Unlocking commitment, continuance and recommendation intentions for a food delivery application brand

ABSTRACT

Purpose: This study aims to investigate food delivery application (FDA) users' continuance intentions (CI) and recommendation intentions (RI) by integrating the expectation–confirmation model (ECM) and the trust-commitment theory (TCT) to include constructs like deal proneness (DP), perceived relationship benefits (PRB), perceived usefulness (PU), and perceived value (PV).

Design/Approach: The study used a single cross-sectional design for data collection using a structured questionnaire with people who are regular users of FDAs. The model was evaluated using PLS-SEM with a dataset of 568 respondents.

Findings: DP and PRB positively impacted confirmation, and confirmation influenced PU/PV. PU and PV affected satisfaction and trust, respectively. Finally, trust and satisfaction were found to influence commitment, a CI and RI predictor.

Originality: This study adds to the FDA literature by unravelling the unique pathways connecting DP and PRB with CI and RI, through satisfaction/trust and commitment.

Keywords: continuance intentions; food delivery applications; ECM; trust-commitment theory; satisfaction; commitment.

1. Introduction

Globally, online food delivery has witnessed exponential growth recently, and this sector is estimated to increase at 8.29% to reach USD 466 bn by 2026[1]. India, a big consumer-base country, is witnessing a 28.13% growth rate to reach a USD 15 billion industry size by 2026[2]. Though evidence indicates that FDA brands combine in-app experiences, delivery processes, and food purchases to shape consumer purchases, they struggle with app stickiness, repeat buying and CI (Patsiotis *et al.*, 2020; Tseng *et al.*, 2021). Current works primarily focus on adoption using technology-adoption models, uses-gratification perspective, and examine determinants like convenience, delivery experience, aggressive discounts, app quality, fulfilment and multi-pay capabilities for adoption (Ratchford *et al.*, 2023).

However, these adoption-focused findings are useful mainly for new/early users. Recently, scholarly attention has shifted towards understanding CI for existing users (e.g., Ahn and Kwon, 2021; Francioni *et al.*, 2022; Lee and Lim, 2023). Findings from related studies confirm the role of technology-related factors, like the ease of use, effort expectancy, usefulness, performance expectancy, technology-task fit, price saving orientation, social effects, and service provider-related factors, like service quality, food choices and dining formats in shaping continual engagement with an FDA (Shah *et al.*, 2021; Su *et al.*, 2022; Zhao and Bacao, 2020).

Despite the existing works, the research domain lacks a deeper understanding of how FDA brands can build and sustain trust and satisfaction with existing users to enable loyalty-reflecting outcomes (Ravichandran *et al.*, 2024). Especially so, the potential role of trust and commitment, considered pillars of strong consumer-brand relationships, is less explored (e.g.,

[1]https://www.expertmarketresearch.com/reports/online-food-delivery-market
[2]https://www.prnewswire.com/news-releases/food-delivery-market-in-india-to-grow-at-a-cagr-of-28-13-by-2026-evolving-opportunities-with-bundl-technologies-pvt-ltd--dominos-pizza-inc17000-technavio-reports-301439214.html

Raza *et al.*, 2023). Hence, multiple works (e.g. Ravichandran *et al.*, 2024) call for integrative frameworks which merge the trust-commitment and satisfaction pathways to provide greater insights into the drivers of loyalty-reflecting behaviours by customers of FDAs.

To address the gap, this work deploys the integration of ECM and TCT, and investigates the role of confirmation of expectations, PU/PV and subsequently, consumer trust/commitment and satisfaction to curate FDA recommendations and continual usage (Ponder *et al.*, 2016). This study uniquely identifies two previously unexamined factors, DP and PRB, that could enthuse confirmation and subsequent outcomes. The insights generated by this work are crucial for FDA brands to engage customers and foster long-term relationships. Based on a sequential model, the work's findings are novel to existing literature and are expected to enable managers to identify mechanisms to help consumers develop long-term relationships with a specific FDA brand in a highly competitive environment.

2. Literature Review

2.1 Multi-brand loyalty

The FDA industry has grown fast in recent years, with enhanced competition between brands offering customised food options and curated discounts. Brands increasingly leverage technology, like AI, to process big data, uncover patterns beyond human capabilities, and improve consumer experiences and brand performance (Yaiprasert and Hidayanto, 2024). However, surviving this competitive FDA space requires constant innovation to retain customers (Akter *et al.*, 2023). When exposed to uncertainty, customers use varied risk-reduction strategies, leading to multi-brand loyalty. In such a strategy, customers commit to more than one brand and buy consistently from these brands (Arifine *et al.*, 2019). Such a dynamic also exists in the

domain of FDA where consumers may use multiple brand apps to order food online, reflecting opportunistic behaviour. In such cases, multi-homing manifests as customers splitting their loyalty between multiple brands to avoid risks and get more offers (Vakeel *et al.*, 2021). However, multi-brand loyalty reduces operational profits for a specific brand owing to reduced potential transactions, especially in highly competitive markets. Building committed relationships is even more critical with multi-homing behaviour becoming a norm (Singh *et al.*, 2022).

2.2 Theoretical Background: ECM

The ECM, a post-adoption theory proposed by Bhattacherjee (2001), has been a strong framework for studying repurchase and RI in marketing (Yousaf *et al.*, 2021). ECM has two fundamental components: first, the preexisting notions about a product/service, and second, the degree to which experience matches those expectations, referred to as confirmation. The theory suggests that customers' perceived expectation of service impacts their beliefs about and satisfaction with the service. This framework links post-usage expectation confirmation, usefulness, post-consumption satisfaction, and continued usage and assumes that consumers can adjust their expectations based on their consumption experience and that their CI is influenced by usefulness and satisfaction. ECM has been applied across contexts, including FDA (e.g., Nguyen *et al.*, 2023). Li and Liu (2014) was the first study that used ECM to explore RI and CI, both critical to the success of a brand, in an online context.

2.3 Theoretical Background: TCT

Opposite to the transactional paradigm involving short-term tangible and/or intangible benefits to attract customers, the relational paradigm focuses on developing long-term

relationships (Li *et al.*, 2006). Consumers with a positive trust-enthusing relationship with an online entity show formation of commitment and loyalty (Wang *et al.*, 2020a). The TCT (Morgan and Hunt, 1994) explains long-term relationships with the central premise of simultaneous generation of trust and commitment to generate strong business relationships between exchange parties. This theory also considers PRB and opportunistic behaviour as antecedents to trust, CI, and cooperation as outcomes to commitment (Ravichandran *et al.*, 2024). Trust reduces the physical and financial vulnerability, leading to a commitment in the exchange relationship (Wang *et al.*, 2020b). In existing works, Xia and Chae (2021), leveraging TCT, strongly advocate the role of PRB, trust and commitment in building loyalty and use intention.

2.4 Recent Studies on FDA

Multiple recent works have investigated the drivers and outcomes of consumer relationships, which are depicted in Appendix A1. It is evident that while researchers have conducted numerous studies to evaluate consumers' perspectives for FDAs, the depth of understanding the factors that curate long-term trust, satisfaction, commitment and loyalty-reflecting behaviours is critically missing. Specifically, the role of trust and commitment in the process is highly under-represented.

The TCT underscores the importance of trust and commitment in shaping consumer loyalty and firm profitability (Ponder *et al.*, 2016). Both variables are essential mediators in relationship marketing, forcing marketers to prioritise these in curating long-term partnerships (Ravichandran *et al.*, 2024). Current works highlight the necessity of variables like PU, deals, rewards and incentives, and PRB to explain trust in the FDA and customer commitment (e.g., Joshi *et al.*, 2025). Hence, for this work, TCT has been extended by incorporating these additional variables

that are essential yet under-theorised within the context of FDA brand loyalty development. By integrating the two theories, ECM (the most common theory deployed) and TCT (to integrate trust and commitment in the model), we propose a sequential model that connects DP (opportunistic behaviour in TCT) and PRB (TCT) with ECM constructs like PU, PV and satisfaction. These constructs are then integrated into elements like trust and commitment (both TCT), which, in turn, lead to creating loyalty-driven behaviours, like CI (ECM) and RI (TCT). Figure 1 contains the overall model.

<Insert Figure 1 here>

3. Hypotheses

FDAs are known for retaining consumers by offering discounts, cashback, and coupons. Deal-prone consumers who value such offers will perceive FDAs to be more useful and are expected to use them (Zheng *et al.*, 2017). Sheehan *et al.* (2019) noticed that price discounts predict online shopping later in the consumer journey. Further, Bandyopadhyay *et al.* (2021) argue that deal-prone consumers are driven by their prior expectations of getting high-quality, value-for-money food. Hence, we hypothesise:

H1: DP of the user positively influences confirmation

PRB precludes confidence, social appreciation, and unique treatment concomitant to consumer expectations (Dagger *et al.*, 2011). Soni (2019) argues that the relationship between such benefits and their influence on the confirmation of expectations. In other words, it's implied that if the app offers exclusive cuisines or manages exclusive tie-ups with restaurants (Liu *et al.*, 2024), the user will feel that the FDA meets their expectations. Thus, we hypothesise:

H2: PRB positively influence confirmation.

The influence of expectation-confirmation and PU/PV has been investigated by many studies across various contexts, including smart wearables, mobile banking, and accommodation applications (e.g., Gupta *et al.*, 2020; Rahi *et al.*, 2021). In a meta-analysis, Ambalov (2018) supports the significant relationship between confirmation and PU. Consumers order from FDAs with expectations of convenience and of getting various food choices. Thus, if their prior expectations are confirmed, they will find the FDA service more useful and of greater value (Atulkar and Singh, 2021). Hence, we hypothesise:

H3/H4: Confirmation positively influences 3) PU/4) PV

According to ECM, if the user thinks that FDAs are helpful, they will be satisfied with the application (Nguyen *et al.*, 2023). Bhattacherjee (2001), in their study, suggest that while ease of use depreciates with time and has a limited long-term effect, usefulness significantly influences satisfaction. This relationship has also been empirically supported by Ambalov (2018), and thus, we hypothesise:

H5: PU positively influences satisfaction

PV is essential to a firm's success as it influences relationship-based trust. Wang *et al.* (2020b) have empirically validated the role of post-adoption PV and, more specifically, in predicting consumer-brand trust. In relationship literature, trust is a core entity considered a strong predictor of building a long-term relationship (Raza *et al.*, 2023). In this study, we argue that trust in the FDA will enhance the derived value from the application and hypothesise:

H6: PV positively influences trust.

Kang and Namkung (2019), while examining the role of the personalisation of FDAs, observed that trust influences commitment. Previous studies have observed that consumer trust

prevents switching intentions, reduces perceived risk, and facilitates long-term relationships (Yan *et al.*, 2021). If FDAs can win users' trust with healthier food options and delivery (Francioni *et al.*, 2022), they will likely continue purchasing through the applications (Zhang and Liu, 2021). Thus, if users believe that the FDA will perform as expected, they will have higher trust and satisfaction and invest in the relationship. Hence, we hypothesise:

H7/H8: 7) Trust and 8) satisfaction positively influence commitment.

Commitment is key for long-term connections and mitigates the perceived loss for the consumers (Goo and Huang, 2008). It is vital for mobile applications to sustain engagement, continue usage, and brand advocacy (Cho *et al.* 2020). According to Yuan *et al.* (2018), trust and commitment enhance the user experience and strongly influence CI and RI post-adoption. Hence, we hypothesise:

H9/H10: Commitment positively influences 9) RI and 10) CI

Deal-proneness is the intention to seek promotions, including at FDAs (Flacandji and Vlad, 2022). For FDAs, prices vary routinely; hence, deal-prone consumers try to secure a good deal at the application. Thus, deal-proneness triggers customers' excitement into FDA engagement, leading to impulsive buying and continued usage, as well as recommending the FDA to like-minded consumers (Huang and Suo, 2021). However, the DP to CI and RI pathway is unclear (Flacandji and Vlad, 2022). Consequently, we propose:

H11a/11b: DP of the user positively influences RI, with the relation serially mediated by confirmation of expectations, 11a) PU-satisfaction, and 11b) PV-trust, and commitment

H12a/12b: DP of the user positively influences CI, with the relation serially mediated by confirmation of expectations, 12a) PU-satisfaction, and 12b) PV-trust, and commitment

Previous studies describe possible indirect connections between PRB and consumer loyalty, the evidence for which lies in the research around brand loyalty (Morgan and Hunt, 1994). The indirect effect of PRB on usage through satisfaction and engagement exists in the literature (e.g., Pattnaik and Shukla, 2022). A firm needs to create relationships, which are expected to influence trust/satisfaction and, in turn, curate purchase and RI (Dagger *et al.*, 2011). Hence, we propose:

H13a/13b: PRB positively influence RI, with the relation serially mediated by confirmation of expectations, 13a) PU-satisfaction, and 13b) PV-trust, and commitment

H14a/14b: PRB positively influence CI, with the relation serially mediated by confirmation of expectations, 14a) PU-satisfaction, and 14b) PV-trust, and commitment

4. Research Methodology

4.1 Measurement

The measurement items were chosen from multiple scales from previously validated instruments and adapted to the study context. The source of the items was determined to require minimal adaptation not to affect the scale's cognitive validity (Pillet *et al.*, 2023). Furthermore, these were the best-known scales as they are free of concerning item characteristics that create biases[3].

The items for confirmation, PU, satisfaction and CI were adopted from Bhattacherjee (2001). The items for DP were adapted from Lichtenstein *et al.* (1997), while the items for PV were adapted from Yeo *et al.* (2017). The items for commitment came from Morgan and Hunt (1994). The items for PRB were derived from Ryu and Lee (2017). The items for trust came

[3] These can be double-barreled items, ambiguity of wording, loaded statements, and socially desirable construction

from McKnight, Choudhury and Kacmar (2002), while the items for RI were adapted from Alexandris *et al.* (2004).

Construct scales were mixed to eliminate halo effects, and the draft questionnaire was reviewed by two professors and two doctoral scholars at a premier business school in India to ensure content validity. Their feedback was used to prepare a structured questionnaire in English, consisting of 37 items. It was subjected to a pre-test with 20 respondents to identify any language and/or typographical errors. These respondents did not participate in the final survey. Table 1 presents the items used for data collection. Besides the main items, other variables were the respondents' age, gender, order frequency (per week), and duration of using the FDA.

<Insert Table 1 here>

4.2 Sampling and data collection

The target population for this study was limited to individuals who had installed FDAs on their smartphones in the last three months and were using the application at least once a week. Three months were taken to prevent recall errors (Gupta *et al.*, 2020). Email addresses of 3500 such potential participants were secured with the help of a research agency, specialising in online data collection in India[4]. A random sample of 1500 respondents was approached by email invitation to participate in the online study, along with the details of Amazon gift coupons for randomly selected respondents[5].

Filter questions were added to the questionnaire to ensure a higher rate of valid responses from the sample. Participants not meeting the qualifying criteria were dropped after initial screening. Cook's method was used to remove outlier respondents. A final sample of 568

[4] Name hidden on request
[5] The gift was sponsored by the researchers

respondents was obtained with a response rate of 37.87%. The sample comprised 58.6% males, 68.2% aged 18–25, and 17.3% aged 26–35 (the rest above 35 years); 78.2% who had been using FDAs in the last six months or more; and 83.6% who used either Zomato or Swiggy. The entire dataset was collected in the three months from February to April 2023. Order frequency averaged 2.3 per week.

4.3 Data Analysis

The path model was evaluated using PLS-SEM with SmartPLS 4.0 software. PLS-SEM is a well-established technique for estimating research models under conditions of marginal data non-normality and small sample sizes, two factors that are a significant concern for covariance-based SEM (Hair *et al.*, 2016).

The data analysis checked for 1) measurement properties, 2) common method bias (CMB), 3) multicollinearity concerns and 4) path model. The algorithm was run with the bootstrapping of 5000 samples to counter the effects of non-normality, if any. Under the psychometric properties, reliability was examined using the composite reliability (CR), and validity was examined using convergent and discriminant validity. Convergent validity was supported by factor loadings (>0.70), CR (>0.70), and the average variance extracted (AVE; >0.50) (Hair *et al.*, 2016). The Fornell and Larcker (1981) and HTMT criteria were deployed to check for discriminant validity (Henseler *et al.*, 2015).

This was followed by checking the absence of CMB using the Harman one-factor test. The variable inflation factor (VIF) was examined for each construct for the multicollinearity check. Lastly, the path values were tested. To ensure empirical rigour, the dataset was randomly split into two halves of 284 respondents each. The psychometric properties of the measures were

assessed using the first half, while the second half was used to check for path modelling (Bagozzi and Heatherton 1994).

5. Results

For data normality, it was found that the skewness varied from -2.01 to 1.48 and kurtosis ranged from -2.38 to 2.73, thereby implying normality. The factor loadings and CR (see Table 1) exceeded the cutoff value of .70, indicating construct reliabilities. AVE values exceeded the cutoff point of 0.50, thereby indicating convergent validity (Hair *et al.*, 2016).

For the discriminant validity check, the square root of the AVE (diagonal values in Table 2) for each construct was larger than the corresponding correlations. The HTMT values were below 0.90 (Henseler *et al.*, 2015). The VIF value for each construct was below 5.0, indicating limited multicollinearity. Harman's one-factor test was used, with the most significant factor accounting for only 29.8% of the variance, indicating the absence of CMB.

<Insert Table 2 here>

Further, PLSpredict was used to check predictive accuracy. For the same, PLSpredict was run with 10 folds and 10 repetitions. For all the endogenous constructs, the Q^2 values for their indicators ranged from .263 (lowest for DP4) to .454 (highest for PRC3). The PLS-MAE was smaller than LM-MAE, indicating high predictive accuracy of the model (Shmueli *et al.*, 2019). Further, the SRMR value was used to check the overall model fit and was .064 (composite model) and .071 (common factor model) and under the cutoff value of .08 (Hair *et al.*, 2016). Finally, the NFI was found to be 0.92 (above the 0.90 cutoff).

Next, the hypothesised relationships were assessed. The respondents' age, gender, order frequency (per week), and duration of using the FDA were used as control variables, affecting

confirmation. For none of them, the paths were significant, implying a lack of effect of these factors in determining confirmation. Besides standardised path values, each path's effect size (f^2) was also calculated.

Results suggest that the path from DP and PRB to confirmation was significant (β=.263, t=3.823, p=.00, f^2=.236; β=.537, t=8.185, p=.00, f^2=.315), thus hypotheses H1 and H2 are supported. Similarly, the paths from confirmation to PU and PV were significant (β=.152, t=2.206, p=0.00, f^2=.198; β=.129, t=2.114, p=0.00, f^2=.133) and, thus, hypotheses H3 and H4 are also supported. The paths from PU to satisfaction and from PV to trust were found significant (β=.513, t=5.563, p=0.00, f^2=.341; β=.679, t=14.830, p=0.00, f^2=.445, respectively), and hence, hypotheses H5 and H6 were also supported. Further, the paths from trust and satisfaction to commitment were found significant (β=.131, t=2.278, p=0.00, f^2=.124; β=.178, t=3.219, p=0.00, f^2=.127), implying support for hypotheses H7 and H8. Next, the influence of commitment to RI and CI was also significant (β=.708, t=15.166, p=0.00, f^2=.418; β=.575, t=12.440, p=0.00, f^2=.337), implying support for hypotheses H9 and H10.

Hayes-Process Macro (Model 6) and bootstrapping technique (5000 resamples) were employed to evaluate serial mediation. The results suggest that the indirect effect of DP on RI was found significant for both the paths, that is, via PU/satisfaction and PV/trust (β=.149, SE=.04, 95%CI=.03-.22; β=.166, SE=.07, 95% CI=.04-.29), implying support for serial mediation hypotheses H11a/11b. Next, the indirect effect of DP on CI was found significant for both the paths, that is, via PU/satisfaction and PV/trust (β=.124, SE=.05, 95%CI=.02-.29; β=.174, SE=.05, 95%CI=.03-.24), implying support for serial mediation hypotheses H12a/H12b.

Further, the indirect effect of PRB on RI was found significant for both the paths, that is, via PU/satisfaction and PV/trust (β=.119, SE=.04, 95%CI=.04-.22; β=.164, SE=.05, 95%CI=.04-

.26), implying support for serial mediation hypotheses H13a/H13b. Finally, the indirect effect of PRB on CI was found significant for both the paths, that is, via PU/satisfaction and PV/trust (β=.127, SE=.02, 95%CI=.02-.29; β=.155, SE=.04, 95%CI=.04-.25), implying support for serial mediation hypotheses H14a/H14b. Table 3 summarises the hypotheses.

<Insert Table 3 here>

6. Conclusion

6.1 Discussion

The current paper proposes a post-adoption framework leveraging the ECM and TCT to define antecedents to CI and RI for FDAs. The strength of DP in explaining confirmation reflects the importance of the opportunistic behaviour of consumers, a critical part of TCT, in shaping their expectations from the FDA (Wang *et al.*, 2020a). Similarly, the significant influence of PRB (another tenet of TCT) in explaining confirmation supports the valuable role of such benefits in meeting relationship expectations and 'cultivating' strong, long-term relationships with the brand (Ravichandran *et al.*, 2024). These two results also support the effective integration of TCT and ECM, with the two antecedents, ingredients of TCT, significantly affecting confirmation, a key dimension of ECM. Users consider FDAs an option to save their resources (time/money; Zhao and Bacao, 2020). Also, an application that provides better financial deals (i.e., discounts, coupons, cash rebates, free food) and availability of food options, and partner restaurants, is viewed as one fulfilling expectations (Bandyopadhyay *et al.*, 2021; Wang *et al.*, 2020b).

Further, this study has two results which strengthen the fundamentals of ECM in the domain of FDA: the positive effect of confirmation on usefulness and PV, usefulness on satisfaction, and satisfaction on CI. The work adds to the value provided by recent works (e.g., Ahmad *et al.*, 2025; Humbani *et al.*, 2024) in discussing the role of ECM as a fundamental theory to examine relationship development. From a practical perspective, the findings indicate that once a user evaluates the FDA's primary performance, the PU and PV of the application are also enhanced, creating satisfaction and CI with the application.

Next, the findings of the work that connect the key constructs of ECM and TCT are the effects of PV on trust and of satisfaction on commitment (Wang *et al.*, 2020b) The strong effect of these two influences supports the 'intertwined' connection between the two theories, which interestingly has not been considered in any of the past works. These findings imply that as consumers see value in the application or its offerings, they gradually start to trust the application for not only the quality of the food but also the financial risk that the technology entails. Further, the experiential satisfaction consumers derive from the app on various meaningful occasions drives their commitment to the technology (Alexandris *et al.*, 2004).

Further, commitment, expectedly, enhances RI and CI. By fulfilling users' expectations, FDAs can build trust, develop long-term relationships/commitments, and, in turn, motivate customers to advocate and use the FDA. These findings evoke the central importance of commitment in the process of loyalty-driven behaviours for FDAs, which has been sparsely highlighted in the prior works. However, only this work highlights the primary role of commitment in driving loyalty. In other words, unless commitment is curated, it will not be possible for consumers to depict continuance and recommendation behaviours.

Finally, the serial mediation paths were also supported, implying the 'guided pathways' through which commitment and consequent loyalty-reflecting behaviours can be depicted. The structured approach, integrating the two theories, leading from DP and PRB, via confirmation, PU/PV, satisfaction/trust, and commitment to such behaviours in a first-of-its-kind discussion in this domain of research (Ahmad *et al.*, 2025; Cho *et al.,* 2020; Humbani *et al.*, 2024).

6.2 Theoretical Implications

This work offers significant theoretical contributions. First, at the theoretical front, the work is the first to consider integrating two prolific theories in this context – ECM and TCT. While ECM has been used extensively in prior works to discuss satisfaction and CI of FDAs (e.g., Ahmad *et al.*, 2025; Gunden *et al.*, 2020; Humbani *et al.*, 2024), the emphasis of these works to explore relationship development is conspicuously limited, with a greater focus on determining antecedents to satisfaction and CI. Recent works, like Ravichandran *et al.* (2024), evoke the importance of trust and commitment in the domain of FDAs, given the financial and hygienic risks involved with online food delivery. Hence, this work combines the tenets of TCT, like trust, commitment, DP, and PRB, with those of ECM, like confirmation, PU, PV, satisfaction, and CI, and proposes a serial mediation model which contributes to the post-adoption dynamics for FDAs (Ahn and Kwon, 2021).

As a second and related contribution, the study highlights the central role of trust and commitment in shaping CI/RI. Through commitment, the 'funnelling' of the path from the antecedents, DP and PRB, implies its importance for an FDA brand to ensure that users continue using that application (Kang and Namkung, 2019; Yan *et al.*, 2021). Commitment becomes more critical for entrenched users, compared to new ones, for them to remain embedded in the application through enhanced experiences (Cho *et al.,* 2020; Raza *et al.*, 2023). The central role

of commitment has been ignored by researchers in this domain, and previous studies fail to explain the key antecedents that enable the development of such long-term commitment in the context of FDAs (see Xia and Chae, 2021).

Third, proposing the mediation paths, the current study provides four unique routes leading to commitment formation. No prior discussion exists on the sequential effect of DP on CI and RI (Flacandji and Vlad, 2022). By providing alternate ways in which the connection can be established, the finding offers a mechanism for brands to exploit opportunistic behaviours of consumers (a TCT construct) to loyalty-reflecting outcomes like commitment and behavioural intentions. Similarly, the effect of PRB on satisfaction and engagement exists weakly in the extant literature (e.g., Pattnaik and Shukla, 2022), which this work clarifies as a novel academic contribution. Through these two antecedents, the work also confirms the importance of non-technical factors that can influence users' continued usage of applications, in effect departing from the majority attribute-focused works in this domain (e.g., Humbani *et al.*, 2024).

6.3 Managerial Implications

This paper offers multiple implications for managers to enhance commitment and break multi-brand loyalty. The model proposes that DP and PRB meet users' expectations in shaping long-term commitment to the FDA brand. Hence, first, FDA application managers/developers need to prioritise user expectations regarding deals and PRB to help them overcome the strongest competitors in the market. Deal options in the form of subsidies on food options based on individual taste preferences, free/complimentary food delivery on certain occasions, and coupons to redeem from other related applications (like movie tickets and e-commerce) can help develop commitment.

Second, the managers must consider the PRB that reward existing users to enhance commitment and loyalty-driven behaviours. These benefits could include providing a curated premium membership for the app and additional services, like discounts, assured delivery, and 'far-away' deliveries. Based on specific ordering behaviour, specific consumers can access special gourmet dishes that are inaccessible to the general populace. Restaurant-focused benefits can also be considered, with the consumer getting additional benefits in offline visits, like extra discounts, priority seating, personal attention, customisable dishes, and period-specific invitations. Such deals and PRB need to be curated based on the customers' profiles and ordering behaviour using the technological capabilities of the FDA brand.

Third, with the popularity of FDAs, service providers should extensively focus on efforts to ensure users' trust in the provider. This work discusses the need to emphasise the message of 'why should the user trust the app'. Managers must appreciate that FDAs are not just platforms used to order food; instead, the user is exposed to multiple risks on the platform in the form of food quality/variety/quantity, customers' bank details registered with the FDA, or personal information in the brand's records. In addition to benefits and deals mentioned above which assures them of food quality/variety/quality or overcharging risks, FDA brand must keep communicating with the customer to assure of the safety of their finacial information, in the form of protocols used, as well as keep sending general advisory about ways to keep their personal and financial information safe.

7. Limitations and Future Research

The present study has a few limitations. First, researchers have combined ECM with TCT and other contextual factors to measure the CI of FDAs. Other contextual variables, like app design attributes, could affect users' CI of FDAs. Future studies can focus on identifying and

describing such variables. Second, this study is based on a single time-point survey, which limits the ability to capture dynamic post-adoption behaviour. Hence, future studies can use a longitudinal or experimental approach to understand post-consumption behaviours.

Third, the work is in the context of FDAs so that findings may be locally relevant. Collecting data across different apps and large sample sizes can help draw inferences towards other domains, such as grocery apps, non-food apps, and many others. Fourth, the study was conducted in one country, India, which may limit the generalizability of findings across different countries with different rates of technology adoption and assimilation. Future studies could replicate the model in developed countries and conduct cross-country analyses.

Finally, the study relies on self-reported intentions (continuance and recommendation) with actual behavioural data not captured. This may introduce social desirability biases and inaccurate prediction of the exact outcome. Future works can attempt to capture actual behavioural responses to mitigate this drawback.

REFERENCES

Ahmad, P., Ram, N., Bellamkonda, R.S. and Kumar, A. (2025), "Consumer satisfaction and reuse intention of food delivery apps: integration of service quality model and expectation confirmation theory", *Journal of Quality Assurance in Hospitality & Tourism*, pp. 1-29.

Ahn, J. and Kwon, J. (2021), "Examining the relative influence of multidimensional customer service relationships in the food delivery application context", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 3, pp. 912-928.

Akter, K.M., Tang, S.M. and Adnan, Z. (2023), "Impact of empowerment and ICT on quality of work life: the mediating effect of trust climate", *Cogent Business & Management*, Vol. 10 No. 1, Article 2176412, pp. 1-27.

Alalwan, A.A. (2020), "Mobile food ordering apps: An empirical study of the factors affecting customer e-satisfaction and continued intention to reuse", *International Journal of Information Management*, Vol. 50, pp. 28-44.

Alexandris, K., Zahariadis, P., Tsorbatzoudis, C. and Grouios, G. (2004), "An empirical investigation of the relationships among service quality, customer satisfaction and psychological commitment in a health club context", *European Sport Management Quarterly*, Vol. 4 No. 1, pp. 36-52.

Ambalov, I.A. (2018), "A meta-analysis of IT continuance: An evaluation of the expectation-confirmation model", *Telematics and Informatics*, Vol. 35 No. 6, pp. 1561-1571.

Annaraud, K. and Berezina, K. (2020), "Predicting satisfaction and intentions to use online food delivery: what really makes a difference?", *Journal of Foodservice Business Research*, Vol. 23 No. 4, pp. 305-323.

Arifine, G., Felix, R. and Furrer, O. (2019), "Multi-brand loyalty in consumer markets: a qualitatively-driven mixed methods approach", *European Journal of Marketing*, Vol. 53 No. 11, pp. 2419-2450.

Atulkar, S. and Singh, A.K. (2021), "Role of psychological and technological attributes on customer conversion to use food ordering apps", *International Journal of Retail & Distribution Management*, Vol. 49 No. 10, pp. 1430-1446.

Bagozzi, R.P. and Heatherton, T.F. (1994), "A general approach to representing multifaceted personality constructs: Application to state self-esteem", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 1 No. 1, pp. 35-67.

Bandyopadhyay, N., Sivakumaran, B., Patro, S. and Kumar, R.S. (2021), "Immediate or delayed! Whether various types of consumer sales promotions drive impulse buying?: An empirical investigation", *Journal of Retailing and Consumer Services*, Vol. 61, pp. 102532.

Bhattacherjee, A. (2001), "Understanding information systems continuance: An expectation-confirmation model", *MIS Quarterly*, Vol. 25 No. 3, pp. 351-370.

Cai, R. and Leung, X.Y. (2020), "Mindset matters in purchasing online food deliveries during the pandemic: The application of construal level and regulatory focus theories", *International Journal of Hospitality Management*, Vol. 91, pp. 102677.

Chan, J. and Gao, Y.L. (2021), "Measuring the up-to-date quality of online food delivery: formative index construction", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 12, pp. 4550-4568.

Cho, H., Chi, C. and Chiu, W. (2020), "Understanding sustained usage of health and fitness apps: Incorporating the technology acceptance model with the investment model", *Technology in Society*, Vol. 63, p. 101429.

Dagger, T.S., David, M.E. and Ng, S. (2011), "Do relationship benefits and maintenance drive commitment and loyalty?", *Journal of Services Marketing*, Vol. 25 No. 4, pp. 273-281.

Fakfare, P. (2021), "Influence of service attributes of food delivery application on customers' satisfaction and their behavioural responses: The IPMA approach", *International Journal of Gastronomy and Food Science*, Vol. 25, p. 100392.

Flacandji, M. and Vlad, M. (2022), "The relationship between retailer app use, perceived shopping value and loyalty: the moderating role of deal proneness", *International Journal of Retail & Distribution Management*, Vol. 50 Nos. 8/9, pp. 981-995.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

Francioni, B., Curina, I., Hegner, S.M. and Cioppi, M. (2022), "Predictors of continuance intention of online food delivery services: gender as moderator", *International Journal of Retail & Distribution Management*, Vol. 50 No. 12, pp. 1437-1457.

Goo, J. and Huang, C.D. (2008), "Facilitating relational governance through service level agreements in IT outsourcing: An application of the commitment–trust theory", *Decision Support Systems*, Vol. 46 No. 1, pp. 216-232.

Gunden, N., Morosan, C. and DeFranco, A. (2020), "Consumers' intentions to use online food delivery systems in the USA", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 3, pp. 1325-1345.

Gupta, A., Yousaf, A. and Mishra, A. (2020), "How pre-adoption expectancies shape post-adoption continuance intentions: An extended expectation-confirmation model", *International Journal of Information Management*, Vol. 52, pp. 1-14.

Hair, J.F. Jr, Hult, G.T.M., Ringle, C. and Sarstedt, M. (2016), *A primer on partial least squares structural equation modeling (PLS-SEM)*, Sage Publications, Thousand Oaks, CA.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135.

Huang, Y. and Suo, L. (2021), "Factors affecting Chinese consumers' impulse buying decision of live streaming e-commerce", *Asian Social Science*, Vol. 17 No. 5, pp. 16-28.

Humbani, M., Higueras-Castillo, E. and Liébana-Cabanillas, F. (2024), "Satisfaction with mobile food delivery app (MFDA) usage and the moderating role of perceived COVID-19 risk", *International Journal of Hospitality Management*, Vol. 121, p. 103807.

Joshi, R., Garg, P., Kumar, S. and Dhiman, N. (2025), "What drives consumers to continually use food delivery apps? The moderating role of coupon proneness", *Global Knowledge, Memory and Communication,* ahead of print..

Kang, J. and Namkung, Y. (2019), "The role of personalisation on continuance intention in food service mobile apps", *International Journal of Contemporary Hospitality Management*, Vol. 31 No. 2, pp. 734-752.

Kumar, S., and Shah, A. (2021), "Revisiting food delivery apps during COVID-19 pandemic? Investigating the role of emotions", *Journal of Retailing and Consumer Services*, Vol. 62, pp. 102595.

Lee, S.O. and Han, H. (2022), "Food delivery application quality in customer brand loyalty formation: Identifying its antecedent and outcomes", *International Journal of Hospitality Management*, Vol. 107, p. 103292.

Lee, J. and Lim, H. (2023), "Visual aesthetics and multisensory engagement in online food delivery services", *International Journal of Retail & Distribution Management*, Vol. 51 No. 8, pp. 975-990.

Li, D., Browne, G.J. and Wetherbe, J.C. (2006), "Why do internet users stick with a specific web site? A relationship perspective", *International Journal of Electronic Commerce*, Vol. 10 No. 4, pp. 105-141.

Li, H. and Liu, Y. (2014), "Understanding post-adoption behaviors of e-service users in the context of online travel services", *Information & Management*, Vol. 51 No. 8, pp. 1043-1052.

Lichtenstein, D.R., Burton, S. and Netemeyer, R.G. (1997), "An examination of deal proneness across sales promotion types: a consumer segmentation perspective", *Journal of Retailing*, Vol. 73 No. 2, pp. 283-297.

Liu, W., Zhang, S., Bijmolt, T. and de Haan, E. (2024), "Mobile platform expansion: How does it affect the incumbent food delivery app and other sales channels?", *Journal of Retailing*, Vol. 100 No. 3, pp. 422-438.

McKnight, D.H., Choudhury, V. and Kacmar, C. (2002), "Developing and validating trust measures for e-commerce: An integrative typology", *Information Systems Research*, Vol. 13 No. 3, pp. 334-359.

Morgan, R.M. and Hunt, S.D. (1994), "The commitment-trust theory of relationship marketing", *Journal of Marketing*, Vol. 58 No. 3, pp. 20-38.

Nguyen, T., Huang, E. and Nguyen, D.M. (2023), "Food delivery app continuance: a dual model and segmentation approach", *International Journal of Retail & Distribution Management*, Vol. 51 No. 5, pp. 569-589.

Patsiotis, A., Atik, M. and Perrea, T. (2020), "The influence of m-marketing tools on consumer buying process: evidence from the dining sector", *International Journal of Retail & Distribution Management*, Vol. 48 No. 10, pp. 1037-1056.

Pattnaik, P.N. and Shukla, M.K. (2022), "Examining the impact of relational benefits on continuance intention of PBS services: mediating roles of user satisfaction and engagement", *Asia-Pacific Journal of Business Administration*, Vol. 14 No. 4, pp. 637-657.

Pillet, J.C., Carillo, K.D., Vitari, C. and Pigni, F. (2023), "Improving scale adaptation practices in information systems research: Development and validation of a cognitive validity assessment method", *Information Systems Journal*, Vol. 33 No. 4, pp. 842-889.

Ponder, N., Bugg Holloway, B. and Hansen, J.D. (2016), "The mediating effects of customers' intimacy perceptions on the trust-commitment relationship", *Journal of Services Marketing*, Vol. 30 No. 1, pp. 75-87.

Rahi, S., Othman Mansour, M.M., Alharafsheh, M. and Alghizzawi, M. (2021), "The post-adoption behavior of internet banking users through the eyes of self-determination theory and

expectation confirmation model", *Journal of Enterprise Information Management*, Vol. 34 No. 6, pp. 1874-1892.

Ratchford, B., Gauri, D.K., Jindal, R.P. and Namin, A. (2023), "Innovations in retail delivery: Current trends and future directions", *Journal of Retailing*, Vol. 99 No. 4, pp. 547-562.

Ravichandran, S., Osakwe, C.N., Elgammal, I.M.Y., Abbasi, G.A. and Cheah, J.H. (2024), "Feeding trust: exploring key drivers, moderators and consequences related to food app usage", *Journal of Services Marketing*, Vol. 38 No. 7, pp. 872-891.

Ray, A., Dhir, A., Bala, P.K. and Kaur, P. (2019), "Why do people use food delivery apps (FDA)? A uses and gratification theory perspective", *Journal of Retailing and Consumer Services*, Vol. 51, pp. 221-230.

Raza, A., Asif, M. and Akram, M. (2023), "Give your hunger a new option: Understanding consumers' continuous intention to use online food delivery apps using trust transfer theory", *International Journal of Consumer Studies*, Vol. 47 No. 2, pp. 474-495.

Ryu, K. and Lee, J.S. (2017), "Examination of restaurant quality, relationship benefits, and customer reciprocity from the perspective of relationship marketing investments", *Journal of Hospitality & Tourism Research*, Vol. 41 No. 1, pp. 66-92.

Shah, A.M., Yan, X. and Qayyum, A. (2021), "Adoption of mobile food ordering apps for O2O food delivery services during the COVID-19 outbreak", *British Food Journal*, Vol. 124 No. 11, pp. 3368-3395.

Sheehan, D., Hardesty, D.M., Ziegler, A.H. and Chen, H. (2019), "Consumer reactions to price discounts across online shopping experiences", *Journal of Retailing and Consumer Services*, Vol. 51, pp. 129-138.

Shmueli, G., Sarstedt, M., Hair, J.F., Cheah, J.H., Ting, H., Vaithilingam, S. and Ringle, C.M. (2019), "Predictive model assessment in PLS-SEM: guidelines for using PLSpredict", *European Journal of Marketing*, Vol. 53 No. 11, pp. 2322-2347.

Singh, N., Kumar, N. and Kapoor, S. (2022), "Consumer multi-homing predisposition on food platforms: Does gender matter?", *Journal of Retailing and Consumer Services*, Vol. 67, p. 103029.

Soni, P. (2019), "Revisiting the role of relationship benefits in online retail", *Marketing Intelligence & Planning*, Vol. 38 No. 6, pp. 745-759.

Su, D.N., Nguyen, N.A.N., Nguyen, L.N.T., Luu, T.T. and Nguyen-Phuoc, D.Q. (2022), "Modeling consumers' trust in mobile food delivery apps: perspectives of technology acceptance model, mobile service quality and personalisation-privacy theory", *Journal of Hospitality Marketing & Management*, Vol. 31 No. 5, pp. 535-569.

Suhartanto, D., Helmi Ali, M., Tan, K.H., Sjahroeddin, F. and Kusdibyo, L. (2019), "Loyalty toward online food delivery service: the role of e-service quality and food quality", *Journal of Foodservice Business Research*, Vol. 22 No. 1, pp. 81-97.

Tseng, T.H., Lee, C.T., Huang, H.T. and Yang, W.H. (2022), "Success factors driving consumer reuse intention of mobile shopping application channel", *International Journal of Retail & Distribution Management*, Vol. 50 No. 1, pp. 76-99.

Vakeel, K.A., Fudurić, M. and Malthouse, E.C. (2021), "Extending variety seeking to multi-sided platforms: Impact of new retailer listing", *Journal of Retailing and Consumer Services*, Vol. 59, p. 102382.

Wang, C., Teo, T.S. and Liu, L. (2020a), "Perceived value and continuance intention in mobile government service in China", *Telematics and Informatics*, Vol. 48, p. 101348.

Wang, Y., Asaad, Y. and Filieri, R. (2020b), "What makes hosts trust Airbnb? Antecedents of hosts' trust toward Airbnb and its impact on continuance intention", *Journal of Travel Research*, Vol. 59 No. 4, pp. 686-703.

Xia, Y.X. and Chae, S.W. (2021), "Sustainable development of online group-buying websites: An integrated perspective of ECM and relationship marketing", *Sustainability*, Vol. 13 No. 4, p. 2366.

Yaiprasert, C. and Hidayanto, A.N. (2024), "AI-powered in the digital age: Ensemble innovation personalises the food recommendations", *Journal of Open Innovation: Technology, Market, and Complexity*, Vol. 10 No. 2, p. 100261.

Yan, M., Filieri, R. and Gorton, M. (2021), "Continuance intention of online technologies: A systematic literature review", *International Journal of Information Management*, Vol. 58, p. 102315.

Yeo, V.C.S., Goh, S.K. and Rezaei, S. (2017), "Consumer experiences, attitude and behavioral intention toward OFD (OFD) services", *Journal of Retailing and Consumer Services*, Vol. 35, pp. 150-162.

Yousaf, A., Mishra, A. and Gupta, A. (2021), "'From technology adoption to consumption': Effect of pre-adoption expectations from fitness applications on usage satisfaction, continual usage, and health satisfaction", *Journal of Retailing and Consumer Services*, Vol. 62, p. 102655.

Yuan, Y., Lai, F. and Chu, Z. (2018), "Continuous usage intention of internet banking: A commitment-trust model", *Information Systems and e-Business Management*, Vol. 17 No. 1, pp. 1-25.

Zhao, Y. and Bacao, F. (2020), "What factors determining customer continuingly using food delivery apps during 2019 novel coronavirus pandemic period?", *International Journal of Hospitality Management*, Vol. 91, p. 102683.

Zheng, X., Lee, M. and Cheung, C.M. (2017), "Examining E-loyalty towards online shopping platforms", *Internet Research*, Vol. 27 No. 3, pp. 709-726.