QR CODE MENU DESIGN AND CUSTOMER SATISFACTION IN MALAYSIAN CASUAL DINING RESTAURANTS

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(Received 08th September 2026; revised 28th October 2026; accepted 02nd November 2026)

Abstract. QR code menus are now standard in Malaysian casual dining, yet little is known about which mobile interface features are associated with diner satisfaction. Drawing on the Technology Acceptance Model and Menu Engineering principles, this study examines whether digital presentation, strategic item placement and visual digital prompts predict customer satisfaction in independent casual dining restaurants. A cross-sectional online survey was administered to casual dining patrons in Penang, recruited by purposive screening followed by snowball referral and required to have used a QR code menu within the preceding six months; 248 usable responses were retained. Constructs were measured on six-point Likert scales (α = .843 to .867) and analysed by multiple linear regression. The three predictors jointly explained 85.0% of the variance in customer satisfaction, R^2 = .850, adjusted R^2 = .849, $F(3, 244) = 462.428$, $p < .001$, and each was a significant positive predictor: visual digital prompts, β = .474; strategic item placement, β = .310; digital presentation, β = .178. However, the attributes proved not to be empirically separable: no construct met the Fornell-Larcker criterion, the collinearity condition index reached 37.144, and 92.5% of explained variance was shared rather than unique. Relative weights analysis accordingly returned near-equal contributions of 31.5%, 32.5% and 35.9%. The substantive finding is that QR menu interface design considered as a whole is strongly associated with customer satisfaction, while the ordering of the standardised coefficients should not be read as a hierarchy of design criteria.

Keywords: *QR code menu, digital presentation, strategic item placement, visual digital prompts, customer satisfaction, casual dining restaurant*

Introduction

The food and beverage (F&B) services sector is a substantial component of the Malaysian economy in its own right. The Economic Census 2023 recorded 136,453 F&B establishments generating RM99.0 billion in gross output, RM43.8 billion in value added and employment for 1,079,843 persons (Department of Statistics Malaysia, 2024). Numerically the sector is dominated by small and medium enterprises rather than the chains most visible to consumers (Mohd Yusoff, 2019), and alongside the government's digital economy agenda, QR code menus now operate together with cashless payments within the ordering flow (Bank Negara Malaysia, 2024). The shift occurred almost overnight. When the Movement Control Order (MCO) was implemented in March 2020, casual dining restaurants that had relied on printed menus were required to adopt QR code menus to meet contactless protocols (Rashid et al., 2022). What began as an emergency measure has become durable, sustained by convenience and the digital readiness of urban consumers (Ghazali et al., 2025). Prior work suggests menu presentation and item placement are influential determinants of satisfaction with menus generally (Baiomy et al., 2019), while poor design raises cognitive load and turns a scan into a burden (Yim and Yoo, 2020).

Three gaps follow. First, Malaysian evidence largely treats the QR menu as a single undifferentiated technology and asks whether diners accept it, rather than which design attributes account for variation in satisfaction (Ghazali et al., 2025; Shahril et al., 2024). Second, the menu engineering tradition that does address design attributes was formulated for printed menus and has not been systematically re-examined on the constrained viewport of a smartphone (Kimes, 2021; Kasavana and Smith, 1982). Third, much available work concerns chain operators with bespoke applications, leaving independent SMEs largely unexamined although they rely on generic third-party generators and can least absorb the cost of a poor interface (Oktavia et al., 2023). This study addresses these gaps by modelling three actionable interface attributes as simultaneous predictors of customer satisfaction among patrons of independent casual dining restaurants in Penang. Casual dining is an informative setting because the segment is defined partly by full table service, so an interface that removes staff contact operates against one of its defining characteristics. Three research questions follow: RQ1, does digital presentation influence customer satisfaction? RQ2, does strategic item placement influence customer satisfaction? RQ3, do visual digital prompts influence customer satisfaction?

Theoretically, the study tests whether menu engineering principles formulated for print retain explanatory value on a smartphone interface. Practically, it offers operators who configure rather than commission their menu software an evidence-based basis for selecting among template options. Socially, clearer digital menus lower the barrier for diners who find mobile interfaces difficult, including older and less digitally confident consumers, for whom a poorly designed QR menu can function as exclusion from ordinary hospitality rather than convenience.

Literature review

Casual dining and the QR code menu

Casual dining restaurants occupy a middle ground between fast food and fine dining, combining convenience with full table service at affordable prices (Bakar and Phebe, 2025; Sangaran and Selvanayagam, 2021). Service quality is the principal determinant of loyalty: satisfaction arises when the service system, digital or physical, meets or exceeds expectations (Bitner, 1992; Parasuraman et al., 1988), and a poorly organised platform undermines that perception through mental strain and technological friction (Yim and Yoo, 2020). A distinction matters here between chains, which commission bespoke applications, and independent SMEs, which rely on basic third-party QR generators with less refined layouts (Mohd Yusoff, 2019). Design optimisation is correspondingly more consequential for the latter, and this study focuses on them. Introduced as a temporary contactless measure during the pandemic, QR menus have become a durable fixture (Rashid et al., 2022). Unlike printed menus, which can be updated only when reprinted, the digital interface functions as a live channel allowing operators to adjust prices and availability as demand shifts (Kimes, 2021), while reducing printing costs and order-taking errors. The evidence is nonetheless more equivocal than adoption rates suggest. Yim and Yoo (2020) compared tablet-based digital menus with printed menus and found that although the digital format generated greater enjoyment and larger, faster orders, it was preferable to print only for less-familiar dishes; where diners already knew the items the advantage disappeared. More directly, Urumutta Hewage et al. (2024) found across two studies that QR code menus

diminished customer loyalty relative to traditional menus, an effect driven by perceived inconvenience and strongest among diners who value personal interaction with staff. Because casual dining is defined partly by full table service, this bears closely on the present setting: the interface that streamlines ordering may erode the interpersonal element distinguishing the segment. The digital format alone therefore does not guarantee a superior experience, which is why the design attributes of the interface, rather than the presence of a QR menu as such, forms the object of this study.

Design attributes and hypotheses

Digital presentation refers to the visual layout, structure, categorisation and scrolling behaviour determining how menu data appears on screen (Oktavia et al., 2023). A printed menu allows customers to view categories, dishes and prices at a glance, whereas a mobile browser confines the same information to a small screen interpreted through scrolling (Kimes, 2021). Clean layout, clear category navigation and smooth scrolling remove technical barriers between a diner and an order (Shahril et al., 2024), corresponding in TAM terms to perceived ease of use, the degree to which a user believes using a system will be free of effort (Davis, 1989). Where an interface is cluttered, information overload raises cognitive load and the scan becomes a chore (Yim and Yoo, 2020).

H1: Digital presentation positively influences customer satisfaction in independent casual dining restaurants.

Strategic item placement refers to the deliberate positioning, sequencing and highlighting of options (Kimes, 2021), drawing on menu engineering principles holding that spatial layout influences attention and selection (Baiomy et al., 2019; Kasavana and Smith, 1982). On a smartphone the viewport displays only a fraction of the menu at any moment, so sequence, grouping and highlighting perform the work that spatial layout performs on a printed page. Logical grouping with cues such as bestseller badges narrows the effective choice set and reduces the effort of deciding, mitigating the choice paralysis a long undifferentiated list produces (Brewer and Sebby, 2021).

H2: Strategic item placement positively influences customer satisfaction in independent casual dining restaurants.

Visual digital prompts are the sensory stimuli embedded in the interface that substitute for interaction with service staff (Brewer and Sebby, 2021). In full-service casual dining a server describes dishes, answers questions and recommends pairings; a QR menu must carry those functions through visual and textual cues. Photography matters particularly because diners cannot see or smell food being prepared: an appealing image evokes a mental representation of eating the dish, creating sensory anticipation that stimulates purchase intention (Chen et al., 2020). Automated prompts translate verbal suggestive selling into software, offering options within the ordering flow rather than requiring navigation back through category tabs (Kimes, 2021).

H3: Visual digital prompts positively influence customer satisfaction in independent casual dining restaurants.

The study combines TAM (Davis, 1989) with menu engineering principles (Kasavana and Smith, 1982), allowing the three attributes to be treated simultaneously as menu engineering decisions and as candidate determinants of ease of use. Figure 1 presents the framework: the three attributes are modelled as independent variables predicting customer satisfaction, with H1, H2 and H3 corresponding to the three paths shown.

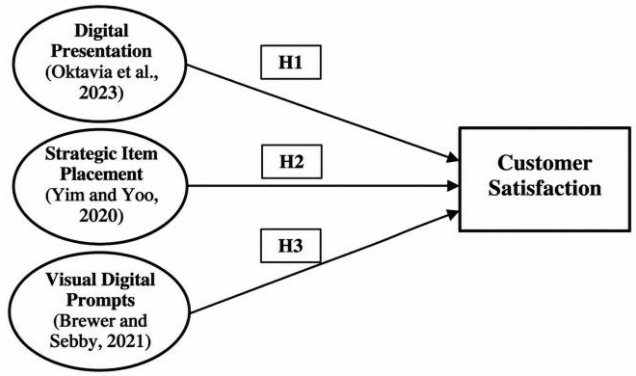


Figure 1. *Conceptual framework*
Source: Davis (1989); Kasavana and Smith (1982).

Materials and Methods

A quantitative cross-sectional survey design was adopted to establish the relative predictive contribution of three design attributes at a single point in time. The research was conducted in Penang, one of Malaysia's principal culinary destinations, with a dense concentration of independent F&B operators that adopted digital ordering rapidly after the pandemic and a combined resident and visitor population giving varied exposure to QR ordering. The target population comprised diners who had used a QR code menu at independent casual dining restaurants in Penang. Because no register of such diners exists, neither a sampling frame nor probability selection was feasible, nor was a two-stage non-probability strategy used: respondents were first screened purposively against the eligibility criteria, and those qualifying were invited to forward the survey link to others in their networks, giving a snowball element to recruitment. Minimum sample size was determined using G*Power 3.1.9.7 (Faul et al., 2009): for a linear multiple regression with three predictors, $\alpha = .05$, power = .95 and a medium effect size of $f^2 = 0.15$, the analysis returned a minimum of 119 respondents. Of 250 responses obtained, two were removed during screening for straight-lining, leaving 248 usable cases, which satisfies the recommendation of 15 to 20 observations per predictor (Hair et al., 2010).

The questionnaire comprised a profile section and 20 items, five per construct, adapted from validated instruments: digital presentation (Bakar and Phebe, 2025; Shahril et al., 2024), strategic item placement (Bakar and Phebe, 2025; Yim and Yoo, 2020), visual digital prompts (Bakar and Phebe, 2025; Brewer and Sebby, 2021) and customer satisfaction (Bakar and Phebe, 2025; Oktavia et al., 2023). Items were measured on a six-point Likert scale from 1 (strongly disagree) to 6 (strongly agree), the neutral midpoint removed to require a direction of opinion. A pilot test with 30 respondents from the target population confirmed comprehension prior to distribution;

pilot responses were excluded from the main analysis. *Table 1* reports the items and their statistics.

Table 1. *Measurement items, item statistics and item-total correlations (N = 248).*

Item	M	SD	ITC	α if del.	Item	M	SD	ITC
DP1	4.77	1.199	.737	.786	VDP1	4.63	1.170	.688
DP2	4.85	1.025	.517	.844	VDP2	4.91	1.012	.636
DP3	4.85	1.118	.673	.805	VDP3	4.91	1.074	.613
DP4	4.84	.996	.652	.812	VDP4	4.92	1.005	.686
DP5	4.77	1.127	.674	.805	VDP5	4.96	1.033	.687
SIP1	4.73	1.147	.767	.818	CS1	4.78	1.142	.706
SIP2	4.83	1.061	.622	.855	CS2	4.92	1.000	.670
SIP3	4.83	1.182	.656	.848	CS3	4.93	1.141	.692
SIP4	4.83	1.141	.727	.829	CS4	4.91	1.039	.674
SIP5	4.97	1.006	.680	.842	CS5	4.90	1.066	.695

Note: N = 248. ITC = corrected item-total correlation; α if del. = Cronbach's alpha if item deleted. DP = digital presentation; SIP = strategic item placement; VDP = visual digital prompts; CS = customer satisfaction. All items measured on a six-point Likert scale; full item wording is available from the corresponding author.

Data were collected through a self-administered questionnaire hosted on Google Forms and distributed via WhatsApp, Instagram and Telegram. Two screening questions required respondents to confirm they were aged 18 or above and had used a QR code menu at a casual dining restaurants in Penang within the previous six months; those answering no were routed to the end of the form. Current residency was recorded as a profile variable rather than a screening criterion, and both residents and visitors were retained. An informed consent statement preceded the items, advising that participation was voluntary and data would be used solely for academic purposes. The instrument was anonymous, collecting no identifying information, and responses were stored in a password-protected drive accessible only to the research team. Data were analysed in IBM SPSS Statistics 32. Internal consistency was assessed using Cronbach's alpha (Cronbach, 1951) with .70 as the minimum threshold (Hair et al., 2010), and discriminant validity against the Fornell-Larcker criterion (Fornell and Larcker, 1981). Common method bias was examined using a full collinearity assessment (Kock, 2015). Multiple linear regression tested H1 to H3, and because the predictors were expected to correlate, relative weights analysis was computed to partition explained variance independently of the instability collinearity introduces into standardised coefficients (Johnson and LeBreton, 2004). Data were screened against the assumptions of multivariate analysis throughout (Pallant, 2020; Hair et al., 2010).

Results and Discussion

Table 2 presents the respondent profile. Women accounted for 68.5% (n = 170) and men 31.5% (n = 78); all respondents were aged 18 or above and all had used a QR code menu within the preceding six months, confirming that screening operated as intended. Visitors made up 57.3% (n = 142) and residents 42.7% (n = 106), and 54.0% used digital menus weekly, indicating evaluation from a basis of regular experience. Internal consistency was acceptable for all four constructs, with alpha between .843 and .867 (*Table 1* and *Table 3*) and all corrected item-total correlations above .50. Notably the lowest-scoring item in the instrument was VDP1, on food images increasing appetite (M = 4.63), while items concerning confidence in the order scored higher. Discriminant validity is reported in full because it qualifies the regression that follows. Average

variance extracted was estimated from the mean inter-item correlation of each scale, equivalent to the mean squared standardised loading under tau-equivalence. The square root of AVE ranged from .719 to .752 while inter-construct correlations ranged from .850 to .902, so no construct satisfies the Fornell-Larcker criterion, and the shortfall is substantial rather than marginal. All four constructs were also negatively skewed, between −1.111 and −1.226, within the ±2 range treated as acceptable for large samples (Hair et al., 2010) but indicating a ceiling effect that limits variance among dissatisfied diners.

***Table 2**. Respondent profile (N = 248).*

Category	Frequency	Percentage
Gender		
Male	78	31.5
Female	170	68.5
Age		
18 and above	248	100.0
QR use		
Within last 6 months	248	100.0
Residency		
Penang resident	106	42.7
Visitor / tourist	142	57.3
Frequent		
Daily	20	8.1
Weekly	134	54.0
Monthly	94	37.9

***Table 3**. Descriptive statistics, reliability, discriminant validity and correlations.*

Construct	α	M	SD	Skew	Kurt	√AVE	1	2	3	4
Customer Satisfaction	.865	4.8871	.87029	−1.226	.770	.751	-			
Digital Presentation	.843	4.8185	.85904	−1.111	.361	.719	.874	-		
Strategic Item Placement	.867	4.8379	.89570	−1.151	.504	.752	.867	.865	-	
Visual Digital Prompts	.850	4.8653	.83860	−1.149	.407	.731	.898	.902	.850	-

Note: All correlations significant at p < .001 (2-tailed), N = 248. √AVE estimated from mean inter-item correlation under tau-equivalence; no construct exceeds its correlations with other constructs, so the Fornell-Larcker criterion is not met.

Common method bias was assessed using a full collinearity approach (Kock, 2015), in which each variable is regressed on all others including the dependent variable; values at or below 3.3 indicate a model free of such bias. All four variables exceeded the threshold substantially, at 6.813 for digital presentation, 5.072 for strategic item placement, 7.473 for visual digital prompts and 6.669 for customer satisfaction, so common method bias cannot be ruled out. This approach was adopted in place of Harman's single-factor test, which is widely regarded as insensitive and against sole reliance upon which Podsakoff et al. (2003) themselves caution. Assumption testing showed residuals falling close to the diagonal on the normal P-P plot with mild departure consistent with the negative skew, and a residual scatterplot with no funnel or curvature. Standardised residuals ranged from −3.564 to 3.037 (four cases exceeding ±3) and Cook's distance reached .184, so no case exerted undue influence. Multicollinearity diagnostics do not agree with one another: tolerance falls below .20 for two of three predictors and VIF lies between the 5.0 and 10.0 thresholds, but the collinearity diagnostics are decisive, with a fourth dimension condition index of 37.144, above the threshold of 30, on which digital presentation and visual digital prompts load at .86 and .76 respectively. On the criteria of Hair et al. (2010) this confirms a substantive rather than borderline problem. The Durbin-Watson statistic was not requested in the original analysis; the assumption it tests concerns serial correlation between successive observations and is principally relevant to ordered data, whereas

these responses are anonymous, cross-sectional and unordered, with no repeated measurement.

The regression model was significant, $F(3, 244) = 462.428$, $p < .001$, with $R = .922$, $R^2 = .850$ and adjusted $R^2 = .849$ (SE = .33865). All three predictors were positive and significant, supporting H1, H2 and H3 (*Table 4*). Read in isolation the coefficients suggest a clear ordering of importance, but the decomposition of variance shows why that reading would mislead. The squared part correlations show that only 0.5%, 2.2% and 3.8% of variance is unique to each predictor, totalling 6.4% of the 85.0% explained; the remaining 92.5% of the model's explanatory power is shared. Relative weights analysis, which redistributes that shared variance, returns near-equal contributions of 31.5%, 32.5% and 35.9%: a spread of roughly 1.1 to 1, against the factor of 2.7 separating the standardised coefficients.

***Table 4**. Multiple regression, variance decomposition and relative weights.*

Pre	B	SE	β	t	p	95% CI	Tol.	VIF	Pr	Uni	RW %	H
Con	.166	.129	-	1.291	.198	[−.087, .420]	-	-	-	-	-	-
DP	.180	.064	.178	2.798	.006	[.053, .307]	.151	6.607	.069	0.5%	31.5	H1 ✓
SIP	.301	.051	.310	5.944	<.001	[.201, .401]	.226	4.429	.147	2.2%	32.5	H2 ✓
VDP	.492	.063	.474	7.825	<.001	[.368, .616]	.167	5.998	.194	3.8%	35.9	H3 ✓

Note: Pre=Predictor; Con=Constant; DP=Digital Presentation; SIP=Strategic Item Placement; VDP=Visual Digital Prompts; Pr=Part r; Uni=Unique; Dependent variable=customer satisfaction; Unique=squared part correlation; RW %=relative weight as a percentage of R^2; H=hypothesis outcome. Relative weights sum to .8501, equal to R^2 within rounding; N=248.

All three hypotheses were supported. Digital presentation was associated with satisfaction ($\beta = .178$, $p = .006$), consistent with Shahril et al. (2024) on the importance of a clean ordering process to Malaysian diners; the effect was the smallest of the three, which may indicate that basic presentation functions as a threshold condition noticed more in its absence than its presence, though the present design cannot distinguish that reading from the simpler one that presentation matters less. Strategic item placement was the second strongest ($\beta = .310$, $p < .001$), consistent with the menu engineering premise that position shapes attention and selection (Baiomy et al., 2019; Kasavana and Smith, 1982) and extending it to a context where the constraint is temporal as much as spatial: on a smartphone the diner encounters items in a sequence rather than a field. Visual digital prompts recorded the largest coefficient ($\beta = .474$, $p < .001$), which is consistent with the finding of Urumutta Hewage et al. (2024) that QR menus reduce loyalty specifically among diners valuing staff contact, where the interface supplies some of what the server would have supplied, the loss may be attenuated.

Mechanisms: An interpretation through ease of use and usefulness

TAM distinguishes perceived ease of use from perceived usefulness, the degree to which a user believes a system will improve their performance of a task (Davis, 1989). Neither was measured here, so what follows is an interpretation of the observed pattern rather than a tested account of mechanism, set out because it generates propositions subsequent research can examine directly. The three attributes appear to bear on these determinants unevenly. Digital presentation acts most directly on ease of use: layout, navigation and scroll behaviour govern the effort of operating the interface but do not change what a diner learns about the food. Strategic item placement operates on both, shortening the path to a decision while also altering which options are seriously

considered a question of how useful the interface is for choosing well. Visual digital prompts differ in kind: photography, descriptive text and pairing suggestions do not make the interface easier to operate, if anything they add content to process, but reduce uncertainty about what a dish is and what it will be like, which bears on usefulness. The item-level results are suggestive here, since the lowest-scoring item in the instrument proposed that images increase appetite while items on confidence in the order scored higher: if diners value these cues chiefly for reassurance rather than appetite stimulation, the informational reading fits better.

This offers an explanation for the modest advantage of visual digital prompts, which should not be overstated. Davis (1989) reported usefulness to be the stronger of the two determinants of system use; if visual prompts act principally through usefulness while presentation acts through ease of use, a modest advantage to the former is what the model predicts, and relative weights of 35.9% against 31.5% are consistent with an advantage of exactly that scale rather than the pronounced hierarchy the coefficients appear to describe. Two prior findings support the reading. Yim and Yoo (2020) found digital menus superior only for less-familiar dishes, a result about information rather than effort. Urumutta Hewage et al. (2024) located the loyalty loss in the disappearance of an informational and interpersonal exchange rather than in any increase in difficulty. Both are consistent with visual and textual cues performing work that layout cannot. The interpretation warrants caution proportionate to its basis. Neither TAM determinant was measured, no mediation was tested, and the three attributes proved not to be empirically separable. The results are consistent with a TAM-based account without verifying one: it cannot be concluded that the attributes influenced satisfaction by way of either determinant, only that they covary in the predicted direction. What the study establishes is that interface design covaries strongly with customer satisfaction; why it does so awaits research measuring the intervening constructs directly and specifying them as mediators.

Limitations and future research

The most consequential limitation is that the three attributes are not empirically distinguishable in this sample. No construct met the Fornell-Larcker criterion, the condition index exceeds 30 with two predictors loading above .50 on one dimension, and 92.5% of explained variance is shared. Respondents appear to have formed a global evaluation of the interface rather than differentiating between layout, placement and visual cues. The model therefore establishes that QR menu interface design as a whole is strongly associated with satisfaction but cannot isolate any single attribute. Confirmatory factor analysis is required to test whether the attributes are genuinely separate constructs, and a second-order model treating them as facets of overall interface quality may represent these data more faithfully. Second, the full collinearity assessment indicated that common method bias cannot be ruled out. Because every measure was self-reported at one moment, an unknown portion of the shared variance may reflect method rather than substance; future work should separate predictor and criterion measures in time or include a marker variable. Third, all constructs were negatively skewed with means near 4.85 on a six-point scale, so the findings describe variation among the broadly satisfied; diners who abandoned a QR menu in frustration are unlikely to appear in the data at all. Fourth, the cross-sectional design establishes association rather than causation and cannot determine whether well-designed interfaces produce satisfaction or satisfied diners evaluate interfaces favourably in retrospect.

Fifth, the sample was drawn from one state using non-probability snowball sampling, which propagates through social networks so respondents are not fully independent; women constituted 68.5% of respondents, and Penang has a distinctive culinary identity and high digital readiness, so the results may not extend to other states, rural settings, or segments such as quick-service or fine dining. Finally, 15.0% of variance remains unexplained, plausibly reflecting food quality, price fairness, staff attentiveness and the physical servicescape.

Conclusion

This study asked whether three attributes of QR code menu design predict customer satisfaction among patrons of independent casual dining restaurants in Penang. Answering RQ1 to RQ3, all three were significant positive predictors, together accounting for 85.0% of the variance. Relative weights analysis showed them to be near-equal contributors, however, despite standardised coefficients differing by a factor of 2.7, so the practical reading is not that operators should concentrate on photography at the expense of layout but that the three function together and that neglecting any one forfeits a comparable share of the association with satisfaction. The study contributes on three counts. Theoretically, it demonstrates that menu engineering principles formulated for print retain relevance on a smartphone interface while the constraint shifts from spatial arrangement to scroll sequence. Methodologically, the divergence between standardised coefficients and relative weights illustrates why studies of correlated design attributes should not rank them on beta values alone. Practically, it offers independent operators a basis for configuring third-party QR menu software. These conclusions are bounded by the design: the associations are correlational, the attributes are not empirically separable, and the findings describe 248 diners in one Malaysian state at one point in time, so no inference about long-term patronage or profitability follows. What the study does establish is that the design of a QR code menu is systematically related to how satisfied diners are with it, and that this warrants deliberate attention from operators who have treated the QR menu as an operational necessity rather than a designed element of the service experience.

Acknowledgement

This research is self-funded.

Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

REFERENCES

[1] Baiomy, A.E., Jones, E., Goode, M.M. (2019): The influence of menu design, menu item descriptions and menu variety on customer satisfaction: A case study of Egypt. – Tourism and Hospitality Research 19(2): 213-224.

[2] Bakar, A.Z.A., Phebe, J. (2025): Consumer perception and satisfaction of Quick Response (QR) code in casual dining restaurants in Malaysia. – Quantum Journal of Social Sciences and Humanities 6(SI1): 148-163.
[3] Bank Negara Malaysia (2024): Financial stability review – Second half 2023. – Bank Negara Malaysia, Kuala Lumpur 100p.
[4] Bitner, M.J. (1992): Servicescapes: The impact of physical surroundings on customers and employees. – Journal of Marketing 56(2): 57-71.
[5] Brewer, P., Sebby, A.G. (2021): The effect of online restaurant menus on consumers' purchase intentions during the COVID-19 pandemic. – International Journal of Hospitality Management 94: 10p.
[6] Chen, H.-S., Liang, C.-H., Liao, S.-Y., Kuo, H.-Y. (2020): Consumer attitudes and purchase intentions toward food delivery platform services. – Sustainability 12(23): 15p.
[7] Cronbach, L.J. (1951): Coefficient alpha and the internal structure of tests. – Psychometrika 16(3): 297-334.
[8] Davis, F.D. (1989): Perceived usefulness, perceived ease of use, and user acceptance of information technology. – MIS Quarterly 13(3): 319-340.
[9] Department of Statistics Malaysia (2024): Economic Census 2023: Food and beverage services sector. – Department of Statistics Malaysia, Putrajaya 120p.
[10] Faul, F., Erdfelder, E., Buchner, A., Lang, A.-G. (2009): Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. – Behavior Research Methods 41(4): 1149-1160.
[11] Fornell, C., Larcker, D.F. (1981): Evaluating structural equation models with unobservable variables and measurement error. – Journal of Marketing Research 18(1): 39-50.
[12] Ghazali, N.I., Othman, R., Ngali, N., Rahmat, N., Zainal Abidin, M. (2025): Digital menus and customer revisit intentions: Insights from Klang Valley restaurants using an extended TAM framework. – Information Management and Business Review 17(1(I)S): 122-134.
[13] Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2010): Multivariate data analysis. – Pearson Prentice Hall 816p.
[14] Johnson, J.W., LeBreton, J.M. (2004): History and use of relative importance indices in organizational research. – Organizational Research Methods 7(3): 238-257.
[15] Kasavana, M.L., Smith, D.I. (1982): Menu engineering: A practical guide to menu analysis. – Hospitality Publishers 120p.
[16] Kimes, S.E. (2021): The future of restaurant technology. – Cornell Hospitality Report 21(1): 1-17.
[17] Kock, N. (2015): Common method bias in PLS-SEM: A full collinearity assessment approach. – International Journal of e-Collaboration 11(4): 1-10.
[18] Mohd Yusoff, Y. (2019): Actual practices of environmental performance in Malaysia's hotel industry. – Sains Humanika 11(2-2): 73-80.
[19] Oktavia, T., Prabowo, H., Meyliana, Supangkat, S.H. (2023): QR code menu transformation: Usability testing approach for the food and beverage industry. – Journal of Theoretical and Applied Information Technology 101(10): 3912-3925.
[20] Pallant, J. (2020): SPSS survival manual. – Routledge 378p.
[21] Parasuraman, A., Zeithaml, V.A., Berry, L.L. (1988): SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. – Journal of Retailing 64(1): 12-40.