

When Platforms Fail, Restaurants Pay: Supply Chain Bottlenecks, Attribution-Consequence Decoupling, and Reorder Intention in Bangladesh's Online Food Delivery Industry

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Abstract

Bangladesh's online food delivery (OFD) sector poses a structural question: when a delivery fails, whose loyalty is damaged — the platform's or the restaurant's? Using attribution theory, this study surveys 362 Bangladeshi OFD consumers and applies PLS-SEM to test how five supply chain bottlenecks shape Perceived Service Quality (PSQ) and its downstream effects on Restaurant Reorder Intention (RRI) and Platform Switching Intention

(PSI). Results reveal "attribution-consequence decoupling": delivery-reliability failures — the platform's responsibility — hurt restaurant reorder intention nearly twice as much as platform-switching intention. The five bottlenecks operate through distinct psychological pathways, and geographic location moderates these effects more strongly than platform type or order frequency. Findings extend attribution theory to multi-party gig-economy service chains and inform restaurant, platform, and regulatory practice.

Keywords: online food delivery; supply chain bottlenecks; perceived service quality; restaurant reorder intention; platform switching intention; attribution theory; PLS-SEM

1 Introduction

When a delivery rider arrives late, cancels an order, or loses it in transit, the most immediately inconvenienced party is the customer. The party that most reliably bears the commercial cost, however, may not be the one that caused the failure. Bangladesh's online food delivery (OFD) industry illustrates this asymmetry with unusual clarity: three major platforms — Foodpanda, Pathao Food, and Foodi — serve a rapidly urbanizing consumer base through a supply chain that spans restaurant kitchens, individual gig-economy riders, and app-based dispatch infrastructure, with the customer interacting across multiple parties at once but making a single reorder decision when something goes wrong.

Attribution theory offers the canonical prediction: blame, and its behavioral consequences, follow perceived causation (Weiner, 1985; Folkes, 1984). A platform-cancelled order is the platform's operational failure; a wrong or cold item leaving the kitchen is the restaurant's. Consumers who correctly assign fault should direct their reduced loyalty toward the responsible party. That logic holds up well in single-provider services, where the party causing a failure and the party facing its consequences are the same entity (Folkes, 1984; Weiner, 1985) — but OFD splits responsibility across parties whose individual performance an ordinary consumer cannot easily disentangle mid-order. Whether platform-caused failures still hurt the restaurant, even when customers can correctly identify the platform as the cause, is the question this paper answers; Section 2 situates it against the existing OFD literature and states this study's objectives.

We test this directly, surveying $N = 362$ Bangladeshi OFD consumers and modeling five supply chain bottlenecks' pull on Restaurant Reorder Intention (RRI) and Platform Switching Intention (PSI) side by side, so each bottleneck's behavioral fallout can be checked against attribution logic rather than assumed to follow it. A further design feature strengthens the test: 116 respondents had already stopped ordering from a restaurant after a bad experience and explained why in their own words, letting us check what customers say drove their decision against what the statistical model shows actually predicted it.

The results reveal a pattern we term *attribution-consequence decoupling*: platform-caused failures land disproportionately on the restaurant, even among customers who correctly name the platform as the cause.

Section 2 reviews the relevant literature and states this study's objectives; Section 3 develops the hypotheses; Section 4 covers design and analysis; Section 5 reports the findings; and Section 6 interprets them, including where the study falls short.

2 Literature Review and Research Gap

Bangladesh's OFD sector has drawn a growing empirical literature, almost all of it organized around one question: what drives satisfaction or loyalty toward the service as a whole? Ahmed et al. (2024) link logistics performance to customer satisfaction; A.F.M Fazle Rabbi et al. (2025) connect broader supply chain factors to satisfaction and brand loyalty; Abir et al. (2026) extend this to green supply-chain practices and purchase decisions; Al Amin et al. (2020) model e-satisfaction and continuance intention toward mobile food-ordering apps; Chowdhury (2023) test perceived convenience, service quality, and security against behavioral intention; and Siddiqi et al. (2024); Saad (2021); Habib et al. (2025) each examine restaurant- or platform-level loyalty on its own. Dhir (2026) reviews last-mile delivery challenges specifically but, like the rest, treats the delivery chain as one undifferentiated experience rather than a set of distinct, separately attributable parties.

What none of this work does is separate *who caused a failure* from *who is punished for it*. Each study collapses restaurant, rider, and platform into a single satisfaction or loyalty score — defensible when one party controls the whole transaction, but not obviously so in OFD, where each party controls a distinct part of the experience and a customer can, at least in principle, direct blame and loyalty independently toward each. Attribution theory predicts they should (Weiner, 1985; Folkes, 1984); no OFD study has tested whether they actually do.

This study addresses that gap with three explicit objectives: (1) test whether behavioral consequences track causal attribution across the platform–restaurant divide, comparing each bottleneck’s pull on restaurant reorder intention against platform switching intention (H1–H2); (2) identify the psychological pathway — direct, indirect through perceived quality, or both — linking each of five operational bottlenecks to reorder intention (H3–H5); and (3) test whether this structure holds across a key contextual boundary, urban versus suburban geography (H6). Figure 1 summarizes the resulting framework, which Section 3 develops into formal hypotheses. Taken together, these objectives extend attribution theory into a multi-party gig-economy setting and, to our knowledge, make this the first Bangladesh OFD study to model restaurant and platform outcomes simultaneously in the same respondents.

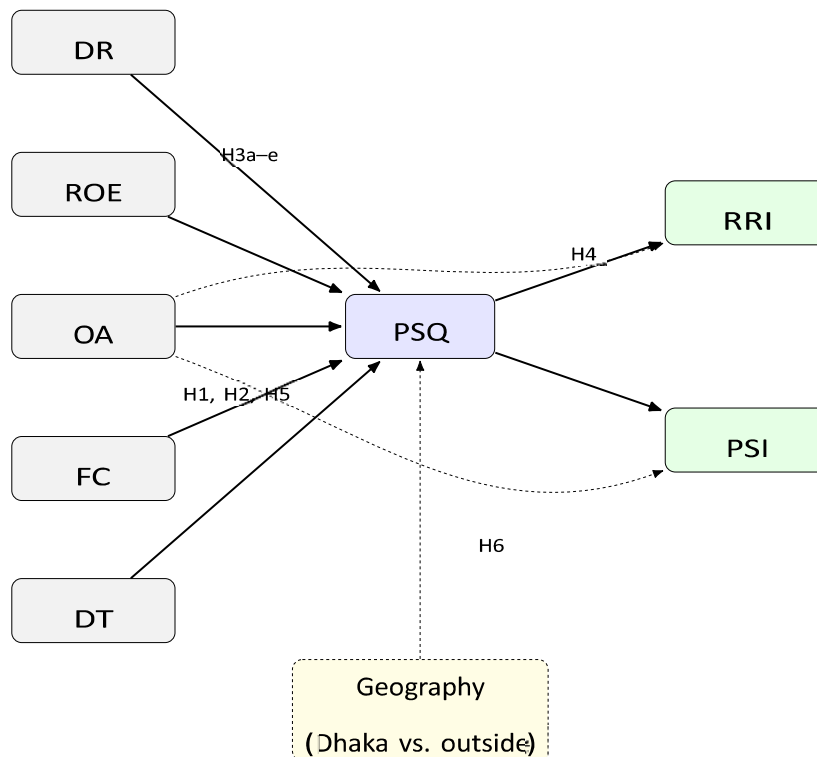


Figure 1. Methodological framework. Five supply chain bottlenecks (DR = Delivery Reliability, ROE = Restaurant Operational Efficiency, OA = Order Accuracy, FC = Food Condition, DT = Delivery Timeliness) predict Perceived Service Quality (PSQ; H3a–e), which drives both outcomes in parallel (H4). Dashed arrows represent the direct and mediated paths that jointly test the attribution logic (H1, H2, H5) and the geographic moderation of the bottleneck–PSQ link (H6).

3 Theoretical Background and Hypotheses

3.1 Attribution Theory and Multi-Party Service Failures

Attribution theory posits that individuals respond to negative outcomes by seeking causal explanations and that their subsequent behavior is shaped by where they locate the cause (Weiner, 1985). In consumer settings, Folkes (1984) showed that whether a product failure is attributed to the seller, the manufacturer, or the consumer's own behavior determines the direction of the resulting complaint and the likelihood of repurchase. This attribution logic rests on an assumption that is rarely examined: that the party blamed for a failure and the party who experiences the behavioral consequences are the same entity. In a retail store or a single hotel, they typically are — there is one brand, one service encounter, one target for both blame and avoidance.

Online food delivery breaks that single-target structure apart. Responsibility for any given order is spread across three separate parties, and a customer rarely has a clear view, in the moment something goes wrong, of who actually caused it. Bangladeshi riders describe exactly this confusion from the other side: they report being blamed for delays that actually trace back to platform staffing decisions (The Daily Star, 2025). That fits with Baumeister et al.'s (2001) broader point that people process negative experiences more thoroughly than positive ones — but thorough processing is not the same as accurate processing, especially when one party (the restaurant brand the customer chose) is memorable and relational while the other (the platform dispatching the order) is comparatively anonymous, transient infrastructure. The restaurant is the entity whose menu the customer scrolled, whose name appears on the receipt, and to whom a reorder decision will next be directed; the platform, by contrast, is engaged afresh each transaction and evaluated in aggregate rather than as a relationship. This asymmetry in relational salience gives rise to the hypothesis that platform-attributable failures will hurt restaurant reorder intention more than platform-switching intention, not because customers misidentify the cause, but because the target of reduced loyalty is shaped by the structure of the ongoing relationship rather than the logic of the causal chain.

H1. Platform-attributable supply chain bottlenecks (Delivery Reliability, Delivery Timeliness) will have a stronger negative effect on Platform Switching Intention than on Restaurant Reorder Intention.

H2. Restaurant-attributable supply chain bottlenecks (Restaurant Operational Efficiency, Order Accuracy, Food Condition) will have a stronger negative effect on Restaurant Reorder Intention than on Platform Switching Intention.

3.2 Supply Chain Bottlenecks as Antecedents of Perceived Service Quality

A fairly narrow set of operational factors keeps recurring across studies of OFD service quality as the things that move customer satisfaction: how promptly the order arrives, whether it matches what was ordered, the condition of the food on arrival, and some measure of how reliable or responsive the platform itself is (Wu et al., 2024; Macias et al., 2023; Hasdiansa and Hasbiah, 2025). SERVQUAL's framework (Parasuraman et al., 1988) treats reliability — essentially, whether a provider follows through on what it promised, order after order, without slip-ups — as one dimension among several, yet it is the one that keeps coming out on top for customer satisfaction across service settings generally, and Bangladesh-specific logistics research points the same way (Ahmed et al., 2024; Mona, 2021; A.F.M Fazle Rabbi et al., 2025).

The present study operationalizes supply chain quality through five bottleneck constructs that capture the structural failure points most relevant to OFD order fulfillment in a congested, infrastructure-constrained market like Dhaka. *Delivery Reliability* (DR) captures whether orders consistently reach customers as promised, without unexpected cancellations or substitutions — the direct operational manifestation of SERVQUAL's reliability dimension. *Restaurant Operational Efficiency* (ROE) captures whether partner restaurants handle digital orders competently: preparation speed, menu and inventory availability, and operational resilience under peak demand. *Order Accuracy* (OA) captures whether the delivered order matches what was requested, covering wrong items, missing

items, and unfulfilled special instructions. *Food Condition upon Delivery* (FC) captures whether food arrives at the expected quality — temperature, presentation, and physical integrity. *Delivery Timeliness* (DT) captures whether the order arrives within the window communicated to the customer at the point of ordering.

Each of the five bottlenecks is expected to drag down customers' evaluation of Perceived Service Quality (PSQ), which is treated here as a single reflective construct combining SERVQUAL's reliability, responsiveness, and assurance dimensions — a measurement choice consistent with comparable Bangladesh OFD studies (Chowdhury, 2023; Habib et al., 2025). We expect DR to dominate the set for a straightforward reason: in a congested market where an order simply not showing up is a routine risk, whether the delivery happens at all should matter more to customers than any of the finer-grained attributes.

H3a. Delivery Reliability has a significant positive effect on PSQ.

H3b. Restaurant Operational Efficiency has a significant positive effect on PSQ.

H3c. Order Accuracy has a significant positive effect on PSQ.

H3d. Food Condition upon Delivery has a significant positive effect on PSQ.

H3e. Delivery Timeliness has a significant positive effect on PSQ.

3.3 PSQ as a Mediator: From Operational Performance to Re-order Intention

That perceived quality shapes what customers subsequently do is not a new claim in OFD research (Wu et al., 2024; Siddiqi et al., 2024; Chowdhury, 2023), and it echoes a broader pattern in supply chain scholarship more generally, where upstream supply chain practices have been shown to shape downstream consumer purchase decisions (Abir et al., 2026). Expectation-confirmation theory (Oliver, 1980) supplies the mechanism here: customers build a running quality judgment by weighing performance against what they expected, and it is this judgment — not the raw operational input itself

— that ultimately governs whether they reorder. On this account, PSQ sits as the cognitive relay through which supply chain bottlenecks reach RRI.

H4. PSQ has a significant positive effect on Restaurant Reorder Intention.

Whether PSQ is doing the full work of mediating each bottleneck's effect on RRI is, however, an open empirical question rather than something we assume up front. The Zhao et al. (2010) typology lays out five possible mediation structures, and it is plausible that failures with different phenomenological textures take different routes: something immediately visceral — cold food, a late delivery — could shift reorder behavior on the spot, before any global quality belief updates at all, whereas something that only becomes apparent cumulatively — a restaurant's operational sloppiness, a pattern of small inaccuracies — might work entirely by reshaping that quality judgment first. Testing which pattern each bottleneck follows effectively tells us which failures a PSQ-tracking instrument will actually catch.

H5. PSQ mediates the effect of supply chain bottlenecks on RRI, with the form of mediation varying across bottlenecks as classified by the Zhao et al. (2010) typology.

3.4 Geographic Moderation

Bangladesh's OFD market is geographically heterogeneous in ways that may shift which bottlenecks are most salient. Within Dhaka District, restaurant density on OFD platforms is high: a customer encountering a kitchen-side failure has ready access to substitutes, so restaurant operational efficiency may function as a secondary rather than a primary quality signal. Outside Dhaka District, where restaurant density on platforms is lower and delivery infrastructure is thinner, the same operational competence — whether a restaurant has ingredients in stock, whether the kitchen can handle peak demand — may function as a primary quality signal because substitutes are fewer and delivery alternatives scarcer (Ge et al., 2025).

H6. Geographic location (Dhaka District vs. outside Dhaka District) moderates the strength of the supply chain bottleneck → PSQ relationships, with restaurant operational characteristics carrying greater weight outside Dhaka District.

4 Method

4.1 Research Design and Sample

The study followed a quantitative, single-time-point design built to explain rather than merely describe. Between 30 July and 14 August 2026, a self-administered questionnaire was circulated over social media channels inside Bangladesh. Two intake criteria kept the sample on-target: a respondent had to be an adult (18 or older) and had to have placed at least one OFD order in the preceding three months. Before the main fielding, 30 pilot respondents completed the instrument so its clarity and reliability could be checked.

Of the 444 raw responses collected, 369 met both eligibility criteria, and a further quality screen dropped 7 straight-lining respondents, leaving a final analytic sample of $N = 362$ (Table 1). The sample was drawn entirely from students (secondary/higher-secondary and tertiary level), skews toward Foodpanda users (81.5%), Dhaka District (91.7%), 18–24-year-olds (77.6%), and men (69.1%) — consistent with both other Bangladeshi OFD surveys (Saad, 2021; Habib et al., 2025) and with who is actually active on these platforms. Students are Bangladesh’s heaviest and most price-sensitive OFD users, so this reflects a deliberate scope decision rather than an incidental skew: the study is designed to characterize this population precisely, not to estimate nationally representative OFD behavior.

Notably, 116 respondents (32.0%) reported having already stopped ordering from at least one restaurant following a bad experience (screening item C1), and provided an open-ended explanation for their decision (item C2). These data support the attribution triangulation reported in Section 5.4.

Ethical considerations. Taking part was strictly optional. Every respondent first read an introductory screen laying out the study's purpose, promising anonymity, and making clear that they could stop at any point with no penalty; only after that could they proceed to the questionnaire itself. Beyond an optional email address, collected purely to catch duplicate submissions, nothing that could identify a respondent was recorded. As an independent student project rather than an institutionally funded program, the study was not submitted for formal ethics-committee review; the safeguards above were selfadministered, and the dataset reported here is analyzed exactly as collected, with no alteration, fabrication, or selective modification beyond the eligibility and straight-lining screens described above.

Table 1. Sample profile ($N=362$)

Characteristic	Category	n (%)
Platform used	Foodpanda	295 (81.5%)
	Foodi	41 (11.3%)
	Pathao Food	22 (6.1%)
	Other	4 (1.1%)
Geography	Dhaka Division	332 (91.7%)
	Outside Dhaka	30 (8.3%)
Age	18–24	281 (77.6%)
	25–34	79 (21.8%)
	35–44	2 (0.6%)
Gender	Male	250 (69.1%)
	Female	109 (30.1%)
	Prefer not to say	3 (0.8%)
Order frequency	≤ 1 /month	138 (38.1%)

	2–4/month	162 (44.8%)
	5+/month	62 (17.1%)
Prior switching	Yes (switchers)	116 (32.0%)
(stopped ordering due to bad exp.)	No	246 (68.0%)

Note. Geography is reported at Division level here; Section 5.5's moderation analysis uses the narrower District level (253 Dhaka

District vs. 109 Outside Dhaka District), nested inside Division.

Both groups are markets with active OFD coverage: "Outside9 Dhaka" denotes suburban and secondary-urban districts, not rural areas, which were not sampled because OFD service does

4.2 Measures

Every construct was rated on a five-point scale running from 1 (strongly disagree) to 5 (strongly agree). *Delivery Reliability* (DR, 3 items), *Order Accuracy* (OA, 3 items), *Food Condition* (FC, 3 items), and *Delivery Timeliness* (DT, 3 items) were all specified reflectively, as were *Perceived Service Quality* (PSQ, 4 items), *Restaurant Reorder Intention* (RRI, 3 items), and *Platform Switching Intention* (PSI, 2 items).

Restaurant Operational Efficiency (ROE, 3 items) was instead specified formatively (Mode B). The pilot data justified this choice: the three items — preparation speed, menu and inventory availability, and resilience under peak demand — correlated with each other at near-zero or even negative levels, which is what would be expected if they were capturing genuinely separate restaurant capabilities rather than interchangeable readings of one underlying trait (Jarvis et al., 2003; Diamantopoulos and Winklhofer, 2001).

Two measurement specification decisions were made during the pilot phase. First, an Information/Communication Quality (ICQ) construct originally specified as a sixth bottleneck

predictor was found to be empirically indistinguishable from PSQ (HTMT = 0.951), consistent with SERVQUAL's treatment of communication as a facet of service quality rather than an antecedent of it; two ICQ items (communication clarity; order status transparency) were retained as PSQ indicators, yielding a 4-item PSQ measure (PSQ1, PSQ4, ICQ1, ICQ2). Second, one original PSQ item contained a double-barreled referent (mentioning both "platform" and "restaurant" in the same statement) and was replaced with a single-referent item after the pilot.

To check for common method bias, we ran the full collinearity VIF test that Kock (2015) recommends for PLS-SEM work. Every construct-level VIF landed between 1.275 and 1.953 — comfortably under the 3.3 cutoff that signals a problem — so common method bias does not appear to be driving the results. We also built in procedural safeguards at the instrument stage: predictor and criterion items sat in separate, visually distinct blocks of the questionnaire, and responses were collected anonymously.

4.3 Analysis Approach

We fitted the structural model with partial least squares structural equation modeling (PLS-SEM), run through the *sempr* package (Ray et al., 2021) in R version 4.3.1. Three features of this dataset point toward PLS-SEM rather than covariance-based SEM: the model mixes formatively and reflectively specified constructs, the goal here is prediction and explanation rather than confirmatory hypothesis testing in the strict sense, and PLS-SEM sidesteps the multivariate-normality assumption that covariance-based SEM depends on (Hair et al., 2019, 2022). We left the algorithm on *sempr*'s default settings throughout: the path weighting scheme, a 300-iteration cap, and convergence at 10^{-7} .

We checked the measurement (outer) model first and only then moved to the structural model. For the reflective constructs, this meant confirming internal consistency reliability ($\alpha, \rho_c \geq 0.70$), convergent validity (AVE ≥ 0.50), and discriminant validity via both the Fornell–Larcker criterion and an HTMT below 0.90 (Fornell and Larcker 1981; Henseler et al. 2015). The formatively specified ROE construct needed a different set of checks: indicator collinearity (VIF < 3.0), the statistical significance of its outer weights (bootstrapped over 5,000 resamples), and a redundancy analysis run against a single global ROE item we added to the questionnaire

specifically for that purpose. Structural paths were then evaluated using bootstrapped coefficients, *t*-statistics, 95% bias-corrected confidence intervals, and Cohen's f^2 effect sizes, with PLSpredict (10-fold cross-validation) used to gauge predictive relevance.

To test mediation (H5), we specified the direct path (bottleneck → RRI) and the indirect path (bottleneck → PSQ → RRI) at the same time, following the approach set out by Preacher and Hayes (2008), and sorted each resulting relationship into one of the five categories in the Zhao et al. (2010) typology.

Before running the attribution comparison (H1–H2) and the geographic moderation test (H6), we first confirmed measurement invariance of composite models (MICOM) via the three-step procedure of Henseler et al. (2016), implemented in cSEM (Rademaker and Schubert, 2020) using a permutation-based approach ($R = 4,999$, seed = 123). We then tested whether path coefficients differed across groups using the parametric multi-group analysis (MGA) procedure of Sarstedt et al. (2011), and applied the same procedure to three further subgroup splits (platform type, switching status, order frequency), summarized in Section 6.6.

5 Results

5.1 Measurement Model

Reliability and convergent validity figures for all seven constructs appear in Table 2. Six pass every criterion cleanly. ROE is the exception: its Cronbach's alpha comes in under 0.70 ($\alpha = 0.583$), though composite reliability holds up fine ($\rho_C = 0.738$). That gap is not a red flag so much as a predictable side effect of specifying ROE formatively — alpha assumes the indicators should move together (tau-equivalence), which is not a fair standard for a construct whose items are deliberately allowed to be independent (Diamantopoulos and Winklhofer, 2001; Jarvis et al., 2003). ROE's convergent validity is judged instead through redundancy analysis, covered below. PSQ clears the AVE threshold (0.575) but by a narrower margin than the other reflective constructs, a point returned to in Section 6.6.

Table 2. Measurement model: reliability and convergent validity

Construct	Items	α	ρ_A	ρ_C	AVE	Pass?
ROE ^a	3	0.583	1.000	0.738	0.496	ρ_C only
OA	3	0.752	0.761	0.858	0.669	Yes
FC	3	0.751	0.771	0.856	0.665	Yes
DT	3	0.823	0.830	0.895	0.739	Yes
DR	3	0.736	0.739	0.850	0.654	Yes
PSQ	4	0.754	0.770	0.843	0.575	Yes
RRI	3	0.797	0.825	0.878	0.707	Yes

Note. $N = 362$. Thresholds: $\alpha, \rho_C \geq 0.70$ (Nunnally, 1978); $AVE \geq 0.50$ (Fornell and Larcker, 1981). ^aROE is formatively specified; reflective criteria do not strictly apply. $\rho_A = 1.000$ for ROE is a normal artefact of Mode B weight estimation, not a computational anomaly. PSQ items are PSQ1, PSQ4, ICQ1, ICQ2 following the measurement revision described in Section 4.2. Pass = all applicable criteria met.

We checked discriminant validity two ways: the Fornell–Larcker criterion, which every construct pair passes, and HTMT (Henseler et al., 2015). One pair stands out: PSQ and DR come in at HTMT = 0.872, above the stricter 0.85 benchmark but still under the more permissive 0.90 cutoff. We went further and bootstrapped a 95% confidence interval around that estimate ($B = 5,000$, seed = 123): HTMT(PSQ, DR) = 0.872, 95% CI = [0.767, 0.963]. Because the upper bound stays below 1.0, discriminant validity holds for this pair as a matter of statistical inference (Henseler et al., 2015). Even so, sitting this close to the conservative line is worth reading as more than a technicality: it fits the account developed in Section 6.3, where delivery reliability is treated as so central to how Bangladeshi OFD customers judge overall quality that the two

constructs partly overlap in customers' own minds. Every other pair of constructs clears both thresholds with room to spare.

On the formative side, ROE's indicator collinearity is not a concern (VIFs: ROE1 = 1.176, ROE2 = 1.159, ROE3 = 1.224 — all comfortably under 3.0). Two of the three outer weights reach significance — ROE1 ($w = 0.579$, $t = 6.48$, $p < .001$) and ROE2 ($w = 0.644$, $t = 7.82$, $p < .001$) — while ROE3 ($w = 0.055$, $t = 0.56$, $p = .590$) does not. We kept ROE3 anyway: its loading is moderate (0.436) and dropping it actually worsens the redundancy R^2 (from 0.231 to 0.219), and the formative-measurement literature holds that an indicator can add external validity even without a significant weight of its own (Jarvis et al., 2003; Cenfetelli and Bassellier, 2009). That said, the redundancy analysis itself came back at $\beta = 0.480$, $R^2 = 0.231$ — short of the 0.70 benchmark usually considered acceptable — which we treat honestly as a real weakness in how ROE was operationalized and carry forward into the limitations.

5.2 Core Structural Model (H3a–H4)

The bootstrapped path coefficients for the corrected structural model — which adds a direct path from each of the five bottlenecks to RRI on top of the PSQ-mediated routes — sit in Table 3. Collinearity is not an issue anywhere in the model: every inner VIF stays below 3.3, topping out at 2.300 for PSQ's prediction of RRI. Variance explained comes to 56.5% for PSQ ($R^2 = .565$, adj. $R^2 = .559$) and 48.5% for RRI ($R^2 = .485$, adj. $R^2 = .476$), and PLSpredict returned a positive Q^2_{predict} for all seven PSQ and RRI indicators, with PLS beating the naive linear benchmark across the board — a sign of solid predictive power.

Table 3. Structural model: path coefficients (corrected direct-effects model)

Path	$\hat{\beta}$	Boot. SD	t	95% CI	p
<i>Bottlenecks → SQ (H3a–H3)</i>					
DR → PSQ	0.373	0.062	5.99	[0.250, 0.499]	< .001

ROE → PSQ	0.222	0.049	4.52	[0.124, 0.316]	< .001
OA → PSQ	0.198	0.051	3.89	[0.096, 0.298]	< .001
FC → PSQ	0.074	0.048	1.55	[-0.022, 0.166]	.133
DT → PSQ	0.080	0.044	1.80	[-0.008, 0.166]	.076

PSQ outcome (H4)

PSQ → RRI	0.350	0.061	5.79	[0.230, 0.471]	< .001
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Direct bottleneck → RRI paths (estimated for mediation test)

DR → RRI	0.255	0.073	3.49	[0.105, 0.395]	< .001
FC → RRI	0.139	0.059	2.36	[0.023, 0.251]	.021
DT → RRI	-0.109	0.048	2.26	[-0.202, -0.012]	.025
OA → RRI	0.112	0.069	1.63	[-0.020, 0.251]	.100
ROE → RRI	0.034	0.053	0.64	[-0.061, 0.142]	.468

Note. $N = 362$, $B = 5,000$ bootstrap resamples. Paths significant at $\alpha = .05$ when

95% CI excludes zero. $R_{PSQ}^2 = .565$; $R_{RRI}^2 = .485$. H3a (DR), H3b (ROE), and H3c (OA) are supported; H3d (FC, $p = .133$) and H3e (DT, $p = .076$) are not supported. H4 is supported ($\beta = 0.350$, $p < .001$; $\beta = 0.635$ in the baseline mediation-only model, $f^2 = 0.676$, large effect). Effect sizes for bottleneck → PSQ paths: DR $f^2 = 0.186$ (medium); ROE $f^2 = 0.077$, OA $f^2 = 0.052$ (both small); FC and DT negligible.

5.3 Mediation Typology (H5)

Using the significance and sign of the direct and indirect effects reported in Table 3, Table 4 sorts each bottleneck's relationship with RRI into the Zhao et al. (2010) typology.

Table 4. Mediation analysis: direct and indirect effects on RRI

Bottleneck	Direct → RRI	Indirect via PSQ	Classification
ROE	0.034, $p = .468$ (ns)	0.078, $p < .001$	Indirect-only (full)
OA	0.112, $p = .100$ (ns)	0.069, $p < .001$	Indirect-only (full)
DR	0.255, $p < .001$	0.131, $p < .001$	Complementary (partial)
FC	0.139, $p = .021$	0.026, $p = .133$ (ns)	Direct-only
DT	-0.109, $p = .025$	0.028, $p = .076$ (ns)	Direct-only (negative)

Note. Classification follows Zhao et al. (2010): indirect effects are the product of the two constituent path coefficients, assessed via bootstrapped 95% CIs. H5 is supported with the qualification that the form of mediation is heterogeneous across bottlenecks rather than uniform. DT's direct effect is significant and negative, a counterintuitive result discussed in Section 6.2.

These five bottlenecks do not all reach reorder intention the same way — three distinct patterns emerge. ROE and OA work exclusively through perceived quality: nothing about their effect on RRI shows up except by first passing through PSQ, exactly as the conceptual model anticipated. FC and DT take the opposite route, sidestepping perceived quality entirely — each has a significant direct pull on RRI even though its indirect path is not significant, so a poor food condition or a late delivery seems to shift a customer's reorder decision without first denting their overall quality impression. Zhao et al. (2010) label this pattern direct-only non-mediation, and it is no less behaviorally real for bypassing the PSQ channel. DR is the outlier that does both at once — it moves the quality judgment and independently moves reorder intention on top of that — making it the only bottleneck showing complementary partial mediation.

The DT finding deserves a closer look on its own: at $\beta = -0.109$, its direct effect is significant and runs *negative*, implying that once perceived quality is held constant, faster delivery is linked to a slightly *lower* reorder intention. The same reversal shows up again in a separate subgroup split reported in Section 5.5, which is exactly why we flag it in Section 6.2 as a result that needs replicating before it is taken at face value.

5.4 Attribution Analysis (H1–H2)

Table 5 reports each bottleneck's effect on both RRI and PSI from the attribution structural model, allowing a direct test of H1 and H2.

Table 5. Attribution model: parallel effects on Restaurant Reorder Intention and Platform Switching Intention

Bottleneck	→ RRI ($\hat{\beta}$, p)	→ PSI ($\hat{\beta}$, p)	Larger effect	H1/H2 support?
<i>Platform-attributable (H1: PSI > RRI predicted)</i>				
DR	0.385, $p < .001$	0.210, $p = .023$	RRI (clearly)	No (opposite)
DT	-0.082, $p = .108$ (ns)	-0.055, $p = .363$ (ns)	Neither sig.	Inconclusive
<i>Restaurant-attributable (H2: RRI > PSI predicted)</i>				
FC	0.175, $p = .003$	-0.035, $p = .604$ (ns)	RRI (clearly)	Yes
OA	0.180, $p = .005$	0.163, $p = .037$	RRI (marginally)	Yes
ROE	0.103, $p = .043$	0.123, $p = .084$ (ns)	PSI (but ns)	Ambiguous

Note. Attribution model estimates PSQ as mediator; effects here are total effects on each outcome. H1 is not supported: DR, the study's single most consequential bottleneck, hits RRI nearly twice as hard as PSI even though delivery reliability is the platform's operational responsibility. H2 is partially supported: confirmed for FC and OA; ambiguous for ROE.

The data back H2 only partway. Food condition behaves exactly as predicted, landing squarely on restaurant reorder intention (a strong, significant effect on RRI, none on PSI), and order accuracy moves both outcomes but hits RRI harder — both consistent with the idea that restaurant-controllable bottlenecks should cost the restaurant more than the platform. ROE will not resolve cleanly either way: its PSI estimate is numerically larger than its RRI estimate but does not clear significance.

H1 fails outright, and in the direction that matters theoretically: Delivery Reliability sits at the platform's end of the supply chain, yet is the single most damaging bottleneck for the restaurant, with nearly double the pull on RRI ($\hat{\beta} = 0.385$, $p < .001$) as on PSI ($\hat{\beta} = 0.210$, $p =$

.023). The party that did not cause the failure absorbs the larger share of the reputational damage.

The open-text responses give this pattern a second, independent test. Of the 116 respondents who had already stopped ordering from a restaurant after a bad experience, we coded their unprompted explanations (item C2) and found 49 pointing to a platform- or delivery-side reason (a late delivery, a cancelled order, poor tracking) against 58 pointing to a restaurant-side reason (bad food condition, a wrong order); 8 responses fit neither bucket and one respondent skipped the question. So respondents plainly can name the platform as the culprit, unprompted, when a platform-side failure is what actually happened.

Whether that accurate naming actually spared the restaurant anything is a separate question, so we compared RRI and PSI scores within each attribution subgroup using paired-samples *t*-tests. Attribution theory would predict opposite patterns in the two groups — customers who blame the platform should show higher PSI than RRI (punishing the platform while sparing the restaurant), and customers who blame the restaurant should show the mirror image. Neither expectation panned out. Among the 49 platformattributing switchers, mean RRI (3.44, *SD* = 0.91) and mean PSI (3.41, *SD* = 0.93) were statistically indistinguishable ($t(48) = 0.28$, $p = .782$, $d = 0.04$). Among the 58 restaurantattributing switchers, the same pattern held: mean RRI (3.58, *SD* = 0.85) and mean PSI (3.54, *SD* = 0.78) also did not differ significantly ($t(57) = 0.37$, $p = .715$, $d = 0.05$). In both groups, regardless of which party the customer verbally identified as responsible, RRI and PSI were suppressed to equivalent degrees. Stated attribution did not translate into differential behavioral consequences in either direction — a pattern consistent with behavioral responses in this multi-party service context being indiscriminate rather than calibrated to causal diagnosis, and directly corroborating the structural asymmetry in Table 5.

5.5 Geographic Moderation (H6)

Measurement invariance was confirmed for the geography grouping at Step 2 (compositional invariance) for all constructs except OA ($p = .005$), with partial invariance overall.

Standardized path comparisons between Dhaka District ($n = 253$) and outside Dhaka District ($n = 109$) are therefore appropriate, with the OA caveat noted where relevant.

Four of the eleven compared paths differ significantly by geography (Table 6), which is enough to support H6: where a customer is located does moderate the bottleneck-to-PSQ relationships, and both the direction and the size of that moderation say something about how the market is structured. ROE's pull on PSQ outside Dhaka District ($\beta = 0.444$) runs 3.6 times stronger than inside it ($\beta = 0.123$, $p = .002$) — exactly the thinner-market pattern H6 anticipated, where fewer restaurant alternatives on the platform push operational competence from a secondary cue into a primary one. Food condition's positive effect on PSQ ($\beta = 0.126$, $p = .031$) and on RRI ($\beta = 0.220$, $p = .002$) is present within Dhaka District but undetectable outside it, possibly reflecting differences in food-quality expectations across market settings. Most strikingly, the negative DT direct effect on RRI — $\beta = -0.199$ within Dhaka District ($p = .001$) — is effectively zero outside it ($\beta = 0.038$, ns), a significant difference ($p = .021$), suggesting the DT paradox is specifically a characteristic of the dense, high-experience, urban market rather than a general property of the OFD consumer; its likely statistical origin is discussed in Section 6.2.

Table 6. Geographic moderation: significant path differences (H6)

Path	Dhaka District ($\hat{\beta}$)	Outside Dhaka ($\hat{\beta}$)	Diff.	p
ROE $\rightarrow$ PSQ	0.123	0.444	-0.307	.002
FC $\rightarrow$ PSQ	0.126	-0.082	0.205	.048
FC $\rightarrow$ RRI	0.220	-0.025	0.242	.053 [†]
DT $\rightarrow$ RRI	-0.199	0.038	-0.238	.021

Note. $n_{\text{Dhaka District}} = 253$; $n_{\text{Outside Dhaka}} = 109$. Differences tested via parametric MGA (Sarstedt et al., 2011), $B = 5,000$ resamples per group. MICOM Step 2 failed for OA ($p = .005$); FC and DR show significant variance differences in Step 3. Standardized path comparisons are reported for all constructs; the OA caveat applies where OA is the compared path. [†]Borderline significance ($p = .053$).

6 Discussion

6.1 Attribution-Consequence Decoupling

What this study ultimately shows is that knowing who is at fault does not shield the innocent party once a service runs through a fragmented, multi-party chain. Delivery Reliability belongs to the platform, not the restaurant, yet it is associated with a decline in restaurant reorder intention nearly twice the size of its association with platform-switching intention — and this holds even among customers who, in their own words, correctly named the platform as the cause: 49 of the 116 spontaneous explanations from customers who had already walked away from a restaurant pointed to a platform-side problem. Customers can locate the fault correctly; they do not then redirect their reordering behavior to match that diagnosis.

This pattern is theoretically distinct from the misattribution studied in most of the service failure literature (Folkes, 1984; Weiner, 1985), where customers have *wrong* beliefs about who is at fault. Here, the beliefs appear correct but the behavioral consequences diverge from them anyway. We term this *attribution-consequence decoupling* to distinguish it from simple misattribution: the customer's cognitive representation of fault may be accurate, but the entity toward which reduced loyalty is directed is shaped by the structure of ongoing relationships rather than the outcome of causal reasoning.

The mean-score comparisons across attribution subgroups corroborate and extend this pattern. Among the 49 respondents who correctly named the platform as the cause, restaurant reorder intention and platform-switching intention were statistically indistinguishable ($t(48) = 0.28, p = .782, d = 0.04$). More strikingly, the same null result held among the 58 respondents who correctly named the restaurant as the cause: RRI and PSI were again equivalent ($t(57) = 0.37, p = .715, d = 0.05$). Attribution theory's predicted asymmetry — elevated PSI for platform attributors, elevated RRI for restaurant attributors — failed to materialize in either group. Stated attribution predicted nothing about which party's loyalty was affected. This generalizes the decoupling: it is not only that platform failures bleed onto the restaurant; behavioral consequences appear to land on both parties with roughly equal force regardless of where

customers say the cause lies, suggesting that loyalty withdrawal after a service failure is directed by the structure of ongoing relationships rather than the outcome of causal reasoning.

Two non-exclusive mechanisms help explain the pattern. Relational salience: the restaurant is the brand the customer chose, whose name is on the receipt, and toward whom the next reorder decision is directed; the platform, engaged afresh each transaction, is rarely experienced as a relationship at all, so withdrawing loyalty from the more salient party requires no causal reasoning. And negativity asymmetry (Baumeister et al., 2001): bad experiences are processed more thoroughly than good ones, so a negative impression may settle before the customer's broader relational calculus plays out. Both predict restaurant damage even when the platform is correctly identified as the proximate cause, and neither requires the customer to be confused about who broke the promise.

Bangladeshi rider reports corroborate this from the other side: riders describe being blamed for delays that trace back to platform staffing decisions — coverage areas too large for the rider pool — a platform-level problem absorbed by individual riders at the point of contact (The Daily Star, 2025). Customer- and rider-side evidence converge: the party setting the conditions for failure — the platform — is least likely to absorb its consequences, while the restaurant and rider downstream bear the visible costs.

6.2 Heterogeneous Mediation: Three Pathways from Bottleneck to Reorder

What Table 4 makes clear is that these five bottlenecks do not funnel into reorder intention through one shared psychological route. Restaurant Operational Efficiency and Order Accuracy work entirely indirectly: nothing they do to reorder intention happens except by first passing through perceived service quality, so a customer who clocks a slow kitchen or a wrong item first revises their overall quality opinion, and it is that revised opinion that eventually feeds into whether they come back. Food Condition and Delivery Timeliness skip that step altogether, moving reorder intention directly while leaving no significant trace in the indirect PSQ pathway. Delivery Reliability alone does both jobs at once, which is part of why it stands out across every single analysis in this paper as the construct that matters most.

Expectation-confirmation theory (Oliver, 1980) helps explain why this split matters in practice: some failures change behavior only after first updating a customer's cognitive quality representation, while others change behavior without ever touching that representation at all. Cold food or a late delivery, on this reading, is something a customer can simply act on — stop reordering — without ever consciously deciding the service overall is bad. Restaurant operational efficiency and order accuracy, by contrast, seem to matter only to the extent that they feed into that broader judgment. For managers, the practical upshot is specific and somewhat uncomfortable: a restaurant or platform watching only its satisfaction or PSQ score could see a perfectly stable number even as reorder rates quietly bleed away, precisely because the bottlenecks most likely to trigger immediate churn — food condition and delivery timeliness — never register a consistent signal in the PSQ measure in the first place.

Delivery Timeliness earns a closer look, since its direct effect on RRI is not merely direct but *negative* ($\beta = -0.109$, sharpening to -0.199 within Dhaka District), despite having the weakest zero-order association with RRI of the five bottlenecks (HTMT = 0.322) and a non-significant pull on PSQ. Weak alone, sizeable once the other four correlated bottlenecks are held constant, is the textbook signature of a suppression effect (MacKinnon et al., 2000): DT's residual variance, net of what it shares with ROE, OA, FC, and DR, may be capturing something the correlated constructs do not. A second, non-exclusive reading is contextual — in Dhaka's congested market, on-time delivery may function as a taken-for-granted baseline rather than a loyalty driver, so meeting it buys no further reorder credit. We treat this as an unexpected association warranting replication rather than a result to build the paper around; measurement invariance held for DT in the geography comparison specifically (Section 5.5), so the pattern is not a measurement artifact there, even though its cause remains open.

6.3 The Primacy of Delivery Reliability

No matter which analytical lens we apply — the baseline structural model, the corrected mediation model, the attribution model, or any of the four formally tested subgroup comparisons — Delivery Reliability keeps coming out on top. It has the strongest path to PSQ of the five bottlenecks ($\beta = 0.373$, $f^2 = 0.186$, the only medium-sized effect in that set), it is the

only one showing complementary partial mediation, and its total effect on RRI ($\beta = 0.385$) is the largest figure in the attribution model. None of the other four bottlenecks combines all three properties at once.

In one sense there is nothing new here: reliability has topped the five original SERVQUAL dimensions (Parasuraman et al., 1988) since the framework was first proposed, and three decades of service-quality research have not dislodged it. What is new is the demonstration that DR's dominance carries over even when the service encounter is no longer the single face-to-face transaction SERVQUAL was designed around, but instead a fragmented handoff between three separate parties in a gig-economy transaction. In an environment engineered around speed and variety, it is still the promise being *kept* — the order arriving as promised, without cancellation or substitution — that customers weight most heavily.

Other recent Bangladeshi OFD studies have tended to point toward order accuracy, food safety, and platform usability as the main things driving satisfaction and loyalty (Saad, 2021; Al Amin et al., 2020), and have generally stopped short of settling whether loyalty ultimately belongs to the restaurant or the platform (Habib et al., 2025; Siddiqi et al., 2024). What this study adds is a sharper answer to that open question: delivery reliability beats every other lever we tested, and whatever damage it does lands on the restaurant disproportionately, no matter how little the restaurant had to do with causing it.

The PSQ–DR discriminant validity borderline (HTMT = 0.872, above the conservative 0.85 threshold) is consistent with this interpretation: DR is so central to how Bangladeshi OFD customers form a quality judgment that the two constructs are, in respondents' minds, closer to two names for the same experience than two independent inputs into it. This does not overturn discriminant validity by the more commonly applied liberal criterion (< 0.90) or the Fornell–Larcker test, but it is a psychometric result worth reading alongside the structural dominance of DR rather than dismissing as a loose end.

6.4 Theoretical Implications

Two theoretical contributions follow from these results. The first concerns attribution theory (Weiner, 1985; Folkes, 1984) itself: this study locates a domain where its usual working

assumption — correct blame assignment keeps an uninvolved party out of the blast radius — simply breaks down. Because attribution accuracy and behavioral consequence come apart here, we think this marks a previously unstated boundary condition on the attribution-to-behavior mechanism: in a multi-party service chain, when one party is relationally salient and the other is largely anonymous infrastructure, it may be the structure of the ongoing relationship — not the outcome of the customer’s causal reasoning — that decides whose loyalty actually takes the hit. This finding has testable implications. A vignette experiment manipulating relational salience — whether a restaurant brand is familiar and repeatedly chosen versus encountered for the first time — would allow a direct test of whether the decoupling effect reported here is moderated by the strength of the prior relationship, rather than being a general property of multi-party service chains.

This is among the most tractable next steps this study’s own design cannot address.

The second contribution is methodological. Running the Zhao et al. (2010) typology across five parallel bottleneck constructs at once shows that its discriminating power holds up at the level of the whole model, not just for a single path in isolation. The resulting three-way split — indirect-only, direct-only, and complementary mechanisms — is not a statistical artifact; it separates failures a customer processes through a global quality evaluation from failures a customer simply acts on, bypassing that evaluation altogether. This distinction matters for how service quality researchers interpret path coefficients from PSQ models: a null effect of a bottleneck on PSQ does not mean the bottleneck is inconsequential, only that its damage bypasses the construct being measured.

6.5 Practical and Policy Implications

For restaurant operators, the most important — and least comfortable — finding is that the single largest driver of whether a customer reorders is outside the restaurant’s direct control. DR’s dominance means a kitchen that executes every dish correctly can still lose the customer to a platform-caused cancellation. Two practical responses follow. Restaurants operating across multiple platforms can treat platform-specific performance data — cancellation rates, on-time rates — as a genuine input into which platform to prioritize for a given menu or delivery zone.

And, because the attribution-consequence decoupling finding shows that platform failures still drain restaurant loyalty, restaurants have a commercial incentive to build lightweight recovery gestures for delivery-caused failures — a follow-up message, a discount on the next order — even when the fault is structurally the platform's. The customer's reorder decision will not wait for a correct assignment of fault.

The finding that FC and DT act on reorder behavior directly — bypassing the PSQ measure — has a second practical implication: a restaurant tracking only its satisfaction scores may be operating with a blind spot. Packaging quality, temperature retention, and order-checking before handoff to a rider are investments that may not register in survey-based quality tracking but will plausibly still register in reorder behavior. Frequent orderers amplify this effect: OA's path to PSQ is substantially stronger among heavy users ($\beta = 0.406, p = .005$) than light users ($\beta = 0.073, ns$), suggesting that the customers most likely to defect permanently over persistent inaccuracies are exactly the customers a restaurant most wants to retain.

For platform operators, the geographic results suggest that the bottleneck a manager should prioritize varies systematically with market density. Restaurant operational efficiency's 3.6-fold greater importance for PSQ outside Dhaka District points to a different value proposition in thinner markets: in settings where fewer restaurants are available on the platform, the operational competence of participating restaurants functions as a primary quality signal rather than a secondary one. Platform onboarding and quality standards for restaurant partners may need to be calibrated differently across geographic markets.

For policymakers, the attribution-consequence decoupling finding adds a consumerprotection dimension to the existing commercial-fairness argument for OFD sector regulation in Bangladesh (The Business Standard, 2023). If market feedback — customer reorder decisions — systematically misdirects consequences away from the party actually responsible for a service failure, the market's own corrective mechanism is muted precisely where platform operational choices (delivery-zone size, rider-to-order ratios) are concerned. A regulatory or industry-association mechanism requiring platforms to disclose verifiable service-level indicators — on-time rates, cancellation rates, complaint-resolution rates by area —

would provide a channel of accountability that does not depend on customers correctly routing blame to a party they cannot see.

6.6 Limitations and Future Research

Four caveats qualify these conclusions.

- Subgroup power. Other Platforms ($n = 67$) and Outside Dhaka District ($n = 109$) sit at or under the usual minimum comparison size, so the null platform-type result ($p_{\min} = .143$ across 11 paths) means “not detected,” not “does not exist.”
- Causality. The cross-sectional design shows association, not proof of cause — a caveat that matters most for attribution-consequence decoupling, where a general tendency to sour on both parties at once remains a live alternative to the proposed mechanism. An experiment manipulating attributed responsibility (Folkes, 1984) would supply the causal evidence a correlational design cannot.
- PSQ–DR overlap. PSQ’s AVE (0.575) sits close to the 0.50 floor, and PSQ–DR HTMT (0.872, 95% CI [0.767, 0.963]) clears the conservative 0.85 cutoff. Discriminant validity holds by statistical inference, but the two constructs are not sharply separated in respondents’ minds; more differentiated PSQ items would sharpen this in future work.
- Measurement invariance and ROE. Full invariance held only for platform type; geography failed only on OA, so the Dhaka DT paradox (Section 6.2) is not a measurement artifact, while switcher-status and order-frequency carry additional invariance caveats. ROE’s redundancy validity ($\beta = 0.480$, $R^2 = 0.231$) also falls short of the 0.70 benchmark, a genuine weakness of its formative operationalization.

The clearest next steps: a longitudinal design tracking actual order histories against repeated PSQ/RRI measurements, a scenario experiment manipulating attribution, and linking survey responses to platform-operations data (rider-to-order ratios, cancellation rates) to verify whether reported delivery-reliability failures trace to specific staffing decisions.

7 Conclusion

Three questions motivated this project: which operational bottlenecks shape how Bangladeshi OFD customers judge service quality, whether that judgment is what carries bottlenecks' effects through to restaurant reorder intention, and whether customers end up penalizing the party the study's own conceptual logic says they should. It is the answer to the last of these that matters most.

Customers can — and do — correctly name the delivery platform as the cause of a reliability failure; both the structural path comparison and the attribution subgroup mean-score tests confirm this. Yet the behavioral consequences fall disproportionately on the restaurant: the party the customer holds an ongoing relationship with, not the party who dispatched the rider. Food Condition and Delivery Timeliness compound the problem from another angle, acting on reorder intention directly and bypassing the perceived-quality channel entirely — a heterogeneous mediation structure that leaves a restaurant watching only its satisfaction scores blind to real damage in its reorder rate.

If this study carries one finding worth taking forward into both managerial practice and future research, it is this: in a market built on the promise of convenience, the question of who a customer penalizes for a broken promise is answered less by who actually broke it than by whom the customer came to buy from in the first place. Platforms set the delivery radii, manage the rider rosters, and control the logistics that most reliably predict whether a customer returns. Whether restaurants and riders — the two parties standing downstream of those decisions — continue to absorb their consequences is, ultimately, a question for both researchers and regulators to address.

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