Understanding Customer Satisfaction with Online Food Delivery Applications among University Students in Malaysia: A Review of Delivery Time, Price Affordability and Usage Behaviour

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DOI: https://doi.org/10.47772/IJRISS.2026.100900716

Received: 02 October 2026; Accepted: 07 October 2026; Published: 22 October 2026

ABSTRACT

Online food delivery (OFD) applications are now embedded in the everyday consumption practices of many Malaysian university students, supported by widespread Internet access, extensive mobile-phone use, and the growing normalisation of app-based services. This article reviews Malaysian evidence on customer satisfaction with OFD applications, with particular attention to delivery time, price affordability, and student usage behaviour. The analysis draws on secondary sources, combining official national statistics with empirical studies conducted among university students. As of December 2024, Malaysia had 1.35 million students enrolled across 544 higher education institutions. Individual Internet use reached 98.3% in 2025, while 99.6% of those aged 20-24 used the Internet, indicating a highly connected university-age population. Malaysian studies have linked OFD satisfaction or usage to service performance, timeliness, price-related considerations, perceived usefulness, information quality, and other service attributes. Across this literature, support for delivery time and price affordability is comparatively consistent. The role of student usage behaviour, however, has been examined less directly in relation to satisfaction. Guided by Expectation Confirmation Theory (ECT), the review interprets satisfaction as an outcome of the comparison between prior expectations and the actual service experience. Its contribution lies in bringing together dispersed Malaysian findings, assessing the relative strength of support for the three focal determinants, and identifying student usage behaviour as a comparatively under-examined area for further research.

Keywords: online food delivery; customer satisfaction; university students; Malaysia; delivery time; price affordability; usage behaviour; Expectation Confirmation Theory

INTRODUCTION

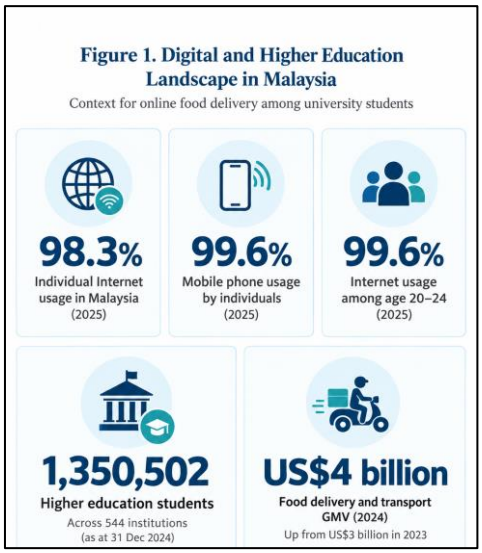
Background

Digitalisation has altered how consumers select, purchase, and receive meals, and OFD research has increasingly treated this shift as a combination of digital convenience, perceived value, technology acceptance, and post-use evaluation (Yeo et al., 2017; Ray et al., 2019; Alalwan, 2020; Shankar et al., 2022; Shroff et al., 2022). Through applications such as GrabFood, Foodpanda, and ShopeeFood, users can compare menus, place and pay for orders, track deliveries, and receive food without visiting a physical outlet. Malaysia provides a favourable setting for app-based consumption because digital access is already widespread. The Department of Statistics Malaysia (DOSM) reported that 98.3% of individuals used the Internet in 2025 and 99.6% used mobile phones.

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume X Issue IX September 2026

Internet use among those aged 20-24 also stood at 99.6%, placing the age group that overlaps closely with the university population among the country's most connected users (Department of Statistics Malaysia, 2026).

Figure 1 brings together several national indicators on digital access, higher education, and the platform economy to provide the wider context in which Malaysian university students use OFD services.

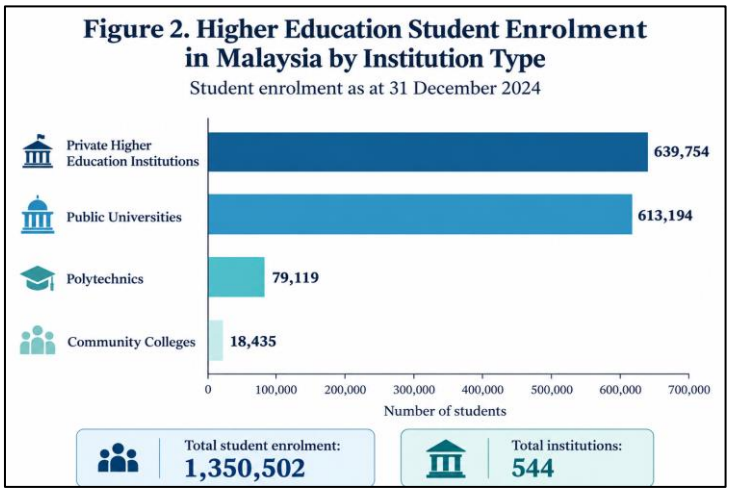


Source: Department of Statistics Malaysia (2026); Ministry of Higher Education Malaysia (2026); Google, Temasek & Bain (2024).

Figure 1. Digital and Higher Education Landscape in Malaysia

Malaysia's higher education sector also represents a sizeable consumer base. Ministry of Higher Education figures show that 1,350,502 students were enrolled in 544 higher education institutions as of 31 December 2024. Of this total, 613,194 were enrolled in public universities, 639,754 in private higher education institutions, 79,119 in polytechnics, and 18,435 in community colleges (Ministry of Higher Education Malaysia, 2026).

As shown in Figure 2, most enrolment is concentrated in public universities and private higher education institutions, which together account for the overwhelming majority of students in the national higher education system.



Source: Ministry of Higher Education Malaysia (2026).

Figure 2. Higher Education Student Enrolment in Malaysia by Institution Type

The expansion of digital food services has occurred alongside broader growth in Malaysia's platform economy. The e-Conomy SEA 2024 report placed the combined gross merchandise value of food delivery and transport at approximately US$4 billion in 2024, about 10% higher than in 2023. This value should not be interpreted as food-delivery revenue alone; rather, it provides an indication of the commercial scale of platform-mediated delivery and mobility services in Malaysia (Google, Temasek, & Bain & Company, 2024). University students are a useful population in which to examine OFD because their purchasing decisions are shaped by academic schedules, mobility, social activities, time pressure, and limited discretionary income. Related OFD studies likewise show that convenience, price value, food choice, service quality, and technology-related evaluations can shape adoption and continued use (Troise et al., 2021; Tandon et al., 2021; Shah et al., 2022; Teo et al., 2024). Delivery applications can reduce the effort required to obtain meals, but the convenience they offer does not necessarily translate into a satisfactory experience.

Evidence from Malaysian public universities confirms that OFD services are already familiar to many students. In a study of 290 students aged 19-29 from 20 public universities, Eu and Sameeha (2021) reported that Foodpanda was the most frequently used platform for 46.6% of respondents, followed by GrabFood at 41.7%. A total of 43.1% spent RM15-RM19 per transaction, inclusive of delivery fees. Usage was not uniform: 41.3% rarely ordered through OFD applications, whereas 40.3% used them one to three times a month.

These results point to two features of the student market. OFD services have a clear presence among university consumers, yet students vary substantially in how often they order and how much they spend. Such variation makes customer satisfaction an important issue. Although students may appreciate the convenience of OFD, their evaluations can be affected by late deliveries, delivery and service charges, inaccurate time estimates, application problems, or inconsistent service performance. Malaysian research has addressed many of these issues, although the studies differ in the variables and theoretical perspectives employed. The resulting evidence is spread across institutions and research models. The present review narrows that literature to three dimensions with direct relevance to student consumers: delivery time, price affordability, and usage behaviour.

Problem Statement

A growing Malaysian literature has examined OFD among university students, but the explanatory models used across studies are far from uniform. Azman et al. (2021) surveyed students from six Malaysian universities and assessed delivery service, time, security/privacy, and price. Each factor was significantly related to customer satisfaction, with delivery service showing the strongest association. Using a sample of 200 Universiti Putra Malaysia students, Mohd Rashid Lee and Abu Bakar (2023) found significant effects for perceived ease of use, perceived usefulness, social influence, and sales promotion, while trust was not significant. Their model explained 59.7% of the variance in customer satisfaction, with perceived usefulness as the most influential predictor. Humaidi et al. (2024) examined a broader sample of 402 university students. Time-saving orientation, price saving, security systems, information quality, and safety packaging were all significant, with the model explaining a substantial proportion of satisfaction variance (adjusted $R^2 = .689$). Among the variables tested, information quality recorded the largest standardised coefficient ($\beta = .268$).

The range of determinants has continued to expand in more recent work. Azlan et al. (2026), studying 120 university students in the Klang Valley, reported that delivery time and service quality were the strongest influences on OFD usage, while price, delivery-person attitude, and food condition showed weaker positive relationships. Azeman et al. (2026) reached a related conclusion from a sample of 386 UiTM Dungun students. Food quality, eco-friendly packaging, delivery services, and price were significantly associated with customer satisfaction, with price showing the strongest relationship, followed by food quality, delivery service, and eco-friendly packaging.

Taken together, these studies show that OFD satisfaction is shaped by a combination of service, technological, and economic considerations. Less developed is an integrated account of delivery time, price affordability, and student usage behaviour within a common expectation-confirmation perspective. The empirical basis for delivery time and price is comparatively well established. Usage behaviour is different: Malaysian studies describe how often students order and why they use OFD services, but relatively few test whether usage patterns themselves explain variation in customer satisfaction. This distinction is important for the present review. Rather

than treating all three proposed relationships as equally established, the analysis considers the strength of the available support and treats the link between student usage behaviour and satisfaction as an open empirical question. This pattern is consistent with broader reviews showing that OFD research is theoretically and methodologically fragmented, with recurring attention to service quality, value, technology acceptance, trust, satisfaction, and continuance behaviour (Shankar et al., 2022; Shroff et al., 2022; Shankar et al., 2024; Ramdhansya et al., 2025).

Research Novelty and Contribution

The paper offers four related contributions. First, it brings delivery time, price affordability, and student usage behaviour into a single framework centred on Malaysian university students, rather than considering them separately or embedding them within much broader collections of service attributes. Second, ECT provides a common theoretical basis for interpreting how students evaluate delivery performance, monetary cost, and prior service experience against what they expected before using an OFD service.

Third, the review assesses how well each proposed determinant is supported by the Malaysian literature. Direct evidence is comparatively strong for delivery time and price affordability, whereas student usage behaviour has received less direct testing as an antecedent of satisfaction. Fourth, this imbalance in the literature identifies a specific avenue for future research: whether frequency of use, reliance on OFD services, and habitual ordering shape satisfaction directly or alter the expectations against which subsequent experiences are judged. The contribution therefore lies not only in combining prior findings, but also in distinguishing relationships that are already well supported from one that remains empirically less developed.

Research Objectives

The review has three objectives: (1) to synthesise Malaysian findings on delivery time, price affordability, student usage behaviour, and customer satisfaction with OFD applications; (2) to interpret the relative strength of support for these determinants through ECT; and (3) to identify relationships that remain insufficiently examined among Malaysian university students.

Significance of the Study

The study has theoretical, methodological, and practical relevance. Theoretically, it organises dispersed Malaysian findings within an ECT-based explanation of satisfaction. Methodologically, it separates well-supported relationships from those for which direct evidence remains limited. Practically, it highlights delivery performance and affordability as issues that OFD providers may need to address when serving university students.

LITERATURE REVIEW & THEORETICAL FRAMEWORK

Theoretical Foundation

Expectation Confirmation Theory (ECT), originally developed by Oliver (1980), explains satisfaction through the comparison of pre-use expectations with perceived performance after consumption.

Before using a service, consumers form expectations about what the experience should provide. They subsequently compare those expectations with actual performance. Satisfaction is more likely when performance confirms or exceeds expectations, whereas performance below the expected level produces negative disconfirmation and can lead to dissatisfaction. Bhattacherjee (2001) adapted this logic to information systems continuance, showing that confirmation contributes to satisfaction and, in turn, to a user's intention to continue using a system. This logic applies to OFD services. Students may hold expectations about delivery speed, total order cost, application reliability, and the extent to which the service will make meal purchasing more convenient within their daily routines. Subsequent OFD studies have applied closely related continuance and expectation-confirmation logic, finding that confirmation, satisfaction, perceived usefulness, value, and task-technology fit can influence continued use (Zhao & Bacao, 2020; Bao & Zhu, 2022; Chanda et al., 2024; Kurniawan et al., 2024; Foroughi et al., 2024; Warisa & Mohd Suki, 2026).

In this review, ECT is used as an interpretive framework for existing Malaysian findings; it is not presented as evidence from a newly collected national dataset. Delivery time reflects whether expectations of punctuality and efficiency are met. Price affordability concerns the extent to which the final cost corresponds with what users consider reasonable value. Usage behaviour may also shape expectation formation because experienced users are likely to have clearer reference points for delivery times, fees, promotions, restaurant availability, and platform performance.

Evidence from Malaysian OFD Studies

Azman et al. (2021) surveyed students from six Malaysian universities and considered delivery service, time, security/privacy, and price. All four variables were significantly related to customer satisfaction, and delivery service produced the strongest relationship. Mohd Rashid Lee and Abu Bakar (2023) studied 200 Universiti Putra Malaysia students. Satisfaction was significantly associated with perceived ease of use, perceived usefulness, social influence, and sales promotion, whereas trust was not significant. The model explained 59.7% of satisfaction variance, with perceived usefulness contributing most strongly.

In a sample of 402 university students, Humaidi et al. (2024) found significant effects for time-saving orientation, price saving, security systems, information quality, and safety packaging. Their model achieved an adjusted R^2 of .689, and information quality had the largest standardised coefficient ($\beta = .268$). Azlan et al. (2026) examined 120 university students in the Klang Valley and found delivery time and service quality to be the strongest influences on OFD usage. Price, delivery-person attitude, and food condition were positively related to usage but were less prominent.

Azeman et al. (2026), using data from 386 UiTM Dungun students, reported significant relationships between satisfaction and food quality, eco-friendly packaging, delivery services, and price. Price showed the strongest association among the four factors.

Collectively, these studies indicate that satisfaction with OFD is not attributable to a single feature. Service performance, technological considerations, and economic value all appear in the Malaysian literature, although the three focal constructs of the present review have rarely been considered together within an expectation-confirmation framework. Support for delivery time and price is repeated across several student samples. By comparison, the literature contains considerable descriptive evidence on ordering frequency and motives for using OFD, but much less direct evidence that usage behaviour predicts satisfaction.

The Malaysian evidence is broader than the six student studies used as the core comparison in this review. Studies involving UUM students, Klang Valley consumers, UiTM students, and general Malaysian OFD users similarly report that delivery performance, e-service quality, perceived usefulness, price/value, information quality, and food or service quality contribute to satisfaction and related post-use outcomes (Chong et al., 2021; Tan & Wee, 2021; Suppiah et al., 2021; Koay et al., 2022; Mohamed Noor et al., 2024; Mat Hasan et al., 2025). Malaysian post-pandemic work also continues to identify service quality and price value as relevant to continued purchase and consumer attitudes (Teo et al., 2024; Tan et al., 2026).

International findings reinforce the multidimensional character of OFD satisfaction. Research has linked food quality, e-service quality, service fulfilment, reliability, assurance, system operation, delivery efficiency, and perceived value with satisfaction, loyalty, or reuse intentions (Suhartanto et al., 2019; Annaraud & Berezina, 2020; Cheng et al., 2021; Aman et al., 2022; Yoopetch et al., 2022; Su et al., 2022; Arli et al., 2024). Evidence derived from online reviews likewise shows that consumers evaluate OFD through multiple service-quality topics rather than a single attribute (Ma et al., 2024).

The usage literature is equally diverse. Early and subsequent studies have examined convenience, time-saving and price-saving orientation, ease of use, app quality, perceived value, promotions, household context, prior experience, and social influence as antecedents of adoption, satisfaction, reuse, or behavioural intention (Yeo et al., 2017; Wang et al., 2019; Cho et al., 2019; Ray et al., 2019; Alalwan, 2020; Troise et al., 2021; Tandon et al., 2021; Shah et al., 2022; Bao & Zhu, 2022; Wen et al., 2022). This wider evidence supports treating student usage

behaviour as theoretically meaningful while avoiding the stronger claim that frequency of use has already been established as a direct determinant of satisfaction.

Recent work also demonstrates that OFD evaluation extends beyond immediate satisfaction. Studies have modelled trust, loyalty, repurchase, continuance intention, recommendation, perceived fairness, and the social conditions surrounding platform delivery (Prasetyo et al., 2021; Belanche et al., 2021; Dogra et al., 2023; Foroughi et al., 2024; Grashuis, 2025). Service-quality measurement itself has evolved through OFD-specific scales and formative indices, further indicating that customer evaluations arise from several operational and digital touchpoints (Chan & Gao, 2021; Cheng et al., 2021).

For review purposes, these broader studies are used as contextual and comparative evidence rather than as substitutes for the Malaysian student studies at the centre of the synthesis. This distinction is important because systematic and meta-analytic reviews have documented substantial variation in OFD theories, constructs, contexts, and analytical approaches, which can produce different effect patterns across studies (Shankar et al., 2022; Shroff et al., 2022; Shankar et al., 2024; Ramdhansya et al., 2025).

Research Gap

The research gap is therefore not the absence of Malaysian work on OFD, but the uneven development of evidence across the proposed determinants. Delivery time and price affordability have been tested directly in relation to satisfaction or closely related outcomes, whereas the effect of student usage behaviour on satisfaction remains less certain. This gap warrants direct empirical attention. Future Malaysian studies could examine whether frequent and occasional users evaluate the same delivery and pricing experiences differently, and whether repeated use changes the expectations against which service performance is assessed. Such work would clarify whether usage behaviour functions as a direct predictor, an antecedent of expectations, or a moderating influence within the ECT process.

RESEARCH METHODOLOGY

A structured narrative review supported by secondary-data synthesis was adopted for this study. This approach reflects the nature of the available evidence. The article does not draw on a newly collected, nationally representative respondent dataset and is therefore not presented as a national primary survey. Two categories of secondary material were used. Official Malaysian statistics supplied the national context for digital connectivity and higher education, principally through publications of the Department of Statistics Malaysia and the Ministry of Higher Education.

The second category comprised published empirical studies of OFD usage and satisfaction, with Malaysian university-student studies forming the core evidence and Malaysian/general international OFD studies providing contextual comparison. Studies were prioritised when the sample, explanatory variables, and findings relevant to delivery performance, pricing, usage, service quality, value, continuance, or customer satisfaction could be identified clearly. A formal meta-analysis was not appropriate because the reviewed studies differed in their constructs, theoretical models, sampling procedures, institutional settings, and statistical techniques. The findings were therefore compared and synthesised thematically rather than converted into a pooled effect estimate. The broader comparative literature was used to assess whether patterns observed in Malaysian student samples were consistent with, or different from, findings reported in other OFD contexts (Shankar et al., 2022; Shroff et al., 2022; Ramdhansya et al., 2025).

Table 1: Core Malaysian Student Studies Used for Focused Synthesis

Study	Sample/context	Main evidence relevant to this review
Eu & Sameeha (2021)	290 students, 20 Malaysian public universities	Foodpanda 46.6%; GrabFood 41.7%; 43.1% spent RM15-RM19 per order; substantial variation in usage frequency.

Azman et al. (2021)	Students from six Malaysian universities	Delivery service, time, security/privacy, and price are significantly related to satisfaction.
Mohd Rashid Lee & Abu Bakar (2023)	200 UPM students	Model explained 59.7% of satisfaction variance; perceived usefulness was the dominant factor.
Humaidi et al. (2024)	402 university students	Five determinants were significant; adjusted R^2 = .689; information quality was the strongest.
Azlan et al. (2026)	120 Klang Valley university students	Delivery time and service quality are the strongest determinants of OFD usage.
Azeman et al. (2026)	386 UiTM Dungun students	All four factors significantly related to satisfaction; price strongest.

The selected studies show both convergence and variation. Service quality and perceived value recur as important themes, but the specific predictors and outcome measures differ across samples and research designs.

DATA ANALYSIS AND FINDINGS

Delivery Time

Across the reviewed studies, delivery time emerges as a consistently important aspect of the OFD experience. Its relevance is especially apparent for university students, whose meals are often ordered around lectures, examinations, laboratory sessions, assignment work, and study breaks. A late order may therefore disrupt an academic schedule as well as extend the waiting period for food. Azman et al. (2021) reported a significant relationship between time and satisfaction among students from six Malaysian universities. Their results suggest that meeting time-related service expectations forms part of how students evaluate an OFD experience.

A similar emphasis on timeliness appears in the study by Azlan et al. (2026). Among 120 university students in the Klang Valley, delivery time and service quality were the strongest influences on OFD usage. Although the outcome in that study was usage rather than satisfaction, the result still indicates that punctuality is highly salient to student consumers. ECT offers a plausible explanation for this pattern. An estimated delivery time creates a clear pre-service expectation. Arrival within the stated period confirms that expectation; substantial delay creates negative disconfirmation and can lower the subsequent evaluation of the service. Comparable research outside the focal student samples also identifies delivery efficiency, fulfilment, reliability, and delivery-service quality as relevant elements of satisfaction or post-use behaviour (Annaraud & Berezina, 2020; Cheng et al., 2021; Yoopetch et al., 2022; Su et al., 2022; Arli et al., 2024).

Finding 1: Malaysian studies provide strong support for delivery time as an important component of the student OFD experience and a relevant determinant of satisfaction.

Price Affordability

Price affordability is also supported consistently in the reviewed literature. For students with limited discretionary income, affordability extends beyond the listed food price. Delivery charges, platform fees, minimum-order requirements, discounts, vouchers, and the final amount paid may all influence whether an order is regarded as good value. The multi-university findings of Eu and Sameeha (2021) illustrate the scale of student spending: 43.1% of respondents from 20 Malaysian public universities reported spending RM15-RM19 per OFD transaction, inclusive of delivery charges. Price was significantly related to customer satisfaction in the six-university study conducted by Azman et al. (2021).

Humaidi et al. (2024) likewise found price saving to be a significant contributor to satisfaction among university students. More recent evidence gives price even greater prominence. In the study of 386 UiTM Dungun students by Azeman et al. (2026), price had the strongest relationship with customer satisfaction among the four factors

examined, ahead of food quality, delivery services, and eco-friendly packaging. This pattern is consistent with ECT. Students may begin an order with an expectation of an acceptable total cost. When delivery charges or additional platform fees push the final payment beyond that reference point, the perceived value of the transaction may decline. The salience of monetary value is also evident in wider OFD research, where price value, price-saving orientation, perceived value, and price fairness have been associated with satisfaction, purchase intention, or continued use (Alalwan, 2020; Prasetyo et al., 2021; Tandon et al., 2021; Kurniawan et al., 2024; Teo et al., 2024; Grashuis, 2025).

Finding 2: The Malaysian literature consistently links price affordability with OFD satisfaction, suggesting that cost considerations are particularly important in a student market that is likely to be price sensitive.

Student Usage Behaviour

The evidence for student usage behaviour is less conclusive and should be interpreted with greater caution. Eu and Sameeha (2021) found substantial variation in ordering frequency across 20 Malaysian public universities. About 41.3% of respondents rarely used OFD applications, whereas 40.3% ordered one to three times per month. The student market therefore cannot be assumed to consist of uniformly frequent OFD users. Prior usage may nevertheless influence how satisfaction is formed. Frequent users are likely to have clearer benchmarks for normal delivery times, service fees, promotional cycles, restaurant availability, and application performance. Students who order only occasionally may judge the same service encounter against a different set of reference points.

From an ECT perspective, this possibility is important because expectations are partly informed by previous experience. The difficulty is that Malaysian studies have not consistently modelled frequency of use, dependence on OFD services, or habitual ordering as direct predictors of customer satisfaction. The available literature therefore supports a cautious conclusion: student usage patterns clearly vary, and there are theoretical reasons to expect such variation to matter, but a direct effect of usage behaviour on satisfaction has yet to be established convincingly in the Malaysian higher education setting. Research on reuse and continuance supports the broader proposition that prior experience, confirmation, satisfaction, habit, perceived usefulness, and value are intertwined in post-adoption behaviour, although these constructs are not equivalent to usage frequency itself (Wang et al., 2019; Zhao & Bacao, 2020; Bao & Zhu, 2022; Foroughi et al., 2024; Warisa & Mohd Suki, 2026).

Finding 3: Usage behaviour is relevant to the formation of expectations, but its direct association with satisfaction is supported less clearly than the relationships involving delivery time and price affordability.

Customer Satisfaction as a Multidimensional Construct

The reviewed evidence also indicates that the three focal dimensions cannot, on their own, account for the full range of factors that shape customer satisfaction. Humaidi et al. (2024) reported that time-saving orientation, price saving, security systems, information quality, and safety packaging jointly explained 68.9% of the variance in satisfaction. Information quality had the largest standardised coefficient in their model. At Universiti Putra Malaysia, Mohd Rashid Lee and Abu Bakar (2023) found significant effects for perceived ease of use, perceived usefulness, social influence, and sales promotion. Their model accounted for 59.7% of the variance in customer satisfaction.

These results reinforce the multidimensional character of OFD satisfaction. Delivery time and price matter, but users may also respond to application usability, information quality, service quality, promotional benefits, security, food quality, and perceived usefulness. Accordingly, the proposed three-variable framework is best understood as a deliberately focused model of selected determinants rather than an exhaustive account of OFD customer satisfaction. This interpretation is consistent with OFD-specific service-quality and review-based studies that identify multiple technical, functional, informational, food-quality, and value dimensions in customer evaluation (Suhartanto et al., 2019; Chan & Gao, 2021; Cheng et al., 2021; Koay et al., 2022; Ma et al., 2024; Arli et al., 2024).

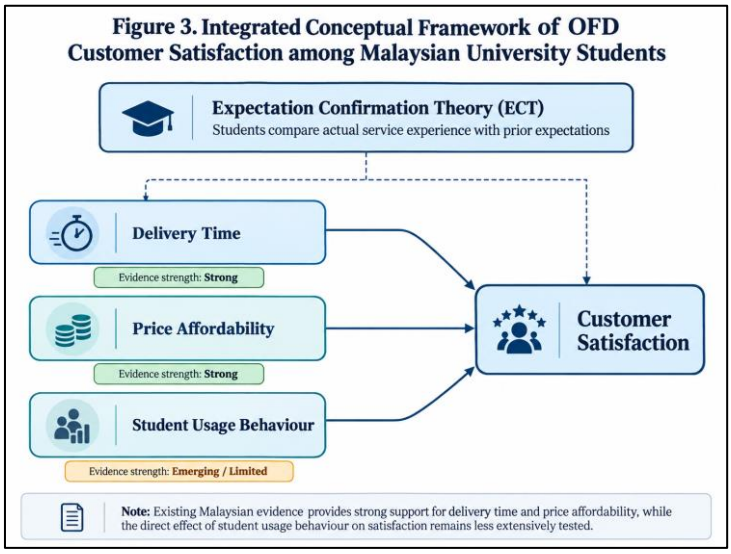
DISCUSSION AND MULTI-DIMENSIONAL ANALYSIS

Evidence Strength across the Three Determinants

The synthesis points to an uneven distribution of empirical support across the three determinants. Delivery time and price affordability have been supported repeatedly in Malaysian university samples. Student usage behaviour has a credible conceptual link to expectation formation, but direct tests of its relationship with satisfaction remain limited. Recognising this difference is important because it separates relatively mature findings from an area in which further empirical work is still required. Such unevenness is consistent with meta-analytic evidence showing that OFD relationships vary with theoretical framing, context, and method (Shankar et al., 2024).

Integrated ECT Framework

The accumulated findings support retention of a focused framework in which delivery time, price affordability, and student usage behaviour are considered in relation to customer satisfaction, while the strength of support for each pathway is treated separately.



Source: Developed by the authors based on Oliver (1980), Bhattacherjee (2001), and Malaysian empirical studies reviewed in this paper.

Figure 3. Integrated Conceptual Framework of OFD Customer Satisfaction among Malaysian University Students

Figure 3 reflects this difference in evidential strength. Delivery time and price affordability are supported by comparatively direct Malaysian findings, whereas student usage behaviour rests more heavily on descriptive evidence and theoretical reasoning. The latter relationship should therefore be regarded as a proposition requiring stronger empirical confirmation rather than as an established effect.

Practical and Theoretical Implications

The findings have implications for both OFD practice and subsequent research. Delivery reliability remains an obvious operational priority. Because students often organise meals around fixed academic commitments, accurate time estimates, effective rider allocation, and shorter or more predictable waiting periods are likely to influence how the service is evaluated. Pricing requires similar attention. Evidence of modest student transaction values, together with recent findings that place price among the strongest correlates of satisfaction, suggests that delivery fees, service charges, vouchers, student promotions, and transparent final pricing can materially affect perceived value. Differences in usage patterns may also have practical implications. Frequent users may respond more strongly to subscriptions, loyalty programmes, personalised offers, or delivery incentives than students who order only occasionally. For researchers, the next step is to test usage behaviour more directly. Studies

could examine whether frequency, dependence, or habitual ordering affects satisfaction in its own right or changes the expectations through which delivery and price are evaluated.

Limitations

Several limitations should be considered when interpreting this review. Most importantly, the analysis is based on secondary evidence rather than a newly collected nationally representative dataset. The reviewed studies differ in sample composition, institution, constructs, and statistical procedure. They also do not all examine the same outcome: some focus directly on satisfaction, whereas others analyse OFD usage or behavioural intention. The findings should therefore not be interpreted as statistically representative of every Malaysian university student. National higher education statistics establish the size of the student population, but they do not reveal what proportion of those students currently use OFD applications.

The market figure of approximately US$4 billion requires similar care. It refers to the combined food delivery and transport sector and should not be reported as revenue generated by food delivery alone. These limitations define the boundaries of the synthesis and are important when drawing conclusions from the available Malaysian evidence.

CONCLUSION

Malaysia offers a relevant setting for the study of OFD among university students because a large higher education population operates within an environment of near-universal digital access. More than 1.35 million students were enrolled in higher education as of December 2024, and Internet use among those aged 20-24 reached 99.6% in 2025. Within this setting, the reviewed studies portray customer satisfaction as a multidimensional judgement rather than the consequence of any single service feature. Even so, two relationships appear with notable consistency. Delivery time is one of them. Across Malaysian studies, timeliness and delivery-related performance repeatedly appear as meaningful elements of the student OFD experience and are associated with satisfaction or usage.

Price affordability is the second. Students are sensitive to the overall cost of an order, and recent Malaysian evidence places price among the strongest factors associated with customer satisfaction. Student usage behaviour is less settled. The literature documents clear differences in ordering frequency and reliance on OFD applications, yet relatively little work has tested whether these patterns directly explain satisfaction. ECT provides a useful way to interpret this contrast because satisfaction depends on how actual service performance and cost compare with expectations, while those expectations may themselves be shaped by previous usage experience.

On balance, delivery time and price affordability can be regarded as comparatively well-supported determinants in the Malaysian student context. Usage behaviour remains a plausible but less established component of the framework and should receive more direct empirical attention. The main contribution of the review lies in integrating these three determinants within a single ECT-informed framework while making their different levels of empirical support explicit. By identifying student usage behaviour as the least directly tested component, the review defines a more precise agenda for future multi-institutional research in Malaysia rather than treating all proposed relationships as equally established.

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