Shipping Cost and Delivery Waiting Time as Barriers to Online Food Purchases: A Qualitative Exploration of Student Experiences

Puji Novita Sari[1*], Sholeha Tri Asih[2], Ni Luh Sinta Yani[1], Damas Gianlugi Alrizqi[1], Muhammad Hasan[1]
[1]Faculty of Economics and Business, Universitas Negeri Makassar, Makassar, Indonesia
[2]Master's Program in Economics, Lund University School of Economic and Management, Lund, Sweden
*Corresponding email: pujinovitasari@unm.ac.id

Abstract: This study investigates psychological thresholds, trade-off mechanisms, and behavioral responses of university students facing shipping costs and delivery wait times as barriers to completing online food delivery purchases. A qualitative phenomenological design was employed, using semi-structured interviews with 15 university students in South Sulawesi, Indonesia, selected through purposive sampling. Data were analyzed using reflexive thematic analysis with ATLAS.ti 24, drawing on prospect theory, expectation-disconfirmation theory, and mental accounting. Five themes emerged: shipping costs exceeding Rp10,000–Rp15,000 trigger cancellation; waiting time tolerance of 25–45 minutes is undermined by systematic estimation inaccuracies; fourteen of fifteen informants prioritized cost over speed, reflecting price-dominant decision logic under economic constraint; free shipping and discounts of 30–50% function as behavioral moderators overriding cost and time barriers; and platform-switching occurs at fee differentials as low as Rp5,000, indicating weak transactional loyalty. The three integrated theories most explain student OFD decision-making. Platform operators are advised to maintain shipping costs below Rp10,000 and deploy targeted promotional triggers aligned with identified consumer tolerance boundaries. This study is among the first to establish specific monetary and temporal purchase-barrier thresholds in an Indonesian student OFD context using a multi-theoretical qualitative framework.

Keywords: Affective Commitment, Customer Engagement, Customer Loyalty, Perceived Value, Retirees

INTRODUCTION

The rapid proliferation of mobile internet technologies and digital payment infrastructure has fundamentally transformed food consumption patterns across emerging economies (Chiu et al., 2024; Pillai et al., 2022; Yeo et al., 2017). Online food delivery (OFD) platforms, characterized by their ability to mediate transactions among consumers, restaurants, and logistics providers via algorithmic interfaces, have experienced exponential growth in Southeast Asia, with Indonesia emerging as one of the region's most dynamic markets (Statista, 2024). The Indonesian OFD market, dominated by platforms such as GoFood and GrabFood, recorded a gross merchandise value exceeding USD 2.5 billion in 2023, with projections indicating continued double-digit annual growth through 2027 (Momentum Works, 2024).

Within this landscape, university students represent a demographically significant consumer segment, characterized by high engagement in digital

Article info: Received: 11 August 2025 Revised: 23 September 2025 Accepted: 25 October 2025
Permalink/DOI: http://dx.doi.org/10.17977/um003v11i32025p234

environments and distinct consumption patterns shaped by financial constraints, technology dependence, and lifestyle-driven preferences (Hasan, 2026; Swantari et al., 2025; Uddin et al., 2024). As Generation Z learners operating within Indonesian higher education ecosystems, they exhibit digital competencies, face resource constraints, and engage in technology-mediated social behaviors that collectively shape distinctive consumption logics that diverge from those of older consumer cohorts (Hasan et al., 2026a; Hasan et al., 2026b). Their purchasing behavior is often influenced by price sensitivity, digital convenience, and social-media-driven consumption trends, distinguishing them from other consumer groups (Eriyani & Amalia, 2025; Fitrisam et al., 2025). Critically, financial literacy and locus of control have been identified as significant determinants of financial management behavior among Indonesian Generation Z students, suggesting that economic decision-making in this demographic is structured by both cognitive resources and perceived financial agency (Hasan et al., 2025).

Despite the growing adoption of OFD services, consumer attrition, manifested through order cancellation, platform abandonment, and behavioral substitution, remains a persistent challenge for platform operators and restaurant partners alike. Prior research has predominantly focused on determinants of adoption and continuance intention, with Yeo et al. (2017) identifying perceived usefulness, ease of use, and food quality as primary drivers of consumer behavioral intention toward OFD services, while Lin et al. (2024) demonstrated that system quality and service quality dimensions of OFD mobile applications produce significant spillover effects on consumer satisfaction and continuance intention. However, shipping costs and delivery waiting times, as structural friction points that actively suppress purchase completion, remain underexplored in terms of why and when consumers abandon transactions at specific cost and time thresholds, particularly among economically constrained consumer segment (Harter et al., 2025; Pourrahmani et al., 2023). Most prior work relies on perception- or intention-based measures, offering limited insight into actual decision cutoffs and real-time trade-off processes (Chiu et al., 2024; Pillai et al., 2022). Consequently, the micro-level mechanisms underlying transaction discontinuation remain insufficiently understood.

To address this limitation, it is essential to examine how consumers evaluate and respond to the economic and temporal costs embedded in OFD transactions. Shipping cost, as a form of transaction disutility, represents an ancillary expenditure decoupled from the intrinsic value of the food product itself, rendering it particularly susceptible to negative evaluation under prospect theory (Kahneman & Tversky, 2013). Prior empirical evidence indicates that delivery fees disproportionately influence price-sensitive consumers' willingness to complete transactions (Dsouza et al., 2025; Pillai et al., 2022), particularly in developing-country contexts where price sensitivity significantly drives purchase decisions on delivery platforms (Nivornusit et al., 2024). Concurrently, delivery waiting time functions as a temporal cost that interacts with consumer expectations, hunger urgency, and perceived service quality. When actual delivery duration exceeds estimated time, expectation-disconfirmation mechanisms are activated, diminishing satisfaction and suppressing repurchase intention (Harter et al., 2025). Critically, these two variables do not operate independently; rather,

consumers engage in real-time price–time trade-offs that reflect their broader utility calculations and economic dispositions (Chiu et al., 2024; Pourrahmani et al., 2023).

The existing body of OFD research is predominantly quantitative, relying on survey instruments and structural equation modeling to establish statistical associations among latent constructs (Chiu et al., 2024; Pillai et al., 2022). While such approaches yield generalizable findings, they inadequately capture the experiential and contextual dimensions of consumer decision-making – specifically, the psychological thresholds, coping strategies, and substitution logics that emerge when shipping costs or waiting times exceed acceptable boundaries. Qualitative approaches employing semi-structured interviews and thematic analysis have demonstrated particular effectiveness in surfacing these context-specific behavioral drivers among OFD users in Southeast Asian emerging markets (Tran et al., 2024), particularly within the Indonesian context, where local platform dynamics, notably the duopolistic ecosystems of GoFood and GrabFood, and proximity-based food procurement patterns have been shown to fundamentally shape consumer decision calculus in ways distinct from Western OFD markets (Safira & Chikaraishi, 2023).

This study offers several novel contributions to the online food delivery literature. First, it identifies behavioral thresholds for shipping cost and delivery time, moving beyond traditional continuous or perception-based measures to reveal concrete decision-making cutoffs. Second, it reconceptualizes shipping costs and waiting times as behavioral frictions that actively impede transaction completion, rather than merely influencing attitudes or intentions. Third, it integrates prospect theory, expectation-disconfirmation theory, and mental accounting into a unified framework to explain how consumers simultaneously evaluate economic and temporal costs under constrained conditions. Finally, by adopting a qualitative phenomenological approach, this study uncovers micro-level decision processes that remain largely inaccessible in prior quantitative research.

This study accordingly addresses the following research questions: (1) What monetary thresholds for shipping cost trigger order cancellation or behavioral substitution among student consumers of OFD platforms? (2) How does delivery waiting time, including discrepancies between estimated and actual time, influence purchase continuation decisions? (3) How do students navigate the price–time trade-off, and what moderating factors, including promotional incentives, contextual conditions, and platform-switching, shape these decisions?

By foregrounding the lived experiences of student consumers through in-depth qualitative interviews, this study contributes to the OFD literature in three distinct ways. First, it establishes empirically grounded psychological thresholds for shipping costs and waiting times in an emerging-market student context. Second, it offers a theoretically integrated account of how prospect theory, expectation-disconfirmation, and mental accounting jointly structure consumer responses to delivery friction. Third, it generates practically actionable insights for OFD platform designers and marketers seeking to reduce attrition among price-sensitive demographic segments.

METHODS

Research Design

This study adopted a qualitative research design grounded in an interpretivist paradigm, which holds that consumer experiences are subjectively constructed and best accessed through detailed, context-sensitive inquiry (Creswell & Poth, 2016). A phenomenological approach informed the study's orientation, as the research seeks to describe and interpret the lived experiences of student consumers confronting barriers in online food delivery – experiences that involve not merely behavioral outcomes, but the psychological processes, evaluative frameworks, and contextual considerations through which such outcomes are produced (Van Manen, 2023). This methodological choice aligns with the recognized value of qualitative approaches in consumer behavior research for generating theoretically rich, contextually embedded insights that quantitative instruments are ill-positioned to capture (Tran et al., 2024).

Participants and Sampling

Participants were recruited through purposive sampling, with the criterion that each informant must be an active university student with documented experience using at least one major OFD platform (GoFood, GrabFood, or ShopeeFood) within the three months preceding data collection. This temporal criterion ensured that informants could draw on recent, episodically accessible experiences rather than generalized or reconstructed recollections (Patton, 2014). A total of 15 informants were recruited from a state university in South Sulawesi, Indonesia, a regional context in which OFD adoption has grown rapidly, yet platform competition, local pricing structures, and student economic profiles differ meaningfully from those of Tier-1 Indonesian cities such as Jakarta and Surabaya.

The sample comprised students from diverse academic disciplines and residential arrangements (dormitory residents, boarding house residents, and family-resident students) to maximize variation in delivery-relevant contextual factors, including distance to food outlets and household food provision. Participant ages ranged from 18 to 24 years. Sample size was determined through a theoretical saturation criterion (Braun & Clarke, 2021), whereby data collection continued until no substantively new themes emerged across successive interviews. Informed consent was obtained from all participants prior to their involvement, and confidentiality was maintained by assigning participant codes (P1–P15).

Data Collection

Data were collected through semi-structured, in-depth interviews conducted individually, each lasting 45-75 minutes. The interview protocol was developed iteratively through pilot testing with two student volunteers and was refined for clarity and thematic coverage. The final protocol comprised four thematic modules: (1) general OFD usage patterns and platform preferences; (2) experiences and perceptions regarding shipping costs, including tolerance thresholds and cancellation behaviors; (3) experiences and responses to delivery waiting time, including discrepancies between estimated and actual delivery

duration; and (4) decision-making processes under hypothetical price–time trade-off scenarios, including responses to promotional incentives and platform-switching triggers.

Hypothetical vignette scenarios, a methodological device for eliciting latent preference structures (Aguinis & Bradley, 2014), were incorporated into the latter portion of each interview. Informants were presented with paired options (e.g., Rp8,000 shipping / 15-minute wait versus Rp15,000 shipping / 5-minute wait) and asked to verbalize their decision-making process, thereby surfacing the implicit valuations they assign to monetary and temporal costs. Interviews were conducted in Bahasa Indonesia to minimize linguistic barriers to expression and were audio-recorded with participants' consent. Verbatim transcripts were produced and subsequently reviewed against audio recordings for accuracy.

Data Analysis

Transcripts were analyzed using reflexive thematic analysis as operationalized by Braun and Clarke (2021), a method chosen for its capacity to generate theory-relevant themes from rich descriptive data without imposing predetermined categorical structures. The analytic process proceeded through six phases: (1) familiarization with the data through repeated reading of transcripts; (2) generation of initial codes capturing semantically significant units of meaning; (3) collation of codes into candidate themes; (4) review and refinement of themes against the full dataset; (5) definition and naming of final themes; and (6) production of the analytic narrative. Analysis was conducted using ATLAS.ti 24 software to facilitate systematic code management and inter-analyst traceability.

Table 1. Summary of Themes from Thematic Analysis

No.	Theme	Sub-themes / Key Findings	Theoretical Grounding
T1	Shipping Cost Sensitivity	a. Cost threshold Rp10k–Rp25k b. Price-value mismatch c. App comparison behavior	Prospect Theory, (Kahneman & Tversky, 2013)
T2	Waiting Time Tolerance	a. Cancellation at 25–45 min b. Estimation inaccuracy c. Driver communication buffer	Expectation-Disconfirmation Theory (Oliver, 1980)
T3	Price–Time Trade-off	a. Price-dominant preference b. Time value Rp3k–Rp20k/10 min c. Food quality moderator	Time–Money Trade-off (Okada & Hoch, 2004)
T4	Promotional Incentives as Behavioral Moderator	a. Free shipping override b. Discount 30–50% c. Buy-1-get-1 preference d. E-wallet cashback	Mental Accounting, (Thaler, 1985)
T5	Substitution & Platform-Switching Behavior	a. Cook at home (instant noodles) b. Pick up at restaurant c. Platform switching triggered by delivery fee differential >Rp5,000. Weather as contextual trigger	Consumer attitude & switching, (Yeo et al., 2017)

Source: Author's Compilation, 2026

To enhance analytical rigor, a co-coding procedure was employed in which a second researcher independently coded a randomly selected subset of 30% of the transcripts. Intercoder reliability was assessed using Cohen's Kappa, yielding a coefficient of $\kappa = 0.81$, indicating strong agreement (Landis & Koch, 1977). Discrepancies were resolved through deliberative discussion until consensus was reached. Theoretical codes derived from prospect theory (Kahneman & Tversky, 2013), expectation-disconfirmation theory (Oliver, 1980), mental accounting (Thaler, 1985), and the consumer value framework (Yeo et al., 2017) were applied deductively in a second-pass analysis to situate empirical themes within established theoretical frameworks. The analytic process yielded five overarching themes, each grounded in established theoretical frameworks and supported by multiple informants. A consolidated overview of the themes, sub-themes, representative informants, and theoretical anchors is presented in Table 1.

Trustworthiness

Trustworthiness was established through four criteria proposed by Lincoln (1980). Credibility was addressed through member checking, in which five informants reviewed summaries of the findings from their interviews and confirmed their representational accuracy. Transferability was supported by providing a thick description of the research context, participant characteristics, and interview conditions, enabling readers to assess the applicability of the findings to analogous settings. Dependability was ensured by maintaining a reflexive audit trail that documented analytical decisions and theme revisions throughout the analytic process. Confirmability was enhanced through researcher positionality statements, in which both researchers disclosed their prior experiences as OFD users and reflected on how these experiences may have shaped their interpretive choices.

Ethical Considerations

This study was conducted in accordance with the ethical principles governing research involving human participants. Prior to data collection, ethical clearance was obtained from the relevant institutional review board. All participants provided written informed consent, were assured of their right to withdraw at any time without consequences, and were informed that their data would be anonymized and used exclusively for academic publication.

RESULTS AND DISCUSSION

As presented in Table 2, the fifteen participants were purposively selected from the Faculty of Economics at a public university in South Sulawesi, Indonesia, representing seven study programs: Management (3), Accounting (2), Economic Education (2), Entrepreneurship (2), Development Economics (2), Applied Accounting (2), and Accounting Education (2), ensuring disciplinary diversity within a homogeneous economic-literacy context. Participants ranged in age from 19 to 23 years (mean = 20.9), placing them firmly within the Generation Z cohort, and spanned semesters 2 through 8, capturing both early-stage and more

experienced OFD users. With respect to platform usage, GoFood was the most frequently utilized application (11 of 15 participants), followed by ShopeeFood (10 participants) and GrabFood (5 participants); notably, ten participants reported using two platforms concurrently, a pattern that directly foreshadows the platform-switching behavior identified as a core theme in this study and underscores the characteristically weak transactional loyalty of economically constrained student consumers.

Table 2. Characteristics of Research Participants (n=15)

No.	Code	Major	Age	Semester	OFD Application Used
1	P1	Management	21	6th	GoFood, ShopeeFood
2	P2	Accounting	20	4th	GrabFood, ShopeeFood
3	P3	Economic Education	19	4th	ShopeeFood
4	P4	Management	21	6th	GoFood, ShopeeFood
5	P5	Entrepreneurship	20	4th	ShopeeFood, GoFood
6	P6	Management	22	6th	GoFood, ShopeeFood
7	P7	Development Economics	21	6th	GoFood
8	P8	Accounting	19	2nd	ShopeeFood
9	P9	Applied Accounting	20	4th	GoFood, ShopeeFood
10	P10	Development Economics	22	6th	GoFood, GrabFood
11	P11	Entrepreneurship	20	4th	GoFood
12	P12	Applied Accounting	21	6th	GrabFood, ShopeeFood
13	P13	Accounting Education	23	8th	GoFood, ShopeeFood
14	P14	Economic Education	19	2nd	ShopeeFood, GrabFood
15	P15	Accounting Education	22	8th	GoFood, ShopeeFood

Note. N = 15 | Age range: 19–23 years | Faculty of Economics | Purposive sampling | South Sulawesi, Indonesia. Data analysis: ATLAS.ti 24 | Interviewed: 2026.

Coding was conducted using ATLAS.ti 24, producing 20 codes organized into 5 code groups with a total of 231 quotations across 15 documents (see Table 3: Code Manager).

Table 3. Code Manager

Code	Code Group	Grounded	Density	Documents
Shipping cost threshold cancellation	Shipping Cost Sensitivity	24	5	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P14
Cost-driven order abandonment	Shipping Cost Sensitivity	15	4	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P15
Price-value mismatch	Shipping Cost Sensitivity	12	3	P1, P2, P3, P4, P6, P7, P9, P10, P11, P13
App comparison behavior	Shipping Cost Sensitivity	10	3	P1, P2, P4, P5, P6, P9, P10, P11, P14
Waiting time threshold	Waiting Time Tolerance	18	4	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12
Estimation inaccuracy	Waiting Time Tolerance	10	3	P2, P3, P4, P6, P8, P10, P12
Hunger level moderator	Waiting Time Tolerance	8	2	P1, P2, P4, P5, P6, P9

Code	Code Group	Grounded	Density	Documents
Driver communication buffer	Waiting Time Tolerance	5	2	P2, P4, P6, P10, P15
Price-dominant preference	Price–Time Trade-off	16	4	P1, P2, P3, P4, P5, P6, P8, P9, P10, P11, P12
Time monetary valuation	Price–Time Trade-off	14	3	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12
Low time sensitivity	Price–Time Trade-off	11	3	P1, P2, P3, P4, P6, P8, P9, P10, P11
Food quality	Price–Time Trade-off	4	2	P3, P6, P7
Free shipping override	Promotional Incentives	15	4	P1, P2, P3, P4, P5, P6, P8, P9, P10, P11, P12
Food discount 30-50%	Promotional Incentives	9	3	P1, P2, P3, P4, P6, P9, P10
Buy-1-get-1 preference	Promotional Incentives	3	1	P7, P11, P13
E-wallet cashback	Promotional Incentives	3	1	P2, P6, P14
Platform-switching behavior	Substitution & Switching	13	4	P1, P2, P4, P5, P6, P8, P9, P10, P11
Weather contextual trigger	Substitution & Switching	14	3	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12
Cook at home substitution	Substitution & Switching	11	3	P1, P2, P3, P5, P6, P9, P10, P12
Pick up at restaurant	Substitution & Switching	7	2	P2, P3, P4, P6, P7, P10, P15

Source: ATLAS.ti 24 output, 2026.

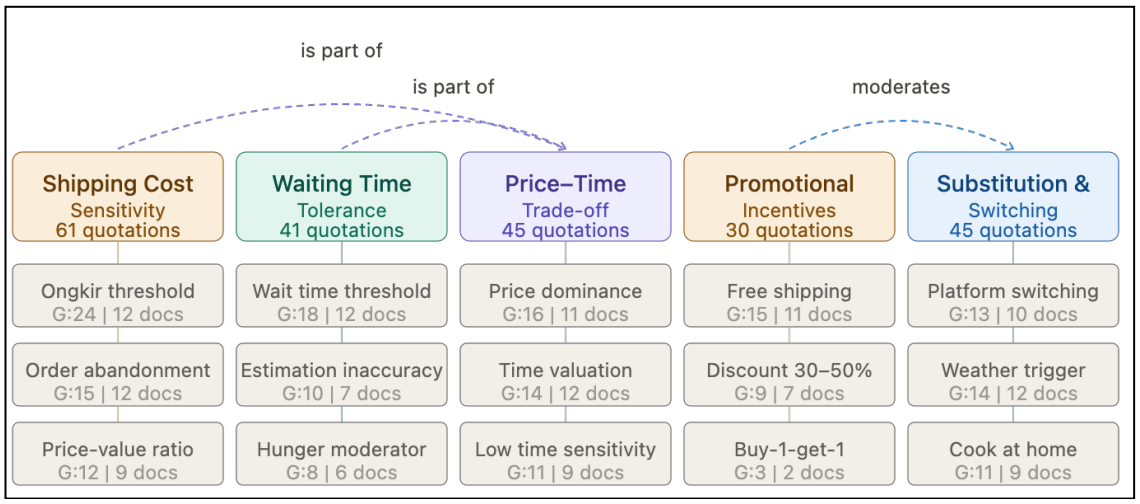

Figure 1. Network View
Source: Author compilation, 2026.
Note. G = Grounded (quotations) | docs = documents | --- = cross-theme relationship | ATLAS.ti 24 | N = 15 informants (P1-P15)

The hierarchical relationships between code groups and their constituent codes, along with cross-theme relational patterns identified during analysis, are visualized in Figure 1 (ATLAS.ti Network View). Notably, the Shipping Cost Sensitivity and Waiting Time Tolerance groups both feed into the Price–Time Trade-off group ('is part of'). At the same time, Promotional Incentives exerts a moderating influence on Substitution & Switching behavior ('moderates').

Shipping Cost Sensitivity Among Student Consumers

The findings reveal that shipping costs are a primary determinant of students' online food purchase decisions. Across all 15 informants, a consistent pattern emerged wherein a specific monetary threshold triggers cancellation or behavioral substitution. The majority of informants indicated that shipping costs exceeding Rp10,000–Rp15,000 represent a psychological boundary beyond which the perceived value of ordering diminishes significantly.

As articulated by P2, *"Biasanya kalau ongkirnya udah di atas Rp10.000, saya mulai mikir dua kali. Apalagi kalau makanannysea cuma harga Rp20.000-an. Jadi rasanya tidak sebanding" [Usually, when the delivery fee is already above Rp10,000, I start to think twice—especially if the food only costs around Rp20,000. It just does not feel worth it*, reflecting a rationalization rooted in price-to-value comparison. Similarly, P4 stated that shipping costs exceeding Rp12,000 would almost certainly result in order cancellation. This behavior aligns with prospect theory (Kahneman & Tversky, 2013), wherein consumers are more sensitive to perceived losses – in this case, perceived overpayment than to equivalent gains. Notably, P12 expressed a higher tolerance threshold of approximately Rp30,000, which may reflect differing baseline expectations tied to restaurant distance or food price. This heterogeneity suggests that shipping cost sensitivity is moderated by contextual variables such as the food price ratio, perceived distance, and hunger level.

These findings are consistent with prior studies indicating that delivery fees function as a transaction disutility that diminishes consumer satisfaction in online food delivery contexts. (Yeo et al., 2017) established that consumer experiences, attitudes, and behavioral intentions toward online food delivery services are significantly influenced by perceived value, of which shipping cost is a central component. More recently, Dsouza et al. (2025) confirmed that price-sensitive student consumers tend to prioritize value over premium products, a finding echoed in the price-threshold behaviors observed in this study.

Waiting Time as a Trigger for Order Cancellation

Beyond shipping cost, waiting time emerged as a significant independent factor influencing purchase continuation. Informants demonstrated a clear tolerance ceiling for delivery duration, with the majority indicating they would cancel orders that exceeded 25–45 minutes past the estimated delivery time. P1 described *"Kalau waktu tunggunya lebih dari 35 menit, saya langsung batalkan karena sudah kelaparan"* [If the waiting time is more than 35 minutes, I cancel it right away because I am already hungry]. At the same time, P9 referenced a 25-minute threshold beyond the estimated arrival. P6 and P8 indicated a higher tolerance of up to 45 minutes, suggesting individual variation moderated by hunger level and concurrent activities.

A recurring sub-theme involved the inaccuracy of the estimated delivery time displayed in the application. Nearly all informants reported discrepancies between estimated and actual delivery times, typically 10 to 20 minutes beyond the stated estimate. P10 noted that *"Kalau aplikasi bilang 25 menit, biasanya datang 35–40 menit"* [when an application estimates 25 minutes, the order typically arrives between 35–40 minutes]. This finding echoes expectation-disconfirmation theory (Oliver, 1980), wherein repeated negative disconfirmation of time expectations reduces consumer satisfaction and repurchase intention. (Harter et al., 2025) further established that disconfirmations in delivery time – in both directions – significantly affect customer repurchase behavior, with smaller delays having a disproportionately higher marginal impact than larger delays.

The empirical study across three U.S. cities modeled the relationship between online food delivery pricing and waiting time, finding that these two variables jointly shape consumer decisions in ways that cannot be examined in isolation (Pourrahmani et al., 2023), a finding this qualitative study supports through the experiential accounts of Indonesian student consumers. Furthermore, driver responsiveness functions as a psychological buffer. P6 expressed greater willingness to wait when the driver communicated proactively through chat or phone, indicating that perceived service interaction quality mediates the negative effect of waiting time on satisfaction, consistent with findings by Lin et al. (2024), who demonstrated that service quality dimensions of online food delivery mobile applications produce spillover effects on overall consumer satisfaction.

Price–Time Trade-off in Delivery Decision-Making

When presented with hypothetical trade-off scenarios, choosing between lower shipping costs with longer waiting times and higher costs with faster delivery, the majority of informants demonstrated a strong price-oriented preference. Fourteen of fifteen informants consistently selected the lower-cost option (Rp8,000 for a 15-minute wait) over the faster but more expensive alternative (Rp15,000 for a 5-minute wait).

P1 stated, *"Saya pilih yang ongkirnya Rp8.000 meski tunggu agak lama, karena saya lebih hemat biaya" [I choose the one with an Rp8,000 delivery fee even if the wait is longer, because I want to save money]*, while P4 and P11 similarly prioritized financial savings, citing that the time difference was manageable. This finding suggests that student consumers in this context exhibit time-insensitive but price-sensitive behavior**,** consistent with their economic constraints as non-income-generating individuals. The monetary valuation of ten minutes of waiting time, as reported by informants, ranged from Rp3,000 to Rp20,000, with the modal value falling between Rp5,000 and Rp7,000. P7 was the sole informant who consistently preferred the faster, more expensive option, citing concerns that cold food was unacceptable. This product quality expectation moderated the price-time trade-off.

A meta-analytic structural equation modeling study identified time-saving orientation as a significant but contextually variable predictor of online food delivery usage intention, suggesting that its relative weight varies across consumer segments (Chiu et al., 2024), a finding supported by the price-dominant behavior observed in the present student sample. These findings align with the time-money

trade-off literature in consumer behavior, which posits that individuals with lower disposable income tend to assign lower monetary value to time savings, reinforcing price as the dominant decision variable.

Promotional Incentives as a Behavioral Moderator

A prominent theme across all fifteen informants was the decisive role of promotional incentives in sustaining purchase behavior despite elevated shipping costs or extended waiting times. Free shipping promotions and 30–50% food discounts were cited as sufficient justifications for proceeding with an order that would otherwise have been abandoned.

P1 noted, *"Kalau ada promo gratis ongkir atau potongan harga makanan, saya tetap pesan karena lebih hemat" [If there is a free delivery promo or a discount on the food, I will still order because it is more economical]*, and P4 similarly expressed that a 50% food discount would override resistance to a higher shipping cost, as the total perceived expenditure remained favorable. This behavior reflects the mental accounting framework (Thaler, 1985), wherein consumers evaluate costs and savings in categorical, rather than absolute, terms.

Interestingly, the type of promotion also influenced preferences. While the majority favored free shipping promotions, P7 and P11 specifically cited buy-one-get-one offers as their primary motivator, suggesting heterogeneity in promotional responsiveness. P2 and P6 additionally cited cashback promotions through e-wallets as meaningful incentives when combined with other discounts. This responsiveness to price-saving mechanisms is congruent with evidence that digital financial literacy, the capacity to evaluate and strategically deploy digital financial tools and incentives (Hasan et al., 2025; Hasan et al., 2026b), constitutes a significant determinant of technology-mediated consumption decisions among Indonesian Generation Z students.

Pillai et al. (2022) demonstrated, through an integration of the Theory of Planned Behavior and Elaboration Likelihood Model, that consumer purchase intention in online food delivery services is significantly influenced by perceived value (Pillai et al., 2022) of which promotional framing is a central component. Furthermore, perceived convenience has been established as a significant determinant of behavioral intentions toward online food delivery services, operating through consumer attitude as a mediating mechanism (Chiu et al., 2024; Chowdhury, 2023). Concurrently, promotional mechanisms, particularly free delivery offers and price-saving incentives, function to reduce consumers' perceived logistical cost burden, thereby sustaining purchase intention even when objective service conditions are suboptimal (Pillai et al., 2022; Tandon et al., 2021).

Substitution and Platform-Switching Behavior

When neither acceptable shipping costs nor promotions were available, informants engaged in a range of substitution behaviors, including cooking at home (P1, P2, P3, P5, P12), picking up food directly from the restaurant (P3, P4, P6), and switching to a different delivery platform (P2, P5, P6, P10). Platform-switching was notably swift and price-driven. The majority of informants reported switching platforms when the shipping cost differential exceeded Rp5,000, or when estimated delivery time differed by more than 10–15 minutes. P1 articulated

this directly: *"Bahkan kalau beda ongkirnya cuma 3 sampai 5 ribu saja, saya sudah pindah ke aplikasi lain yang lebih murah" [Even if the delivery fee difference is only around Rp3,000 to Rp5,000, I'll switch to another app that's cheaper].*

This low switching threshold implies weak platform loyalty among student consumers, driven primarily by transactional considerations rather than brand affinity. A study on the continuance purchase intention of online food delivery services found that price value significantly influenced customer purchase intention and retention, reinforcing the view that economic utility remains the dominant retention driver in price-sensitive consumer segments. The agility and responsiveness with which these students navigated between platforms and substitution options may further reflect the adaptive behavioral dispositions characteristic of Indonesian Generation Z students, a cohort documented to exhibit high relational and result agility in response to resource-constrained conditions (Hasan et al., 2026a).

Tran et al. (2024), using qualitative methods including semi-structured interviews and thematic analysis, identified delivery time, price sensitivity, and convenience as key factors driving user decisions in online food delivery applications (Tran et al., 2024). These research findings are directly corroborated by the present study's data from Indonesian university students. Additionally, contextual factors, particularly weather conditions, moderated behavioral responses. Informants consistently reported an increased propensity for delivery during rain (P1, P2, P5, P12), as travel inconvenience served as a barrier to in-person food procurement. Conversely, during peak hours, several informants preferred dining in person to avoid extended delivery times, particularly when the restaurant was nearby (P4, P6, P7). This contextual moderation aligns with the broader consumer behavior literature, which emphasizes situational factors as dynamic determinants of purchase decisions.

Theoretical Contributions

This study makes several contributions to the theoretical understanding of OFD consumer behavior. By integrating prospect theory, expectation-disconfirmation theory, and mental accounting within a single qualitative framework, the study demonstrates that any single theoretical lens cannot adequately explain OFD students' decision-making. Shipping cost and waiting time activate distinct psychological mechanisms, loss aversion and expectation violation, respectively that operate in tandem and are modulated by promotional reframing and contextual contingencies. This multi-theoretical architecture offers a more complete and ecologically valid account of purchase barrier dynamics than prior single-theory models have provided.

Furthermore, the study extends the price–time trade-off literature in consumer behavior by providing empirical evidence, grounded in the experiential accounts of a specific demographic segment, that the relative weight of price versus time in utility calculations is systematically structured by income level and economic dependency status. This finding reinforces the theoretical proposition that time-money trade-offs are not universal but are calibrated by consumers' perceived resource scarcity, monetary scarcity elevates price sensitivity. At the same time, temporal abundance depresses the disutility of waiting.

Practical Implications

The findings carry direct implications for OFD platform operators, restaurant partners, and digital marketing practitioners. For platform operators, identifying specific cost and time thresholds provides actionable benchmarks for subsidy and promotion design: shipping fee subsidies that keep consumer-visible costs below Rp10,000 during off-peak periods, or dynamic promotional triggers activated when the estimated delivery time approaches the 25-minute boundary, could materially reduce order abandonment rates among the student segment. For restaurant partners, the findings highlight the strategic value of enrolling in platform-subsidized free-shipping programs, given that shipping cost rather than food price or quality, is the primary trigger for cancellation among this demographic.

Additionally, the role of driver communication as a satisfaction buffer suggests that OFD platforms could yield measurable improvements in service quality through systematic driver engagement training or application-embedded prompting mechanisms that encourage proactive status communication during extended delivery windows. For digital marketers, the heterogeneity in promotional responsiveness underscores the importance of segmented promotional communication, students exhibit distinct preferences among free shipping, BOGO, and cashback mechanisms, and one-size-fits-all incentive strategies to underperform compared with behaviorally targeted approaches.

CONCLUSION

This study examined how shipping costs and delivery waiting times function as structural barriers to completing online food delivery purchases among university student consumers in South Sulawesi, Indonesia. Five principal findings emerged from reflexive thematic analysis of fifteen in-depth interviews. First, shipping costs exceeding Rp10,000–Rp15,000 constitute a psychological cancellation threshold, consistent with prospect theory's account of loss sensitivity. Second, waiting time tolerance ceilings of 25–45 minutes are systematically compounded by estimation inaccuracies embedded in OFD applications, triggering expectation-disconfirmation that erodes repurchase intention. Third, fourteen of fifteen informants exhibited price-dominant decision logic when confronted with price, time trade-offs, assigning a modal time value of Rp5,000–Rp7,000 per ten minutes, reflecting the low opportunity cost of time among non-income-generating consumers.

Fourth, promotional incentives function as mental accounting reframing mechanisms that can override both cost and time barriers, with heterogeneous preferences ranging from free shipping to buy-one-get-one offers to e-wallet cashback. Fifth, platform loyalty is demonstrably weak, with switching triggered by fee differentials as modest as Rp5,000, indicating that retention is governed by transactional utility rather than brand affinity. These findings advance OFD consumer behavior theory by integrating prospect theory, expectation-disconfirmation theory, and mental accounting within a unified qualitative framework applicable to emerging-market, price-constrained segments.

Nevertheless, several limitations warrant acknowledgment: the purposive, single-institution sample restricts the transferability of specific threshold values to Tier-1 Indonesian cities or broader Southeast Asian markets, and the cross-sectional design precludes observation of how cost and time sensitivity evolve in response to platform policy shifts or macroeconomic changes. Future research should pursue mixed-methods designs that combine qualitative threshold mapping with large-sample quantitative validation across diverse geographic and socioeconomic contexts. It may productively examine the moderating role of platform interface features, such as real-time tracking granularity and in-app driver communication affordances on the expectation-disconfirmation dynamics documented here.

Authors Contribution

P. N. S.: Conceptualization, Research Design, Methodology, Data Collection, Formal analysis, Writing – original draft, Visualization; S. T. A.: Methodology, Validation, Data curation, Writing – review & editing; N. L. S. Y.: Investigation, Resources, Data curation, Writing – review & editing; D. G. A.: Supervision, Validation, Project administration, Writing – review & editing; M. H.: Supervision, Conceptualization, Funding acquisition, Writing – review & editing.

Acknowledgements

The authors would like to express sincere gratitude to all fifteen student informants who willingly dedicated their time and shared their experiences in the context of this study. Their candid and reflective accounts constituted the foundational data upon which this research was built. The authors also acknowledge the institutional support provided by Universitas Negeri Makassar, South Sulawesi, Indonesia, which facilitated the ethical review process and research administrative procedures. No external funding was received for the conduct of this study.

Competing interests

The author has declared that there are no conflicts of interest

Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request

REFERENCES

Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods, 17*(4), 351–371.

Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide.* APA Handbook of Research Methods in Psychology: Vol. 2.

Chiu, W., Badu-Baiden, F., & Cho, H. (2024). Consumers' intention to use online food delivery services: A meta-analytic structural equation modeling approach. *International Journal of Consumer Studies, 48*(3), e13052. https://doi.org/10.1111/ijcs.13052

Chowdhury, R. (2023). Impact of perceived convenience, service quality and security on consumers' behavioural intention towards online food delivery services: The role of attitude as mediator. *SN Business & Economics, 3*(1), 29. https://doi.org/10.1007/s43546-023-00422-7

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches.* Sage publications.

Dsouza, D., George, A., Khawatmi, R., & Rehman, S. U. (2025). Factors influencing students' satisfaction with online food delivery services: a=An empirical study. *Sage Open, 15*(3), 21582440251378024. https://doi.org/10.1177/21582440251378022

Eriyani, E., & Amalia, V. (2025). What drives generation Z to purchase on Shopee: digital marketing, pricing, or online reviews? (Study on Students of the Faculty of Economics and Business, UNNES). *Journal of Economic Education, 14*(1), 96–109. https://doi.org/10.15294/jeec.v14i1.24229

Fitrisam, S. A., Iradat, M. I., Iskandar, R., Utami, A. P., & Rhamadhani, R. F. (2025). Digital natives and deferred payments: A qualitative study of young consumers'e-commerce BNPL behaviors. *Priviet Social Sciences Journal, 5*(9), 47–65. https://doi.org/10.55942/pssj.v5i9.575

Harter, A., Stich, L., & Spann, M. (2025). The effect of delivery time on repurchase behavior in quick commerce. *Journal of Service Research, 28*(2), 211–227.

Hasan, M. (2026). The power of entrepreneurial innovation capital in higher education: A diffusion of innovation approach to Generation Z entrepreneurship education. *The International Journal of Management Education, 24*(2), 101383. https://doi.org/https://doi.org/10.1016/j.ijme.2026.101383

Hasan, M., Abrar, A. K., Tahir, T., Budiwati, N., & Sulistyowati, R. (2026a). Unleashing dual literacies through digital growth mindset: A multitheoretical study of entrepreneurship learning in higher education for Generation Z. *Social Sciences & Humanities Open, 13*, 102451. https://doi.org/https://doi.org/10.1016/j.ssaho.2026.102451

Hasan, M., Januddin, T., & Tahir, T. (2026b). "I'm gen Z—Can I become a Technopreneur?" the mediating power of digital business and financial literacy in entrepreneurship education. *Entrepreneurship Education*. https://doi.org/10.1007/s41959-025-00168-3

Hasan, M., Supatminingsih, T., Thamrin Tahir, M. I., & Said Ahmad, M. I. (2025). Entrepreneurship education in higher education: Can we create entrepreneurial readiness through the power of agility in Generation Z students? *The International Journal of Management Education, 23*(3), 101264. https://doi.org/https://doi.org/10.1016/j.ijme.2025.101264

Kahneman, D., & Tversky, A. (2013). *Prospect theory: An analysis of decision under risk. In Handbook of the fundamentals of financial decision making: Part I* (pp. 99–127). World Scientific. https://doi.org/10.2307/1914185

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. Biometrics, 159–174. https://doi.org/10.2307/2529310

Lin, P. M. C., Au, W. C. W., & Baum, T. (2024). Service quality of online food delivery mobile application: an examination of the spillover effects of mobile app satisfaction. *International Journal of Contemporary Hospitality Management, 36*(3), 906–926. https://doi.org/10.1108/JHTT-03-2023-0089

Lincoln, Y. (1980). *Naturalistic inquiry.* Beverly Hills: Sage. LincolnNaturalistic Inquiry1985.

Momentum Works. (2024). *Food delivery platforms in Southeast Asia 2024*. Momentum Works Pte Ltd.

Nivornusit, R., Kraiwanit, T., & Limna, P. (2024). Food delivery competition in the digital economy: Price war strategy in a developing country. *Digital Business, 4*(1), 100076. https://doi.org/10.1016/j.digbus.2024.100076

Okada, E. M., & Hoch, S. J. (2004). Spending time versus spending money. *Journal of Consumer Research, 31*(2), 313–323.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research, 17*(4), 460–469. https://doi.org/10.1177/002224378001700405

Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice.* Sage publications.

Pillai, S. G., Kim, W. G., Haldorai, K., & Kim, H.-S. (2022). Online food delivery services and consumers' purchase intention: Integration of theory of planned behavior, theory of perceived risk, and the elaboration likelihood model. *International Journal of Hospitality Management, 105*, 103275. https://doi.org/10.1016/j.ijhm.2022.103275

Pourrahmani, E., Jaller, M., & Fitch-Polse, D. T. (2023). Modeling the online food delivery pricing and waiting time: Evidence from Davis, Sacramento, and San Francisco. *Transportation Research Interdisciplinary Perspectives, 21*, 100891. https://doi.org/10.1016/j.trip.2023.100891

Safira, M., & Chikaraishi, M. (2023). The impact of online food delivery service on eating-out behavior: a case of Multi-Service Transport Platforms (MSTPs) in Indonesia. *Transportation, 50*(6), 2253–2271.

Statista. (2024). *Online food delivery – Indonesia: Market data & analysis 2024.* Statista Market Insights.

Swantari, A., Aditya, M. K., & Pramanik, P. D. (2025). Consumer behavior of generation z students: The influence of using lazada e-commerce, promotions and social media (Case study of Trisakti Institute of tourism students). *International Journal Management and Economic, 4*(1), 1–7. https://doi.org/10.56127/ijme.v4i1.1777

Tandon, A., Kaur, P., Bhatt, Y., Mäntymäki, M., & Dhir, A. (2021). Why do people purchase from food delivery apps? A consumer value perspective. *Journal of Retailing and Consumer Services, 63*, 102667.

Thaler, R. (1985). Mental accounting and consumer choice. *Marketing Science, 4*(3), 199–214.

Tran, K. H., Van Nguyen, K., & Ly, T. T. (2024). Understanding the determinants of decision making among online food delivery app users in Can Tho City, Vietnam. Aurora: *Journal of Emerging Business Paradigms, 1*(1), 6–11.

Uddin, M. A., Talukder, Md. A., Ahmed, Md. R., Khraisat, A., Alazab, A., Islam, Md. M., Aryal, S., & Jibon, F. A. (2024). Data-driven strategies for digital native market segmentation using clustering. *International Journal of Cognitive Computing in Engineering, 5*, 178–191. https://doi.org/10.1016/j.ijcce.2024.04.002

Van Manen, M. (2023). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing.* Routledge.

Yeo, V. C. S., Goh, S.-K., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. *Journal of Retailing and Consumer Services, 35*, 150–162. https://doi.org/10.1016/j.jretconser.2016.12.013