REVISTA ESMAT

Article

HANDSETS BY OPERATORS AS A REVENUE GENERATION ENGINE: AN INDUSTRY ANALYSIS

Aparelhos celulares comercializados por operadoras como estratégia de geração de receita: uma análise setorial

Teléfonos móviles comercializados por operadores como estrategia de generación de ingresos: un análisis sectorial

Lovish Karaparambil[1]
Doctorate in Business Administration (DBA) Student, Western State University (WSU), California, EUA.
https://orcid.org/0009-0003-5645-6592
E-mail: lovishkaraparambil@gmail.com

Histórico do artigo
Recebido em: 12 de junho de 2026
Aceito em: 13 de agosto de 2026
Revisado em: 20 de agosto de 2026
Publicado em: 2 de setembro de 2026

Editor responsável: Dr. Tarsis Barreto Oliveira
Editor assistente: Dr. Leonardo de Andrade Carneiro

Este artigo está licenciado sob a Licença Creative Commons Atribuição 4.0 Internacional (CC BY 4.0), que permite uso, compartilhamento e adaptação, desde que a autoria e a fonte original sejam devidamente creditadas.

ABSTRACT

The telecommunications industry is shifting from traditional voice-based revenues toward data-driven services, with mobile handsets becoming increasingly important to operators' revenue structures, particularly in emerging markets. This study examines handsets as both revenue enablers and sources of operational and financial risk. A mixed-methods design combines structured questionnaires with expert interviews to assess the relationship between handset adoption, revenue outcomes, and risks associated with financing, subsidies, and trade-in programs. The findings indicate that handset adoption is associated with sustained mobile data demand and increased revenue when supported by bundled offerings and flexible payment mechanisms, including installment and EMI plans. Buy-back and upgrade programs may further influence replacement behavior by reducing affordability constraints. However, these initiatives also introduce operational complexity and financial risks that may limit their overall revenue impact. The study contributes to the academic understanding of

[1] Portfolio Director, Devices, Mobile Telecommunication Company, Riyadh, Saudi Arabia.

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

handset-centric revenue models in emerging markets by examining the interplay among handset strategies, revenue generation, affordability, and associated risks.

Keywords: Mobile Handsets. Affordability. Emerging Markets. Handset Financing. EMI.

RESUMO
A indústria de telecomunicações passou por significativa transformação, com a crescente substituição dos modelos tradicionais de receita baseados em voz por serviços de dados. Nesse contexto, os aparelhos móveis assumem papel central nas estruturas de receita das operadoras, especialmente em mercados emergentes. Este estudo analisa seu duplo papel como indutores de crescimento da receita e fontes de desafios operacionais e financeiros. Adota-se uma abordagem de métodos mistos, integrando dados quantitativos de questionários estruturados e dados qualitativos de entrevistas com especialistas. A análise examina a relação entre adoção de aparelhos e resultados de receita, incluindo a receita média por usuário (ARPU) associada a serviços de dados, acessórios e ofertas adicionais, bem como os riscos relacionados ao financiamento, subsídios e programas de troca de aparelhos. Os resultados indicam que a adoção de aparelhos está associada ao aumento da demanda por serviços de dados e da receita quando apoiada por ofertas combinadas e mecanismos de acessibilidade financeira, como parcelamentos e opções de pagamento mensal equivalente (EMI). Programas de recompra e atualização também podem influenciar a substituição de aparelhos ao reduzir barreiras de aquisição. Contudo, esses mecanismos introduzem complexidade operacional e riscos financeiros que podem limitar seu impacto sobre a receita. O estudo contribui para a compreensão de modelos de receita centrados em aparelhos em mercados emergentes, sem propor recomendações gerenciais.

Palavras-chave: Aparelhos móveis. Acessibilidade financeira. Mercados emergentes. Financiamento de aparelhos. EMI.

RESUMEN
La industria de las telecomunicaciones ha experimentado una transformación significativa, marcada por la creciente sustitución de los modelos tradicionales de ingresos basados en voz por servicios de datos. En este contexto, los dispositivos móviles asumen un papel central en las estructuras de ingresos de las operadoras, especialmente en mercados emergentes. Este estudio analiza su doble papel como impulsores del crecimiento de los ingresos y como fuentes de desafíos operativos y financieros. Se adopta un enfoque de métodos mixtos, que integra datos cuantitativos obtenidos mediante cuestionarios estructurados y datos cualitativos provenientes de entrevistas con especialistas. El análisis examina la relación entre la adopción de dispositivos y los resultados de ingresos, incluida la renta media por usuario (ARPU) asociada a servicios de datos, accesorios y ofertas adicionales, así como los riesgos relacionados con la financiación, los subsidios y los programas de intercambio de dispositivos. Los resultados indican que la adopción de dispositivos está asociada al aumento de la demanda de servicios de datos y de los ingresos cuando está respaldada por ofertas combinadas y mecanismos de accesibilidad financiera, como pagos a plazos y opciones de pago mensual equivalente (EMI). Los programas de recompra y actualización también pueden influir en la sustitución de dispositivos al reducir las barreras de adquisición. Sin embargo,

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

estos mecanismos introducen complejidad operativa y riesgos financieros que pueden limitar su impacto en los ingresos. El estudio contribuye a la comprensión de los modelos de ingresos centrados en dispositivos en mercados emergentes, sin proponer recomendaciones gerenciales.

Palabras clave: Dispositivos móviles. Accesibilidad financiera. Mercados emergentes. Financiación de dispositivos. EMI.

1 INTRODUCTION

The telecommunications industry in emerging markets has undergone significant structural transformation, driven by technological diffusion, changing consumer preferences, and evolving operator business models. Mobile handsets have become an important component of operators' revenue strategies, extending beyond their traditional communication role by supporting customer acquisition, service bundling, and mobile data consumption. This role is particularly relevant in emerging markets, where mobile connectivity represents a primary channel of digital access (McKinsey; Company, 2020).

Rising device prices and increased reliance on installment and financing models may influence smartphone adoption while exposing operators to credit and financial risks (GSMA, 2025; Market Intelo, 2025). Dedrick, Kraemer and Linden (2011) highlight the economic importance of handset-related activities across the mobile phone value chain, while more recent evidence emphasizes their role in connectivity and operator revenues (GSMA, 2025; GSMA Intelligence, [s. d.]; McKinsey & Company, 2020).

Differences in income, purchasing capacity, market structure, and regulatory conditions may further affect the sustainability of handset-led revenue models (Analyst Interview, 2025). Thus, handsets represent both opportunities for revenue diversification and sources of operational and financial complexity.

Although existing literature and industry evidence recognize the contribution of smartphones, handset financing, and bundled services to data adoption and telecommunications revenue, limited attention has been given to how operators in emerging markets balance these opportunities with affordability constraints, financing exposure, and operational risks. Dedrick *et al.* (2011) highlights the economic importance of handset-related activities across the mobile phone value chain, while more recent evidence emphasizes their

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

role in connectivity and operator revenues (GSMA, 2025; GSMA Intelligence, [s. d.]; McKinsey; Company, 2020). This study addresses this gap by examining mobile handsets as a potential revenue-generation engine, focusing on handset adoption, mobile data consumption, ARPU, service bundling, accessories, value-added offerings, affordability mechanisms, and the risks associated with financing, subsidies, trade-in, buy-back, and upgrade programs.

2 BACKGROUND OF STUDY

Telecommunications revenue has historically depended on voice and messaging services; however, smartphone adoption, technological advancement, and the proliferation of over-the-top (OTT) platforms have transformed industry economics. The continued expansion of smartphone adoption has also enlarged the potential market for mobile services, with billions of smartphone users worldwide (Turner, 2025).

In emerging markets, where mobile connectivity often provides primary digital access, operators increasingly diversify beyond traditional connectivity to sustain revenue growth and support digital inclusion (GSMA, 2025).

Mobile handsets now function as platforms for data consumption, digital-service adoption, and broader ecosystem participation. Operators increasingly combine handset sales with installment financing, extended warranties, accessories, OTT subscriptions, and trade-in or buy-back programs.

These models may enhance customer acquisition, data consumption, ARPU, and retention by linking device ownership with telecommunications services (McKinsey; Company, 2020). Handset-related activities also form part of a broader value chain involving operators, manufacturers, suppliers, and consumers (Dedrick; Kraemer; Linden, 2011)

Affordability remains a major constraint on smartphone adoption. Flexible financing and installment mechanisms can reduce upfront costs and stimulate handset and data adoption, but may also create credit, capital-recovery, inventory, and device-depreciation risks (GSMA, 2025; Market Intelo, 2025; GSMA Intelligence, [s. d.]). Trade-in, buy-back, and upgrade programs may support affordability and replacement cycles while introducing additional operational requirements.

Consequently, handset strategies should be viewed not solely as device-sales activities

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

but as components of a broader revenue ecosystem connecting device adoption with subscriber acquisition, data consumption, service bundling, customer retention, and recurring telecommunications revenue. Their effectiveness and sustainability may vary according to affordability, income levels, market structure, technology adoption, and regulatory conditions in emerging markets.

3 LITERATURE REVIEW

The telecommunications industry has undergone substantial transformation, driven by technological advancement, smartphone adoption, changing consumer behavior, and the growing importance of mobile data services. The shift from voice-centric to data-driven and digitally integrated models has increased the strategic importance of mobile handsets, which facilitate network access, mobile data consumption, digital-service adoption, and value-added offerings (PwC, 2025).

Academic research highlights the economic significance of handsets within the telecommunications value chain. Dedrick *et al.* (2011) found that mobile carriers capture substantial value from handset-related activities, while also facing significant network investment and operating costs. Thus, handset contribution extends beyond direct device sales to subscriber acquisition, service consumption, and recurring telecommunications revenue.

Handset financing, subsidies, and installment models can reduce upfront affordability barriers and support smartphone adoption, but may also increase operators' exposure to credit risk, delayed cost recovery, capital requirements, inventory, and device depreciation (GSMA2025.; McKinsey; Company, 2020).

Smartphone adoption is closely associated with mobile data consumption and access to digital applications and services. In emerging markets, affordability remains a major constraint, with device prices and differences in purchasing capacity influencing adoption (GSMA Intelligence, [s. d.]; Market Intelo, 2025).

Operators increasingly use financing, installment plans, trade-in, buy-back, and upgrade programs to address these constraints. Such mechanisms may stimulate handset and data adoption, ARPU, customer acquisition, and complementary revenues through bundled services, accessories, warranties, and OTT offerings. However, their effectiveness also

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

depends on operators' ability to manage credit exposure, residual device values, refurbishment, logistics, inventory, and device lifecycles.

The regulatory and commercial environment provides an additional contextual dimension. Licensing, competition, consumer protection, financing and BNPL requirements, data protection, cybersecurity, and commercial arrangements with original equipment manufacturers (OEMs) may influence the development and sustainability of handset-centric models. The integration of handsets with OTT and other digital services further connects device strategies with broader issues of service contracts, transparency, competition, and digital-service regulation.

Despite this growing body of literature and industry evidence, handset adoption, revenue generation, affordability, financing, and operational and financial risks are frequently examined as separate dimensions. Limited empirical research has integrated these factors to examine how telecommunications operators in emerging markets balance the revenue potential of handset-centric strategies with affordability constraints and associated risks. This gap is particularly relevant given differences in income, smartphone penetration, market structure, technological development, and regulatory conditions across emerging markets.

Accordingly, this study examines mobile handsets as a potential revenue-generation engine for telecommunications operators in emerging markets. It investigates the relationship between handset adoption and revenue-related outcomes, including mobile data consumption, average revenue per user (ARPU), service bundling, accessories, and value-added offerings, while considering affordability mechanisms and risks associated with financing, subsidies, trade-in, buy-back, and device lifecycle management. The study adopts an analytical rather than prescriptive approach, contributing to the academic understanding of the relationship between handset-centric strategies, revenue generation, affordability, and operational and financial sustainability.

3.1 Research Objectives

The primary aim of this study is to examine the dual role of mobile handsets within telecommunications operators' business models in emerging markets, focusing on their contribution to revenue generation and associated operational and financial challenges. The

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

study adopts an analytical, non-prescriptive perspective to examine the relationship between handset adoption, revenue-related outcomes, and operator risk exposure. To achieve this aim, the study is guided by the following objectives:

a) To examine the relationship between mobile handset adoption and operator revenue, focusing on mobile data consumption, service bundling, accessories, add-on offerings, and average revenue per user (ARPU).
b) To assess the operational and financial challenges associated with handset-related strategies, including financing, subsidies, trade-in programs, and device lifecycle management.
c) To examine the emerging-market factors influencing handset-driven business models, including affordability, income variability, market saturation, smartphone penetration, and regulatory conditions.
d) To analyze the trade-offs between revenue opportunities and the operational and financial risks associated with handset-centric initiatives, reflecting the dual role of handsets as revenue enablers and potential sources of constraints.
e) To develop an analytical framework for understanding handset-centric revenue models in emerging markets and contribute to the academic literature on telecommunications business models without prescribing specific managerial actions.

4 RESEARCH METHODOLOGY

4.1 Research Design

This study adopts a mixed-methods research design integrating quantitative and qualitative approaches to examine the role of mobile handsets in telecommunications operators' business models, with particular emphasis on revenue generation and average revenue per user (ARPU).

The design enables the identification of patterns and relationships from structured questionnaire responses while providing contextual insights through semi-structured interviews with industry experts. Integrating both approaches supports the analytical examination of measurable revenue-related outcomes alongside the operational and financial challenges associated with handset-centric strategies (Creswell; Creswell, 2018; Saunders *et*

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

al., 2019).

4.2 Research Approach

The quantitative component comprises 104 questionnaire responses, examining respondents' perceptions and experiences relating to handset adoption, mobile data consumption, service bundling, ARPU, accessories, and add-on offerings.

The qualitative component comprises two semi-structured interviews with telecommunications industry experts, providing insights into handset financing, subsidies, trade-in programs, device lifecycle management, affordability constraints, and associated operational and financial challenges.

The integration of quantitative and qualitative evidence enables a broader examination of the relationship between handset adoption and revenue-related outcomes while considering contextual factors and risks that may influence these relationships. This approach supports the study's analytical examination of mobile handsets as a potential revenue-generation mechanism within telecommunications operators' business models in emerging markets.

4.3 Conceptual Framework Components

Handset Adoption

Handset adoption refers to the extent to which customers acquire and use smartphones or other mobile devices to access telecommunications and digital services. In this study, handset adoption is examined in relation to revenue-generating activities including:

a) Data consumption
b) Service bundling
c) Accessory and add-on sales along with the handsets

Operational and Financial Challenges

Operational and financial challenges refer to the risks and constraints associated with implementing and managing handset-related strategies, including:

a) Device financing (instalment / BNPL) and subsidy programs
b) Trade-in/buyback schemes

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

c) Inventory and lifecycle management through Upgrade programs

These factors may influence the financial and operational outcomes of handset-centric business models and their contribution to operator revenue.

Emerging-Market Contextual Factors

Emerging-market conditions may influence handset adoption and the operational and financial implications of handset-related strategies. Key factors include:

a) Affordability constraints
b) Market saturation
c) Income variability
d) Regulatory frameworks
e) Technology adoption levels

These factors provide the context within which handset strategies are implemented and may influence their effectiveness and sustainability.

5 REVENUE OUTCOMES

Revenue outcomes represent the financial results associated with handset-centric business models. The principal outcomes examined in this study include;

a) Average revenue per user (ARPU)
b) Mobile data revenue
c) Total operator revenue
d) Revenue from accessories and add-on offerings
e) Revenue from bundled services

The framework proposes that handset adoption, together with associated operational and financial challenges and emerging-market contextual factors, is related to operator revenue outcomes. This relationship is examined to assess the potential role of mobile handsets as a revenue-generation engine within telecommunications operators' business models.

5.1 Data Collection Methods

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

Questionnaires (Quantitative Data):

Structured questionnaires were administered through Google Forms to collect quantitative data on handset-centric revenue models in the telecommunications sector. A total of 104 respondents participated, comprising 67 mobile customers and 37 telecommunications professionals, including product managers, marketing managers, and finance personnel. The inclusion of both groups enabled examination of handset adoption and revenue-related factors from consumer and operator perspectives. The questionnaire examined:

a) The relationship between handset adoption and revenue generation, including mobile data consumption, accessories, add-on offerings, and perceived contribution to average revenue per user (ARPU).
b) Handset financing, installment payments, subsidies, and trade-in/buy-back programs.
c) Market factors affecting handset adoption and revenue outcomes, including affordability, income variability, smartphone penetration, and market saturation.
d) Operational and financial challenges, including financing exposure, inventory management, and device lifecycle management

Closed-ended and Likert-scale questions were primarily used to support systematic measurement and statistical analysis. The quantitative data were analyzed to identify patterns and relationships concerning handset adoption, revenue outcomes, affordability, and associated operational and financial challenges. The combined customer and professional responses provided complementary perspectives on the potential role of handsets as a revenue-generation mechanism in emerging markets.

Expert Interviews (Qualitative Data)

Semi-structured interviews were conducted with two telecommunications industry experts, including senior managers with professional and analytical experience in telecommunications operator businesses in emerging markets. The interviews were conducted in December 2025 through in-person and email-based communication. In-person interviews lasted approximately 30–45 minutes and were audio-recorded with participants' consent, while email responses were retained as written records for analysis. The interviews examined:

a) Trends and strategic considerations relating to handset adoption.

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

b) Operational and financial challenges and risk management.
c) Market dynamics affecting handset-related revenue and ARPU.
d) Relationships among handset adoption, customer behavior, and revenue generation
e) Trade-offs between revenue opportunities and operational and financial risks

The interviews provided contextual and industry-specific insights that complemented the questionnaire findings. Qualitative evidence was used to support interpretation of the quantitative results and facilitate triangulation between the two data sources.

Sampling Strategy

A purposive sampling approach was used for both the questionnaire and expert interviews. The questionnaire comprised 104 respondents, including 67 mobile customers and 37 telecommunications professionals selected based on relevant knowledge or experience in product management, marketing, finance, and telecommunications operations.

For the qualitative component, two telecommunications industry experts were purposively selected based on their professional experience and knowledge of operator businesses in emerging markets. This approach ensured that participants had relevant expertise in handset strategies, revenue models, customer adoption, and the associated operational and financial considerations.

Data Analysis

Quantitative Data: Questionnaire responses collected through Google Forms were analyzed using its descriptive response-analysis functions. Frequencies, percentages, response patterns, and overall trends were examined in relation to handset adoption, mobile data consumption, service bundling, accessories, add-on offerings, ARPU, affordability, and operational and financial challenges. Findings were presented using tables and graphical representations where appropriate.

Qualitative Data: Interview responses were analyzed using thematic analysis based on Braun and Clarke (2006). Responses were reviewed to identify recurring patterns and concepts, which were organized into themes relating to handset adoption, revenue generation, financing, affordability, market conditions, and operational and financial risks associated with

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

handset-centric strategies.

Quantitative and qualitative findings were considered together to support triangulation. Questionnaire data provided overall response patterns, while expert interviews contributed contextual industry insights. Their integration enabled a broader examination of handsets as a potential revenue-generation mechanism and the associated operational and financial challenges in emerging markets.

Ethical Considerations

The study followed standard ethical principles for academic research. Informed consent was obtained before questionnaire and interview data collection, and participants were informed of the study's purpose and academic use of the information provided. Confidentiality and anonymity were maintained, with no personally identifiable information disclosed. Findings were reported accurately and transparently to minimize misrepresentation and selective reporting.

Rationale for Methodology

The mixed-methods approach was selected to examine both quantitative response patterns and qualitative industry perspectives on the role of mobile handsets in telecommunications operators' business models. The questionnaire provides insights into handset adoption, data consumption, service bundling, accessories, add-on offerings, affordability, and perceived ARPU-related outcomes, while expert interviews provide contextual perspectives on financing, trade-in and buy-back programs, upgrades, OTT services, extended warranties, and associated operational and financial challenges.

Integrating these sources supports a broader examination of the relationship between handset adoption and revenue generation while accounting for contextual and operational factors in emerging markets. The methodology therefore supports the study's analytical focus without prescribing specific managerial strategies or interventions.

6 DATA INTERPRETATION AND ANALYSIS

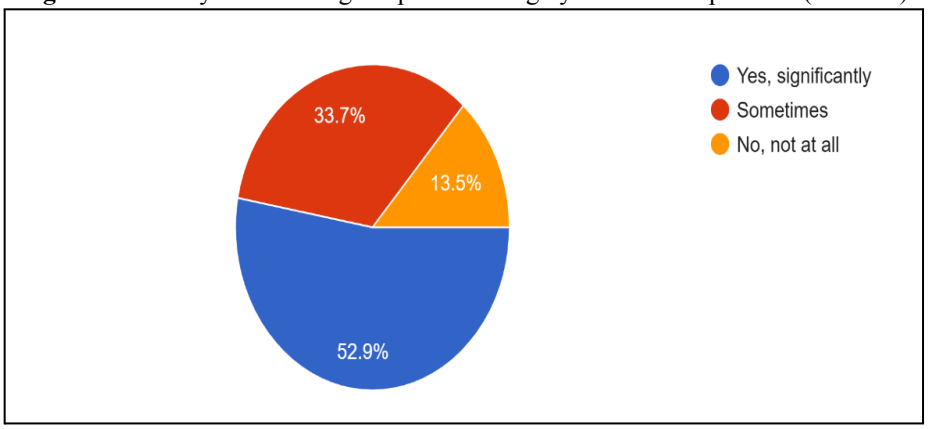
6.1 Quantitative Data

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

1. *Handset Adoption Patterns through Mobile Operators*

Operator's Influence on Your Phone Purchase

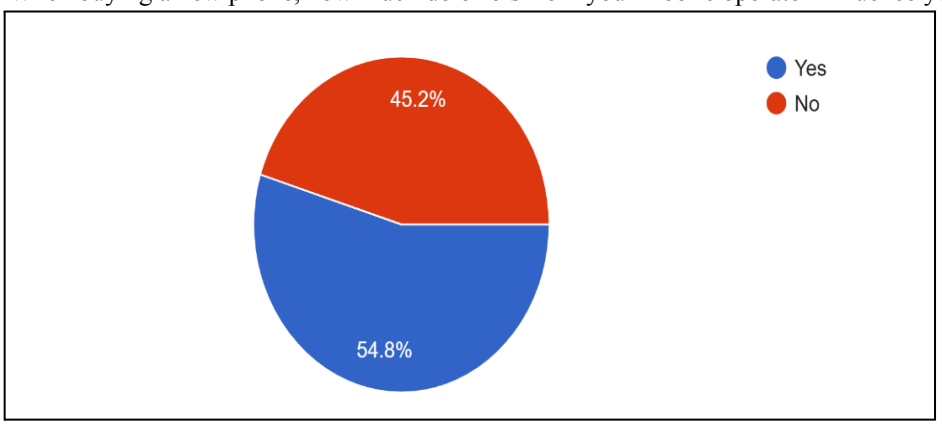
Figure 1 - Have you ever bought a phone through your mobile operator? (N = 104)



Source: Research data (2025).

Figure 1 The results indicate that mobile operators offer influence handset purchasing decisions among most respondents. Over half of the participants (52.9%) reported that such offers significantly influenced their choice, while 33.7% indicated occasional influence. Only 13.5% reported no influence from mobile operator offers (see Figure 1).

Figure 2 - When buying a new phone, how much do offers from your mobile operator influence your choice



Source: Research data (2025); (N = 104).

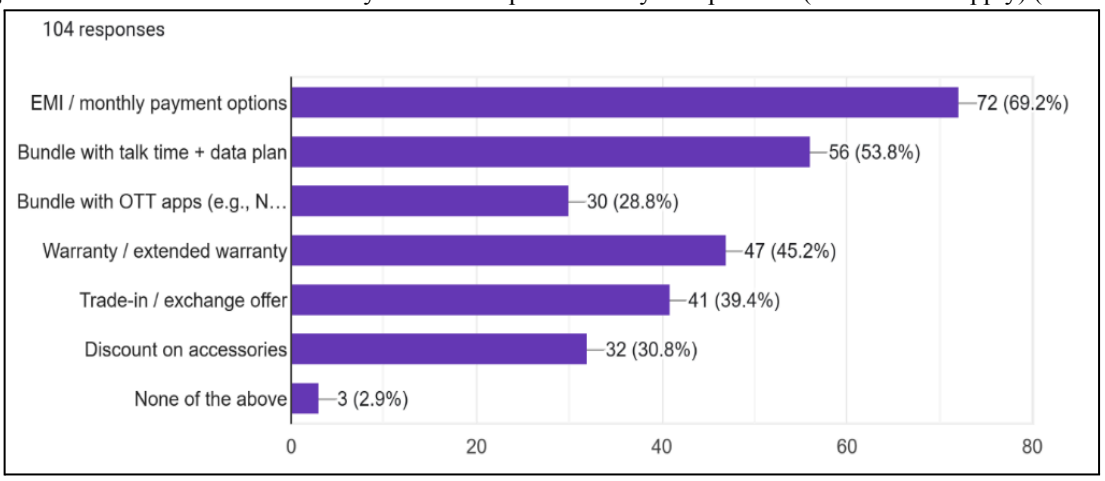
Figure 2 shows that mobile operators offer influence on handset purchasing decisions for most respondents. Most participants (54.8%) reported that such offers significantly affect their purchasing decisions, while 45.2% indicated that offers from mobile operators have little

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

or no influence on their choice.

2. *Factors Influencing Your Choice of Operator Phone*

Figure 3 - What factors would make you choose a phone from your operator? (select all that apply) (N = 104)

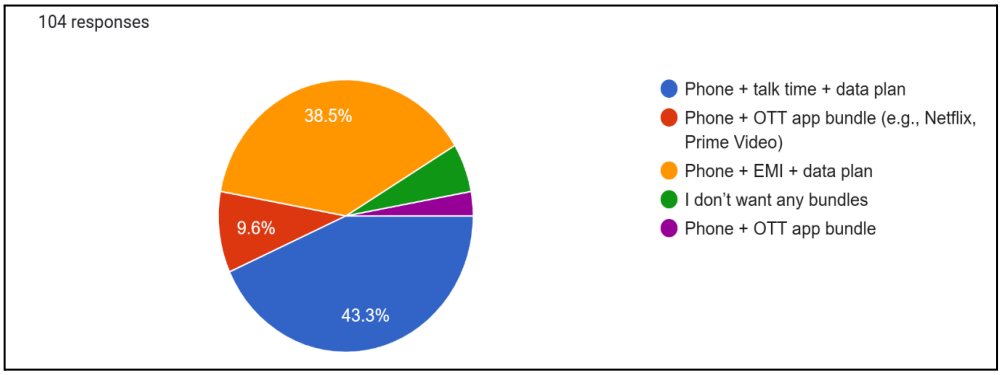


Source: Research data (2025).

Figure 3 shows that EMI or monthly payment options were the most preferred mobile operator offers (69.2%), followed by bundled talk-time and data plans (53.8%).

Warranty or extended warranty options (45.2%) and trade-in or exchange offers (39.4%) were moderately preferred. Fewer respondents selected bundles with OTT applications (28.8%) or discounts on accessories (30.8%), while only 2.9% indicated that none of the listed offers were appealing.

Figure 4 - If you buy a phone from your operator, which ONE bundle would you prefer? (N = 104)



Source: Research data (2025).

Figure 4 shows that most preferred bundle was a phone with talk time and a data plan

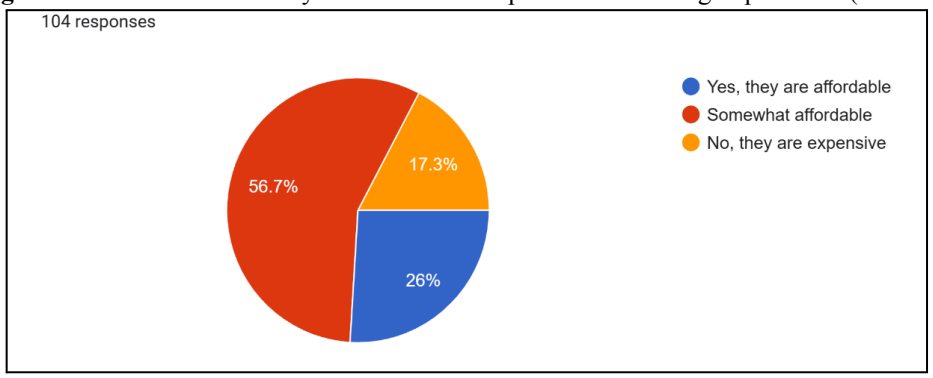
Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

(43.3%), followed closely by a phone with EMI and a data plan (38.5%). Fewer respondents preferred a phone bundled with OTT applications (9.6%), while only a small proportion indicated no preference for bundles or selected other bundle options.

Overall, the findings suggest that respondents prioritized basic connectivity and payment flexibility over entertainment-oriented add-ons.

3. *Affordability and Financing Options*

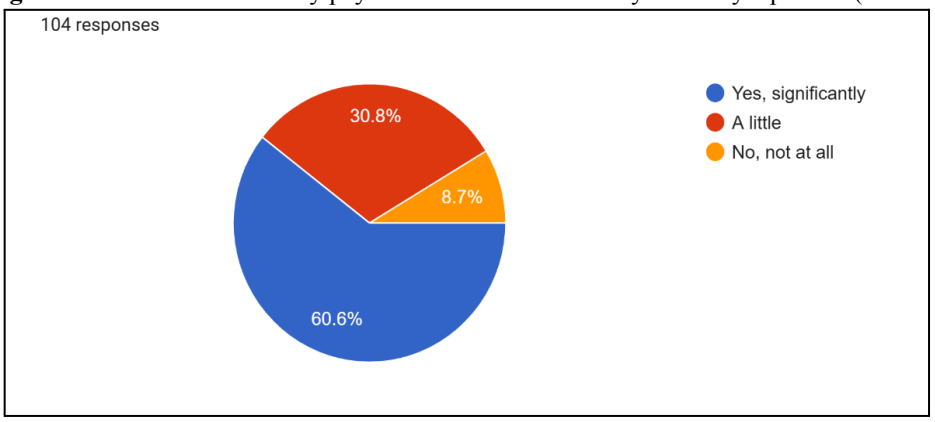
Figure 5 - How affordable do you find new smartphones sold through operators? (N = 104)



Source: Research data (2025).

Figure 5 shows that majority of the respondents (56.7%) considered purchasing a phone through their mobile operator somewhat affordable, while 26.0% considered it affordable. A smaller proportion (17.3%) considered purchasing phones through operators expensive.

Figure 6 - Does EMI / monthly payments make it easier for you to buy a phone? (N=104)



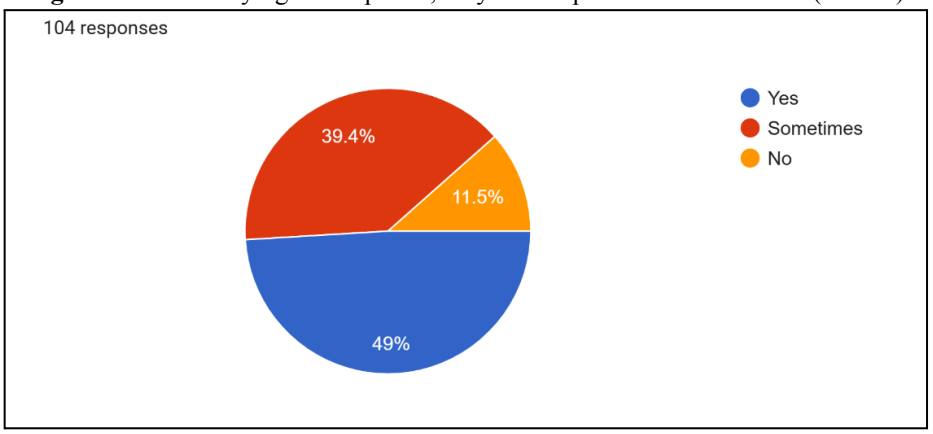
Source: Research data (2025).

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

Figure 6 shows that majority of the respondents (60.6%) preferred EMI or monthly payment options when purchasing a phone through their mobile operator. A further 30.8% considered these options less attractive, while only 8.7% indicated that such payment options did not make purchasing a phone easier.

4. *Accessories and Bundles*

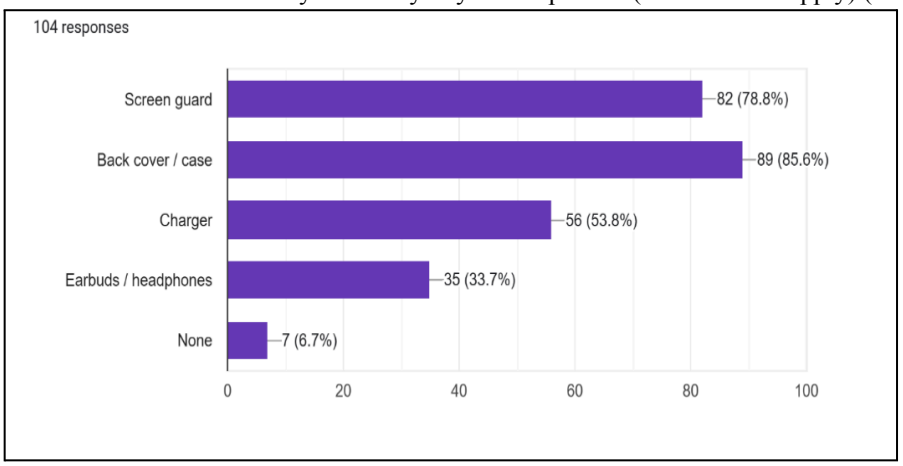
Figure 7 - When buying a new phone, do you also purchase accessories? (N=104)



Source: Research data (2025).

Figure 7 shows that 49.0% of respondents preferred to purchase accessories along with their phones, while 39.4% indicated that they would do so sometimes. Only 11.5% reported that they did not prefer to purchase accessories with their phones.

Figure 8 - Which accessories do you usually buy with a phone? (select all that apply) (N=104)

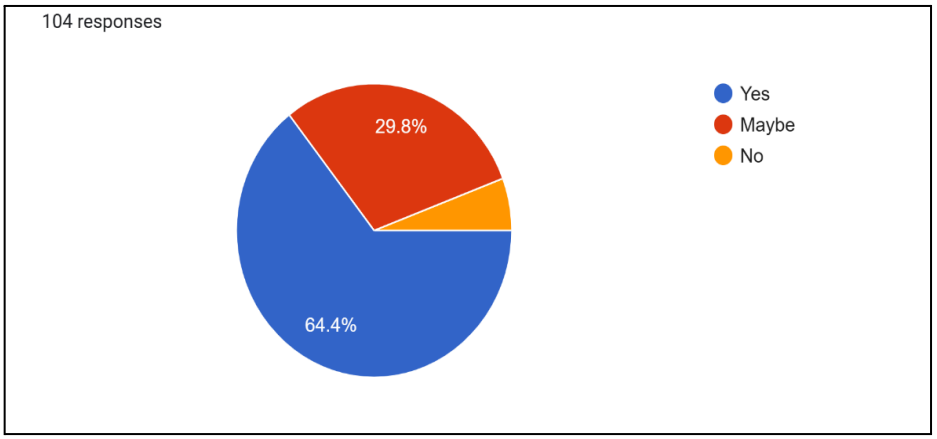


Source: Research data (2025).

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

Figure 8 shows that back covers/cases were the most preferred mobile accessories (85.6%), followed by screen guards (78.8%). Chargers (53.8%) and earbuds/headphones (33.7%) were moderately preferred. Only 6.7% of respondents indicated that they did not prefer to purchase any accessories.

Figure 9 - Would you prefer getting an accessories bundle at a discount from your operator? (N=104)

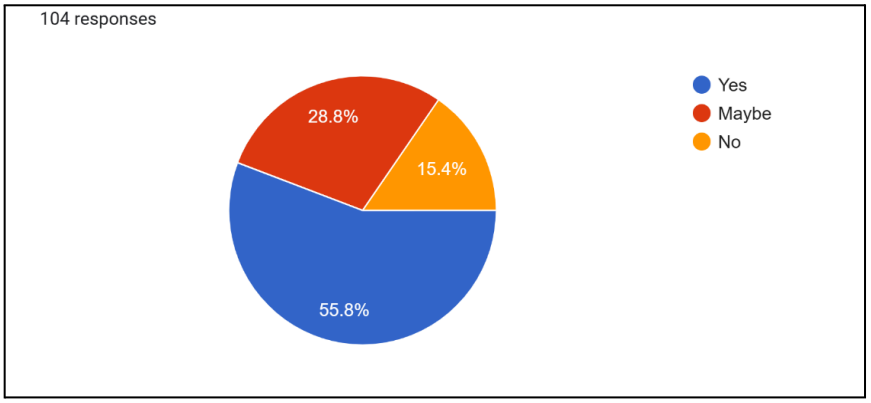


Source: Research data (2025).

Figure 9 shows that the majority of respondents (64.4%) preferred to purchase accessories from their mobile operator at a discount, while 29.8% indicated that they might consider discounted offers. Only 5.8% reported that they would not prefer to purchase accessories at a discount.

5. *Trade-In and Phone Upgrade*

Figure 10 - Would a good trade-in/exchange offer encourage you to upgrade your phone sooner? (N=104)



Source: Research data (2025).

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

Figure 10 shows that the majority of respondents (55.8%) preferred trade-in/exchange offers that would enable them to upgrade their phones sooner. A further 28.8% indicated that such offers might encourage them to upgrade earlier, while 15.4% reported no preference for an earlier upgrade option.

7 QUALITATIVE DATA

7.1. Organizing Data by Themes

After conducting the interviews, please find the coding for the data the major themes are as below:

Market Strategy & Role of Handsets

Expert 1 stated that handset offerings are critical for customer acquisition and base monetization, particularly within mid- and high-value customer segments. According to the expert, such offerings can contribute to increased ARPU, customer stickiness, and lifetime value (LTV). The expert further noted that handset offerings may incentivize customers to upgrade their service plans to obtain more favorable subsidy or installment benefits.

Expert 2 indicated that the market strategy focuses on using handsets as a catalyst for accelerating customer onboarding. At the same time, the expert characterized subsidies as a potentially risky and "double-edged" mechanism requiring careful monitoring. The expert further observed that BNPL has become an increasingly popular customer financing option and may improve cash-flow predictability for telecommunications operators.

Handset Financing Models

Expert 1 reconfirmed that subsidies and installment plans are among the most effective mechanisms for purchasing devices through mobile operators. The expert noted that credit-scoring mechanisms are deployed to assess customer eligibility, with support from government and banking entities. For new customers without an established credit history, installment and subsidy facilities are generally limited to lower financing amounts and require higher upfront payments. According to the expert, these practices help reduce bad debt

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

exposure, although they may also constrain the scale of customer acquisition.

Expert 2 indicated that there is no one-size-fits-all approach to handset financing, with installments and subsidies remaining the most common mechanisms, while BNPL and micro-lending are also increasingly observed. However, the expert noted that default rates remain in the double digits despite the availability of these financing options, highlighting the continuing credit risk associated with handset financing.

Affordability and Consumer Behavior

Expert 1 observed that customers are increasingly retaining their devices for longer periods, indicating a slower handset upgrade cycle. The expert further noted that customers from lower socioeconomic groups with limited purchasing power tend to seek more affordable options. For these segments, reverse subsidies on lower-value Android devices may provide a mutually beneficial approach by improving affordability while supporting operator objectives.

Expert 2 indicated that although increases in handset prices have not substantially reduced overall demand, they have influenced customers' device-upgrade behavior. The expert further emphasized the importance of precise targeting of different demographic segments based on their price sensitivity.

Bundling & ARPU Growth

Expert 1 indicated that handset bundles incorporating higher service allowances can increase mobile data adoption, particularly within 5G networks. The expert highlighted the use of high or near-unlimited data quotas combined with OTT services, particularly music and video, as mechanisms for encouraging greater data consumption.

Expert 2 similarly noted that handset bundles are used to increase data consumption and support customer acquisition and retention, particularly within postpaid offerings. The expert further indicated potential for bundling higher-margin services, such as insurance and healthcare, while maintaining strict controls over credit risk.

Partnerships with Manufacturers (OEMs)

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

Expert 1 indicated that OEM partnerships typically provide brand and marketing support, exclusive benefits, and buy-back arrangements. However, the expert noted that manufacturers generally do not adopt direct revenue-sharing models. Exclusive partnerships are also uncommon among established OEM brands, while newer brands seeking market entry may be more willing to pursue exclusivity where retailers or mobile network operators (MNOs) provide substantial sales and brand exposure.

Expert 2 similarly indicated that OEM financial arrangements are generally not based on direct revenue sharing but are structured through business development funds and rebates. The expert also highlighted that exclusive partnerships may provide commercial benefits but can involve significant commitments and subsidy costs.

Operational & Supply Chain Challenges

Expert 1 identified global supply-chain shortages, inventory aging, and sales inefficiencies arising from a high number of stock-keeping units (SKUs) as key operational and supply-chain challenges.

Expert 2 similarly highlighted inventory aging and forecasting inaccuracies as major supply-chain risks. The expert noted the importance of flexible vendor contracts that enable stock swapping and efficient multi-channel distribution to facilitate inventory movement across channels. The expert also emphasized the potential use of data analytics and artificial intelligence (AI) to analyze real-time data and support more dynamic and responsive forecasting.

Market Saturation & Replacement Cycles

Expert 1 identified device replacement cycles as a key challenge, particularly during major device launches when supply shortages may delay replacement. The expert noted that, once supply is stabilized, incentives such as no upfront payments, contract extensions, and additional benefits, including data and OTT services, can influence customers' replacement decisions.

Expert 2 emphasized that the key performance focus is shifting from contract value toward long-term customer lifetime value (LTV). The expert highlighted approaches such as

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

exclusive upgrade opportunities, premium 5G speeds, bundled services, enhanced device features, personalized offers based on analytics, and seamless trade-in processes to encourage timely replacements.

Outlook for Future

Expert 1 indicated that increasing handset prices and financing-related risks may influence future device replacement rates. The expert suggested that OEMs may need to contribute toward default-risk compensation; otherwise, device financing could increasingly shift from mobile network operators (MNOs) to BNPL providers. The expert also anticipated widespread adoption of AI across OEMs, while noting that satellite connectivity may face regulatory constraints despite its potential to address coverage and service-experience limitations.

Expert 2 identified a potential shift toward a "device-as-a-service" model, in which customers pay a predictable subscription fee covering the device, cloud storage, and other digital services.

Final Insights

The expert interviews reinforce the finding that mobile handsets can function as an important revenue-generation engine within telecommunications operator business models while also creating financial and operational challenges. Both experts emphasized that handset value extends beyond the initial device transaction to customer acquisition, mobile data consumption, service bundling, customer retention, and long-term customer lifetime value (LTV).

Expert 1 emphasized robust credit-scoring mechanisms and multiple handset propositions, including BNPL, trade-in arrangements, multi-device and accessory bundles, and OTT services. These mechanisms may support customer experience and revenue generation while helping manage financing risks, particularly were affordability and differences in customer credit profiles influence handset adoption.

Expert 2 highlighted the growing role of AI and big data in enabling personalized services, dynamic data plans, and improved network management. These capabilities may

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

also strengthen collaboration between operators and handset manufacturers as devices become increasingly integrated with broader digital-service ecosystems.

Overall, the findings indicate that future handset-driven revenue generation is likely to depend on the integration of device financing, handset adoption, mobile data consumption, service bundling, OTT services, accessories, trade-in programs, and personalized digital services, rather than device sales alone. However, these opportunities remain subject to credit risk, affordability constraints, inventory exposure, supply-chain challenges, and device replacement cycles.

The findings therefore reinforce the dual nature of handset-centric business models: handsets can support customer acquisition, data consumption, ARPU, customer retention, and LTV, while simultaneously creating financial and operational constraints. The handset is consequently evolving from a standalone transaction into an integrated device–connectivity–service ecosystem, in which revenue potential depends on connecting device adoption with recurring services and customer relationships while managing associated risks. These qualitative findings complement the quantitative results and support the assessment of mobile handsets as a potential revenue-generation engine in emerging-market telecommunications.

8 FINAL CONSIDERATIONS

This study examined the role of mobile handsets within telecommunications operators' revenue models in emerging markets using quantitative questionnaire data and qualitative expert interviews. The findings indicate that the commercial role of handsets extends beyond the initial device transaction, supporting customer acquisition, mobile data consumption, service adoption, customer retention, and integration with broader telecommunications and digital-service ecosystems.

Affordability emerged as an important factor influencing handset adoption. Installment plans, subsidies, and EMI arrangements may reduce upfront financial barriers, while the integration of handsets with data services, accessories, OTT offerings, and other complementary services can enhance the overall customer value proposition. Trade-in, buy-back, and upgrade programs may further influence replacement behavior and support

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

recurring revenue opportunities.

However, handset-centric models also involve financial and operational challenges, including credit exposure, customer defaults, inventory ageing, supply-chain constraints, device lifecycle management, and changing replacement cycles. The expert findings further highlight the potential role of credit-scoring mechanisms, flexible financing, trade-in programs, bundled offerings, AI, big-data analytics, and device-as-a-service (DaaS) models in the evolution of handset-centric business models.

Overall, the findings support the view that mobile handsets can function as a potential revenue-generation engine through their relationship with handset adoption, mobile data consumption, service bundling, ARPU-related outcomes, customer retention, and customer lifetime value (LTV). However, their revenue potential is closely associated with affordability, financing mechanisms, consumer behavior, service integration, and operational and financial risks. The handset is therefore increasingly positioned within an integrated device–connectivity–service ecosystem rather than as a standalone product.

The study contributes to the academic understanding of handset-centric telecommunications business models by integrating handset adoption, revenue generation, affordability, financing, consumer behavior, and operational and financial risks within an emerging-market context. The study remains analytical rather than prescriptive and does not propose specific managerial actions.

Suggestions for Future Research

Future research could extend the findings through larger and more diverse samples, comparative studies across emerging markets, and longitudinal analysis of handset replacement cycles, ARPU, financing exposure, LTV, and the financial sustainability of BNPL, trade-in, subsidy, and DaaS models.

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360

REFERENCES

ANALYSTINTERVIEW. **ARPU (Average Revenue Per User) in the telecommunications sector**. 2025. Disponível em: AnalystInterview. Acesso em: 21 ago. 2026.

BRAUN, Virginia; CLARKE, Victoria. Using thematic analysis in psychology. **Qualitative Research in Psychology**, v. 3, n. 2, p. 77-101, 2006. DOI: https://doi.org/10.1191/1478088706qp063oa.

CRESWELL, John W.; CRESWELL, J. David. **Research design: qualitative, quantitative, and mixed methods approaches**. 5. ed. Thousand Oaks: SAGE Publications, 2018.

DEDRICK, Jason; KRAEMER, Kenneth L.; LINDEN, Greg. The distribution of value in the mobile phone supply chain. **Telecommunications Policy**, v. 35, n. 6, p. 505-521, 2011. DOI: https://doi.org/10.1016/j.telpol.2011.04.006.

GSMA. **The challenge and opportunity of accelerating smartphone ownership in emerging markets**. 2025. Disponível em: GSMA. Acesso em: 21 ago. 2026.

GSMA INTELLIGENCE. **Risks and impact of handset financing: lessons from the US**. [S. l.], [s. d.]. Disponível em: GSMA Intelligence. Acesso em: 21 ago. 2026.

MARKET INTELO. **Handset financing market by type (new phones, refurbished phones), financing type (EMI, lease, subsidized plans, others), sales channel (online, offline), end user (individual, enterprise), and region: global industry analysis, growth, share, size, trends, and forecast 2025-2033**. [S. l.]: Market Intelo, 2025. Disponível em: Market Intelo – Handset Financing Market. Acesso em: 21 ago. 2026.

MCKINSEY & COMPANY. **Outsmarting the 5G smartphone challenge: how telcos can reinvent their handset business**. 2020. Disponível em: McKinsey & Company. Acesso em: 21 ago. 2026.

PWC. **Global telecoms industry revenue outlook**. 2025. Disponível em: PwC. Acesso em: 21 ago. 2026.

SAUNDERS, Mark; LEWIS, Philip; THORNHILL, Adrian. **Research methods for business students**. 8. ed. Harlow: Pearson Education, 2019.

TELECOM REVIEW MIDDLE EAST. **Saudi mobile revenues set for strong 5G driven surge by 2030**. 2025. Disponível em: Telecom Review Middle East. Acesso em: 21 ago. 2026.

TURNER, Ash. **How many smartphones are in the world?** BankMyCell, 4 jan. 2025. Disponível em: BankMyCell. Acesso em: 21 ago. 2026.

Copyright © 2026 **Lovish Karaparambil**
DOI: 10.29327/270098.19.2-15 | ISSN eletrônico: 2447-9896 | ISSN impresso: 2177-0360