

Price dispersion and frequency of price changes in Pakistani mobile e-stores



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Abstract

This thesis investigates the dynamics of price dispersion and the frequency of price adjustments within the rapidly evolving Pakistani digital mobile-phone ecosystem. The Pakistani smartphone e-commerce market has grown into one of the most active product categories within the country's broader digital retail economy, driven by rising smartphone penetration, the rapid expansion of price-aggregator platforms such as PriceOye.pk, and the heterogeneous brand mix of premium imports (Apple, Samsung) alongside dominant value brands (Xiaomi, Infinix, Tecno, Oppo, Vivo). Despite the theoretical expectation that digital transparency reduces search costs and leads to price convergence, this study identifies a persistent "Search Cost Paradox" in this market. Through a quantitative research design utilising secondary archival data retrieved from the Internet Archive's Wayback Machine for two leading Pakistani mobile e-retailers (PriceOye.pk and Telemart.pk) across a 25-month observation window, the research examines how localised market frictions — including a significant trust deficit, dependency on imported devices, and the algorithmic pricing behaviour of price-aggregator platforms — sustain price variance. The study further explores the impact of macroeconomic conditions, specifically the 2025 Digital Presence Proceeds Tax (DPPT), implicit PKR/USD exchange-rate movements, monthly mobile-phone import value, and the Herfindahl-Hirschman Index (HHI) of vendor market concentration, on retailer pricing strategies. Findings indicate that price dispersion is not merely a market inefficiency but a tier-dependent strategic outcome for retailers navigating a high-volatility environment characterised by product life-cycle repricing, brand-reputation differentials, and the risks associated with a Cash-on-Delivery (COD) dominant market. This research provides an empirical foundation for understanding digital economics in an emerging market context, offering critical insights for retailers, consumers, and policymakers in the Pakistani mobile retail sector.

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List of Abbreviations

AI	Artificial Intelligence
ANOVA	Analysis of Variance
CDX	Capture/Index API (Internet Archive Wayback Machine)
COD	Cash on Delivery
CV	Coefficient of Variation
DOJ	Department of Justice (United States)
DPPT	Digital Presence Proceeds Tax
E-WOM	Electronic Word of Mouth
GST	General Sales Tax
HHI	Herfindahl-Hirschman Index
ILD	Inventory-Led Dynamic Pricing
JSON-LD	JavaScript Object Notation for Linked Data
PBS	Pakistan Bureau of Statistics
PKR	Pakistani Rupee
PLC	Product Life Cycle
POS	Point of Sale
PTA	Pakistan Telecommunication Authority
RTO	Return-to-Owner / Return-to-Origin
SaaS	Software as a Service
SBP	State Bank of Pakistan
SD	Standard Deviation
SKU	Stock Keeping Unit
SMI	Social Media Influencer
URL	Uniform Resource Locator
USD	United States Dollar
WHT	Withholding Tax