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Optimal Pricing Strategies for Multiple Generations of New and Remanufactured Short-Lived Products Considering Consumer Behavior and Market Dynamics

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Abstract

This research investigates optimal pricing strategies for new and remanufactured short-lived products, such as smartphones and laptops, where multiple generations of such products coexist. The study employs a utility function-based approach to models and examines the effect of consumer behavior and market dynamics on the optimal price of the product. Under consumer behavior, we study the impact of contrast, assimilation effects, and green consumerism on price. We also study market dynamics such as product differentiation and generational effects. While validating several extant findings, the study converges upon several novel insights. For instance, the research highlights that strong contrast and weaker assimilation effects tend to equalize the prices of both old and new generations of products. The study has important implications for research streams like pricing, timing of product launch, and remanufacturing.

Keywords

Short-lived product, Multiple generations, Remanufacturing, Consumer Behavior, Market Dynamics

Biographies

Akhilesh Kumar is an Associate Professor in the Department of Industrial and System Engineering at the Indian Institute of Technology Kharagpur, India. Dr. Kumar research interests include Closed-loop Supply Chains, Product Returns and Remanufacturing, Pricing and Revenue Management, Industry 4.0 and Predictive Maintenance. His publications appeared in such journals as European Journal of Operational Research, Annals of OR, Computers and Industrial Engineering, International Journal of Production Economics, International Journal of Production Research.

Satchidananda Tripathy is an Assistant in the area of Operations Management and Decision Science at Parri School of Business (PSB) SRM University-AP. Dr. Satchidananda Tripathy got his Ph. D degree from Department of Industrial and System Engineering at the Indian Institute of Technology Kharagpur, India. Dr. Tripathy research interests include Closed-loop Supply Chains, Product Returns and Remanufacturing, Pricing and Revenue Management. His publications appeared in such journals as Technology Forecasting and Social Change. Dr. Tripathy also presents the paper at some reputed international conference like CIE 50, IEEM 2003, and POMS 2021.

Mohit Goswami is an Associate Professor with IIM Raipur. He is an accomplished academic and industry expert specializing in Operations Management, Supply Chain Management, Analytics, Innovation Management & New Product Development. He possesses 18+ years of professional experience across both academia and industry. He has over a decade of diversified industry experience across both India and the USA. Dr. Goswami has published 50+ research papers in reputed journals such as the International Journal of Production Research, IEEE Transactions on Engineering Management, Industrial Management & Data Systems, Business Strategy and the Environment, etc.