



Analyzing the Impact of Key Factors on the Likelihood of Cash-on-Delivery Parcel Returns: A Seller's Perspective in Sri Lankan E-Commerce

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I certify that I have read this thesis and that in my opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Science.

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DECLARATION

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Sri Lanka Institute of Information Technology or to any other institution for assessment for any other purpose.

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Date: 10/10/2025

ABSTRACT

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MSc. in Information Management

Supervisor: Prof. Dasuni Nawinna

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Cash-on-Delivery (COD) remains the dominant payment method in Sri Lankan e-commerce, but it generates disproportionately high return rates compared to prepaid orders. Returned COD parcels impose dual costs on sellers, who must absorb forward delivery fees even when the order is refused, while also incurring inventory, administrative, and reconciliation burdens. Despite the prevalence of COD, there is little structured research that distinguishes between seller-, courier-, and buyer-related drivers of returns in this context.

The purpose of this study is to develop and validate a predictive framework that estimates the likelihood of COD parcel returns from the seller's perspective, and to identify operational levers that can reduce such returns. Three independent constructs are examined: Seller's Operational Quality, Courier Service Delivery Performance, and Buyer Acceptance Behavior at Delivery. Each construct is operationalized using seller-perspective indicators over a fixed 90-day recall window and measured on a five-point Likert scale. Data were collected through a structured survey of active Sri Lankan e-commerce sellers using purposive sampling, with analysis conducted via Partial Least Squares Structural Equation Modelling (PLS-SEM).

The results demonstrate that all three constructs significantly influence the likelihood of COD returns, with courier performance and buyer acceptance behaviors exerting the strongest predictive effects. Findings highlight the critical importance of first-attempt delivery success, pre-shipment accuracy, and effective communication in minimizing return rates.

This research contributes a context-specific framework for understanding COD returns in Sri Lanka, offering actionable insights for sellers, courier firms, and policymakers seeking to enhance e-commerce sustainability.

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Contents

DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENT	iv
List of Figures	x
List of Tables	xi
Chapter 1 Introduction	1
1.1 Background and practical motivation	2
1.2 Problem statement	3
1.3 Purpose, objectives, and research questions (overview)	4
1.4 Research questions	4
1.5 Conceptual lens and indicator design	4
1.6 Significance and expected contributions	5
1.6.1 Theoretical and methodological contributions	5
1.6.2 Managerial contributions	6
1.6.3 Policy and societal contributions	6
1.7 Context and scope	6
1.8 Overview of approach	7
1.9 Assumptions, limitations, and delimitations	7
1.10 Ethical considerations	8
1.11 Reframing the industry problem	8
Chapter 2 Literature Review	9
2.1 Cash-on-Delivery (COD) in Sri Lankan e-commerce	9
2.2 Literature Review on Hypothesis 1	10
2.2.1 Framing Hypothesis 1 and measurement stance	10
2.2.2 Product Mismatch Rate (PMR)	11
2.2.3 Defective/Damage Rate (DDR)	12
2.2.4 Packaging Quality Score (PQS)	12
2.2.5 Order Processing Time and SLA Adherence (OPT/OSAR)	13
2.2.6 Seller Communication Effectiveness (SCE)	13
2.2.7 Return-Policy Clarity/Structure (RPC)	14
2.2.8 Synthesis: an SOQ pathway to lower COD returns	14
2.2.9 Indicator-level propositions (operationalized for a Likert survey)	15
2.2.10 Alignment with the broader study and Sri Lankan COD context	15
2.2.11 Conclusion to the H1 literature review	16
2.1 Literature Review on Hypothesis 1	17

2.1.1 Framing Hypothesis 2 and the measurement stance	17
2.1.2 Courier Service Delivery Performance as an explanatory construct.....	17
2.1.3 On-time delivery (OTD): punctuality as a refusal-risk lever	18
2.1.4 Follow-ups after failed attempts (FFA): recovery discipline and return avoidance	18
2.1.5 Real-time parcel tracking accuracy (RTPA): transparency, predictability, and acceptance	19
2.1.6 Pre-delivery communication with customers (PDCE): preparing the doorstep	20
2.1.7 CSDP in relation to first-attempt success and return dynamics	20
2.1.8 Intersections with seller operational quality and buyer acceptance	21
2.1.9 Operationalization for hypothesis testing (Likert, 90-day COD window).....	21
2.1.10 Indicator-level evidence and propositions for H2.....	21
2.1.11 Consolidated CSDP pathway: from punctuality and transparency to acceptance	22
2.1.12 Relevance to Sri Lankan sellers and study design	22
2.1.13 Conclusion to the H2 literature review	22
2.1 Literature Review on Hypothesis 3.....	23
2.1.1 Framing Hypothesis 3 and the measurement stance	23
2.1.2 Buyer Acceptance Behavior at Delivery as an explanatory construct.....	23
2.1.3 Customer Availability at First Attempt (CAFA): orchestrating presence	24
2.1.4 First-Attempt Acceptance Rate (FAAR): the central hit-rate outcome	24
2.1.5 Address & Contact Accuracy Rate (AAR): data quality as a precondition for acceptance	25
2.1.6 Pre-delivery Contact Responsiveness (PDCRR): readiness through pre-alerts.....	25
2.1.7 Change-of-Mind at Door Rate (CMDR; reverse): managing regret and doorstep defection	26
2.1.8 Integrative perspective: from readiness and contact ability to first-time success	26
2.1.9 Intersections with courier execution and seller operational quality	27
2.1.10 Operationalization for hypothesis testing (Likert, 90-day COD window).....	27
2.1.11 Indicator-level evidence and propositions for H3.....	27
2.1.12 Synthesis: a BABD pathway to lower COD returns	28
2.1.13 Conclusion to the H3 literature review	28
Chapter 3 Conceptual Framework	29
3.1 Purpose and structure of the framework	29
3.2 Conceptual positioning	30
3.3 Dependent variable: Likelihood of COD parcel returns	31
3.3.1 Conceptual definition.....	31
3.3.2 Measurement	31
3.4 Explanatory construct 1: Seller's Operational Quality (SOQ)	31
3.4.1 Conceptual definition.....	31
3.4.2 Measured indicators and survey items	31

3.4.3 Rationale.....	32
3.5 Explanatory construct 2: Courier Service Delivery Performance (CSDP)	32
3.5.1 Conceptual definition	32
3.5.2 Measured indicators and survey items	32
3.5.3 Rationale.....	33
3.6 Explanatory construct 3: Buyer Acceptance Behavior at Delivery (BABD)	33
3.6.1 Conceptual definition	33
3.6.2 Measured indicators and survey items	33
3.6.3 Rationale.....	33
3.7 Hypotheses.....	34
3.8 Operationalization, coding, and measurement model	34
3.8.1 Scale and time frame	34
3.8.2 Reflective specification.....	34
3.8.3 Directionality and reverse coding	34
3.8.4 Controls and boundary conditions.....	34
3.8.5 Common method and design remedies	35
3.8.6 Analytical approach.....	35
3.9 Model assumptions and scope	35
3.10 Visual summary (narrative)	35
3.11 Finding related to Conceptual Framework.....	36
3.11.1 Finding related to Seller’s Operational Quality (IV-1)	36
3.11.2 Finding related to Courier Service Delivery Performance from a seller perspective (IV-2)	39
3.11.3 Finding related to Buyer acceptance behavior at delivery (seller-perspective). (IV-2).....	41
3.12 Questionnaire supporting the measured indicators.....	43
3.13 Chapter summary	46
Chapter 4 Methodology.....	46
4.1 Research design.....	46
4.2 Population, context and unit of analysis.....	47
4.3 Sampling method.....	47
4.4 Sample size planning.....	47
4.5 Instrument development	48
4.5.1 Structure and scale	48
4.5.2 Content validity and expert review.....	48
4.5.3 Translation and cultural adaptation.....	48
4.5.4 Pre-test and pilot	49
4.6 Data collection procedures and ethics.....	49

4.6.1 Administration and fieldwork	49
4.6.2 Eligibility screening and attention checks	49
4.6.3 Informed consent, privacy, and data security	49
4.6.4 Timeline	49
4.7 Data preparation and quality screening	50
4.8 Measurement model specification and evaluation	50
4.8.1 Specification	50
4.8.2 Reliability	50
4.8.3 Validity.....	51
4.9 Structural model evaluation	51
4.9.1 Model estimation.....	51
4.9.2 Collinearity diagnostics	51
4.9.3 Path coefficients and explanatory power.....	52
4.9.4 Effect sizes (f^2) and relative impact.....	52
4.9.5 Model fit indices	52
4.9.6 Significance testing	52
4.10 Operational definitions and coding	52
4.10.1 Independent variables (5 items each).....	52
4.10.2 Dependent variable (5 items)	53
4.10.3 Control variables	53
4.11 Assumptions, limitations and bias control	53
4.12 Reporting standards.....	53
4.13 Ethical considerations	54
4.13.1 Ethical oversight and approvals.....	54
4.13.2 Informed consent and participant rights.....	54
4.13.3 Fair recruitment and non-coercion	55
4.13.4 Privacy, anonymity, and confidentiality	55
4.13.5 Data-management plan (collection, storage, retention, destruction)	55
4.13.6 Risks, burden, and harm minimization.....	56
4.13.7 Sensitive commercial information	56
4.13.8 Online research and platform considerations	56
4.13.9 Inclusivity and accessibility.....	56
4.13.10 Common-method bias (CMB) and ethics	56
4.13.11 Conflicts of interest and independence	57
4.13.12 Legal and regulatory compliance	57
4.13.13 Transparency and reproducibility	57

4.14 Conclusion	58
Chapter 5 Analysis and Results	58
5.1 Overview	58
5.2 Data Preparation and Screening.....	59
5.3 Measurement Model Evaluation	60
5.3.1 Internal Consistency Reliability.....	61
5.3.2 Convergent Validity.....	61
5.3.3 Discriminant Validity	62
5.4 Structural Model Evaluation.....	63
5.4.1 Collinearity Diagnostics	63
5.4.2 Path Coefficients and Hypothesis Testing	63
5.4.3 Explanatory Power (R^2).....	64
5.4.4 Effect Size (f^2).....	65
5.4.5 Model Fit Indices.....	65
5.5 Summary of Findings.....	66
5.6 Interpretation and Discussion	66
5.7 Conclusion of Data Analysis	67
5.8 Managerial Implications.....	67
5.9 Future Research Directions	68
Chapter 6 Conclusion.....	69
6.1 Overview	69
6.2 Summary of Key Findings	69
6.3 Theoretical Contributions	69
6.4 Managerial Implications - Recommendations.....	70
6.4.1 Managerial Implications For Sellers:	70
6.4.2 Managerial Implications For Couriers:	70
6.4.3 Managerial Implications For Buyers:.....	70
6.5 Limitations of the Study	71
6.6 Directions for Future Research.....	71
References	71

List of Figures

Figure 1 Conceptual Framework.....	29
Figure 2 Measurement Model.....	29
Figure 3 Conceptual Framework for Data Analysis.....	59
Figure 4 Final Path Model labelled with Values.....	60
Figure 5 Final Path Model generated using SmarPLS 4.0.....	61
Figure 6 Bootstrapping Results : SmartPLS 4.0.....	64

List of Tables

Table 1 Finding related to Seller's Operational Quality	36
Table 2 Finding related to Courier Service Delivery Performance from a seller perspective	39
Table 3 Finding related to Buyer acceptance behavior at delivery (seller-perspective)	41
Table 4 Questionnaire Seller's Operational Quality	43
Table 5 Questionnaire Courier Service Delivery Performance	44
Table 6 Questionnaire Buyer Acceptance Behavior at Delivery	45
Table 7 Bootstrapping Results : SmartPLS.....	64
Table 8 Effect Size (f^2) Results.....	65
Table 9 Model fit indices : Results.....	65