSS standards that can easily be incorporated within a platform's intuitive design, recommendations on smart activities, and the capacity for real-time tracking. Roh and Park (2019) similarly found that meal preparation guilt or concerns regarding sustainability might affect evaluations of the digital experience implying that DSS is not just a technical outcome but also a belief-mediated experience. The factors strongly influencing consumer satisfaction and behavioral intention are perceived risks and expectations that are belief driven, which reinforces the important role of integrating attitude and cognitive related factors into developing satisfaction model (Pillai et al., 2022).

Theoretically, extending ECT from use-based to belief-based antecedents allows for a richer interpretive lens for understanding post-use satisfaction (Suhartanto et al., 2018). Lifestyle convenience, service quality, and sustainability beliefs function as expectation filters, moderating the biased cognitive comparison process that forms the basis of ECT (Oliver, 1980). Therefore, DSS emerges as a dependent variable influenced by not only the actual service delivery, but also the degree to which services affirm or violate individual beliefs (Ray et al., 2019).

Lifestyle convenience motivation and digital service satisfaction

It has been established that the fast-paced urban lifestyle is driven by the pursuit of convenience and time efficiency, making online services particularly appealing. According to Ray et al. (2019), convenience motivation is a belief-based orientation that focuses on ease of ordering, flexibility in delivery scheduling, and decreased effort in meal preparation in the context of online food ordering platforms (Ray et al., 2019). Thus, time efficiency reflects a functional benefit consistent with the temporal context of millennials who have to balance their work, study, and social life (Cho et al., 2019).

In addition, consistent with the research of Ray et al. (2019), convenience is a major determinant in food delivery app usage, overriding concerns about loyalty or pricing. Similarly, Yeo et al. (2017) noted that perceived ease-of-use and delivery speed significantly influence positive service experiences and behavioral intentions specifically among millennials who expect 'seamless' digital navigation (Yeo et al., 2017). Increased investments in AI-enabled recommendation systems, predictive logistics, and real-time tracking are also driven by the demand for instant gratification and frictionless service, which collectively reinforce the perception of convenience and efficiency (Kimes, 2011).

Lifestyle enables convenience and time-saving functions (Agarwal & Sahu,2021), such as critical pre-consumption expectations that guide users' evaluative judgments during and after the service encounter. Among millennial consumers, in particular, these lifestyle-related expectations are salient; for example, they may require the online ordering process to be more efficient and flexible while managing a daily routine (Cho et al., 2019). According to ECT, satisfaction occurs when the actual performance of a service meets or exceeds initial expectations (Oliver, 1980). Consequently, positive confirmation occurs when users are satisfied with a food delivery platform service, such as swift navigation, timely delivery, or minimal cognitive or physical effort, which, in turn, increases their satisfaction, trust, and intention to reuse the service (Yeo et al., 2017). Meanwhile, service delays, app crashes, or indiscernible service processes will cause negative disconfirmation, dissatisfaction, and disengagement. Consequently, convenience and speed should not be regarded as operational benefits, but rather, as belief-based antecedents residing in users' cognitive schemas. The confirmation or otherwise of these elements forms the foundation of DSS for the millennial cohort (Agarwal & Sahu, 2021). Based on the literature, this study proposes the following hypotheses:

HI: LCM has a significant positive impact on DSS in online food ordering platforms.

H2: LCM significantly influences DSS through the mediating effect of PEC in online food ordering platforms.

Platform service quality and digital service satisfaction

The digital interface of online food ordering platforms facilitates easy access and transactions, but the core service experience (e.g., food quality and value), which is mediated by the perceived performance of listed restaurants, stays the same or indeed remains opaque to users. However, from an ECT perspective, users expect certain

restaurant-related attributes, including perceived trust (Gani et al., 2021), as well as menu variety and appropriate pricing, as these are key criteria for expectation formation (Bhattacherjee, 2001). Based on past experiences, social influence, and marketing communication, expectations are particularly pertinent for millennial consumers, who prefer value-conscious consumption and experiential variety (Zhao & Bacao, 2020). As a result, when these expectations are fulfilled successfully by platforms that present a diverse and inclusive selection of food options across a price spectrum, there is a positive expectation confirmation, which yields higher user satisfaction, better trust in the platform, and prolonged use behavior. By contrast, negative disconfirmation and dissatisfaction may be experienced when platforms fail to deliver on these dimensions. Thus, restaurant services not only function as supply-side attributes but also serve as belief-based evaluative anchors that shape the user experience in digital food delivery contexts.

In terms of ECT, pricing acts as a cognitive evaluator as well as a psychological stimulus to form user experience in the online food delivery platform context. The concept is crucial for influencing perceptions of value-for-money, not just economic fairness, and transmitting implicit signals about the service quality and exclusivity (Rose et al., 2012). Pricing is critical to expectation formation among millennial consumers who tend to be value-conscious yet experience driven. The provision of transparent pricing structures, such as base meal costs, delivery fees, promotional discounts, and surge pricing policies, serves as a belief cue to activate pre-use judgments about the trustworthiness and equity of platforms (Ardiansyahmiraja et al., 2023). If these expectations are met or exceeded through effective, clear communication and rational cost logic, users experience positive confirmation, reinforcement of satisfaction, and solidification of platform loyalty (Bhattacherjee, 2001). In turn, unexpected charges or unclear pricing schemes lead to disconfirmation, undermining perceptions of fairness and creating dissatisfaction. According to Cho et al. (2019), millennials are especially attentive to pricing inconsistencies and expect platforms to be transparent. As a result, pricing is not merely a transactional element, but rather a belief-anchored antecedent that strongly influences subsequent evaluations of online food ordering platforms (Annaraud & Berezina, 2020).

The quality of the restaurant is also influenced by the variety of the menu. A larger choice of cuisines, options for customers with dietary restrictions, and the ability to customize orders enhance the possibility of generating positive exploratory experiences and can satisfy the varied food preferences of millennial consumers (Roh & Park, 2019). Oliver's (1980) cognitive dissonance theory also predicts this point, as it claims that variety acts as a choice-reducing heuristic, resulting in greater perceived control and personal relevance.

Using the ECT-based framework, this study argues that pricing fairness and menu variety of restaurant services are salient belief-driven expectations that shape users' cognitive evaluations of online food delivery platforms. Indirectly managed by platforms, these services provide a visible proxy of service quality and influences user perception about platform credibility and utility. The existence of diverse culinary options, flexibility for those with dietary restrictions, and the ability to see the price of meals up front are in line with millennial consumers' core consumption values that focus on personalization and perceived value-for-money (Ahmad, 2023). If platforms deliver on these pre-use beliefs by curating a wide variety of restaurant partners and keeping pricing competitive and fair, these beliefs are confirmed, thereby triggering positive affect, increased user satisfaction, and greater loyalty. By contrast, negative disconfirmation can occur if the menu variety is limited or the surcharge is too high, reducing perceived fairness and lack of platform trustworthiness. Furthermore, from the ECT perspective, restaurant service attributes move beyond purely operational roles and become belief confirmation touchpoints in the decision continuum of the digital food delivery ecosystem (Batouei et al., 2023). Based on the literature, we posit the following hypothesis:

H3: PSQ has a significant positive impact on DSS in online food ordering platforms.

H4: PSQ significantly influences DSS through the mediating effect of PEC in online food ordering platforms.

Platform eco-consciousness and digital service satisfaction

From the ECT standpoint, pro-environmental practices constitute a new type of belief-based expectation, which has a considerable effect on post-usage evaluations, especially among eco-conscious millennials (Batouei et al.,

2023). With the increasing acceptance of sustainability values and their integration into consumer identity and purchasing logic, the use of eco-friendly packaging, reduction of waste, and carbon-neutral delivery methods now represent parameters of primary importance in service evaluation (White et al., 2019). These green practices serve as a confirmation trigger to users who prioritize environmental stewardship, demonstrating that their personal values are recognized as well within the platform's operations. Congruence in these practices creates not only positive effects and satisfaction but also brand loyalty and positive word-of-mouth (Zhao & Bacao, 2020). Alternatively, platforms that neglect or provide inconsistent application of sustainability initiatives may confirm belief disconfirmation in the form of cognitive dissonance and negative evaluation owing to inconsistent beliefs and actions (Stern et al., 2000). Therefore, within the digital food delivery ecosystem, eco-conscious features serve as symbolic and functional cues that contribute to user experience, ensuring the ethical alignment of the platform–consumer exchange (Wahid et al., 2024).

Furthermore, eco-packaging initiatives, which utilize recyclable containers, biodegradable or compostable cutlery, and reduced or minimalistic packaging, are found to be salient belief-based cues that influence millennial users' post-consumption evaluations of online food delivery services. Beyond functional utility, these packaging practices assume a symbolic meaning, representing a platform's efforts towards environmental responsibility and enmeshment with more general values of ethical consumption. When millennial consumers, who are inclined to imbue their consumption logic with value-driven norms, enter the equation, this symbolic alignment becomes even more crucial (Chen et al., 2020). The VBN theory developed by Stern (2000) suggests that consumers will translate environmental concerns into sustainable behavior if they see normative congruence between the behaviors that they believe are necessary to sustain positive, pro-environmental action (Krishna et al.,2023). Based on these normative expectations, eco-friendly packaging provides them with positive beliefs and confirmation, which reinforce the users' satisfaction and loyalty. On the contrary, over-packaging or packaging that is not recyclable can cause disconfirmation and, therefore, consumer dissatisfaction even when the service delivery is strong. As a result, eco-packaging has surfaced as a key facet in generating a more holistic and ethically congruent user experience within digital food delivery platforms aimed at value-conscious, sustainability-oriented millennials (Ahmed et al., 2020).

Using ECT, we propose that waste-reduction initiatives in online food delivery services will become increasingly salient belief-based expectations that directly affect millennial users' post-consumption evaluations. Other practices, including opt-in utensil options, batch or grouped deliveries, or digital-only receipts, are not only functional but also signal to customers that a platform is committed to sustainability or other aspects of corporate social responsibility (Zhao & Bacao, 2020). Therefore, these features are seen by environmentally conscious consumers as signals of a platform's ethical orientation and are visible and traceable indicators that function as cues confirming user values and expectations. Consistent and transparent integration of such practices enables more perceived platform integrity, positive affect, and corresponding favorable user experiences. However, if the user makes an in-focus decision and has no eco-friendly options to choose from, or if the brand provides superficial and mergeable sustainability claims (i.e., greenwashing), the user's expectation will not be confirmed, resulting in their dissatisfaction and erosion of trust in the brand (Kumar et al., 2021). Waste-reduction policies are no longer marginal but are core evaluative criteria of digitally mediated food services, influencing the formation of user experiences that center around value alignment and congruence in the ethical realm (Yang et al., 2024).

In the ECT paradigm, eco-conscious practices in online food delivery platforms are increasingly treated as belief-confirmation mechanisms to shape affective evaluations leading to post-usage outcomes. The evaluation of such features as sustainable packaging, small batch deliveries, and a reduced carbon footprint is no longer based on functionality but the degree to which they are in line with users' internalized environmental values, especially among millennials (White et al., 2019). Conversely, when the platform presents itself as authentic through environmental engagement, it validates the consumer's sustainability expectations, which leads to positive disconfirmation, amounting to a surplus of cognitive resources and enhancing affective trust, brand attachment, and long-term platform loyalty (Zhao & Bacao, 2020). In the digital context, in which there is no direct interpersonal contact and users look to symbolic cues to determine integrity and ethical alignment, this trust factor becomes even more important (Krishna et al., 2023). Meanwhile, a discrepancy between espoused and enacted

environmental values can lead to cognitive dissonance even when service quality remains operationally efficient, thereby decreasing satisfaction and deterring future reuse intentions. Pro-environmental beliefs are now central antecedents of online food ordering platform experiences, driving how millennial users perceive, assess, and emotionally react to platform interactions (Guo & Mantravadi, 2024). Based on the literature this study proposes the following hypothesis:

H5: PEC has a significant positive impact on DSS in online food ordering platforms.

The conceptual framework developed based on the abovementioned literature and ECT and VBN theories is outlined in Figure 1.
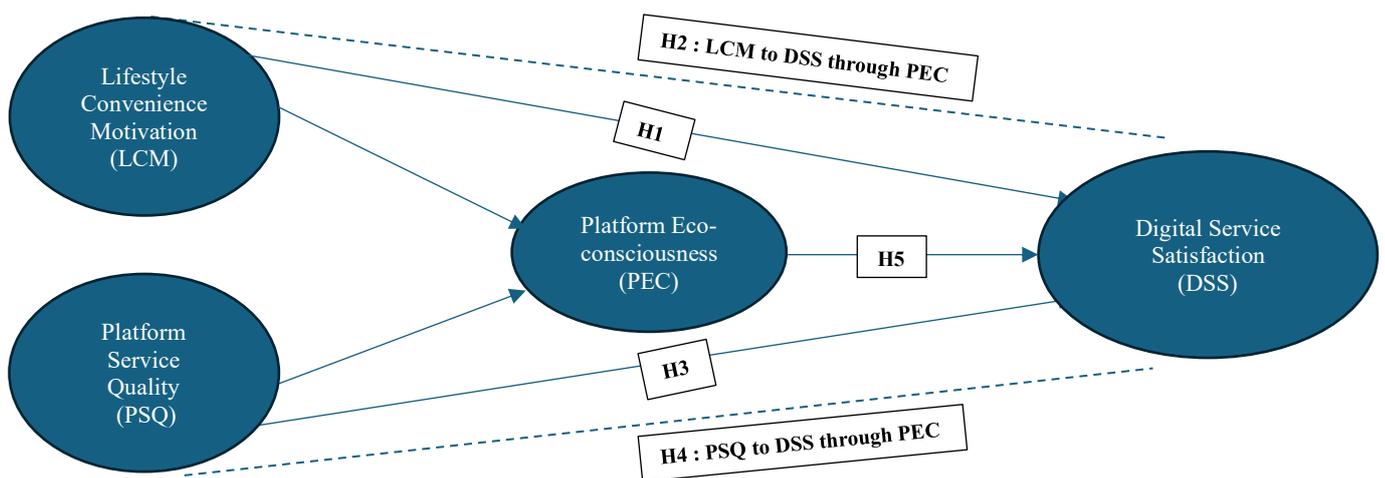

Figure 1. Conceptual framework

Note: thick lines indicate direct impacts, and dotted lines indicate indirect impacts

Methodology

Data collection

This research was conducted among millennial consumers in the age group of 29–44 years from India who had previously ordered food from online ordering services at least once during the past 3 months.

The primary data collection tool was Google forms that were circulated to respondents via mobile. The online questionnaire, which comprised of a series of statements to test the loading items were rated on a five-point Likert scale a format which is used online in studies conducted for measuring belief-based constructs (Ray et al.,2019) where 1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, and 5 = strongly agree.

The online survey questionnaire was pretested among 15 respondents (not included in the final analysis) for clarity and reliability before the online deployment. The online questionnaire explained to the participants the reason for conducting the survey as a part of the study and also indicated that it would take approximately 10–15 minutes to complete. Respondents were assured that the responses they shared would be kept confidential and used for research purposes only. The questionnaire concluded by thanking the respondents for their participation.

Sampling

This study's data collection followed the stratified random sampling procedure, consistent with previous studies conducted for online food delivery services seeking demographic representation (Suhartanto et al., 2018). This

was selected to ensure appropriate representation of the targeted millennial consumers in the age group of 29–44 years across sex and geographic locations of India.

A total of 1,100 millennial consumers were contacted online, of whom 570 responded. From these responses, 64 were discarded for failing to meet the order frequency criterion. Another 35 responses were discarded as part of data cleaning. The final sample achieved for purposes of analysis was 471, with a response rate of 42.8%. This sample size has a 95% confidence level (Byrne, 2013) and thus statistically valid, with a margin of error of 4.52%.

Ethical considerations

All participants gave informed consent before participation in the survey. Participants were informed about the research purpose, the voluntary nature of participation, and their right to withdraw at any time.

Data analysis and results

Demographic analysis

Table 1 presents demographic variables, including sex and frequency of ordering from online food delivery services. The results demonstrated that more male respondents (n = 303) met the study criteria versus female respondents (n = 168).

The highest frequency of ordering from online food delivery services (i.e., 2–3 times a month) was 39.7%, while the lowest frequency of ordering (i.e., at least once a month) was 12.1%

Table 1. Demographics and frequency of ordering analysis of respondents

Respondent Demographics

		Respondents	Percentage %
Sex	Male	303	64.3
	Female	168	35.7
	Total	**471**	**100.0**

Frequency of Ordering

	Respondents	Percentage %
At least once a month	57	12.1
2–3 times a month	187	39.7
4–6 times a month	162	34.4
More than 6 times a month	65	13.8
Total	**471**	**100.0**

Analysis of measurement model

The conceptual framework highlighted in Figure 1 was tested using the measurement model shown in Figure 2.
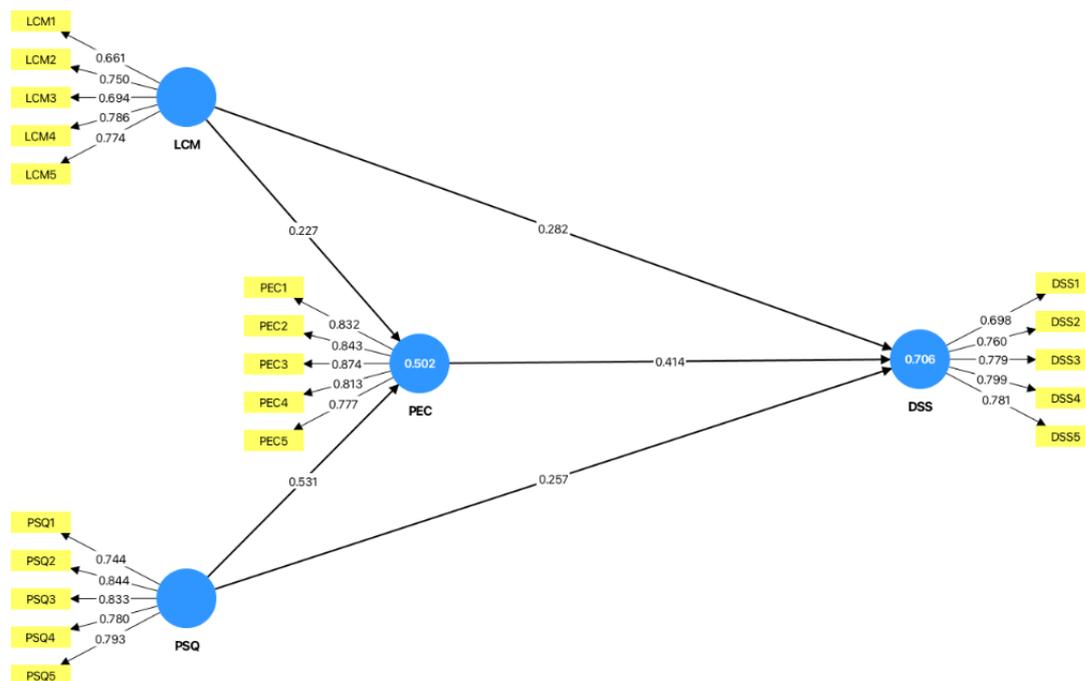
Figure 2. Analysis of the measurement model using SmartPLS4-SEM

The analysis reveals the relationship between the observed and latent variables in a specified investigation (Hair et al., 2011). To assess latent variables, several measurement items with numerical values were collected in the questionnaire.

Table 2 indicates the outer loadings for the measurement model used in Smart-PLS4 SEM. According to Hair et al. (2017), outer loadings should ideally exceed 0.6 to indicate good reliability of the reflective indicators. Loadings greater than 0.70 indicate very good reliability (Hair et al., 2017). As Table 2 shows, LCM1, LCM3, and DSS1 values of 0.661, 0.694, and 0.698, respectively, are good loadings while the rest of the loadings are greater than 0.700, which can be considered very good.

Table 2. Outer loadings of measurement model

Items	Loadings	Sources
Lifestyle convenience motivation (LCM)		
LCM1: easy to order food	0.661	Zhuang et al., (2021)
LCM2: reduces my stress	0.750	Leung and Wen (2021)
LCM3: replaces home cooking	0.694	John (2023)
LCM4: time saving	0.786	Agarwal & Sahu, (2021)
LCM5: suitable for me	0.774	Ray et al. (2019)
Platform service quality (PSQ)		
PSQ1: fair pricing of restaurant dishes	0.744	Zheng and Guo (2016)
PSQ2: price saving promotions	0.844	Yeo et al. (2017)
PSQ3: conveniently located restaurants	0.833	He et al., (2019)
PSQ4: food quality of dishes	0.780	Annaraud and Berezina (2020)

PSQ5: helpful food reviews	0.793	Lee and Kim (2020)
Platform eco-consciousness (PEC)		
PEC1: responsible sourcing	0.832	Ahmed et al. (2020)
PEC2: reduces carbon footprint	0.843	Han et al. (2024)
PEC3: uses eco-friendly packaging	0.874	Ting and Ahn (2025)
PEC4: offers eco-friendly cutlery	0.813	Williady et al. (2025)
PEC5: reduces food wastage	0.777	Salem and Wagner (2025)
Digital service satisfaction (DSS)		
DSS1: easy to use apps	0.698	Zhuang et al., (2021)
DSS2: efficient in order processing	0.760	Kimes (2011)
DSS3: safe to share my personal information	0.779	Alzaidi and Agag (2022)
DSS4: resolves order issues quickly	0.799	Atapattu et al., (2016)
DSS5: trust in refund policies	0.781	Chiu et al. (2012)

Note. LCM: Lifestyle convenience motivation, PSQ: Platform service quality, PEC: Platform eco-consciousness, DSS: Digital service satisfaction.

Construct reliability

To determine the items' reliability and validity, the proposed model was tested using partial least squares structural equation modeling with SmartPLS4 (Sarstedt & Cheah, 2019). Table 3 presents the results of the measurement model analysis. Cronbach's alpha (CA) scores (Cronbach, 1951) over 0.70 and composite reliability (CR) values over 0.70 were used to determine the model's construct reliability (Hair et al., 2019). As the latent variables' CA values and CR values were above 0.70, construct reliability is confirmed.

Table 3. Results of construct reliability

Latent Variables	Cronbach's Alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
DSS	0.821	0.824	0.875
LCM	0.787	0.794	0.854
PEC	0.885	0.888	0.916
PSQ	0.858	0.859	0.898

Note. LCM: Lifestyle convenience motivation, PSQ: Platform service quality, PEC: Platform eco-consciousness, DSS: Digital service satisfaction.

Convergent validity

Average variance extracted (AVE) with a value over 0.50 was used to determine convergent validity (Fornell & Larcker, 1981). An AVE of 0.50 or greater signifies that the latent construct is responsible for 50% or more of the variance in the observable variables, on average. Table 4 presents the AVE for all latent variables. As the AVE is greater than 0.5 for all the variables, convergent validity is confirmed.

Table 4. Results of convergent validity

Latent Variables	Average Variance Extracted
DSS	0.584
LCM	0.540
PEC	0.687
PSQ	0.639

Note. LCM: Lifestyle convenience motivation, PSQ: Platform service quality, PEC: Platform eco-consciousness, DSS: Digital service satisfaction

Discriminant validity

To ensure that each latent variable is unique, according to discriminant validity (Fornell & Larcker, 1981), the beta coefficients of the constructs were compared with the corresponding square root of the AVE values. If the square root of the AVE is greater than the beta coefficients, discriminant validity is achieved (Fornell & Larcker, 1981).

Table 5 shows the results of the discriminant validity analyzed according to the Fornell–Larcker criterion. The square roots of the AVE values are represented in the diagonal elements highlighted in bold. As the table indicates, each latent variable is unique, given that the square roots of the AVE values for DSS, LCM, PEC, and PSQ of 0.764, 0.735, 0.829, and 0.799, respectively, are greater than beta coefficients (correlations) mentioned in corresponding rows and columns along the diagonal. This confirms discriminant validity according to the Fornell–Larcker criterion.

Table 5. Results of discriminant validity: Fornell–Larcker criterion

Latent Variables	DSS	LCM	PEC	PSQ
DSS	**0.764**			
LCM	0.711	**0.735**		
PEC	0.760	0.599	**0.829**	
PSQ	0.740	0.701	0.690	**0.799**

Note: LCM: Lifestyle convenience motivation, PSQ: Platform service quality, PEC: Platform eco-consciousness, DSS: Digital service satisfaction.

Furthermore, according to the heterotrait–monotrait ratio (HTMT) which measures the real correlations across components (Henseler et al., 2015), discriminant validity is again confirmed, as the HTMT is less than 0.90. Table 6 indicates that all the HTMT values in this study were below 0.90. Thus, the results again verify that all latent variables were distinctly different from each other.

Table 6. Discriminant validity according to heterotrait-monotrait (HTMT) ratio

Latent Variables	DSS	LCM	PEC	PSQ
DSS				
LCM	0.880			

PEC	0.885	0.703	
PSQ	0.882	0.849	0.790

Note. LCM: Lifestyle convenience motivation, PSQ: Platform service quality, PEC: Platform eco-consciousness, DSS: Digital service satisfaction.

Furthermore, it is crucial for each variable to load on to its own and not on other variables in order to explain the variance of the variable it is loaded on. Table 7 shows every item loaded very high on its own respective construct and loaded very low on the rest of the constructs, indicating the absence of cross-loadings.

Table 7. Cross-loadings

	DSS	LCM	PEC	PSQ
DSS1	**0.698**	0.585	0.446	0.518
DSS2	**0.760**	0.579	0.519	0.554
DSS3	**0.779**	0.573	0.598	0.601
DSS4	**0.799**	0.491	0.662	0.571
DSS5	**0.781**	0.499	0.662	0.583
LCM1	0.429	**0.661**	0.296	0.456
LCM2	0.496	**0.750**	0.388	0.511
LCM3	0.511	**0.694**	0.531	0.465
LCM4	0.584	**0.786**	0.476	0.556
LCM5	0.566	**0.774**	0.467	0.578
PEC1	0.656	0.536	**0.832**	0.580
PEC2	0.632	0.489	**0.843**	0.536
PEC3	0.672	0.512	**0.874**	0.616
PEC4	0.609	0.430	**0.813**	0.579
PEC5	0.577	0.514	**0.777**	0.545
PSQ1	0.552	0.538	0.611	**0.744**
PSQ2	0.601	0.609	0.578	**0.844**
PSQ3	0.614	0.572	0.540	**0.833**
PSQ4	0.591	0.545	0.511	**0.780**
PSQ5	0.602	0.535	0.513	**0.793**

Note. LCM: Lifestyle convenience motivation, PSQ: Platform service quality, PEC: Platform eco-consciousness, DSS: Digital service satisfaction.

Multicollinearity test

High correlations among independent variables may influence model estimation results. Hence, a multicollinearity test is conducted to check for the presence of high correlations. Multicollinearity exists if the variance inflation factor (VIF) value reaches 5 (Hair et al., 2019). As Table 8 shows, the highest VIF recorded in this study was 2.534, which was confirmed to be within the acceptable limits. Therefore, the presence of multicollinearity was deemed to be absent in the dataset.

Table 8. Multicollinearity results for inner model

Variables		VIF
LCM	➝ DSS	2.071
LCM	➝ PEC	1.968
PEC	➝ DSS	2.008
PSQ	➝ DSS	2.534
PSQ	➝ PEC	1.968

Note. LCM: Lifestyle convenience motivation, PSQ: Platform service quality, PEC: Platform eco-consciousness, VIF: Variance inflation factor.

Measurement of structural model

Prediction assessment

Predictive performance of the exogenous constructs are determined using different measures, such as the coefficient of determination (R^2), effect size (f^2), cross-validated redundancy (Q^2), and the size and significance of the path coefficients (Hair et al., 2019).

Coefficient of determination (R^2)

The explanatory power of the structural model in PLS is determined by the coefficient of determination or R^2, which varies between 0 and 1 (Hair et al., 2019). A higher R^2 value implies better prediction of endogenous constructs. According to Hair et al. (2019), R^2 values of 0.75, 0.50, and 0.25 denote substantial, moderate, and weak prediction, respectively. The higher the value, the better the prediction power. The percentage of change in the dependent variable that the model could explain was shown by the R-square values.

As Table 9 illustrates, the analysis revealed that the model could account for approximately 70.6% of variations in UE.

Table 9. R-square of the endogenous latent variable

Dependent Variable	R-Square	R-square adjusted	Comment
DSS	0.706	0.704	Substantial

Note. DSS: Digital service satisfaction.

Predictive relevance (Q2)

If the value of Q^2 is greater than 0.00, the predictive accuracy of the path model is acceptable (Hair et al., 2019). Table 10 illustrates that all the exogenous constructs used in this model had greater predictive relevance toward DSS as the Q^2 predictive relevance is much higher than 0.00 ($Q^2 = 0.574$).

Table 10. Construct cross-validated redundancy (Q^2 predict)

Dependent Variable	Q^2predict	RMSE	MAE	Comment
DSS	0.574	0.657	0.483	Large Predictive relevance

Note. DSS: Digital service satisfaction, RMSE: Root mean square error, MAE: Mean absolute error.

Direct and mediating hypotheses

The structural model is assessed to verify the hypotheses after the validity of the whole measurement model has been established (Hair et al., 2019). The stated hypotheses that indicate the relevance of the relationships are either

supported or not supported through this analysis. In this study, a bootstrapping setting with 10,000 samples (fixed seed, complete level of complexity, significance level of 0.05, and two-tailed test) was used to estimate the structural model (Hair et al., 2021).

Structural model: Hypothesis testing

Path coefficients (beta), t statistics, and corresponding p-values are displayed below for each hypothesis tested. The t-value is statistically significant in two-tailed testing when it is outside the range of −1.96 to +1.96, and the p-value is less than 0.05 (Byrne, 2013).

The following results are for the structural model analysis (direct effects).

HI: LCM has a significant positive impact on DSS in online food ordering platforms.

H1 was strongly supported, as the beta value is 0.282 and T-value 6.079.

The findings suggest that millennial users of online food ordering services are more likely to report higher service satisfaction when theirs lifestyle related convenience beliefs are fulfilled. Thus, understanding and aligning service design with the consumers' LCM is central to enhancing DSS by online food delivery platforms. The strong and significant outer loadings of LCM indicators reaffirm that service features aligned with offering consumers time saving, personalization, and stress-reduction benefits consumers for building service satisfaction.

H3: PSQ has a significant positive impact on DSS in online food ordering platforms.

H3 was strongly supported, as the beta value is 0.257 and T-value 5.390.

This outcome underscores the strategic importance of onboarding reliable restaurant partners by food delivery services towards building service satisfaction. The deliverables of food quality, fair pricing of dishes, promotions offered, review ratings, and location of restaurants play a significant role in building service satisfaction for users of online food ordering platforms.

H5: PEC has a significant positive impact on DSS in online food ordering platforms.

H5 was strongly supported, as the beta value is 0.414 and T-value 8.840.

The results indicate the high value consumer place on sustainability as a part of the overall service experience from online food ordering platforms. Suitable indicators for millennial users' beliefs related to food delivery service providers' environmental responsibilities are related to eco-friendly packaging, cutlery, and reduction in carbon footprint, which could help develop service satisfaction.

The following results are for the structural model analysis (indirect specific effects).

H2: LCM significantly influences DSS through the mediating effect of PEC in online food ordering platforms.

H2 was strongly supported, as the beta value is 0.094 and T-value 3.943.

This result underscores the importance of integrating eco-consciousness features seamlessly while catering to millennial user's lifestyle-based convenience expectations. Food delivery service providers that integrate eco-consciousness principles while at the same time being focused on convenience drivers stand to enhance the service satisfaction levels of millennial users.

H4: PSQ significantly influences DSS through the mediating effect of PEC in online food ordering platforms.

H4 was strongly supported, as the beta value is 0.220 and T-value 6.947.

This result indicates that service quality influences satisfaction through shaping pro-environmental perceptions. When online food delivery service providers deliver reliable and high-quality services, it makes millennial users more receptive to the platform's eco-conscious practices, which in turn helps further strengthen overall service satisfaction.

Discussion

This study analyzes the complexity of how consumers experience online services and evaluate their service satisfaction levels in the algorithmically mediated and time-sensitive context of online food ordering platforms. This research fills theoretical and practical gaps by extending ECT to evaluate the impact of LCM, PSQ, and PEC on DSS.

The findings indicate the importance of evolving ECT from a static, expectation–outcome comparison model to a fluid, belief-informed evaluative process. In digital service environments such as food delivery platforms, expectations are not only dependent on previous experiences or general product performance. All of these expectations are actively shaped by pre-existing values, lifestyles, and perceptions of users, particularly among the millennial consumers who have grown up with digital technologies and demonstrated high sensitivity to issues such as sustainability, safety, fairness, and efficiency.

In the past, convenience motivation was considered a functional attribute. However, it has now emerged as a main lifestyle enabler and a key psychological factor in digital engagement. For online food ordering consumers, convenience is not only related to speed or ease-of-use but is also aligned with their requirement to optimize routines, manage time efficiently, and minimize cognitive burden in an oversaturated digital environment. This confirms LCM's vital role in DSS.

Moreover, PSQ has a huge impact on satisfaction level through the use of symbolic and functional dimensions. While traditional metrics, such as pricing transparency, responsiveness, and variety, remain relevant, this research shows that their perceived value is amplified when users believe the platform is safe, fair, and adaptive to individual needs. However, the high use of AI and recommendation algorithms in online food ordering platforms further complicates these dimensions, suggesting that users' high comfort level with automated systems is mediated by their belief in platform fairness and data transparency.

Moreover, PEC is considered a vital belief-based construct that shows the growing alignment between environmental values and digital consumption. While past studies have typically positioned environmental concerns as a vital factor of purchase intention, this research establishes the centrality of pro-environmental consciousness in post-use service satisfaction evaluations. Value-driven consumers expect platforms to reflect their sustainability ideals through waste reduction, eco-friendly packaging, and ethical labor practices. When all of these eco-beliefs are confirmed, then the DSS level increases with functionality. Hence, DSS contributes toward long-term brand affinity and positive word-of-mouth.

Given this background, the belief-based evaluative model has been explained in this study. This model offers a fresh perspective on DSS within the digital service landscape. It also enhances the explanatory power of ECT through incorporating pre-existing belief structures and post-usage reflections in the satisfaction judgment process. Service satisfaction is more than a technical quality evaluation, because an individual's satisfaction level is positioned as a cognitive–emotional alignment between what they believe and what they experience. This reframing is explained comprehensively in the context of online food ordering platforms at the intersection of personalization, automation, and socially significant value propositions such as ethical service delivery and sustainability. It shows that the study contributes both practical insights and theoretical innovations.

Contribution to Theory

The study makes some vital theoretical contributions by representing DSS within digital service environments using the belief-based expansion of ECT. This theory has been widely applied in consumer behavior and information system research. Moreover, its traditional scope was focused on DSS based on the simple discrepancy model between perceived performance and pre-formed expectations (Bhattacharjee, 2001). In addition, the study has extended the explanatory power of ECT by introducing a multi-dimensional and belief-oriented framework that acknowledges the emotional, cognitive, and value-driven underpinning of satisfaction in app-based food delivery services. The research not only brings ECT into alignment with the complexity level of digital user behavior, but also implements some complementary theories such as the value-belief-norm (Stern, 2000) to offer a highly comprehensive understanding of consumer psychology in the digital age.

1. *Expanding ECT from expectation-performance to customers belief-driven evaluation*: In the past, ECT was only applied to conceptualize satisfaction as a main function of expectation confirmation or disconfirmation (Bhattacharjee, 2001). Second, the model assumes that most expectations are largely transactional and rational. They are also centered on whether the service or product performs as anticipated. Hence, this assumption oversimplifies the satisfaction mechanism in digital ecosystems, particularly for those related to intelligent automation and multi-layered service design dynamics such as online food delivery platforms (Yeo et al., 2017). Furthermore, this study also reframes ECT as a belief confirmation model in which beliefs are not related to functionality. However, the research offers comprehensive information regarding consumers' pre-formed evaluation, which includes fairness, convenience, sustainability, and emotional safety. Based on this reframing of ECT, beliefs act as the lens through which expectations are constructed and different performance is interpreted. Second, satisfaction is not the required outcome of fulfilled expectations, but the result of belief affirmation (Aslam et al., 2025). It maintains congruence between users' internal value structure and their DSS. Such theoretical extension aligns ECT perfectly with contemporary psychological and behavioral economic literature focusing on the role of values, beliefs, and cognitive dissonance in consumer satisfaction (Ahmad et al., 2025).

2. *Integrating the VBN framework into ECT*

To overcome the limitations of ECT in accounting for value-driven motivation, the study integrates Stern's (2000) Value-Belief-Norm (VBN) theory into the ECT framework. VBN theory has been traditionally applied to environmental and pro-social behavior that shows individuals acting in accordance with personal beliefs and values when these are activated by situational cues as well as moral obligations.

By linking VBN constructs with users' perceptions of eco-conscious platforms in the satisfaction model, the study can offer a more theoretical understanding of how personal norms and sustainability values influence digital service evaluation. Such integration marks a theoretical innovation by bridging service science and environmental psychology (Stern, 2000). Hence, the results show that sustainable beliefs are not only relevant at the point of purchase but also remain salient through post-usage satisfaction and reflection formation. The study enriches ECT by embedding it within a broader identity and moral-based evaluative structure.

3. *Introducing multi-dimensional belief constructs for satisfaction*

The next vital contribution is the identification and operationalization of three belief-based constructs: PSQ, convenience motivation, and eco-conscious platform perception. Implementing these constructs shows the contemporary digital consumer's evaluative framework and represents a departure from singular or one-dimensional satisfaction metrics (Annaraud & Berezina, 2020).

- LCM: This motivation level is expanded from a utilitarian value to a lifestyle-based belief system. It shows the importance of users' cognitive load reduction, time optimization, and digital fluency. Hence, this shift is highly theoretical in nature and positions convenience as a motivational and subjective belief rather than just a logistical feature (Annaraud & Berezina, 2020).
- PSQ: This construct is reconceptualized because it is considered not only a performance metric but also a belief-laden perception linked with transparency, fairness, algorithmic trust, and responsiveness. By treating service quality as a main belief construct, this model allows for the inclusion of both anticipatory and experiential dimensions of user interaction (Yeo et al., 2017).
- PEC: This construct represents a normative belief dimension that introduces environmental psychology into DSS research. However, including sustainability as a belief category in post-usage satisfaction shows a meaningful theoretical leap in digital service evaluation frameworks (Zhao & Bacao, 2020).

All of these constructs reflect a multi-dimensional belief system by placing a considerable influence on satisfaction, which is not present in other applications of ECT to digital environments (Williady et al., 2025).

4. *Repositioning DSS as an affective–cognitive outcome*

Because this study adopted a belief-based evaluative model, it contributes to the theoretical understanding of satisfaction that is both affective and cognitive. Previous applications of ECT have treated satisfaction level as a regional assessment of utility (Chopdar et al., 2018). Furthermore, in digitally mediated environments, service satisfaction and utility are linked with AI and personalization. The user links emotional resonance with the platform and alignment and trust in the system with their personal values, contributing to a high level of satisfaction (Cho et al., 2019).

Based on this background, the study has proposed a highly integrated view of satisfaction in which belief confirmation triggers both cognitive gratification, including the recognition of the value of time or money, and affective gratification, including feeling validated, safe, or aligned with ethical standards (Cortes & Herrmann, 2021). This detailed understanding will invite research to explore the interplay between cognition and affect in post-user evaluations. Hence, it refines existing satisfaction models across digital contexts (Chopdar et al., 2018).

5. *Extending the applicability of ECT to algorithmic-driven environments*

This study extends the theoretical relevance of ECT into algorithmically mediated service environments, such as online food ordering platforms (Chen et al., 2020). These systems are driven by predictive algorithms, machine learning, and AI that influence pricing, recommendations, customer interactions, and delivery logistics. Past applications of satisfaction theories often overlook how these invisible system-level decisions influence perceived autonomy, fairness, or justice (Lee, 2024).

Therefore, by including fairness and safety within the broader belief-based satisfaction evaluation, this study also offers a conceptual framework resulting in algorithmic trust, which is an emerging area of concern for human-computer interaction (Batouei et al., 2023). Second, this trust opens a theoretical space to link ECT with algorithmic experience, personalization perception, and digital ethics. Hence, evaluating experiences in technologically advanced, data-driven platforms is more reliable.

6. *Theoretical generalizability to other digital services*

Although this research is based on the online food delivery context, the theoretical model has potential applicability across a broad range of digital service environments including telehealth platforms, ecommerce, ride-sharing, and digital banking (Bhattacharjee, 2001). These belief-based approaches are used to evaluate satisfaction level and can be generalized to contexts in which consumer emotions, norms, and values are essential to shaping post-usage judgments (Lee, 2024).

Contribution to Practice

This study not only contributes to theoretical discourse but also offers substantial and actionable insights for industry practitioners working in digital services such as the online food delivery sector (Aslam et al., 2025). Extending ECT enables the integration of belief-based constructs such as eco-conscious platform perceptions, PSQ, and convenience motivation. This study provides a comprehensive framework that can be easily applied to food delivery platforms by sustainability officers, platform designers, and digital strategists to enhance customer satisfaction and loyalty. Implementing this approach also bridges the gap between operational decision-making and academic models by allowing platforms to align their services closely with emotional needs, values, and expectations of millennial users (Annaraud & Berezina, 2020).

1. *Understanding the core drivers of DSS*

The most immediate and impactful takeaway for practitioners is the shift from viewing user satisfaction as the main outcome to a cognitively and emotionally driven experience present in individual belief systems. In the past, online food ordering platforms were dependent on performance metrics such as food accuracy, delivery speed, and app responsiveness. However, understanding DSS is critical because the study shows that satisfaction is more deeply linked with the alignment between user beliefs and service characteristics (Atapattu et al., 2016).

In practical terms, this means that platforms are required to engage in value mapping because it is a strategic process to understand the deeper lifestyle, emotional, and ethical motivations of their user base. For example, millennial consumers choose platforms that are not only convenient to use but exhibit values such as fair labor policies and sustainable practices that mirror their own. Platforms that ignore these emerging belief-based drivers may face problems in maintaining relevance even if their technical performance is strong (Pyöriä et al.,2017).

2.   Operationalizing convenience motivation beyond speed

The study's next actionable contribution is related to reconceptualizing convenience from a purely functional benefit with digital convenience motivation. Platforms must not only optimize speed or navigation simplicity but also frame convenience based on cognitive ease, effort reduction, and predictability (Zhao & Bacao, 2020).

The study offers practical implications for interface design, order personalization, and recommendation systems, such as minimizing decision fatigue through applying smart filters or curated menus. It suggests implementing repeat-order features according to past behaviors. Lastly, it recommends predictive timing with real-time updates to minimize user uncertainty. Therefore, by following a belief-oriented view of convenience, platforms can easily meet emotional expectations and create highly satisfying and stickier experiences that align with users' day-to-day rhythm (Yeo et al., 2017).

3.   Improving platform service quality through perceived fairness and safety

This study also increases the understanding of service quality by including user beliefs around fairness, safety, and trust in algorithmic decision-making. These aspects are critical in an era when digital services are managed through opaque, AI-driven systems (Yeo et al., 2017).

Based on practice perspectives, the findings show the importance of transparent communication regarding delivery fees, estimated times, and surge pricing. Second, fairness is the key driver and shows how those practices are made visible to the customer. Moreover, safety guarantees, including hygienic food handling, emergency response protocols, and contactless delivery, are reliable for health protection (Ardiansyahmiraja et al., 2023).

Hence, online food delivery service platforms can use these insights to enhance the application experience and gain reputational advantages by showing their commitment to fairness and digital trust (Dutta et al., 2025).

4.   Harnessing eco-consciousness for competitive advantage

In the DSS model, the inclusion of eco-conscious platform perception compels a strategic lever for differentiation. Because of global climate change, sustainability has moved from a niche concern to a mainstream expectation among Gen Z and millennial consumers. The study findings show that when platforms reflect user beliefs around sustainability by offering carbon-neutral delivery, eco-friendly packaging, and ethically sourced food options, they not only meet environmental goals but also enhance user satisfaction and emotional engagement (Chopdar et al., 2018).

However, in reality, online food ordering platform services can implement green delivery options such as offset checkout choices and partner with restaurants that follow ethical sourcing practices, highlighting these practices in the application. Moreover, platforms can offer users the choice to opt out of receiving plastic containers or cutlery, reinforcing personal agency and environmental responsibility (Yang et al., 2024).

Second, it is important that these platforms communicate regularly and clearly regarding sustainability impacts. For example, they can show the cumulative environmental impact of eco-friendly choices (e.g., you saved 5 kg of plastic this year) to foster a sense of alignment between the platform and user and strengthen brand loyalty (Williady et al., 2025).

5. *Guiding personalization and algorithm design*

The study also offers practical implications for AI and recommendation systems, which are now deeply linked with digital platforms. These algorithms are trained solely on transactional behaviors, including ratings and past orders. Hence, they may miss users' belief-driven and nuanced preferences. For example, users may prefer slower delivery if the service implements proper ethical sourcing and lower emissions (Ahmed et al., 2020).

Therefore, all online food ordering platforms can use these findings to train AI systems on both belief indicators and behavioral data. They can include sustainability preferences such as opt-ins for eco-packaging, user feedback on perceived fairness and quality, and responses to belief-related surveys or onboarding quizzes (Cho et al., 2019).

Through integrating belief-based parameters into algorithmic learning, it is possible for platforms to make personalization highly meaningful and predictive. Such alignment can lead to a high retention rate and strong emotional bond with the platform (Atapattu et al., 2016).

6. *Strategic implications for branding and positioning*

A belief-based approach offers new directions for market positioning and branding in a highly competitive marketplace. Many platforms compete on operational capabilities such as the range of restaurants, discounts, and delivery speed. The study suggests that embedding belief-aligned branding as the platform's core identity could become a powerful differentiator (Ahmad, 2023). For example, a brand could position itself as an ethical choice for mindful food ordering. The next focus on urban efficiency for busy professionals shows lifestyle enablement, and the third may lead to transparency and safety in algorithmic recommendations (Annaraud & Berezina, 2020).

Therefore, the move from performance-driven branding to belief-driven branding requires a substantial marketing shift but organizational alignment must ensure that the backend system, customer service, and partnerships reflect the stated values of platforms (Ahmed et al., 2020).

Managerial implications

The study findings have various implications for multiple stakeholders involved in the design, management, development, and policy regulations of online food delivery services. Through reframing user satisfaction level in a belief-based extension of ECT (Ardiansyahmiraja et al., 2023), the study offers a reliable multi-dimensional understanding of how millennial consumers perceive online food delivery service platforms. This understanding offers insights into user-centric design, organizational sustainability, marketing strategy, policymaking, and organizational sustainability. These implications are discussed based on digital service management, DSS design, regulatory and societal dimensions, and sustainability strategy (Yang et al., 2024).

1. *Implications for DSS and interface design*
   The study proposes belief-based models and suggests that DSS is not only dependent on functionality or usability but also linked with how well digital interaction aligns with cognitive expectations, user values, and emotional intelligence (Chalmers, 2003). Hence, these findings lead to considerable implications for platform design and development applications

- **Designing for values, not for actions:** The past DSS designs have focused on minimizing friction and enhancing speed, recent studies have also focused on trust cues, design and quality of interaction (Ardiansyahmiraja et al., 2023). Belief-based DSS requires platforms to communicate their values clearly. This study suggests as an example that eco-friendly restaurants could incorporate messages regarding fair practices, such as paying workers fair wages, into their ordering processes.
- **Emotional resonance and trust:** While some trust cues such as food preparation, verified driver identities, ethical sourcing badges, and safety levels can increase post-usage satisfaction (Annaraud & Berezina, 2020), integrating user beliefs such as safety and fairness shows that DSS elements such as AI-

generated recommendations, status updates, and customer service chatbots must be designed accurately for increasing efficiency and building emotional reassurance and trust.

- **Adaptive personalization:** Building on current developments in tag-based and trust-aware recommendation systems (Ahmadian et al., 2022) , this study suggests that personalization can evolve from behavior-only learning by including belief-based cues, that also account for sustainability preferences.

2. *Implications for platform management and digital strategy*

The study also suggests that platform success level depends on new digital strategies designed for millennial belief systems and expectations. These implications are operational and strategic for the system (Atapattu et al., 2016).

- **From utility to meaningful engagement**: It is vital that the platforms move beyond a utilitarian model offering fast, cheap, and easy service toward one that creates belief-aligned and meaningful experiences. Platforms must invest in service features that communicate shared values such as ethical labor practices and green delivery modes that offer emotional value in addition to functional convenience (Annaraud & Berezina, 2020).
- **DSS reimagined**: PSQ is reconceptualized in this study to show responsiveness, fairness, and transparency. Hence, online food ordering platforms must review their pricing algorithms, refund policies, and delivery tracking systems to ensure they align with user expectations of data privacy and justice, not only operational logic (Alzaidi & Agag, 2022).
- **Segmentation and positioning**: Through this model, online food ordering platforms can more easily segment their users based on ordering frequency, demographics of use, and belief archetypes. Therefore, it will become simple for platforms to target convenience-driven, sustainability-conscious, and quality-conscious users with tailored campaigns and platform price saving offerings (Ahmad et al., 2025).

3. *Implications for sustainability and corporate social responsibility*

The study's main implication concerns integrating eco-conscious platform perception into satisfaction evaluation. However, the study shows that sustainability is not only a marketing trend but also a main satisfaction driver for millennials. For companies, corporate social responsibility supported with appropriate frameworks for communication can be applied as a core offering and can signal a commitment to sustainability (Du et al., 2010).

Limitations

Although this research offers valuable practical and theoretical contributions, some limitations must be acknowledged to ensure a balanced interpretation of the findings. All of these limitations provide opportunities for future research to extend, refine, and validate the proposed belief-based evaluative model in ECT based on the context of online food delivery services.

The main limitation is related to the scope of the study, which focused primarily on millennial consumers. Millennials represent a significant and digitally native consumer base. Therefore, such focus inherently limits the generalizability of the findings across other demographic groups, such as Gen X, Gen Z, or baby boomers. Each generation demonstrates different digital behaviors, beliefs, and motivation systems that have a considerable influence on their satisfaction judgments. Therefore, future studies must consider comparative generational analysis to examine whether belief-based satisfaction models vary across digital fluency levels and age groups.

The second limitation is related to the study's geographic and cultural context, which can limit external validity. Various factors, including service quality (Parasuraman et al., 1988), perception of convenience, and eco-consciousness, are likely shaped by infrastructure, cultural norms, and national policies regarding digital services and sustainability. For example, consumers in highly developed urban environments may prioritize technological integration, whereas consumers in developing areas may focus on affordability and accessibility. Moreover, some cultural variations in environmental concerns and trust in digital platforms can influence the confirmation process

differently. Therefore, future studies should include a cross-cultural or cross-regional sample to enhance the applicability and robustness of the findings.

The third limitation is related to the measurement of belief-based constructs in the existing literature and the challenges in confirming reliability and validity. Beliefs including perceptions, environmental consciousness, and perception of fairness are considered inherently subjective and highly influenced by transient models, recent media exposure, and social desirability. However, considerable effort was invested to ensure rigorous instrument development. Longitudinal methods and insights would offer a deeper understanding of these beliefs as they evolve over time with customers' high satisfaction.

Implications for future research

We recommend that future research includes additional moderating variables to reveal other lifestyle-related convenience motivations, and a larger sample size should be used for nuance and detail. There is room for additional hypotheses to explain how changing platform services can affect home cooking habits compared with online ordering. Lastly, the impact of AI on one or all these factors should be investigated for its efficiency and potential intuitiveness regarding building DSS.

Conclusion

This study aims to establish the interrelationship of LCM, PSQ, PEC, and DSS for millennial consumers of online food ordering services in India.

The study extends ECT and further builds on the VBN theory to develop the framework. The findings provide notable theoretical, practical, and managerial contributions that enhance consumers' service satisfaction. The study finds a crucial role for PEC, which extends existing studies on consumer-centric sustainability initiatives.

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