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END OF STUDY DISSERTATION

With a view to obtaining an academic Master's degree in:

Marketing Management

The Impact of Benchmarking on Customer Perception in the Mobile Telecommunication Sector
Case of Mobilis

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RÉSUMÉ

Ce travail a pour objectif d'examiner l'impact de la connaissance du benchmarking sur la perception client de Mobilis dans le secteur des télécommunications mobiles en Algérie, tout en analysant la perception externe qu'ont les abonnés des opérateurs concurrents Djezzy et Ooredoo vis-à-vis de Mobilis. Pour ce faire, une approche quantitative a été adoptée et un questionnaire structuré a été administré auprès de 316 répondants répartis sur l'ensemble du territoire national. Les données ont été analysées à l'aide de régressions linéaires simples et d'une analyse descriptive basée sur la théorie du noyau central sous SPSS. Les résultats montrent que la connaissance du benchmarking est un prédicteur significatif et positif de toutes les dimensions de la perception client : qualité du réseau, image de marque, rapport qualité-prix, expérience client et qualité de service. Par ailleurs, les non-abonnés de Mobilis associent à l'opérateur une image de marque et une qualité réseau inférieures comme associations centrales stables.

Mots clés : Benchmarking, Perception client, Télécommunications mobiles, Mobilis, Algérie.

ABSTRACT

This study investigates the impact of benchmarking awareness on customer perception of Mobilis in the Algerian mobile telecommunications sector, and examines how subscribers of competing operators Djezzy and Ooredoo perceive Mobilis from an external standpoint. A quantitative research approach was adopted, and a structured questionnaire was administered to 316 respondents distributed across all regions of Algeria. The data were analyzed using simple linear regression models and descriptive analysis grounded in the Theory of the Central Core, processed through IBM SPSS. The findings reveal that benchmarking awareness is a significant and positive predictor of all five customer perception dimensions: perceived network quality, brand image, value for money, customer experience, and service quality. Additionally, non-Mobilis subscribers hold stable central negative associations toward Mobilis, particularly regarding brand image and network quality srepresenting key strategic gaps that Mobilis must address to improve its competitive positioning.

Keywords: Benchmarking, Customer perception, Mobile telecommunications, Mobilis, Algeria, Service quality, Competitive analysis. s

ملخص

تهدف هذه الدراسة إلى فحص أثر الوعي بالمقارنة المرجعية على إدراك العملاء لمؤسسة موبيليس في قطاع الاتصالات المتنقلة بالجزائر، مع تحليل الصورة الخارجية التي يحملها مشتركو المنافسين جازي وأوريدو تجاه موبيليس. لتحقيق ذلك، اعتُمد منهج كمي وتم توزيع استبيان منظم على 316 مستجيبًا من مختلف مناطق الوطن. تم تحليل البيانات باستخدام الانحدار الخطي البسيط والتحليل الوصفي المستند إلى نظرية النواة المركزية عبر برنامج SPSS. تُظهر النتائج أن الوعي بالمقارنة المرجعية يُعدّ متنبئًا معنويًا وإيجابيًا لجميع أبعاد إدراك العملاء: جودة الشبكة، صورة العلامة التجارية، القيمة مقابل السعر، تجربة العميل وجودة الخدمة. كما كشف تحليل غير المشتركين أن صورة العلامة التجارية وجودة الشبكة تمثلان تداعيات مركزية سلبية ثابتة في تمثلهم لموبيليس.

الكلمات المفتاحية :المقارنة المرجعية، إدراك العملاء، الاتصالات المتنقلة، موبيليس، الجزائر.

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Introduction

In the context of globalization, change is continuous and markets are increasingly unpredictable. In such an environment, it has become imperative for companies to respond effectively and competitively to the evolving needs of their markets. Technological advancements, shifting consumer behaviors, and the intensification of competition make it increasingly difficult for any operator to maintain a leadership position over time.

In a landscape characterized by fierce competition and a well-informed, demanding, and volatile customer base, companies deploy every available strategic tool to acquire new market share, consolidate their positioning against rivals, and build lasting customer loyalty. Among these tools, benchmarking has established itself as one of the most recommended practices by management experts enabling organizations to align with or surpass competition through systematic performance comparison and continuous improvement.

Algeria, as a country that has opened itself to market economy principles, presents a particularly compelling case. This economic transition has compelled both public and private operators to manage their organizations in accordance with market mechanisms and to adopt modern management systems adapted to a competitive environment. It is within this context that several international players entered the Algerian market, drawn by its significant untapped potential. The mobile telecommunications sector was among the first to open to competition, giving rise to a three-operator market where Mobilis, Djezzy, and Ooredoo continuously compete for subscribers, market share, and brand recognition.

As the national operator and historical market leader, Mobilis finds itself at a strategic crossroads compelled to defend and consolidate its market position by questioning and renewing certain aspects of its strategy.

Central to this challenge is the question of customer perception:

To what extent does benchmarking awareness influence customer perception of Mobilis in the Algerian mobile telecommunications market?

It is within this context that the present research is situated, exploring the impact of benchmarking on customer perception of Mobilis in the Algerian mobile telecommunications market.

Research questions

Rq1: Do benchmarking practices have a statistically significant effect on customer perception among users of mobilis in the algerian mobile telecommunication sector?

Rq2: To what extent does network benchmarking influence customers' perceived network quality and overall satisfaction with mobilis?

Rq3: Does service benchmarking significantly shape customer perception of brand image and value for money at mobilis?

Rq4: In what ways do benchmarking practices shape the overall customer experience perceived by mobilis subscribers in algeria?

RQ5: To what extent do perceptions of Mobilis differ between Mobilis subscribers and subscribers of competing operators (Djezzy and Ooredoo)?

1.Objectives of the study

This study aims to explore the impact of benchmarking practices on customer perception of Mobilis in the Algerian mobile telecommunication sector, through a focused review of the academic literature and an empirical analysis centered on Mobilis.

More specifically, the research seeks to empirically test how benchmarking practices—comprising network benchmarking, service benchmarking, digital experience benchmarking, and competitive benchmarking affect how Mobilis is perceived by customers in Algeria.

Customer perception in this study refers to how both Mobilis subscribers and users of competing operators (Djezzy and Ooredoo) evaluate Mobilis in comparison with alternative operators in the market.

The specific objectives of the study are as follows:

- To conduct a systematic review of existing literature related to benchmarking, customer perception, and service quality in the mobile telecommunication sector,

providing a comprehensive overview of the field's development and key research areas.

- To identify the key determinants of Mobilis customer perception influenced by benchmarking practices, including perceived network performance, customer service responsiveness, brand image, price fairness, and digital experience quality.
- To examine the different methods and measurement scales used to assess customer perception, and evaluate their applicability in the Algerian context, with a particular focus on Mobilis.
- To contextualize findings within the Algerian market, highlighting the comparative perception of Mobilis versus Djezzy and Ooredoo.
- To propose practical recommendations for Mobilis and identify potential avenues for further research on how benchmarking shapes customer perception and competitiveness in emerging markets.

2.The importance of the research:

The importance of this research lies in studying benchmarking as a strategic management tool that creates competitive advantage, and in rigorously analyzing its impact on the perception of Mobilis in the Algerian mobile telecommunication sector.

Understanding how technical and managerial improvements resulting from benchmarking are perceived by both Mobilis subscribers and users of competing operators is essential for evaluating how these improvements translate into customer satisfaction, loyalty, and brand image.

This study also contributes to the broader understanding of modern management tools that help Algerian companies adapt to globalization and increasingly demanding customers, in order to achieve sustainable competitive advantage in a highly competitive telecom market.

3.Reasons for Choosing this Topic

There are several reasons that led to the choice of this topic:

1.4.1Personal reasons:

- The field of specialization: Marketing / Management / International Trade, where benchmarking is a key tool for improving performance and customer satisfaction.
- Personal interest in the telecom sector and in Mobilis as a major operator in Algeria.
- The desire to understand the link between managerial practices (benchmarking) and customer perception.

1.4.2Motives for choosing the topic:

- Benchmarking is a key process in improving company performance and achieving a sustainable competitive advantage.
- There is a relative lack of empirical studi**es** on the impact of benchmarking on customer perception in the Algerian telecommunications sector.
- The aim of undertaking an empirical study covering different aspects of benchmarking (network, service quality, digital experience) and adding it to the university library as a useful reference for future research.
- A lack of awareness among Algerian companies regarding the importance of benchmarking and how it can improve customer perception and loyalty.
- The importance of the topic in the current context: intense competition**,** rapid technological change**,** and a dynamic market in Algeria.
- This topic will also serve as a solid foundation and rich field for continuing my research at the doctoral level in marketing, performance, and customer perception in the telecom sector.

1.4.2.1Motivation for research:

- A sense of responsibility as a researcher to strengthen Algerian companies through studies on marketing and management practices related to benchmarking and customer perception**.**
- The desire to contribute to academic literature in Algeria by providing an empirical study focused on a national operator and a strategic sector for the economy.

4.Research settings

This research is conducted within the Algerian mobile telecommunication sector, focusing on the competitive environment shaped by the three main operators: Mobilis, Djezzy, and Ooredoo. Mobilis represents the central focus of this benchmarking study.

The empirical investigation targets subscribers of all three operators in order to provide a comprehensive and comparative analysis of how customers perceive Mobilis relative to its competitors across key dimensions, namely network quality, brand image, value for money, and customer experience.

This methodological choice is fully aligned with the logic of competitive benchmarking. In order for Mobilis to assess its relative performance, it is essential to collect perception data not only from its own subscribers but also from users of competing operators. This approach enables a more objective evaluation of strengths, weaknesses, and performance gaps.

By surveying subscribers of Mobilis, Djezzy, and Ooredoo, this study aims to identify customer preferences, detect areas where Mobilis underperforms, and highlight competitor advantages. These insights provide a basis for actionable recommendations to improve Mobilis's service quality, pricing strategies, network performance, and overall customer experience.

The Algerian mobile market represents a particularly relevant research context for several reasons. First, it is characterized by strong competitive pressure among operators. Second, the rapid digitalization of services has increased customer awareness and their ability to compare and switch between operators. Third, empirical studies linking benchmarking practices to customer perception in Algeria remain limited, highlighting the relevance of this research.

Data were collected through a structured questionnaire distributed online via Google Forms and physically at Mobilis agencies in Algiers, allowing access to a diverse sample of subscribers across the three operators.

4.1Research Method

This study adopts a quantitative research approach based on a positivist epistemological stance, which assumes that customer perception can be measured objectively and analyzed using statistical techniques.

The use of a quantitative method is justified by the research objective, which is to empirically test the relationship between benchmarking practices and customer perception, and to compare how subscribers of Mobilis, Djezzy, and Ooredoo evaluate these dimensions.

Data were collected using a structured self-administered questionnaire targeting subscribers of the three operators. The questionnaire was distributed both online and face-to-face at Mobilis agencies in Algiers to ensure a broader and more representative sample.

The measurement items were developed based on validated scales from the literature related to benchmarking and customer perception. The collected data were analyzed using SPSS software, applying descriptive statistics, reliability analysis, correlation analysis, and regression techniques in order to test the proposed hypotheses.

This methodological approach ensures the reliability and validity of the results, while remaining consistent with the comparative benchmarking logic adopted in this study, where Mobilis is evaluated in relation to its main competitors based on customer perception.

5.Research Plan

This research is structured into three main chapters.

Chapter I presents the theoretical framework, including a review of the literature on benchmarking and customer perception, as well as an analysis of the competitive environment of the Algerian mobile telecommunication sector, focusing on Mobilis, Djezzy, and Ooredoo. It also introduces the conceptual model linking benchmarking practices to customer perception.

Chapter II outlines the methodological framework, including the research approach, questionnaire design, measurement scales, sampling method, and data collection procedures. It also presents the techniques used to ensure the reliability and validity of the data.

Chapter III presents the empirical results and their discussion. It includes descriptive analysis, comparative analysis between the three operators, hypothesis testing, and interpretation of findings. The chapter concludes with managerial recommendations for Mobilis based on the benchmarking insights derived from customer perception data.

CHAPTER I: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

In order to improve their performance effectively and sustainably, organizations must first be able to measure themselves both internally and externally against what is being done best. Benchmarking has emerged as one of the most powerful and widely adopted strategic management tools for achieving this objective. It is a methodology that consists of continuously searching for best practices, studying them, and adapting them to one's own organization in order to move progressively closer to excellence.

The present chapter establishes the conceptual foundations of this study by rigorously defining and conceptualizing three central constructs: benchmarking practices, customer perception, and customer experience. Each conceptualization is grounded in a rich and diverse body of peer-reviewed academic literature, drawing on foundational works and recent theoretical and empirical contributions, in order to provide a precise and operationalizable understanding of each construct within the specific context of the Algerian mobile telecommunication sector.

Section 01: Conceptual Foundation of Benchmarking and Consumer Perception

1. Benchmarking Conceptualization

The conceptualization of benchmarking in the academic literature has evolved significantly from its origins as a manufacturing quality tool to its current status as a strategic management practice. Several academic theories have been developed that underpin benchmarking and its role in organizational improvement and competitive positioning.

1.1.1. Benchmarking as Performance Measurement Theory

The earliest theoretical approach to benchmarking conceptualizes it as a structured performance measurement tool. (Camp, 1989)Positioned benchmarking as a systematic technique for comparing a firm's outputs and processes against those of competitors or best-in-class organizations. This quantitative, metrics-driven conceptualization emerged from the Total Quality Management (TQM) movement and was pioneered by companies such as Xerox, Motorola, and Ford.

The objective is straightforward: measure your performance, measure the best performer's performance, identify the gap, and work to close it. In the article "Benchmarking: The search for industry best practices that lead to superior performance (Camp, 1989) established the foundational methodology that remains widely adopted across industries. This approach provides a clear, measurable framework for identifying performance deficiencies and setting improvement targets.

1.1.2Benchmarking as Organizational Learning Theory

A second theoretical stream repositioned benchmarking as a process of organizational learning. (Watson, 1993)argued that the true value of benchmarking lies not in the data it produces but in the learning process it triggers. Understanding why a competitor performs better, extracting the underlying practices and capabilities, and adapting them intelligently to one's own organizational context became the central focus.

In their comprehensive review A review of literature on benchmarking, (Jagadeesh, 2003)analyzed the evolution of benchmarking research and demonstrated how the technique facilitates knowledge acquisition and transfer across organizational boundaries. This conceptualization draws heavily on organizational learning theory and gives rise to the concept of benchlearning integrating benchmarking with the logic of the learning organization.

Under this lens, benchmarking is not a one-time measurement event but a continuous cycle of observation, analysis, adaptation, and improvement.

1.13. Benchmarking as Dynamic Capability Theory

A third theoretical evolution, grounded in strategic management literature, reconceptualizes benchmarking as a dynamic capability in the sense developed by Teece, Pisano, and Shuen (avid J. Teece, 1997)

A dynamic capability is the firm's ability to sense environmental changes, seize emerging opportunities, and reconfigure resources in response to competitive pressures. From this perspective, benchmarking enables firms to continuously monitor their competitive environment, absorb external knowledge, and adapt their processes and offerings to maintain competitive advantage. This conceptualization is particularly relevant in rapidly evolving sectors such as mobile telecommunications, where competitive dynamics shift quickly and operators must continuously adapt their network investments, service designs, and pricing strategies to stay ahead.

1.1.4Benchmarking as Institutional Theory

A fourth theoretical stream positions benchmarking as a transparency and accountability mechanism grounded in institutional theory. Regulatory bodies such as the International Telecommunication Union (Union, 2016)and national telecommunications authorities use benchmarking to promote fair competition, monitor service quality, and enable informed consumer choice through public performance comparisons. Madsen, Slåtten, and Johanson examined the emergence and evolution of benchmarking through the lens of management fashion theory, demonstrating that the widespread popularity and longevity of benchmarking can be explained by the efforts of various actors to turn benchmarking into an institution. In their article **The emergence and evolution of benchmarking: A management fashion**

perspective, they illustrate how benchmarking became institutionalized as a legitimate management practice through the actions of consultants, academics, and business leaders. (Dag Øivind Madsen, 2017)

1.1.5Theory of Benchmarking Evolution

A fifth theoretical perspective addresses the generational evolution of benchmarking. Watson's foundational framework, (Kyrö, 2003) identified a progression from reverse engineering (product-focused comparison) through competitive and process benchmarking to strategic and global benchmarking. In the article "Revising the concept and forms of benchmarking," (Kyrö, 2003)encouraged scholars to revise their understanding of the theoretical bases of benchmarking in light of its evolving nature and forms. Contemporary scholarship has proposed additional generations including competence benchmarking and network benchmarking, reflecting the increasing complexity and collaborative nature of modern benchmarking practice.

This evolutionary theory demonstrates that benchmarking is not a static technique but a dynamic management philosophy that adapts to changing competitive landscapes.

Table 1:Theoretical Approaches to Benchmarking

Theory	Core Focus	Key Authors	Telecom Application
Performance Measurement Theory	Quantitative gap identification	Camp (1989); Spendolini (1992)	Comparing network kpis against Djezzy and Ooredoo
Organizational Learning Theory	Knowledge acquisition and adaptation	Watson (1993); Dattakumar & Jagadeesh (2003)	Understanding why competitors achieve higher customer satisfaction
Dynamic Capability Theory	Strategic sensing and reconfiguring	Teece et al. (1997)	Rapidly adjusting offers based on competitive moves
Institutional Theory	Transparency and legitimacy	Madsen et al. (2017); ITU (2016)	Public qos reporting and regulatory compliance
Evolutionary Theory	Generational progression of practice	Kyrö (2003)	Moving from product comparison to strategic positioning

Source: Self depiction

2.Customer Perception Conceptualization

Customer perception has been conceptualized in the marketing and service management literature through multiple theoretical traditions. Several academic theories have been developed that underpin customer perception and its relationship to service quality and consumer behavior.

2.1.Disconfirmation Theory

The most influential theoretical framework for understanding customer perception is the disconfirmation paradigm established by Parasuraman, Zeithaml, and Berry (A. Parasuraman, 1985). Within this framework, customer perception of service quality is conceptualized as the result of a comparison between prior expectations and actual experience.

In their foundational article "A conceptual model of service quality and its implications for future research," Parasuraman, Zeithaml, and Berry (A. Parasuraman, 1985) proposed that service quality is the gap between customer expectations and perceived service performance. When the service received exceeds expectations, perception is positive; when it falls short, perception is negative. This gap-based conceptualization was operationalized through the SERVQUAL instrument, which structured perception across five dimensions: tangibility, reliability, responsiveness, assurance, and empathy (A. Parasuraman, 1985)

This framework is particularly relevant to the present study because benchmarking directly influences customer expectations exposure to competitor offerings shifts the expectation baseline, thereby affecting the perception gap.

2.2.Perceived Value Theory

A complementary theoretical approach was advanced by Zeithaml (Zeithaml, 1988) through the lens of customer perceived value A means-end model and synthesis of evidence,Zeithaml (Zeithaml, 1988)defined perceived value as the customer's overall assessment of utility based on perceptions of what is received relative to what is given. This means-ends approach positions perception as a relational trade-off rather than an absolute quality judgment.

The theory posits that customers evaluate the quality they receive relative to the price and effort they sacrifice, generating a value perception that drives subsequent behavior. A

comprehensive meta-analysis by Blut, Chaney, Lunardo, Mencarelli, and Grewal synthesizing findings from 687 articles, confirmed that perceived value is subjective, multidimensional, and context-dependent. (Markus Blut, 2024) Their study "Customer perceived value: A comprehensive meta-analysis" revealed that the most integrative model includes benefits, sacrifices, and overall value, with moderating effects of multiple relational contexts including online/offline and goods/services distinctions.

2.3. Hierarchical Service Quality Theory

A significant theoretical advancement was the hierarchical conceptualization of perceived service quality proposed by Brady and Cronin (Jr., 2001). A hierarchical approach, they demonstrated through qualitative and empirical research that the service quality construct conforms to a third-order factor model.

This model ties service quality perceptions to three distinct and actionable primary dimensions: outcome quality, interaction quality, and environmental quality. In turn, each primary dimension has three subdimensions that define the basis of service quality perceptions. The authors further suggest that for each subdimension to contribute to improved service quality perceptions, the quality received by consumers must be perceived to be reliable, responsive, and empathetic This hierarchical theory provides a more nuanced understanding of how customers form perceptions across multiple levels of abstraction.

2.4.Nordic vs. American School Theory

A significant theoretical distinction exists between the Nordic and American schools of service quality conceptualization (Jr., 2001). The Nordic school, associated with Grönroos conceptualized service quality as comprising technical quality (what is delivered) and functional quality (how it is delivered). The American school, represented by Parasuraman et al., structured quality across the five SERVQUAL dimensions. Both traditions agree that perception is a subjective evaluation formed through the comparison of expectations and experience, but they differ in their dimensional structure.

This theoretical pluralism enriches the understanding of customer perception by offering complementary perspectives on how consumers evaluate service encounters.

2.5. Perception-Satisfaction-Loyalty Distinction Theory

A fifth theoretical perspective addresses the conceptual distinction between perception and the related but distinct constructs of satisfaction and loyalty. Perception refers to the cognitive evaluation of service attributes (e.g.,Mobilis network coverage is reliable).

Satisfaction is the affective or emotional response to experience (e.g., "I am happy with Mobilis).

Loyalty is the conative or behavioral intention to repurchase or recommend (e.g.I will stay with Mobilis).

In a recent empirical study in the telecommunications context, researchers found that perceived value exerted the strongest influence on customer satisfaction, followed by SERVQUAL dimensions, customer expectations, and brand image This study Cognitive perceptions and behavioral loyalty in telecommunication services: Integrating SERVQUAL and CSI demonstrates that perception is the antecedent; satisfaction and loyalty are consequences.

This study focuses on perception as the dependent variable because benchmarking is hypothesized to directly shape cognitive evaluations of service attributes.

Table2: Theoretical Approaches to Customer Perception

Theory	Core Focus	Key Authors	Telecom Application
Disconfirmation Theory	Gap between expectations and perceived performance	Parasuraman et al. (1985, 1988)	Measuring service quality across five dimensions
Perceived Value Theory	Trade-off between benefits received and sacrifices made	Zeithaml (1988); Blut et al. (2024)	Assessing value for money of Mobilis plans
Hierarchical Service Quality Theory	Multi-level structure of quality perceptions	Brady & Cronin (2001)	Understanding primary and secondary quality dimensions
Nordic vs. American School Theory	Technical/functional quality vs. Five SERVQUAL dimensions	Grönroos (1984); Parasuraman et al. (1988)	Complementary perspectives on service evaluation
Perception-Satisfaction-Loyalty Distinction	Cognitive, affective, and conative distinctions	Acta Psychologica (2025)	Differentiating perception from satisfaction and loyalty

Source: Self depiction

3.customer experience Conceptualization

Customer experience (CX) has emerged as a distinct and broader construct than service quality or satisfaction, encompassing the holistic, journey-based, and phenomenological nature of consumer-brand interactions. Several academic theories have been developed that underpin customer experience and its dimensions.

3.1 Experiential Consumption Theory

The earliest theoretical conceptualization of customer experience emerged from the experiential consumption tradition of Holbrook and Hirschman they argued that consumption is not merely utilitarian information processing but a rich phenomenological experience encompassing fantasies, feelings, and fun. (Hirschman, 1982)

This tradition positioned experience as inherently subjective, emotional, and hedonic

A departure from purely cognitive and rational models of consumer behavior. The theory emphasizes that consumers seek emotional fulfillment and sensory stimulation, not just functional benefits, from their interactions with products and services.

This perspective is essential for understanding why customers form strong emotional bonds with certain telecommunications brands beyond objective network performance.

3.2 Multidimensional Customer Experience Theory

A second theoretical stream has focused on identifying and conceptualizing the constituent dimensions of customer experience. Sidaoui, Burton, and Theodoulidis in their identified that since its conception three decades ago, customer experience has had five main types of dimensions associated with its composition: social, physical, sensorial, emotional, and cognitive. These dimensions define customer experience conceptually and provide a framework for understanding how different elements of the service encounter collectively shape the overall experience. (R. Sidaoui, 2018)

The multidimensional nature of customer experience implies that firms must manage multiple experiential elements simultaneously to create superior customer experiences.

3.3Customer Journey Theory

A third major theoretical stream positions customer experience as a journey-based construct. Lemon and Verhoef they conceptualized customer experience as a multidimensional construct encompassing cognitive, emotional, behavioral, sensorial, and social responses across the entire customer journey from initial awareness through purchase and post-purchase engagement. (Verhoef, 2016)

By schematizing the customer journey from search to purchase to post-purchase, their work put forward a common way to conceptualize the customer journey across touchpoints and stages. This journey-based theory is particularly relevant to mobile telecommunications, where the customer experience unfolds across multiple touchpoints over an extended relationship lifecycle: advertising exposure, agency visits, daily network usage, app interactions, billing inquiries, customer service calls, and renewal decisions.

3.4. Customer Experience Quality Theory

A fourth theoretical perspective conceptualizes customer experience through the lens of perceived quality. Becker and Jaakkola they documented that providing superior customer experiences across multiple channels and touchpoints is essential to achieving competitive advantages in today's service landscapes. They argued that customer experience represents a fundamental basis of service management and marketing strategy. (Jaakkola, 2020)

The theory positions customer experience quality as the perceived excellence or superiority of the holistic encounter with the firm, encompassing both direct and indirect interactions

This perspective integrates the multidimensional and journey-based aspects of customer experience with the evaluative logic of perceived quality.

Table 3: Theoretical Approaches to Customer Experience

Theory	Core Focus	Key Authors	Telecom Application
Experiential Consumption Theory	Phenomenological, emotional, hedonic consumption	Holbrook & Hirschman (1982)	Emotional connection to telecom brands beyond functionality
Multidimensional CX Theory	Social, physical, sensorial, emotional, cognitive dimensions	Sidaoui et al. (2018)	Managing multiple experiential elements simultaneously
Customer Journey Theory	Experience across pre-purchase, purchase, and post-purchase	Lemon & Verhoef (2016)	Mapping Mobilis customer lifecycle touchpoints

CX Quality Theory	Perceived excellence of holistic encounter	Becker & Jaakkola (2020)	CX as fundamental basis of competitive advantage

Source: Self depiction

Table 4: Customer Experience vs. Customer Perception

Aspect	Customer Experience (CX)	Customer Perception
Scope	Broad, holistic construct	Cognitive component of experience
Components	Cognitive, emotional, sensorial, behavioral, social, relational	Primarily cognitive (service quality evaluation)
Timeframe	Cumulative across entire customer journey	Formed from single encounters or cumulatively
Measurement	Multi-dimensional CX scales	SERVQUAL-based instruments
Role in This Study	Fourth dimension of dependent variable	Overall dependent variable

Source: Self depiction

Section 02: Literature Review

In the framework of our literature review, we explored a wide range of scientific articles, empirical studies, and institutional reports related to our research subject.

This exploration allowed us to identify and analyze the following works, organized across four thematic subsections directly aligned with the key variables of our research model.

1.Review of Studies on Benchmarking Practices in Telecommunications

The topic of benchmarking in the telecommunications sector has attracted growing academic attention, particularly as operators in competitive markets seek to leverage comparative performance data to improve their service offerings and customer perception.

A study conducted by (Jagadeesh R. D., 2003)published in Benchmarking: An International Journal, provides a comprehensive review of the benchmarking literature from 1986 to 2000 across manufacturing, service, and public sectors. Using a systematic literature review methodology covering more than 400 studies, the authors identify the progressive shift from product and cost benchmarking toward process and strategic benchmarking. Their results demonstrate that service-sector organizations including telecommunications firms increasingly use benchmarking as a tool not only for operational efficiency but for customer

satisfaction improvement. The authors conclude that benchmarking remains underutilized in emerging market contexts, creating a significant research gap that this study seeks to address.

A study by (Chalise, 2021)published in the Journal of Telecom Management, examines benchmarking practices in telecommunications companies with a focus on performance measurement and their effect on service quality. Using a quantitative approach based on surveys administered to telecom managers and customers in South Asian markets, the authors find that organizations that practice systematic competitive benchmarking particularly in network quality and customer service kpis register significantly higher customer satisfaction scores than those relying on internal performance measures alone. The authors recommend that emerging market operators embed benchmarking into continuous operational cycles rather than treating it as a periodic diagnostic exercise.

A study by (Union, 2016)published in the Measuring the Information Society Report, presents a large-scale institutional benchmarking of mobile telecom operators across more than 160 countries. Using comparative KPI data including network speed, coverage, call quality, and customer satisfaction indices the study identifies significant performance gaps between operators in emerging markets and those in developed economies. The results show that operators that publicly benchmark their performance against international standards tend to invest more consistently in network quality, which in turn produces measurable improvements in customer perception. The report recommends that regulators in countries like Algeria adopt mandatory comparative KPI reporting frameworks to drive quality improvement and empower consumers.

A study by (Patrick Le Callet, 2013)published in the Telecommunications Policy Journal, examines network benchmarking and quality of experience (qoe) in mobile telecommunications across several European and emerging markets. Based on a descriptive and comparative approach analyzing operator performance data, the author establishes a direct link between benchmarking practices and perceived network quality. The results show that operators who systematically measure their network performance against competitors using standardized qoe indicators including video streaming quality, download speeds, and latency achieve more positive customer perception outcomes than those relying solely on internal qos metrics. The author also highlights the gap between objective network performance (qos) and subjective customer perception (qoe), arguing that benchmarking must account for both dimensions.

A study by (Kodali, 2008), published in Benchmarking: An International Journal, examines the evolution and application of benchmarking models across different industries, with a particular emphasis on their strategic and operational implications. Using a comprehensive analytical approach, the authors review multiple benchmarking frameworks and highlight the transition from traditional performance comparison toward more dynamic, learning-oriented practices. Their findings suggest that effective benchmarking extends beyond simple performance measurement to incorporate continuous organizational learning processes, enabling firms to translate comparative insights into tangible improvements. The study further demonstrates that organizations adopting integrated benchmarking approachesoften referred to as benchlearning are better positioned to enhance service quality and overall organizational performance. The authors conclude that embedding benchmarking within continuous learning and strategic management cycles is essential for achieving sustainable competitive advantage, particularly in service-intensive sectors.

A study by (Bučicová, 2025)published in PLOS ONE, examines customer satisfaction modeling in the mobile telecommunications sector in Slovakia following the COVID-19 pandemic. Using a quantitative questionnaire approach administered to customers of all four Slovak mobile operators and analyzed through Structural Equation Modeling (SEM), the authors find a positive relationship between image and perceived service quality.

Their model also reveals that customer expectations and perceived service value are negatively related suggesting that as operators improve their performance through benchmarking-driven investments, they must carefully manage the expectation gap to avoid satisfaction erosion. The study provides an important methodological template for the present research.

Synthesis: The analysis of these studies reveals a clear and consistent finding: benchmarking practices whether focused on network quality, service delivery, or customer experience have a significant and positive impact on customer perception in the mobile telecommunications sector. However, most existing studies focus on developed or asian markets, with very limited empirical evidence from north african and specifically algerian contexts. This gap directly motivates the present research.

2.Review of Studies on Service Quality and Consumer Perception (SERVQUAL Applications)

The relationship between service quality and customer perception has been one of the most extensively studied topics in marketing and service management research, with the SERVQUAL model serving as the dominant measurement framework across multiple service sectors including telecommunications.

The foundational work of (A. Parasuraman V. A., 1988) published in the Journal of Retailing, introduced the SERVQUAL instrument a 22-item scale for assessing customer perceptions of service quality across five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Based on four independent studies across multiple service sectors using a gap-analysis methodology, the authors demonstrate that service quality perception is determined by the difference between customer expectations and actual service experience. Their results establish that reliability the ability to perform the promised service dependably and accurately is consistently the most critical dimension of service quality perception across all service contexts. SERVQUAL remains the most widely applied service quality measurement tool in both academic research and industry practice, including in the telecom sector.

A study by (Abd-Elrahman, 2022)published in Benchmarking: An International Journal, examines the relationship between organizational capabilities, service quality, and performance outcomes in Egyptian telecommunications companies. Using a survey of 379 managers from three major Egyptian telecom providers and structural equation modeling, the author finds that service quality measured across all five SERVQUAL dimensions is the most significant predictor of customer satisfaction and loyalty, and that organizations with stronger intellectual and relational capital deliver significantly higher service quality perceptions. The study also finds that benchmarking organizational performance against sector standards produces measurable improvements in service quality delivery, reinforcing the link between benchmarking and customer perception.

A study by (Tao Zhou, 2019)published in Electronic Commerce Research, examines e-service quality in the telecom setting, developing a five-dimensional measurement scale encompassing functional completeness, performance, interface and interaction quality, content and information, and support. Analyzing self-reports from 9,249 respondents and using structural equation modeling, the authors confirm a strong positive relationship

between e-service quality, customer satisfaction, and customer loyalty. Their results show that e-service quality is a core predictor of both satisfaction and loyalty findings that are particularly relevant given the growing importance of digital channels in the Algerian mobile market.

A study by (Ribeiro, 2024)published in SAGE Open, investigates customer experience, loyalty, and churn in bundled telecommunications services across multiple operators. Using a systematic literature review covering 60 studies from 1990 to date and a quantitative analysis, the authors find that service quality particularly network reliability and call quality is the primary driver of both customer satisfaction and churn intention. The study also finds that customer experience mediates the relationship between service quality and loyalty, reinforcing the theoretical architecture of the present research model, which positions service quality as a moderating variable and customer experience as a dimension of the dependent variable.

A study by (Suchanek P. &., 2025)previously described in section 3.1, additionally confirms through their SEM model that image which encompasses brand perception and service quality signals positively moderates the effect of service performance on customer satisfaction, while the relationship between customer expectations and perceived value is negative. This finding supports H5 of the present study, which posits that service quality moderates the benchmarking customer perception relationship.

A study by (Ullah, 2021)published in the International Journal of Marketing Studies, examines service quality dimensions and their impact on customer satisfaction in Pakistan's mobile telecommunications sector, with trust as a mediating variable. Using a structured questionnaire administered to 350 telecom subscribers and analyzed through regression, the authors find that reliability, responsiveness, and assurance are the three most significant predictors of customer satisfaction. Critically, the study also finds that trust mediates the service quality–satisfaction relationship suggesting that even when operators improve their technical service quality through benchmarking, the customer's perception of improvement is filtered through their prior trust in the brand.

Synthesis: Across these studies, a robust and consistent finding emerges: service quality particularly in its dimensions of reliability, responsiveness, and network performance is the most powerful driver of customer perception and satisfaction in the mobile

telecommunications sector. The SERVQUAL framework provides the most validated measurement approach for capturing these perceptions, and its application to the Algerian context where customers compare Mobilis, Djezzy, and Ooredoo across these same dimensions daily is both theoretically grounded and practically relevant.

3.Review of Studies on Customer Experience (CX)

The study of customer experience in the telecommunications sector has emerged as one of the most strategically significant research streams in recent years, as operators increasingly recognize that technical performance alone is insufficient to drive loyalty in competitive markets.

A landmark study by (Verhoef, Understanding customer experience throughout the customer journey, 2016), published in the Journal of Marketing, conceptualizes customer experience as a multidimensional construct encompassing cognitive, emotional, behavioral, sensorial, and social responses to a firm's offerings across the entire purchase journey. Based on a comprehensive literature review and a new theoretical model, the authors demonstrate that customer experience rather than satisfaction alone is the primary driver of long-term customer loyalty and retention. Their model identifies three types of customer journey touchpoints brand-owned, partner-owned, and customer-owned and shows that the quality of interactions at each touchpoint contributes cumulatively to overall CX. This framework is foundational to the present study's conceptualization of customer experience as a key dimension of customer perception.

A study by (Jaakkola, Customer experience: Fundamental premises and implications for research, 2020), published in the Journal of the Academy of Marketing Science, conducts a systematic review of 136 articles across eight literature fields and derives four fundamental premises of customer experience. Using a metatheoretical analysis and systematic literature review methodology, the authors establish that customer experience is a subjective, holistic, and dynamic construct that cannot be reduced to discrete service quality evaluations. Their findings show that customer experience is driven by a wide range of stimuli including physical environment, digital interactions, social context, and emotional states and that its management requires a journey-level rather than encounter-level perspective. This study directly informs the operationalization of customer experience in the present research model.

A study by (Florian Gahler, 2023)published in the Journal of Service Research, develops and validates a six-dimensional CX measurement scale through seven studies involving 3,523 participants across retail and hotel service contexts. Using scale development methodology including interviews, surveys, known group tests, and online experiments, the authors confirm that customer experience encompasses cognitive, emotional, behavioral, sensorial, social, and relational dimensions. Their scale demonstrates strong reliability, validity, and omnichannel applicability meaning it can measure CX consistently across physical and digital interaction contexts, making it particularly relevant for the mobile telecom sector where customers interact through both physical agencies and digital platforms.

A study by (Heinonen, 2023)**,** published in Psychology and Marketing,examines the concept of ordinary customer experience the routine, everyday interactions that form the backbone of customers' lived relationship with a service provider. Using a scoping review of literature from sociology, philosophy, psychology, marketing, and consumer behavior, the author argues that it is the accumulation of ordinary daily experiences not exceptional service peaks that most powerfully shapes long-term customer perception and loyalty. In the mobile telecom context, this finding is highly relevant: the customer's daily experience of network reliability, data speed, and billing clarity at Mobilis, Djezzy, or Ooredoo forms a persistent baseline of perception that is far more influential than any single promotional campaign or network upgrade announcement.

A study by (Suchanek, 2025), examined in previous sections, further confirms through their customer satisfaction model in the Slovak telecom sector that image which encompasses the cumulative impression formed through customer experience is a significant predictor of perceived service quality, reinforcing the circular relationship between experience, perception, and quality assessment.

A study by (Noorain Imbug, 2018)examines how customer experience influences customer loyalty in the telecom industry through a multichannel perspective. Using a quantitative methodology, the authors find that CX encompasses every interaction a customer has with an organization throughout the customer lifecycle through multiple channels. The results demonstrate that positive CX significantly increases customer loyalty and reduces churn while negative CX, even in isolated incidents, has a disproportionately negative effect on overall perception and loyalty intention.

Synthesis: The studies reviewed in this section converge on a powerful and consistent conclusion: customer experience understood as the holistic, cumulative, and multidimensional impression formed through all interactions with an operator is the most strategically critical dimension of customer perception in the mobile telecommunications sector. It mediates the relationship between service quality improvements (including those driven by benchmarking) and customer loyalty outcomes, and its management requires both journey-level and touchpoint-level intervention. This positions customer experience as an indispensable dimension of the dependent variable in this study.

4.Review of Studies Specific to the Algerian Telecom Market

The Algerian mobile telecommunications market presents a highly specific and competitive context that justifies dedicated academic attention. Despite the strategic importance of this market which counted 54.8 million mobile connections in early 2025, representing 116% of the total population (Intelligence, 2025)empirical academic research specifically examining benchmarking, service quality, and customer perception in this context remains relatively limited.

A study published in the Revue des Sciences Commerciales (ASJP, 2020)examines the practice of strategic intelligence monitoring (veille stratégique) at Mobilis in the context of competition among Algeria's three mobile operators. Using a qualitative analytical approach and expert interviews with intelligence practitioners at Mobilis, the authors find that Mobilis has developed an internal monitoring system to track competitor actions, but that this system remains insufficiently systematized and poorly linked to customer perception management. The results show that Mobilis must urgently revitalize its competitive monitoring and benchmarking system to face the increasingly aggressive strategies of Djezzy and Ooredoo. This study directly motivates the present research by highlighting the gap between Mobilis's benchmarking ambitions and the empirical evidence of their impact on customer perception.

A report by (authority), 2021), the Algerian telecom regulatory body, documents the results of a quality of service measurement campaign conducted across the network coverage of Mobilis, Djezzy, and Ooredoo on nine major national roads and five highways. The campaign found significant quality deficiencies across all three operators particularly in GSM voice quality and 3G data transfer performance resulting in formal notices being issued to all three operators. These regulatory findings are directly relevant to this study, as they demonstrate that benchmarking-driven quality improvements are not only a competitive

strategy but a regulatory obligation in Algeria and that the gap between current performance levels and customer expectations remains significant.

A report by (Opensignal, 2026)the international mobile network analytics firm, provides a comparative benchmarking of Mobilis, Djezzy, and Ooredoo across ten standardized performance indicators including video experience, gaming experience, voice call quality, reliable quality, network reliability, download speed, upload speed, network availability, coverage experience, and 4G availability. The results show that Djezzy leads on five indicators (gaming experience, voice calls, reliable quality, network reliability, and consistent quality), Ooredoo leads on four (download speed, upload speed, availability, and video experience), while Mobilis leads on only one territorial coverage. These findings provide direct empirical benchmarking data that is immediately actionable for Mobilis's strategic improvement planning and that directly informs the competitive benchmarking analysis in this study.

A market intelligence report by (Intelligence M. , 2024)provides a comprehensive overview of the Algerian telecom market, including subscriber data, revenue trends, competitive positioning, and infrastructure investment levels for Mobilis, Djezzy, and Ooredoo. The report shows that the Algerian market is growing at a CAGR of 1.2% over 2025–2030, driven by mobile data consumption and increasing 4G adoption. It identifies significant investment needs across all three operators to improve service quality particularly in areas such as indoor coverage, digital service platforms, and customer experience design. The report's competitive analysis provides essential contextual data for understanding the benchmarking landscape within which this study is conducted.

A report by (Markets, 2024)provides detailed forecasts of competitive dynamics, demand evolution, and regulatory trends in the Algerian telecom market up to 2029. The report confirms that the three operators Mobilis, Djezzy, and Ooredoo account for 100% of mobile subscriptions in Algeria and are increasingly competing on service quality and digital experience dimensions rather than price alone. It also highlights the growing influence of regulatory benchmarking requirements on operator investment decisions, reinforcing the institutional dimension of benchmarking's impact on customer perception.

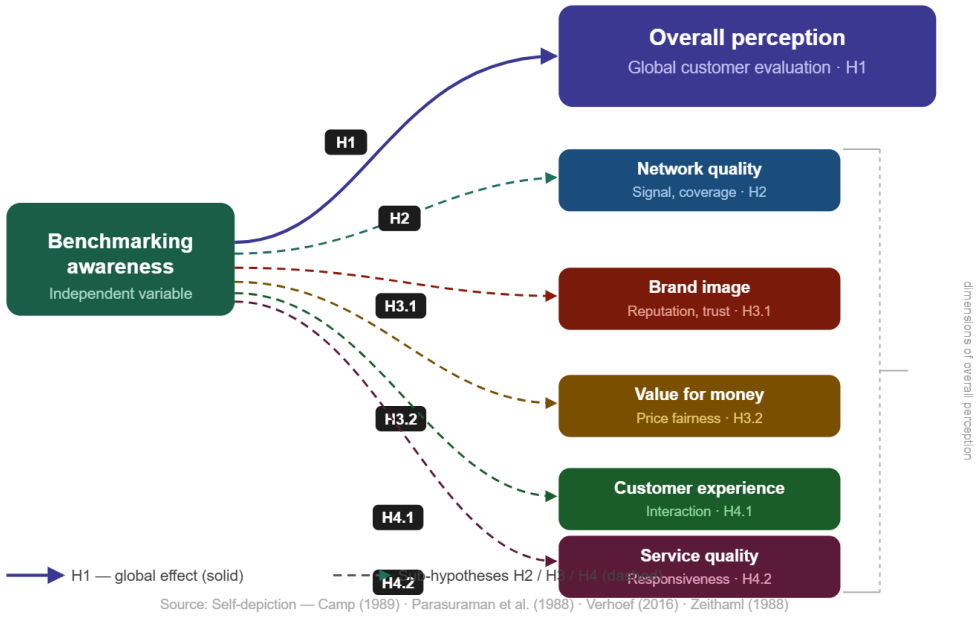
Synthesis: The studies and reports reviewed in this section reveal a market that is both highly competitive and empirically understudied in terms of benchmarking's specific impact on customer perception. While regulatory bodies such as ARPCE and independent analytics

firms such as Opensignal provide important comparative performance data, academic empirical studies specifically examining how Algerian subscribers perceive the benchmarking-driven improvements of Mobilis, Djezzy, and Ooredoo remain rare. This constitutes the central research gap that the present study seeks to address through its quantitative, questionnaire-based empirical investigation across subscribers of all three operators.

5.Conceptual research model:

The research model is composed of several constructs related to benchmarking and customer perception in the telecom sector. The definitions of these concepts are presented in the table below, which summarizes the main dimensions used to analyze Mobilis performance and its impact on customer perception compared to competing operators.

Figure 1: Conceptual research model: impact of benchmarking on customer perception at Mobilis



Source: Self depiction

Table 5: Definitions of Key Concepts in the Model

Concept	Description	Sources
Benchmarking practices (Independent variable)	A continuous process of measuring products, services, and practices against those of the toughest competitors or companies recognized as leaders in their field, with the objective of identifying	Camp (1989); Kearns (1989); Brilman (2003)

	performance gaps and adopting best practices to improve organizational performance.	
Customer perception (Dependent variable)	The psychological process through which an individual selects, organizes, and interprets information from their environment in order to construct a personal image of a brand or service, shaped by prior experience, expectations, and comparative judgments.	Kotler (2000); Parasuraman et al. (1985)
Perceived network quality	How customers cognitively evaluate the performance of a mobile operator's network in terms of signal strength, coverage, and connection stability, based on direct experience and comparison with competing operators.	ITU (2016); Van Holten (2016)
Brand image	The set of perceptions and associations that consumers hold in memory regarding a brand, reflecting its reputation, trustworthiness, and overall competitive positioning relative to other operators in the market.	Keller (1993); Hooley et al. (2017)
Value for money	The customer's overall assessment of utility based on perceptions of what is received relative to what is given — that is, the perceived quality of service relative to the price paid, evaluated in comparison with competing offers.	Zeithaml (1988)
Customer experience and service quality	A multidimensional construct encompassing cognitive, emotional, behavioral, sensorial, and social responses to a firm's offerings across the entire customer journey, from initial awareness through daily usage, complaint resolution, and renewal.	Lemon & Verhoef (2016); Becker & Jaakkola (2020)

Source: Self depiction

6.Hypotheses

Based on the conceptual model adopted and the literature review, the following hypotheses are formulated to express the relationships between the variables of this research. This study adopts a comparative benchmarking approach in the Algerian mobile telecommunication sector, focusing on Mobilis while integrating the perceptions of subscribers of Mobilis, Djezzy, and Ooredoo.

Benchmarking is considered as the independent variable that reflects the continuous efforts of the operator to compare and improve its performance relative to competitors. Customer perception represents the dependent variable and is conceptualized as a multidimensional construct including perceived network quality, brand image, perceived value for money, and overall customer experience.

1.5.1 Effect of Benchmarking on Customer Perception

In a highly competitive market, mobile operators rely on benchmarking as a strategic tool to evaluate their performance against competitors and identify areas for improvement. According to previous studies (Adhikari, 2021), benchmarking enables firms to detect performance gaps and adopt best practices, which directly influence how customers evaluate service quality and overall performance.

In the telecommunications sector, improvements driven by benchmarking such as network enhancement, better service delivery, and improved digital interactions have been shown to significantly affect customer satisfaction and perception (Chaffey, 2022)Based on these arguments, the following hypothesis is proposed:

H1: Benchmarking have a significant and positive effect on customer perception in the Algerian mobile telecommunication sector.

1.5.2 Effect of Benchmarking on Perceived Network Quality

Network benchmarking allows operators to compare key performance indicators such as coverage, speed, and reliability. These factors are critical in shaping customer evaluations of mobile services and are strongly linked to satisfaction ((ITU), 2016).

Therefore, the following hypothesis is formulated:

H2: Benchmarking have a significant and positive effect on customers' perceived network quality and overall satisfaction with Mobilis.

1.5.3 Effect of Benchmarking on Brand Image and Value for Money

Service benchmarking focuses on improving customer service, pricing strategies, and complaint management. These elements play a crucial role in shaping customers' perceptions of brand image and the fairness of pricing (Hooley P. N., 2017)

Thus:

H3: Benchmarking have a significant and positive effect on customers' perception of Mobilis's brand image and perceived value for money.

1.5.4 Effect of Benchmarking on Customer Experience and service quality

Customer experience reflects the overall interaction between the customer and the operator across multiple touchpoints, including digital platforms and customer support. Benchmarking enables operators to enhance these interactions by adopting best practices

from competitors (Verhoef K. N., Understanding Customer Experience Throughout the Customer Journey, 2016).

Accordingly:

H4: Benchmarking have a significant and positive effect on the overall customer experience and service quality perceived by Mobilis subscribers in Algeria.

H5: Non-Mobilis subscribers (Djezzy & Ooredoo) have a significantly different perception of Mobilis compared to Mobilis subscribers.

The following table summarizes the research hypotheses derived from the conceptual model.

Table 6: Summary of Research Hypotheses

Hypothesis	Statement	Relationship Tested
H1	Benchmarking have a significant and positive effect on customer perception in the Algerian mobile telecommunication sector.	Benchmarking → Customer Perception
H2	Benchmarking have a significant and positive effect on customers' perceived network quality and overall satisfaction with Mobilis.	Benchmarking → Network Quality
H3	Benchmarking have a significant and positive effect on customers' perception of Mobilis's brand image and perceived value for money.	Benchmarking → Brand Image & Value
H4	Benchmarking have a significant and positive effect on the overall customer experience and service quality perceived by Mobilis subscribers in Algeria.	Benchmarking → Customer Experience

Source: Self depiction

Section 03: Benchmarking and Competitive Environment

This section provides the contextual foundation for understanding the competitive dynamics in which benchmarking operates, defining competition and market structures, outlining tools for analyzing the competitive environment, and presenting an overview of the Algerian mobile telecommunications market the empirical setting of this study.

1.Competition and Market

1.1Definition of Competition

Competition, in economic terms, refers to the rivalry among firms operating in the same market to attract customers and gain market share. Competition is a situation in a market

where rivalry between firms occurs when there are two or more producers of the same product or service (Lefter, V.; Tănase, A, 2021). This rivalry drives firms to improve their offerings, reduce prices, and innovate to maintain or enhance their competitive position. In the classical conception, competition is viewed as a dynamic rivalrous process of firms struggling with one another over the expansion of their market shares at the expense of their competitors (Tsoulfidis, 2015)From a strategic management perspective, competition extends beyond simple price rivalry to encompass multiple dimensions including quality, innovation, and brand reputation. The intensity of competition in any industry is shaped by structural forces that determine how economic value is created and distributed among market participants. Understanding these competitive forces is essential for firms seeking to develop effective strategies and for researchers analyzing market dynamics.

1.2 Market Structures

Market structure refers to the organizational characteristics of a market that influence firm behavior and consumer outcomes. Economists classify markets along a spectrum defined by the number of sellers, the degree of product differentiation, and the ease of entry and exit. Generally, four basic types of markets are identified: (1) pure or perfect competition, (2) monopolistic or imperfect competition, (3) oligopolistic competition, and (4) monopoly (Academy, 2020)

In a perfectly competitive market, there are many small firms selling identical products, and no single firm has the power to influence pricesthey simply accept the market price determined by supply and demand (Academy, 2020). At the opposite extreme, a pure monopoly exists when a single firm is the only seller in a market, facing no direct competition and possessing substantial pricing power.

An oligopoly lies between perfect competition and monopoly on the market spectrum. In an oligopoly market, a small number of large firms produce a majority of the output, and the existence of strategic interdependence means that oligopoly markets are analyzed from a game theory perspective (Sadler, 2024)In this structure, each firm recognizes that its own actions will produce a response from its rivals and that those responses will affect its own outcomes (Academy, Microeconomics for managers, 2020)

The Algerian mobile telecommunications market exhibits the characteristics of an oligopoly. The market is served exclusively by three mobile network operators (mnos) Mobilis, Djezzy,

and Ooredoo who together account for 100% of total mobile subscriptions in the country. The high capital requirements for network infrastructure, the need for spectrum licenses from the regulatory authority, and the established brand presence of incumbent operators create significant barriers to entry, reinforcing the oligopolistic structure of this market.

1.3 Competitive Environment

The competitive environment encompasses all external factors that influence a firm's ability to compete effectively. A systematic analysis of this environment enables firms to identify opportunities and threats, anticipate competitor actions, and formulate appropriate strategic responses.

The most widely adopted framework for analyzing the competitive environment is Porter's Five Forces Model, first described by Michael Porter in his classic 1979 Harvard Business Review article (Porter, 1979)Thefive forces govern the profit structure of an industry by determining how the economic value it creates is apportioned among market participants. These forces are: the threat of new entrants, the bargaining power of suppliers, the bargaining power of buyers, the threat of substitute products or services, and the intensity of rivalry among existing competitors (Porter, 1979)Porter's insights started a revolution in the strategy field and continue to shape business practice and academic thinking today (School, 2024)The threat of new entrants in the Algerian telecom market is relatively low due to high capital requirements and regulatory barriers.

The bargaining power of suppliersparticularly network equipment vendors such as Huawei, Nokia, and Ericsson is significant given the specialized nature of telecommunications infrastructure. Buyer power is substantial, as customers can easily switch between the three operators with minimal cost. Substitute services, such as Over-The-Top (OTT) communication applications (whatsapp, Skype), continue to challenge traditional voice and messaging revenues. Finally, rivalry among Mobilis, Djezzy, and Ooredoo is intense, as each operator competes for market share in a mature market with penetration rates exceeding 115%.

Benchmarking practices are a direct strategic response to intense competitive rivalry. When rivalry is high, firms engage in continuous monitoring of competitor offerings, performance metrics, and strategic moves. This benchmarking activity, in turn, influences customer

perceptions by shaping the quality, pricing, and innovation of the services delivered to the market.

2.Benchmarking and Competitive Environment

2.1 Definitions of Benchmarking

The concept of benchmarking covers a relatively simple idea: finding in the world the individual or organization that performs a given process or task in the most effective manner, going to study it to benchmark it and then adapting this process to one's own organization.In other words, it consists of comparing oneself to the "champions" in a specific field, drawing inspiration from their ideas and experience in order to move progressively closer to excellence.

Etymologically, the term benchmarking is composed of two English words:

- **Bench = test bench / workbench**
- **Marking = scoring / notation**

The term benchmark, derived from land surveying, originally designated a surveyor's mark a fixed point carved into a stone or building used as a reference point for measuring altitudes and distances. By extension, this physical metaphor of a stable reference point against which measurements are made was progressively transposed into the domain of organizational management, where it came to designate a standard of excellence against which an organization's performance can be evaluated and compared (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

The notion of benchmarking is most widely known through the expression best practices.However, as Nathalie (Costa, 2008)emphasizes, translating benchmarking simply as best practices reduces the method to almost nothing it encompasses a much richer and more dynamic process than a simple identification of reference points.

In French, the term is translated as étalon or étalonnage allowing one to measure oneself against others or as parangonnage in Franco-Canadian usage, which illustrates the practice of methodical adjustment to one's peers.

Whatever the terminology retained, the fundamental idea is the same: identifying an étalon a model against which to compare oneself with the objective of closing the performance gap.

2.1.1 Operational and Academic Definitions

The definition of benchmarking has attracted the interest of a large number of economists, managers, and practitioners. Each has proposed a definition that either complements or adds a new dimension to existing understandings.

Among the multiple definitions proposed in the literature, the following are the most significant and widely cited:

(Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989) the initiator of the modern benchmarking approach at Xerox Corporation proposed the foundational operational definition:

Benchmarking is the search for industry best practices that lead to superior performance.

(Kearns, 1989)former CEO of Xerox Corporation, offered a broader process-oriented definition:

Benchmarking is a continuous process of measuring products, services, and practices against those of the toughest competitors or companies recognized as leaders in their field.

This definition introduces three critical dimensions that have since become central to the academic understanding of benchmarking:

Continuous process Benchmarking is a constant questioning and improvement of products and services, because methods and ways of working evolve rapidly. It is not a one-time exercise but an embedded organizational practice.

Systematic This term refers to a structured and organized approach comprising defined steps and methods that allow the standardization of analysis and the identification of best practices among leaders.

Evaluation Evaluation consists of comparing and measuring the elements of a studied process against those of leading organizations in order to identify differences and gaps, understand their causes, validate progress achieved, and document significant observations.

(Brilman, 2003)extended the concept further, defining benchmarking as:

The process of identifying, analyzing, and adopting by adapting them the practices of the most high-performing organizations in the world, with the aim of improving the performance of one's own organization.

Brilman adds an important nuance: adopting benchmarking implies being sufficiently humble to admit that someone else performs better in a given area, and sufficiently wise to try to learn how to equal and even surpass them. Benchmarking, in this perspective, is not merely the identification of best practices it goes further by requiring an in-depth measurement of one's own performance and then that of the partner organization, followed by rigorous implementation within one's own structure.

(Hermel, 2007)provided a particularly comprehensive definition:

Benchmarking is a process of systematic research for best practices and innovations in a given activity, with the aim of adopting, adapting, and applying them for greater organizational performance and to ensure superiority over competition.

This definition is notable because it explicitly connects benchmarking to innovation positioning it not merely as a comparative tool but as a lever for organizational renewal and competitive advantage.

(Génot, (commonly cited in management literature: 2003–2008 editions; often referenced via secondary sources such as Jakobiak 1998))further positioned benchmarking in relation to marketing analysis, arguing that benchmarking is an extension and generalization of the marketing approach while marketing studies the needs of clients, benchmarking is dedicated to the methods that respond to those needs, thereby also extending the quality approach since it ultimately pursues the same objectives of excellence.

The table below synthesizes the main definitions of benchmarking encountered in the academic and professional literature:

Table 7: Key Definitions of Benchmarking

Author	Year	Definition
Camp, R.C	1989	Search for industry best practices that lead to superior performance

Kearns, D.T. (Xerox)	1989	Continuous process of measuring products, services and methods against toughest competitors or recognized leaders
Brilman, J.	2003	Process of identifying, analyzing and adapting the practices of the world's best-performing organizations
Hermel & Achard	2007	Systematic search for best practices and innovations to adopt, adapt and apply for greater performance
Dattakumar & Jagadeesh	2003	Structured approach to identifying best practices and adapting them to improve organizational performancerigorous evaluation methodology for organizations aspiring to demonstrate best practice in products, services and processes
Alderman & Murray	2025	Rigorous evaluation methodology for organizations aspiring to demonstrate best practice in products, services and processes

Source: (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

Despite the diversity of these definitions, a synthesis reveals that benchmarking fundamentally implies three inseparable dimensions: learning from others, sharing information and knowledge, and adopting best practices to introduce meaningful changes in performance.

As the reference document summarizes eloquently:Who wants to improve must measure themselves; who wants to be the best must compare themselves

This proverbial formula captures the entire philosophy of benchmarking in a single sentence.

2.1.2 Benchmarking vs. Marketing Research vs. Competitive Analysis

To better understand what benchmarking is and what distinguishes it from adjacent analytical approaches, the following comparison table widely cited in the benchmarking literature is instructive:

Table 8: Differences Between Marketing Research, Competitive Analysis and Benchmarking

Criterion	Marketing research	Competitive analysis	Benchmarking
Global objective	Analyze markets, segmentation, product/service impact	Analyze competitor strategies	Analyze the results and methods of the best performers
Principal object of study	Markets, explicit, implicit, and latent customer needs	Competitor strategies	The most effective working methods

Field of application	Products and services	Market and products	Methods as well as products
Limits	Primarily focuses on how customer needs are satisfied	Market activities	No limits: internal, competitive, or functional benchmarking
Sources of information	Customers	Analysts	Best performers in the function and direct competitors

Source: (Camp, Le benchmarking, 1992)

This comparison clearly establishes that benchmarking is the broadest and most action-oriented of the three approaches.

While marketing research focuses on customers and competitive analysis focuses on competitor strategies, benchmarking focuses on the working methods that produce superior performance and does so without sectoral limits, drawing learning from any organization recognized as a leader in a given field.

2.2 Evolution of Benchmarking

The evolution of benchmarking as an organizational management tool has passed through four major historical stages, as synthesized by (Watson, Strategic benchmarking: How to rate your company's performance against the world's best, 1993)former Vice President of Quality at Xerox Corporation and recognized authority on benchmarking and as documented in the European public policy literature (Arrowsmith, J.; Sisson, K.; Marginson, P., 2004):

Table9: The Four Major Stages of Benchmarking Evolution

Stage	Period	Characteristics	Associated concept
Stage 1: Statistical comparative activity	1950s	Evaluation of basic activities and results: materials handling, loss rates, remuneration rates, absenteeism, turnover	Internal performance measurement
Stage 2: Competitive benchmarking	1970s–early 1980s	Associated with Xerox's efforts to match the quality and performance of Japanese competitors (Canon, Minolta, Ricoh)	Product and operational comparison
Stage 3:	Early 1980s–1990s	Extends best practice potential beyond	Cross-industry process analysis

Process (generic) benchmarking		direct competitors to any organization performing similar functions excellently	
Stage 4: Strategic benchmarking	1990s–present	Focus on qualitative forces behind organizational success: core competencies, leadership, change management	Learning organization / dynamic capabilities

Source: (Watson, Strategic benchmarking: How to rate your company's performance against the world's best, 1993)

Stage 1 Statistical Comparative Activity (1950s)

The earliest form of benchmarking was purely statistical and operational: organizations evaluated basic activities and results such as materials handling rates, production loss rates, remuneration structures, absenteeism levels, and employee turnover figures using industry averages as reference points. This form of comparison was essentially backward-looking and descriptive, offering little guidance for process improvement.

Stage 2 Competitive Benchmarking (1970s to early 1980s)

The modern form of competitive benchmarking emerged directly from the competitive crisis experienced by Xerox Corporation. Between 1976 and 1982, Xerox's market share in photocopiers collapsed from 82% to 41%, as Japanese competitors Canon, Minolta, Ricoh, and Sharp managed to produce machines of comparable quality at prices equivalent to Xerox's own production costs.Faced with this existential threat, Xerox systematically compared its products, services, and manufacturing methods against those of its competitors and against best-in-class organizations in other industries including L.L. Bean for logistics, Toyota for manufacturing processes, and American Express for customer service. The success of this initiative prompted Xerox to apply benchmarking across all departments and cost centers, and the company's recovery became the defining case study of modern benchmarking (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

An important conceptual distinction emerged from this period: the difference between a benchmark and benchmarking**:**

A benchmark is a reference or measurement standard used for comparison. Benchmarking is the continuous activity of identifying, understanding, and adapting best practice and processes that will lead to superior performance.

The benchmark is therefore the measure of performance, while benchmarking is the **action** the dynamic, continuous process of learning from the best.

Stage 3 Process (Generic) Benchmarking (Early 1980s to 1990s)

Building on the Xerox experience, process benchmarking extended the scope of comparison far beyond direct competitors to any organization in any industry that performs a similar function with recognized excellence. This stage marked a fundamental evolution: the recognition that the best logistics practices, the best customer service methods, or the best quality management processes might be found not in one's own sector but in a completely different industry. This cross-industry approach dramatically expanded the potential for organizational learning and improvement (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

As Camp (1989) articulated: the best practices in benchmarking are not limited to an improvement of products or services, but also include the activities directly or indirectly linked to these products encompassing manufacturing processes, commercialization methods, and management systems.

Stage 4 Strategic Benchmarking (1990s to Present)

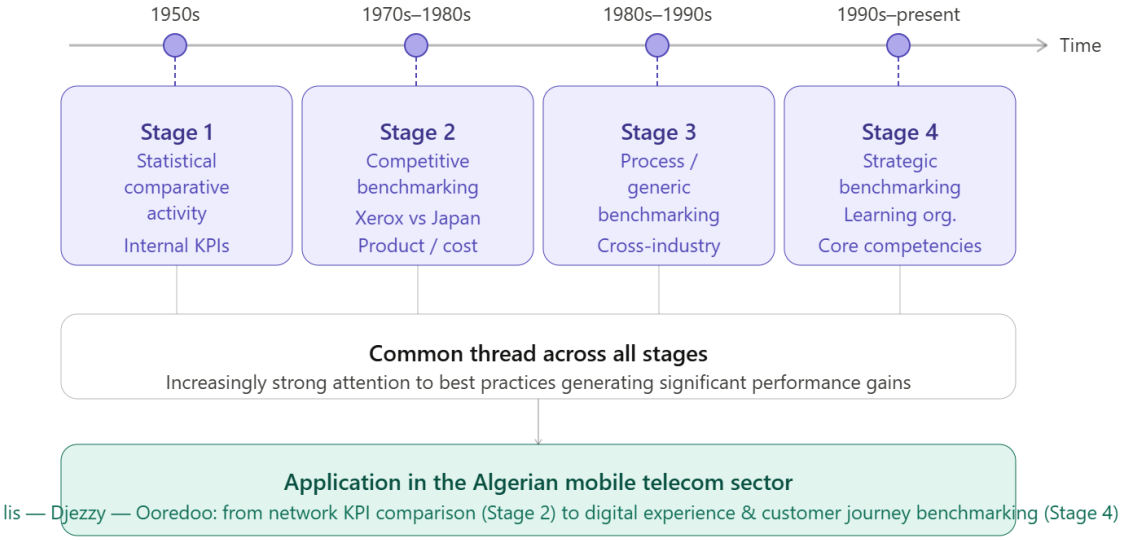
Strategic benchmarking emerged in the 1990s and became closely associated with the concept of the learning organization. It focuses on the qualitative forces behind organizational success

Including core competencies, leadership models, change management approaches, R&D investment strategies, and cost reduction methods rather than on specific operational processes. Strategic benchmarking aligns directly with the dynamic capabilities framework of (Teece, Pisano, & Shuen, 1997) which positions the ability to sense, learn, and adapt as the primary source of sustained competitive advantage in rapidly changing environments (Eisenhardt & Martin, 2000)

In the mobile telecommunications sector, this evolution is directly observable. Operators such as Mobilis have progressively moved from simple competitive comparisons of network coverage and tariffs Stage 2 toward more sophisticated strategic benchmarking of digital experience design, customer journey quality, and service innovation Stage 4 ((ITU), 2016)

The figure below summarizes this four-stage evolution:

Figure 2: The four stages of benchmarking evolution



Source: Self depiction (Watson, Gregory H. Watson, 1993)

2.3 Objectives of Benchmarking

Benchmarking is first and foremost a process of setting objectives, but it is above all the means of discovering the methods that make it possible to achieve new objectives. This is its most fundamental contribution (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

Once fully integrated into an organization's responsibilities, work procedures, and incentive systems, benchmarking has a genuine motivational power: it encourages the organization to move forward toward realistic and externally validated objectives, and to spontaneously modify its working habits. It also brings legitimacy to the objectives set, since it determines them on the basis of external comparison rather than internal assumptions mobilizing resources for the resolution of fundamental problems that stand in the way of success (Camp, Benchmarking: The search for industry best practices that lead to superior performance,

1989)According to a survey conducted by the strategic consulting firm Bain & Company among 6,323 companies across 40 countries, benchmarking was ranked second in the ranking of the most-used management tools in 2002 and 2003 just after strategic planning demonstrating its widespread adoption as a central management instrument (Bruno, 2008).

Benchmarking constitutes a quality instrument whose objective is the continuous improvement of organizational management processes. It enables a permanent search for best practices by comparing, in a specific domain, against other leading organizations. This benchmarking process has a dual vocation: on one hand, it allows an organization to analyze the conformity of its own practices, methods, processes, and tools against those of the best performers; on the other hand, it constitutes a permanent learning process through which the organization conceives and improves its own processes.

Importantly, benchmarking is not synonymous with competitive analysis while competitive analysis relies on the analysis of figures, ratios, and statistical indicators, benchmarking also allows the identification and analysis of best practices and the manner in which they are achieved, measuring the gaps between the organization and others in order to adapt and transpose these practices internally (Hermel & Achard, 2007)According to (Brilman J. , 2003)

The specific objectives of benchmarking are the following:

- To set ambitious and externally validated performance objectives
- To accelerate the pace of organizational change
- To overcome the NIH syndrome (Not Invented Here) to look externally for solutions rather than assuming internal superiority
- To identify processes enabling major performance breakthroughs
- To increase customer satisfaction and competitive advantages
- To better understand one's own strengths and weaknesses through rigorous self-assessment
- To create a fact-based climate that generates internal consensus
- To increase the capacity to use performance measures as a management tool

In summary, benchmarking creates value. It is simultaneously a method of analysis, a state of mind, and a style of management whose ultimate goal is organizational performance improvement through structured learning from others (Bruno, 2008)

2.4Types of Benchmarking

Several types of benchmarking exist. Some authors classify them into four main categories, while others identify specific variants within each, resulting in a greater number of types.

A first broad distinction is drawn between quantitative benchmarking and qualitative benchmarking. Quantitative benchmarking seeks to measure the organization's performance in terms of cost, time, and similar indicators in a given domain and compare it against competitors or companies recognized for process quality.Qualitative benchmarking compares current practices, methods, and services against those of sector leaders.

In his foundational writings, (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)identified four types of benchmarking: internal, competitive, functional, and generic. These four types remain the cornerstone of most classifications in the literature.

2.4.1 Internal Benchmarking

Internal benchmarking is applied whenever an organization can identify equivalent processes across several sites, regions, countries, or continents. It becomes possible to compare the practices in use across these different locations without looking externally. This approach presents both advantages and limitations.

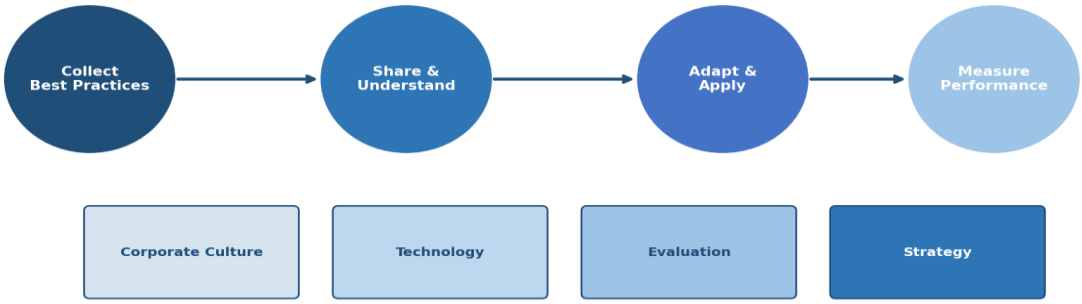
The principal advantage lies in the greater ease of comparing results, since they apply to the same sector. Establishing contacts and conducting site visits are also simplified. Adaptation is likewise facilitated, as the comparison concerns the same line of business.

On the other hand, this type of benchmarking does not generally produce highly innovative practices, precisely because it operates within a shared corporate culture with a common mission, projects, and objectives.

Furthermore, internal transfers and promotions often lead employees to carry their habits from one location to another. Notable examples of organizations that have applied this approach include Xerox, Texas Instruments, Schindler, France Telecom, and EDF's Nuclear Power Production Centre.

In theory, all organizations should practice internal benchmarking. In reality, however, it raises delicate psychological issues. It is therefore advisable to implement such an approach positively for example, by inviting each site to identify its strengths so that every unit becomes a champion in at least one area and contributes to collective progress.

Figure 3: The Knowledge Management Process



Source: Self depiction (Watson, Gregory H. Watson, 1993)

Internal benchmarking is particularly important for disseminating best practices within the organization itself. This aspect of benchmarking stems from knowledge management strategies aimed at spreading and harmonizing the organization's knowledge and competencies.

The process begins with the search and collection of best practices and knowledge held internally, as well as those held by other organizations whether competing or not.

These practices are then shared and examined to understand how they can be applied within the organization. The process continues with the adaptation and application of best practices to new situations, with the objective of reaching the performance levels those practices generated in their original context.

Surrounding this process are environmental factors that either facilitate or hinder its realization: corporate culture, technology, evaluation methods, and strategy. These factors must necessarily be taken into account for any transfer of best practices whether between two separate organizations (external benchmarking) or between two internal entities of the same organization (internal benchmarking) to have a reasonable chance of success.

2.4.2 Competitive Benchmarking

Competitive benchmarking involves comparing oneself against the best competitor in the market.

It requires obtaining data of all kinds' information and intelligence so much so that it can be considered the logical extension of competitive intelligence. A thorough analysis of the competition and its strategies necessarily follows.

Contrary to common belief, this type of benchmarking is widely practiced in certain industrial sectors. Admittedly, it does not cover the most strategically sensitive processes in terms of market position. However, it is frequently applied to matters of productivity, administrative costs, and relationships with subcontractors, which are often shared across competitors.

Competitive benchmarking requires that a set of companies operating in the same sector be identified against which the organization wishes to measure itself. These companies serve as reference points.

In the United States, organizations often approach competitors directly to conduct cooperative competitive benchmarking which presupposes a two-way exchange of information. The benefits must be mutual and planned over time.

In France, this type of exchange is more difficult to accept. Information tends to be perceived as a form of power within organizations that already struggle to share it internally. Transmitting information to direct competitors is therefore even harder to contemplate. It must also be noted that a competitor engaged in a benchmarking agreement could pursue a strategy of disinformation to mislead the other party a scenario that would be extremely damaging.

The advantage of choosing this type of benchmarking lies in the availability of easily comparable final measurement elements, since both parties operate within the same sector. As with internal benchmarking, adaptation is facilitated by the similarity of practices.

That said, genuine competitive benchmarking is quite difficult, as it always encounters confidentiality constraints. What is sometimes called competitive benchmarking is not truly so if the competitors do not operate in the same catchment area, or if within the same sector they do not serve the same end users.

One effective approach for an organization wishing to conduct benchmarking with a direct competitor is through the assistance of a consultant acting as a neutral third party, who can guarantee the confidentiality and anonymity of the information exchanged.

2.4.3 Functional Benchmarking

Functional benchmarking involves comparing oneself with the world's best performers in the same field of activity. Generally, these leaders are found within the same industry branches and are, in many cases, willing to exchange even confidential information. It is equally likely that meaningful improvement ideas can be drawn from such exchanges.

The advantages are similar to those of internal benchmarking: ease of relationship-building and comparison, and relatively straightforward adaptation.

The limitations lie in the scope of application, which does not extend to strategic processes, and in the limited innovative character of the findings due to a shared industrial sector culture.

Numerous examples of functional benchmarking can be found in the fields of chemicals and pharmaceuticals, energy, automotive, information technology, and telecommunications.

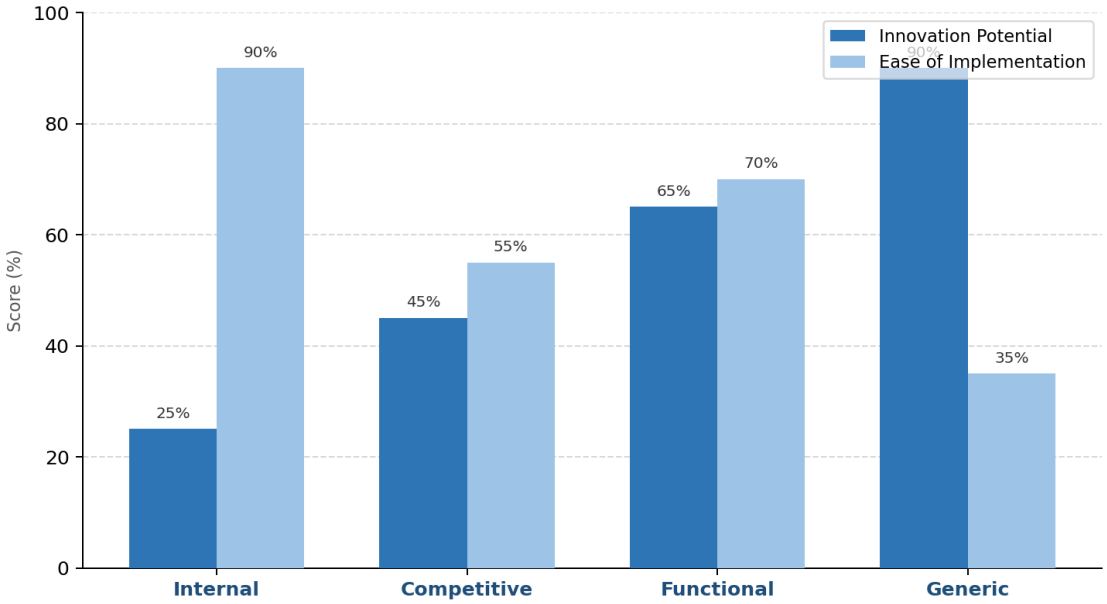
2.4.4 Generic Benchmarking

Generic benchmarking is the most powerful and most beneficial form but correspondingly the most difficult to implement. It consists of comparing oneself against practices that are not specifically tied to the sector to which one belongs.

In the 1990s, certain companies held leading positions in specific domains: Apple for inventory management, Microsoft for marketing practices, Square D for technology transfer, and Motorola for accelerated product development.These companies became benchmarking partners for others, exchanging decisive information to improve their respective practices.

The key advantage is that generic benchmarking does not involve direct competitors, and thus it can only be a source of innovative ideas a benefit that is, moreover, frequently reciprocal.

Figure 4: Potential of Different Types of Benchmarking



Source : (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

Generic benchmarking can thus be considered the ultimate goal. This does not mean, however, that the other types should be neglected. Organizations that serve as reference points for generic benchmarking continue to pursue internal and functional benchmarking, while also using competitive benchmarking. In all cases, the objective remains the same: the continuous improvement of performance.

The following table presents the different types of benchmarking, the objective each pursues, the context in which it is applicable, the partners it engages, and its respective advantages and disadvantages:

Table10: The Different Types of Benchmarking

Type	Objective	Partners	Usage	Advantages	Disadvantages
INTERNAL	Analyze and compare concepts, methods, tools, processes, products and services within the organization	Inside own organizatio n	A learning phase providing useful first experience before conducting external benchmarking	Information easily accessible and stays internal. Shared culture facilitates solution transposition. Quick implementation.	Information partial and limited to internal environment. Risk of intellectual consanguinity and self-satisfaction.

COMPETITIVE (External)	Analyze and compare concepts, methods, tools, processes, products and services	Direct competitors	Occasional or permanent collaboration with one or more direct competitors	Partners easy to identify and highly motivated. Quickly highlights performance gaps between the organization and its competitors.	Information sharing limited. Risk of losing sensitive data or revealing critical processes. Risk of perceived collusion.
FUNCTIONAL	Compare own functions with similar functions of non-competing leaders	Non-competing leaders within same industry sector	Identify and document processes linked to performance	Partners relatively easy to identify. Information accessible. Solutions easily adaptable. Carries innovation potential.	Often limited to cost comparisons. Risk of prioritizing quantitative over qualitative analysis and neglecting human factors.
ORGANISATIONAL	Improve activities with high impact on the organization	Non competing leaders within same sector	Highlight internal deficiencies and dysfunctions	Strong challenge to organizational culture. Helps adapt the organization to highly competitive environments.	Often limited to administrative management. Strong resistance to change.
PROCESS	Analyze and adapt critical processes where each process has measurable inputs and outputs	Leading organizations in the sector	Highlight the specificity of certain operations in the critical process	Enables rapid identification of key success factors. Promotes performance leaps.	Potential partners difficult to identify. Adaptation and transfer sometimes difficult due to lack of know-how.
GENERIC	Observe, analyze and compare best practices of organizations with similar work methods and processes	Leading organizations in different sectors	Discovery of new performance levels; favors acquisition of new concepts and ideas	Most productive, creative and effective method. Reveals new performance levels. Encourages open-mindedness. Triggers performance leaps and	Potential partners difficult to identify and often in high demand. Difficulties may arise in understanding partner organizations and transferring processes.

				breakthrough innovations.	
STRATEGIC	Analyze and adapt winning strategies	Established partners or leading organizations	Facilitate prospective analysis to fuel strategic thinking	Supports decision-making and resource allocation. Long-term relationship with established mutual trust. Very accessible information.	Non-partner organizations difficult to identify. Existing partners are difficult to convince.
COOPERATIVE	Be the best and remain the best	Long-term established partners	Logical continuation of strategic benchmarking	Permanent self-questioning. Mutual pooling of information and resources. The ultimate and most value-creating step.	Partners virtually impossible to identify without prior partnership. Difficult to convince other benchmarking partners.

Source: (Lepoivre, 2005)

In sum, several types of benchmarking exist, and it is up to each organization to select the one most suited to its level of ambition, available time, and desired outcomes. Asserting that one type is superior to another is not appropriate, since the choice depends entirely on the situation identified during the organizational analysis. This may relate to the organization itself in which case the comparison will rest on functional analysis to a product or service that has become ill-suited to market needs, or to a situation where certain services have not been updated, in which case internal benchmarking may provide the remedy.

3.Functional Benchmarking

The benchmarking approach, in its current form, aims to improve the performance of an organization by helping it identify and then internalize best practices. Rather than a one-time

project, benchmarking must be understood as a structured, iterative process composed of well-defined phases that must be followed in sequence. This section presents the main models proposed in the literature, the phases that constitute the approach, and the ethical and legal considerations that govern its conduct.

3.1Benchmarking Process

The benchmarking process, regardless of the model adopted, follows a common internal logic:

Analyze the current situation, identify the root causes of performance gaps, collect information to address them, find partners willing to participate in the improvement effort, and finally implement the revised process. Although the formal steps may vary from one model to another, they all respect this classic sequence.

In practice, the steps, even when formalized, are not necessarily rigid. They follow the same logic but are not always strictly predetermined. What matters is that each phase is properly linked to the next, in a continuous cycle of improvement.

It is important to emphasize that benchmarking does not end with the collection of data or the production of a report.

The most important step after analyzing the information collected is the added value that the entire exercise generates. Convincing stakeholders of the benefits they can derive from the proposed changes, and explaining the entire approach that led to the conclusions, are essential conditions for the results to be understood and accepted.

The benchmarking process is structured around five main phases.

The planning phase includes identifying the subject of benchmarking, selecting comparison partners, and determining appropriate data collection methods.

The analysis phase focuses on evaluating performance gaps and setting future performance targets. The integration phase ensures that results are communicated effectively and translated into operational objectives.

The action phase involves developing and implementing action plans, as well as monitoring progress and refining benchmarks. Finally, the maturity phase is achieved when best practices are fully integrated into organizational processes, enabling the organization to reach a leadership position.

Although these steps are often presented as linear, in practice they are flexible and interconnected.

Organizations may revisit earlier stages as new information emerges or as environmental conditions evolve. This flexibility reflects the dynamic nature of benchmarking as a learning process rather than a rigid methodology (Kodali G. A., 2008)).

What is essential is not strict adherence to predefined steps, but the coherence and continuity of the process, ensuring that each phase logically feeds into the next within a cycle of ongoing improvement.

A critical aspect emphasized in the literature is that benchmarking does not end with data collection or the production of reports. On the contrary, the real value of benchmarking lies in the effective use of the insights generated. Organizations must transform comparative data into actionable knowledge that supports decision-making and organizational change. This requires not only technical analysis but also managerial interpretation and strategic alignment (Holloway, 2007)

Furthermore, the successful implementation of benchmarking results depends heavily on organizational acceptance. Convincing stakeholders of the relevance and benefits of proposed changes is a crucial step. As highlighted by (Watson, Strategic benchmarking: How to rate your company's performance against the world's best, 1993)), communication and internal engagement are essential to ensure that benchmarking findings are understood, legitimized, and effectively applied.

Without this phase of internal alignment, benchmarking risks remaining a purely analytical exercise with limited practical impact.

Ultimately, benchmarking should be understood as a continuous improvement cycle that combines measurement, comparison, learning, and adaptation. Its effectiveness depends not only on the rigor of the analysis but also on the organization's capacity to internalize external knowledge and translate it into sustainable performance improvements.

Figure 5: The Different Phases of Benchmarking

source:(Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

3.2Benchmarking Models

Numerous models exist for implementing a benchmarking approach, differing only in their details. The methodologies that follow are universally recognized and represent the main reference frameworks used in industry.

3.2.1 The Motorola 5 Step Model

Motorola uses a streamlined five-step model that focuses on the essentials: deciding what to benchmark, finding a suitable partner, collecting and analyzing data, integrating the results into action plans, and recalibrating the process. Its simplicity makes it particularly accessible for organizations just beginning their benchmarking journey

Table11:A 5-Step Benchmarking Approach (Motorola)

Step	Description
1	Decide what can be benchmarked
2	Find a company for benchmarking
3	Collect data
4	Analyze data and integrate results into action plans

5	Recalibrate and recycle the process

Source: (Bronet, 2006)

3.2.2 The Bristol-Myers / Baxter International 7-Step Model

Bristol-Myers and Baxter International employ a seven-step model that places greater emphasis on the measurement phase both of best-in-class companies and of the organization's own current performance before moving to the formulation of action plans and the monitoring of results.

Table 12:A 7-Step Benchmarking Approach (Bristol-Myers & Baxter International)

Step	Description
1	Determine which function benchmarking can be applied to
2	Identify key performance indicators to measure
3	Identify best-in-class companies
4	Measure the performance of best-in-class companies
5	Measure current performance
6	Specify action plans to catch up with and surpass the best
7	Implement and monitor results

Source: (Bronet, Amélioration de la performance industrielle, 2006)

3.2.3 The AT&T 9-Step Model

AT&T's model introduces greater granularity, distinguishing between the initial data collection phase and the subsequent site-visit data collection phase. It also devotes a dedicated step to the selection of best-in-class companies before the comparative analysis is conducted.

Table 13:A 9-Step Benchmarking Approach (AT&T)

Step	Description
1	Identify the benchmarking subject
2	Develop a benchmarking plan
3	Choose the data collection method
4	Collect data and conduct company analysis

5	Select best-in-class companies
6	Collect data during site visits
7	Compare processes, identify differences and develop recommendations
8	Implement recommendations
9	Recalibrate performance benchmarks

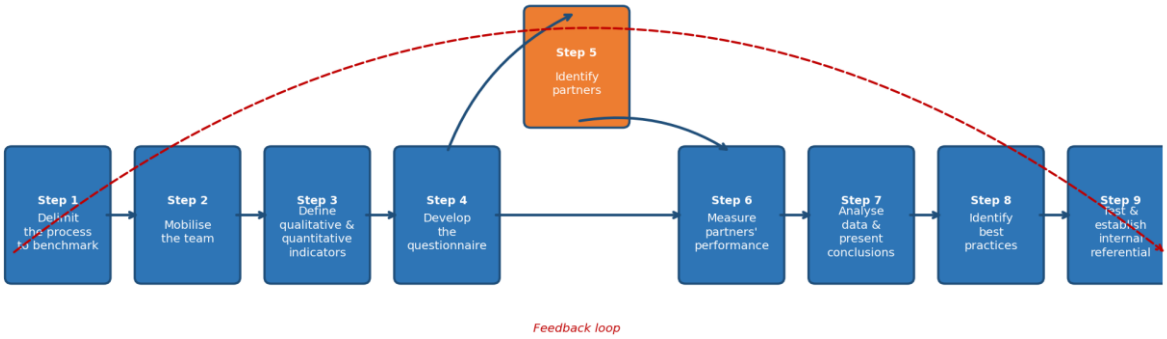
Source : (Bronet, Amélioration de la performance industrielle, 2006)

3.2.4 The Ernst & Young 9-Step Model

Ernst & Young proposes a nine-step model that also highlights the possible feedback loops between certain steps particularly the return to partner identification and questionnaire development when the data collected proves insufficient.

This model draws attention to the iterative, non-linear nature of benchmarking in practice.

Figure 6:A 9-Step Benchmarking Process (Ernst & Young)



Source : (Bronet, Amélioration de la performance industrielle, 2006)

3.2.5 The Renault 10-Step Model

Renault's approach adds a collaborative dimension, insisting on the formation of a cross-functional working team that brings together all stakeholders in the benchmarked process.

It also emphasizes the importance of documenting one's own process in detail before any comparison takes place, and the systematic follow-up through repeated cycles.

Table14:A 10-Step Benchmarking Approach (Renault)

Step	Description

1	Determine the process to benchmark
2	Understand and describe your own process in detail
3	Build a working team with the stakeholders involved in the process
4	Choose the partners for process comparison (internal, direct competitors, other sectors)
5	Prepare and send the benchmarking questionnaire to partners in advance
6	Visit the partner; always produce a visit report
7	Verify the results obtained
8	Analyze gaps, set objectives, select and adapt best processes
9	Communicate and gain acceptance of benchmarking results
10	Repeat the cycle

Source: (Brilman J. , 2005)

3.2.6 The Xerox / Robert C. Camp 12-Step Model

(Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)Director at Xerox and widely regarded as the founder of modern benchmarking, distinguishes twelve steps in the process. This model is considered the most thorough and complete, and the one that has enabled its adopters to achieve outstanding results across all benchmarked dimensions. It encompasses the full cycle from subject identification to the full institutional integration of best practices

Table15:stages of the Benchmarking Process

Step	**Description**
1	Decide the subjects to which benchmarking can apply
2	Identify the companies to compare
3	Determine the data collection method and collect data
4	Determine performance gaps
5	Estimate future performance levels
6	Communicate results and obtain buy-in
7	Establish functional objectives
8	Develop action plans
9	Implement specific actions and monitor progress

10	Recalibrate benchmarks
11	Achieve leadership position
12	Integrate practices into processes

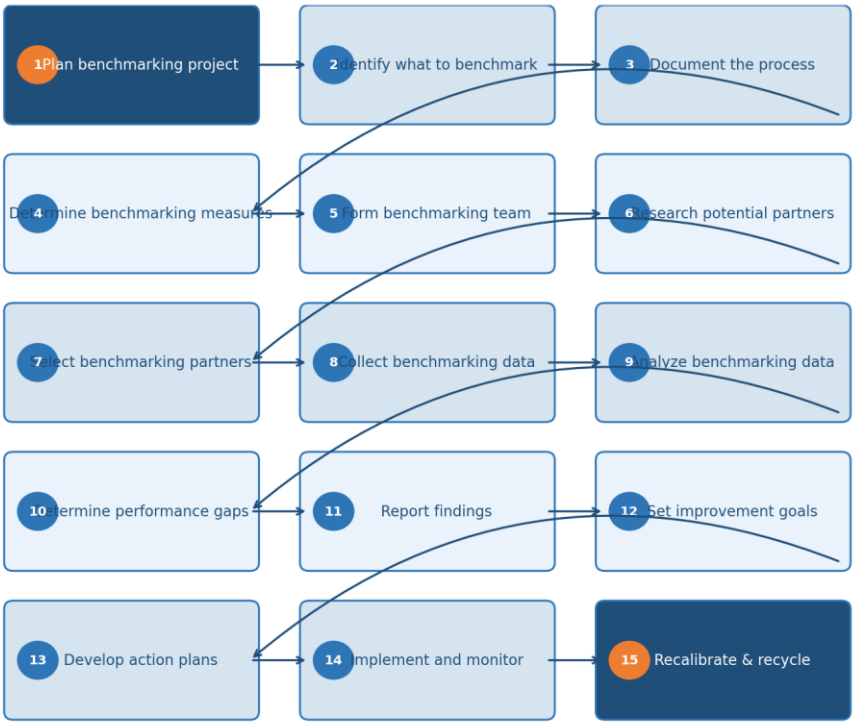
Source (Camp, Le benchmarking, 1992)

3.2.7 The Balm 15-Step Model

For Balm, a complete benchmarking approach comprises fifteen steps. This is the most comprehensive model proposed in the literature, covering the entire cycle from initial project planning through to the recalibration and recycling of the process.

It underscores that benchmarking is never truly finished it must be continuously renewed

Figure 7 : Benchmarking in 15 Steps (Balm)



Source: (Bronet, Amélioration de la performance industrielle, 2006)

3.3Benchmarking Phases

Lthough numerous benchmarking models exist, they all share a common underlying structure. The differences between these models generally lie in the level of detail, particularly in the decomposition of certain stages into sub-steps and in the sequence in which these steps are implemented. Among the most influential approaches, the

methodologies developed by Camp and Balm are widely recognized in the literature as foundational references in benchmarking practices (Camp, Le benchmarking, 1992)

Drawing on these approaches, as well as more recent contributions, it is possible to identify five essential phases that structure the benchmarking process. The effectiveness of this process depends on respecting the logical sequence of these phases, ensuring coherence and continuity throughout the analysis and implementation stages (Kodali G. A., Benchmarking the benchmarking models, 2008)

It is important to emphasize that the diagnostic phase does not constitute benchmarking itself, but rather represents a crucial preliminary step. This phase enables the organization to identify priority areas for improvement, assess its strengths and weaknesses, and clearly define the object of benchmarking as well as the relevant performance indicators to be used for comparison (Bronet, Amélioration de la performance industrielle, 2006)

3.3.1 Phase 1: Planning

The planning phase consists of identifying the object of benchmarking, selecting the partner organizations that will serve as benchmarks, and choosing the data collection methods to be used.

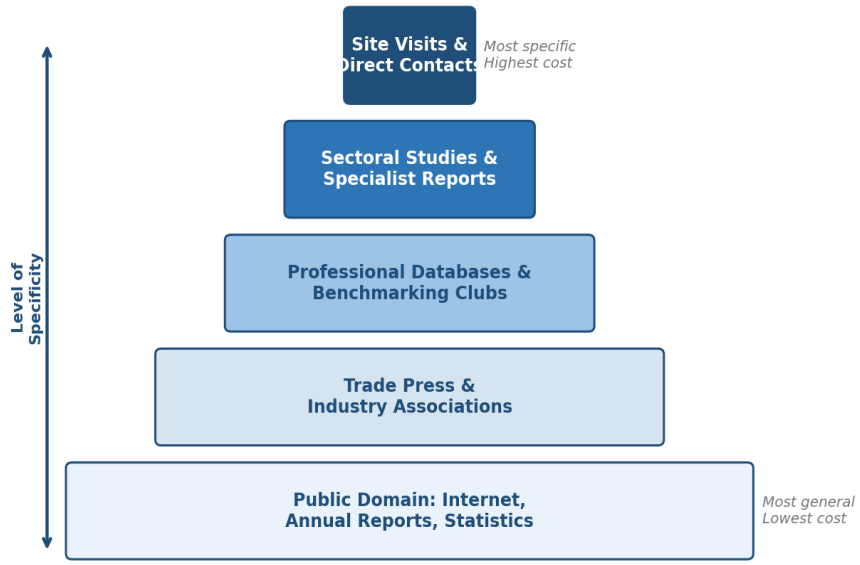
Identifying the object of benchmarking is one of the most difficult steps in the process. It requires first clarifying the missions of each department or function by setting their objectives, and then evaluating the results achieved.

The process of selecting benchmarking partners consists of determining a comparison base for companies in the sector.

Direct competitors should not, however, be the sole target, as their methods are not necessarily the best and may not be worth imitating. What must be ensured is that the comparison is feasible that customer satisfaction levels and operational characteristics are genuinely comparable. Where possible, it is preferable for the benchmarking survey to be conducted outside the organization's own sector.

Before contacting or visiting partner organizations, all available information sources should be fully exploited. The following figure illustrates an example of how data can be hierarchized, from the most general and least costly sources to the most specific:

Figure 8: Hierarchy of Data Collection Sources



Source: ((3IE), Le benchmarking, 2003)

The organization should begin by exploiting all publicly available information in order to identify suitable comparison companies and gather as much information about them as possible, before progressing to more specific and costlier data collection activities.

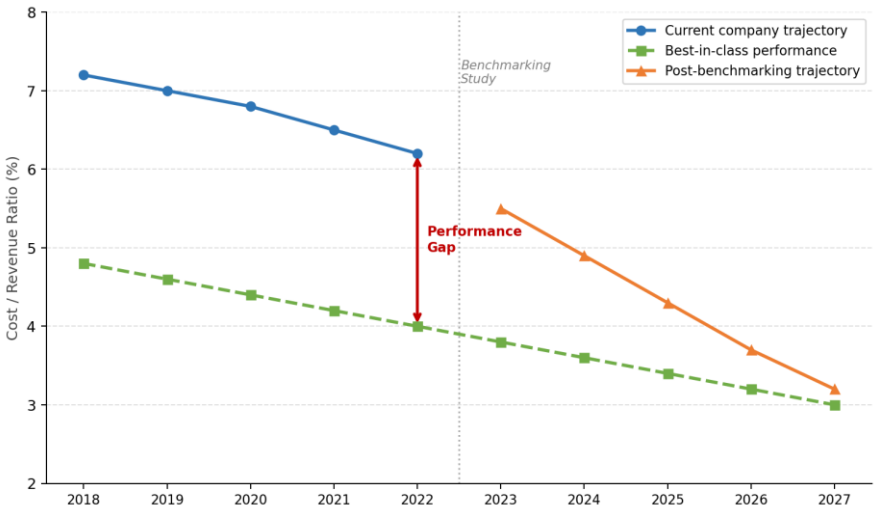
3.3.2 Phase 2: Analysis

The analysis phase consists of two main activities: determining the performance gap and setting future performance levels.

At this stage, the data have already been collected and must now be analyzed and compared against the organization's internal data.

These comparisons will reveal a competitive gap positive or negative which measures the difference between the department's performance and that of the best performers. The gap may be qualitative, if it points to opportunities to improve methods, or quantitative, in terms of performance indicators.

Figure 9: The Improvement Potential of Benchmarking



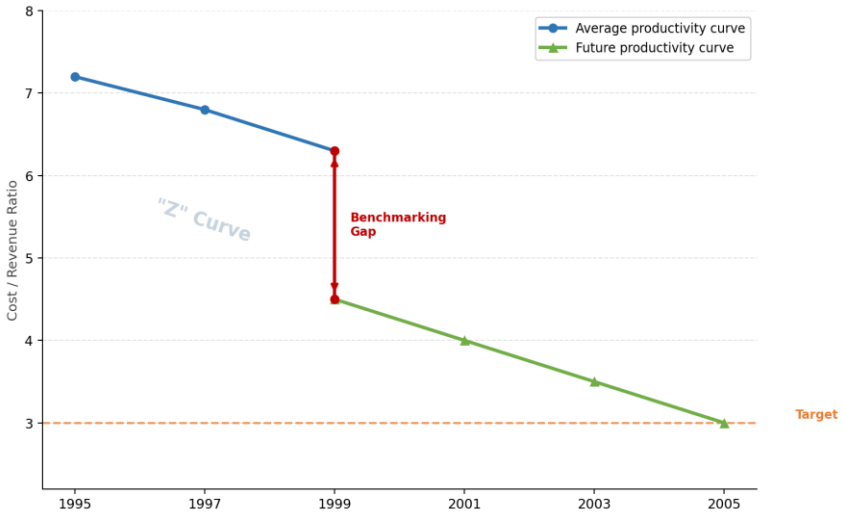
Source: (TECHNOLOGIE, 2002)

The competitive gap analysis must enable the organization to determine its performance level relative to that of competitors. This result is then used to project future performance levels both for the organization itself and for the best performers in order to determine whether the gap will widen, narrow, or remain the same.

To make full use of the information gathered, particularly the performance gaps between the organization and its competitors, a synthesis curve known as the "Z-Curve" is used. This curve illustrates the magnitude of the current and future productivity gap between the organization and its competitors, and allows performance objectives to be set accordingly.

The most commonly used metric for this curve is the cost-to-revenue ratio, which is both easily understood and significant. It can be interpreted in terms of its contribution to profitability. Some benchmarking studies have revealed gaps of up to 50%.

Figure 10: The "Z" Curve



Source: (Camp, Le benchmarking, 1992)

The Z-Curve is divided into three parts:

The average productivity curve: the first segment, representing the cost reduction trend prior to the benchmarking study. Most organizations are not static, and generally show a long-term productivity gain. This curve is a downward-sloping line that ends at the point of the benchmarking study.

The benchmarking gap: at the end of the study, the gap becomes known and appears on the curve as a vertical segment, causing a break in the curve.

The future productivity curve: a downward-sloping half-line starting from the point at which the gap was measured. After closing the gap, the productivity rate must be at least equal to that of competitors to maintain parity, and ideally surpass it.

Understanding the gap also involves distinguishing between tactical and strategic measures:

Tactical measures: in the absence of benchmarking, productivity gains result from gradual evolution and appear acceptable to the organization. Changes are tactical, often the result of internal actions, and improvements are based on experience.

Strategic measures: the significant methodological differences revealed by benchmarking studies generally require strategic action.

The magnitude of the required effort is made visible on the Z-Curve, and the necessary changes must be expressed not only in tactical but also in strategic terms. It is by combining both types of action that the organization will close its gap with the competition.

3.3.3 Phase 3: Integration

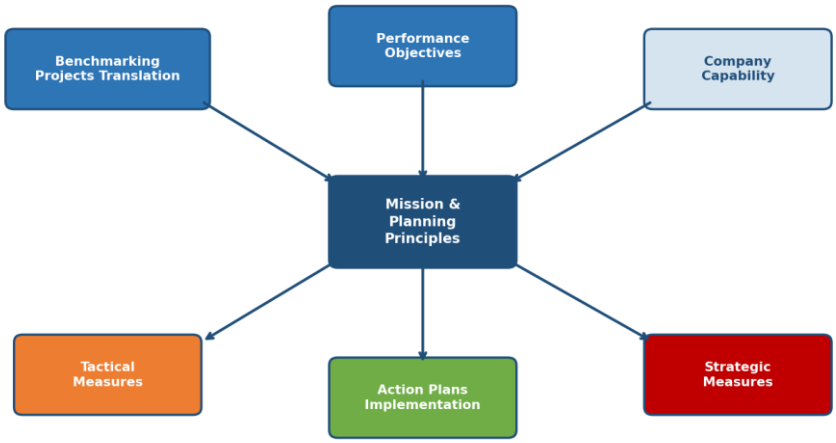
Integration is the process by which the conclusions of the benchmarking study are used to set operational objectives. These conclusions must be communicated to all hierarchical levels of the concerned department so that they can be promoted and internalized.

This phase is carried out through two key steps: communicating the benchmarking results and gaining acceptance for them, and then establishing functional objectives.

Gaining acceptance for the results is a critical step in the benchmarking process, because however well-conducted it can always encounter resistance, as with any proposal to introduce new ways of working. Effective communication, prepared in several stages, requires first identifying the target audience and its needs, then selecting the most appropriate communication methods, and finally organizing the presentation of results for maximum comprehension.

Once the communication phase is complete, the organization moves to the objective-setting phase. Each organization has its own methods for setting objectives; the key focus in the context of benchmarking is on the logic and the process of setting those objectives, which can be structured as follows:

Figure 11: Objective-Setting and Action Planning Process



Source: (Camp, Le benchmarking, 1992)

The opportunities generated by the benchmarking process imply new strategic reorientations for the function considered and/or the organization as a whole. This is why the methods followed, the results obtained, and the orientations proposed must be communicated and explained to all levels of management and to the operational staff concerned.

3.3.4 Phase 4: Action

The conclusions of the benchmarking study and the operational principles derived from it must be translated into concrete applications.

The main tasks of this phase are:

- Developing action plans
- Launching specific actions and monitoring the progress of implementation
- Redefining benchmarks in light of new performance levels

This stage focuses on analyzing the data in order to produce an actionable plan. Benchmarking requires continuous monitoring of both the improvement process and the partner organizations. Two elements deserve particular attention:

- The methods themselves: a feasibility analysis must be conducted, and all obstacles to implementing a new method must be brought to light.
- The transactions carried out through the process concerned: it must be confirmed that all transactions can be handled by the new approach, and that exceptions are minimal.

3.3.5 Phase 5: Maturity

Maturity is reached when benchmarking becomes an essential, permanent, and institutionalized element of the management process. It is then practiced at all levels of the organization not just by specialists. Specialists remain useful for consultation on the most productive approaches, but benchmarking only truly achieves its objective when the entire organization is continuously on the lookout for superior external methods to internalize.

The following checklist summarizes the key questions to be addressed before launching each phase and each step, to ensure that the benchmarking exercise achieves its intended objectives:

Figure 12: Benchmarking The Different Phases (Questions Checklist)

Source: (Belaiche, 2003)

The following figure synthesizes the full five-phase model according to R.C. Camp, linking each phase to its corresponding steps and making visible the complete logic of the process from planning through to the achievement of a leadership position:

Figure 13 The Different Phases of Benchmarking According to R.C. Camp

Source (Camp, Le benchmarking, 1992)

3.4 Ethical and Legal Considerations

The conduct of a benchmarking process does not only involve organizational and methodological dimensions it must also comply with ethical and legal requirements in order to be properly executed.

Benchmarking should not be an exercise in copying or industrial espionage. The reality, however, is that organizations are always on the lookout for competitive intelligence and innovation. To target best-in-class performers, deep investigation and analysis are required. Three main legal areas must be taken into consideration from the outset:

3.4.1 Anti-Monopoly Laws

The objective of antitrust legislation universally applicable is to preserve and promote competition, and to ensure consumers have access to competitive prices and product choice. Since benchmarking is a privileged channel for the exchange of information on all subjects, the provisions of anti-monopoly laws governing information exchange apply equally to information exchanged within the framework of a benchmarking relationship.

3.4.2 Trade Secrets

A trade secret is knowledge or expertise particular to a company, not protected by a patent or industrial design, whose value derives from its non-disclosure. Within an open benchmarking relationship, this type of "property" should not create excessive difficulty.

Trade secrets are generally subject to a strictly controlled access protocol, under which the party to whom the information is disclosed undertakes to maintain confidentiality and not to use it for purposes other than those specified.

3.4.3 Intellectual Property

When processes, products, or techniques are benchmarked and "brought home," it must be verified that they are not otherwise covered by intellectual property protection. This is particularly important when a product has been acquired outside the country and appears to be unprotected there. Within the context of open benchmarking, computer forms and programs must always be checked for their provenance and intended use.

Respecting these legal and ethical frameworks is not merely a formality it is a condition for building trust between benchmarking partners, ensuring the legitimacy of the process, and protecting all parties involved.

3.5Benchmarking Tools:

A wide range of tools is currently available to help organizations carry out the various phases of a benchmarking exercise. Drawing on a study conducted in ((LaRePe), 2001) three distinct categories of benchmarking tools can be identified, each designed to serve a different level of organizational ambition and maturity.

The evaluations performed by these tools cover both organizational practices including leadership, strategy, customer and market orientation, human resource management, and information management and performance outcomes such as process performance, customer satisfaction, employee satisfaction, partnership performance, and financial results.

The three categories are as follows:

Introductory tools designed to initiate the organization to the benchmarking approach. Through comparative analysis with other organizations in a reference group, these tools deliver commented results on observed differences, but stop short of providing specific improvement recommendations.

Intermediate tools which go beyond comparison to provide recommendations on the practices the organization should evolve or replace in order to improve its performance.

World-class tools which specifically target exemplary best practices, enabling the organization to compete effectively against other players in its global market.

Figure 14: The Three Categories of Benchmarking Tools

Source: ((LaRePe), Report to the Ministère de l'Industrie et du Commerce du Québec, 2001)

3.5.1 Introductory Tools

Introductory tools enable the organization to compare its results with those of other companies in a pre-defined reference group. This reference group is generally composed of

similar companies belonging to the same industry and/or companies sharing the same characteristics on selected factors such as annual order volume, export rate, degree of maturity, percentage of sales from designed products, or assembly time.

These tools are therefore strongly results-oriented rather than practice-oriented. While some commentary on results is occasionally provided, no recommendations concerning potential modifications to current practices are offered that function is reserved for intermediate tools.

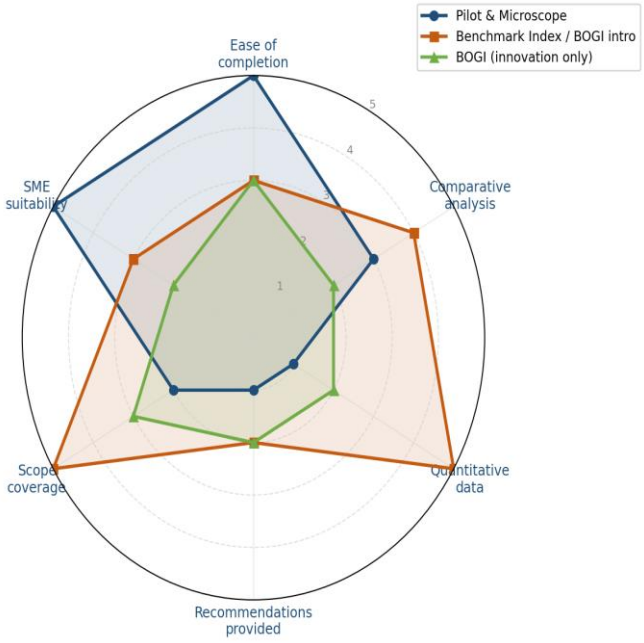
With these tools, the organization is positioned relative to its reference group on the basis of a comparative analysis carried out on predominantly quantitative data. A combined use of several criteria is generally recommended to make the reference group more homogeneous and to bring it closer to the operational reality of the organization under study.

Table 16 : Advantages and Disadvantages of Introductory Benchmarking Tools

Tool	Advantages	Disadvantages
Pilot & Microscope (qualitative only)	Questionnaire is simple and easy to complete. Involves a small number of people within the organization.	Designed specifically for smes. Requires a facilitator to validate responses. Content remains exclusively qualitative.
Benchmark Index / BOGI (simplified version)	Relatively complete organizational evaluation. Quantitative assessment. Provides a general diagnostic of the organization's strengths and weaknesses. Covers most domains of innovation management.	Content too extensive for an introductory tool. Demands significant time and resource investment. Offers a self-diagnostic focused exclusively on the innovation dimension. No comparison of organizational data against a reference group.

Source ((LaRePe), Report to the Ministère de l'Industrie et du Commerce du Québec, 2001)

Table 1: Comparative Profile of Introductory Benchmarking Tools



Source : ((LaRePe), Report to the Ministère de l'Industrie et du Commerce du Québec, 2001)

3.5.2Intermediate Tools

The tools in this second category enable the organization to identify its strengths and weaknesses in order to determine the appropriate corrective actions. Organizations using these tools do not necessarily seek a leadership position in their market, but are committed to a continuous performance improvement approach. The practices evaluated are therefore not necessarily those used by world-class companies.

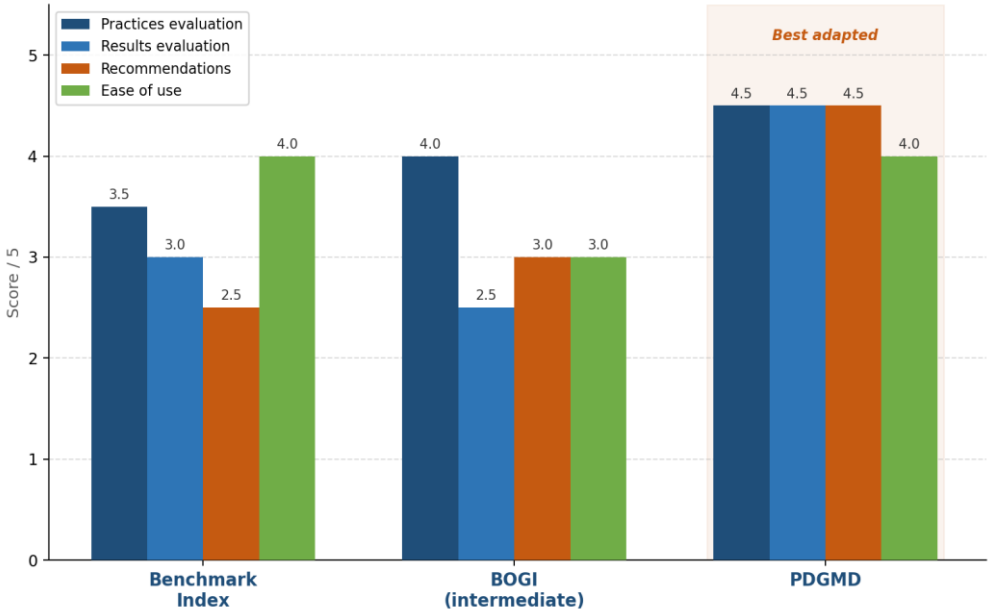
Among the three tools proposed for this category, PDGMD proves to be the best adapted. This is partly because it presents the results of the comparative analysis with other reference-group companies in a clear and relevant manner, and partly because the recommendations it offers are directly derived from measuring the alignment between practices applied and results obtained a lack of recommendation relevance being consistently cited as one of the key weaknesses of current benchmarking tools. The only limitation noted for PDGMD relates to a lack of detail in its recommendations for certain organizational areas.

Table`17: Intermediate Benchmarking Tools Advantages and Disadvantages

Tool	Advantages	Disadvantages
Benchmark Index	Relatively complete content encompassing the main organizational dimensions.	Must be enriched with the addition of commentary and recommendations.
BOGI (intermediate version)	In-depth evaluation of innovation management. Detailed analysis of the various management dimensions. Guidance toward the development of an improvement action plan.	Evaluations are exclusively qualitative, with no distinction drawn between practices and their outcomes. Focuses heavily on practice evaluation, with insufficient attention to results.
PDGMD (recommended)	Comparative evaluation of both practices and their resulting outcomes. Simple to use. Clear orientation of required actions.	Questionnaire is relatively long. May require a facilitator. Cannot currently be deployed online in its present form. Incomplete for smes aiming at world-class performance levels.

Source :((LaRePe), Report to the Ministère de l'Industrie et du Commerce du Québec, 2001)

Figure 15: Comparative Scoring of Intermediate Benchmarking Tools



Source: ((LaRePe), Étude sur les outils de benchmarking, 2001)**.**

3.5.3 World-Class Tools

The tools in this final category are designed exclusively for organizations seeking to identify exemplary practices capable of elevating their performance to world-class standards. These three tools are highly complementary and enable comparisons against international organizations. However, they do not yet cover all functions and processes of the organization, and remain limited to qualitative evaluations of the practices of the group under study.

Table18: World-Class Benchmarking Tools Advantages and Disadvantages

Tool	Advantages	Disadvantages
National Quality Programs (EQA, ABEF)	Content validity assured by the research work that underpinned their development (European Quality Award, Australian Business Excellence Framework). International vocation facilitates cross-country comparisons.	Criteria are insufficiently normative and do not recommend the use of specific practices that could lead organizational excellence.
PROBE	Easy interpretation of the organization's position across its practices and overall performance. Encompasses exemplary practices and accounts for e-business dimensions. Evaluates both practices and their resulting outcomes. Development based on multiple scientific studies.	Absence of the financial dimension of the organization. Evaluations are exclusively qualitative.
BOGI (advanced version)	Covers virtually all management domains in depth. Proposes exemplary practices in innovation management.	Evaluations are exclusively qualitative. No distinction between practices and their outcomes. Incomplete, as it focuses exclusively on innovation management.

Source ((LaRePe), Report to the Ministère de l'Industrie et du Commerce du Québec, 2001)**.**

4Critical Success Factors, Advantages and Limitations

Like any initiative that generates significant organizational change, benchmarking must not be a one-off exercise but a sustained, continuous effort over a sufficiently long period to allow its results to be properly assessed.

This section examines the conditions and critical success factors of a benchmarking operation, as well as the advantages and limitations inherent to this approach.

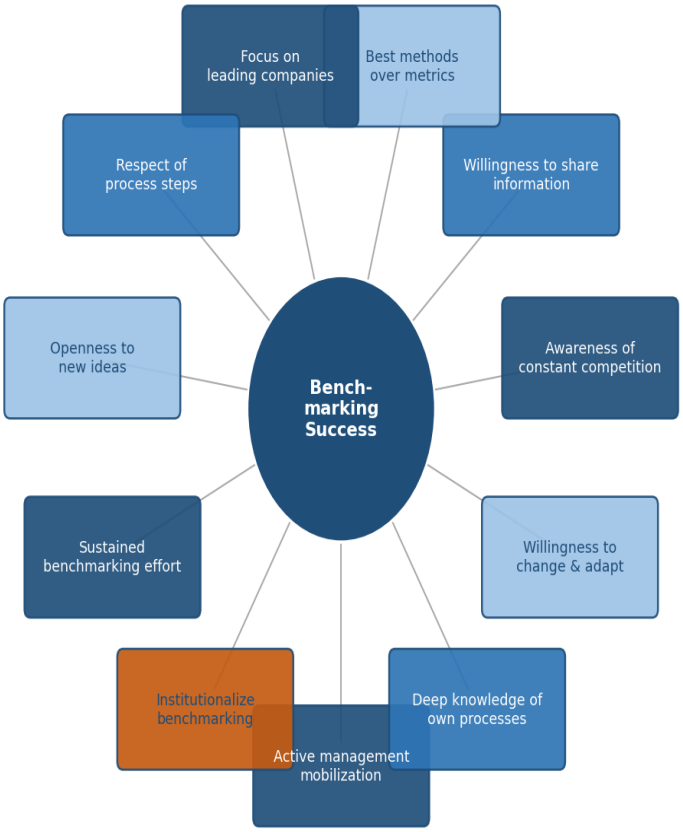
4.1Critical Success Factors

In his foundational work on benchmarking, (Camp, Le benchmarking, 1992)provides a comprehensive list of critical success factors. One of the most essential is the active mobilization of management. Managerial participation must be present from the very elaboration of the benchmarking plan and the selection of approaches used for the investigation. Management must also assist in data collection, facilitate access to the various sources and resources required, and actively remove the obstacles that inevitably arise during the process.

According to (Camp, Le benchmarking, 1992)the critical success factors of a benchmarking operation include:

- Active mobilization of management at all levels of the organization
- Deep understanding of the organization's own processes, in order to meaningfully compare them against best practices
- The willingness to change and to adapt practices in light of the benchmarking findings
- An awareness that competition evolves continuously, and that objectives must be set ambitiously
- The willingness to share information reciprocally with benchmarking partners
- Priority given to the search for best methods, before focusing on performance metrics
- Concentration of benchmarking research on recognized leaders or best-performing departments in their domain
- Strict adherence to the ten steps of the benchmarking process
- Openness to new ideas, and creativity in their application to existing methods
- A sustained and consistent benchmarking effort over time
- Full institutionalization of benchmarking within the organization's management culture

Figure 16: Critical Success Factors



Source: (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

(Jakobiak, 1998) proposes a more structured reading of this list, decomposing Camp's eleven factors into two distinct sub-groups of five, each serving a different function in the management of the benchmarking process.

4.1.1 The Five Critical Success Factors

- Permanent and visibly demonstrated support from top management
- Active mobilization of middle management
- A genuine willingness to change and adapt based on benchmarking findings
- Concentration of research on companies that are recognized leaders in their sector
- Openness to new ideas, creativity and innovation in the application of findings

4.1.2 The Five Base Actions and Attitudes

- A deep and honest knowledge of the organization's own methods, as a prerequisite for meaningful comparison against the best
- A constant awareness that competition evolves without pause, and that performance targets must be set ambitiously
- Priority given to the search for best methods over the measurement of performance metrics alone
- Strict respect for the ten steps of the benchmarking process, in the correct sequence
- A sustained effort toward the full institutionalization of benchmarking across the organization

Among the five critical success factors identified, two are particularly familiar to practitioners of competitive intelligence: active management mobilization and openness to new ideas, creativity, and innovation. These two factors represent the core of what makes benchmarking a genuinely transformative approach, as opposed to a simple measurement exercise.

4.1.3 Benchmarking Failure Factors

For any organization beginning a benchmarking initiative, it is valuable to understand the most common obstacles and pitfalls, as these can prove fatal to the benchmarking effort if left unaddressed. (Détrie, 1997) identifies the following failure factors:

- False information or information overload which distorts analysis and leads to misguided conclusions
- Lack of follow-up in the information feedback loop preventing the organization from translating findings into action
- Absence of a shared reference framework among all stakeholders creating misalignments in interpretation
- Neglect of the necessary resources both human and financial to sustain the benchmarking process
- Lack of synergy between the actors involved whether internal teams or external partners

Poor communication is arguably the most significant obstacle to a successful benchmarking process. Without genuine sharing of both the project and its results across the organization, the initiative risks losing momentum rapidly, and the return on investment becomes difficult to perceive or demonstrate.

4.2Advantages and Limitations of benchmarking

4.2.1 Advantages of Benchmarking

Benchmarking is regarded by a number of pioneering organizations as an indispensable strategic tool, used on a continuous and permanent basis. It represents a rational and effective means of leveraging the information collected for offensive and strategic purposes.

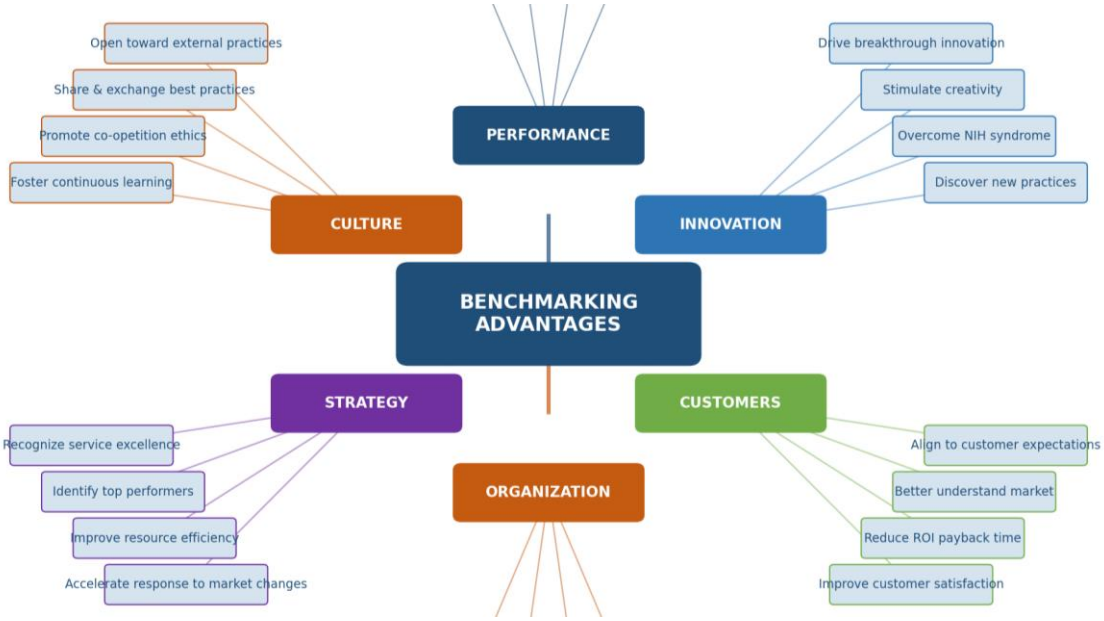
At its core, benchmarking is an approach to pursuing excellence: it generates productivity gains, reduces time-to-improvement through its learning effect, and stimulates personnel by encouraging them to challenge established routines and habits, to open outward, and to maintain a sustained focus on both internal and external customer satisfaction.

Benchmarking also promotes dialogue, exchange, and in a certain sense the pursuit of shared interests with the competition, thereby moving organizations away from industrial espionage and toward relationships founded on trust and co-opetition.

More specifically, benchmarking enables the organization to:

- Recognize excellence in specific services and functions
- Identify the highest-performing contributors within the organization
- Compare and exchange best practices with relevant peers
- Discover new practices not yet encountered within the sector
- Develop a deeper understanding of the competitive economic environment
- Motivate employees and reduce staff turnover
- Convince teams of the potential for meaningful performance improvement
- Improve customer satisfaction at all levels
- Reduce the time to return on investment
- Improve the utilization and efficiency of organizational resources
- Increase overall productivity
- Reduce operating costs
- Limit operational and strategic risks
- Boost global organizational performance
- Provide management with evidence-based arguments during negotiations

Figure 17: Advantages of Benchmarking



Source: (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

Beyond the immediate operational benefits, the benchmarking process also develops the capacity for critical self-examination and enriches the organization's collective intelligence with new competencies and know-how, while continuously feeding the innovation process. It enables significant performance leaps particularly in terms of productivity and competitiveness and accelerates incremental improvements while simultaneously fostering breakthrough innovation, producing measurable increases in both efficiency and profitability.

On one hand, benchmarking stimulates creativity through the adaptation of the most effective practices to the organization's own culture in the pursuit of excellence, and strengthens social cohesion through performance-based consensus. On the other hand, it increases the organization's flexibility and accelerates its capacity to respond to changes in the global marketplace.

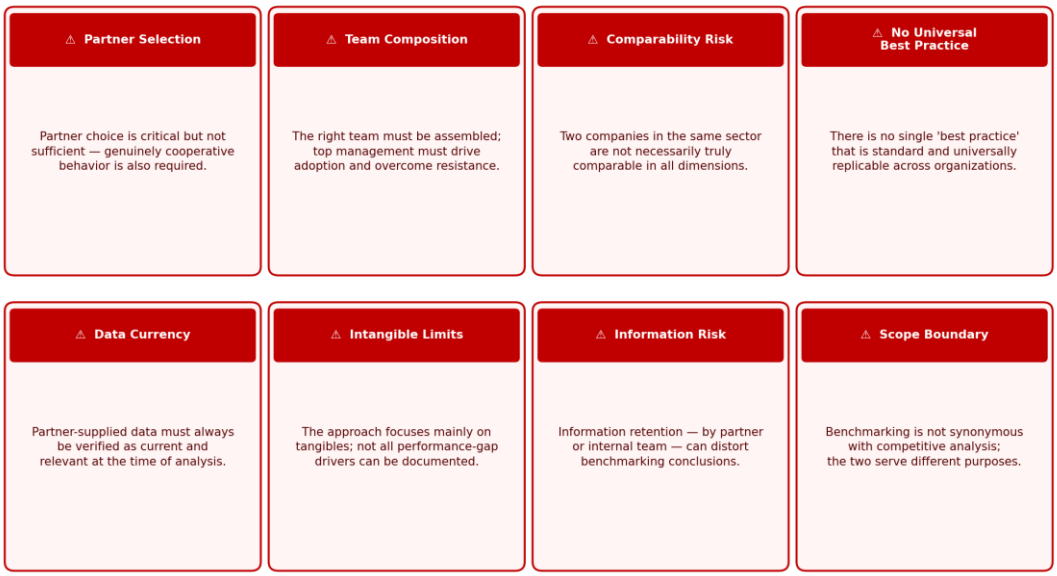
Finally, benchmarking allows the organization to escape the "Not Invented Here" syndrome. The very essence of benchmarking is to capitalize on the ideas, practices, and work of others and to transform them intelligently into organizational advantage.

4.2.2 Limits of Benchmarking

Despite its considerable potential, benchmarking is not without its limitations. These must be understood and anticipated in order to ensure the approach does not produce misleading conclusions or fail to deliver the expected results:

- The choice of partners is critically important, but is not in itself sufficient to guarantee the success of a benchmarking exercise. Partners must also demonstrate genuinely cooperative behavior toward all parties involved in the process.
- The selection of the internal team that will conduct the benchmarking exercise is equally critical. Senior management must be sufficiently engaged to overcome internal resistance and allow everyone to take ownership of the process and its outcomes.
- It should not be assumed a priori that two companies operating in the same sector are truly comparable across all dimensions. The risk of comparing elements that are not genuinely comparable is real and must be actively managed.
- There is no single universal 'best practice' that can be applied as a standard across all organizations. Each organization must critically assess whether a given practice is genuinely transferable to its own context.
- The currency of data provided by benchmarking partners must always be verified. Information that was valid at one point in time may no longer reflect the current reality of the partner organization.
- The benchmarking approach focuses primarily on tangible elements, and does not always allow the identification and full documentation of all the explanatory variables underlying a performance differential.
- The risk of information retention whether by the partner or by the organization's own team must be actively addressed. Selective disclosure distorts the benchmarking conclusions and undermines the trust on which the process depends.
- Benchmarking is not synonymous with competitive analysis. The two approaches serve fundamentally different purposes and should not be conflated.

Figure 18:The Eight Key Limitations of Benchmarking



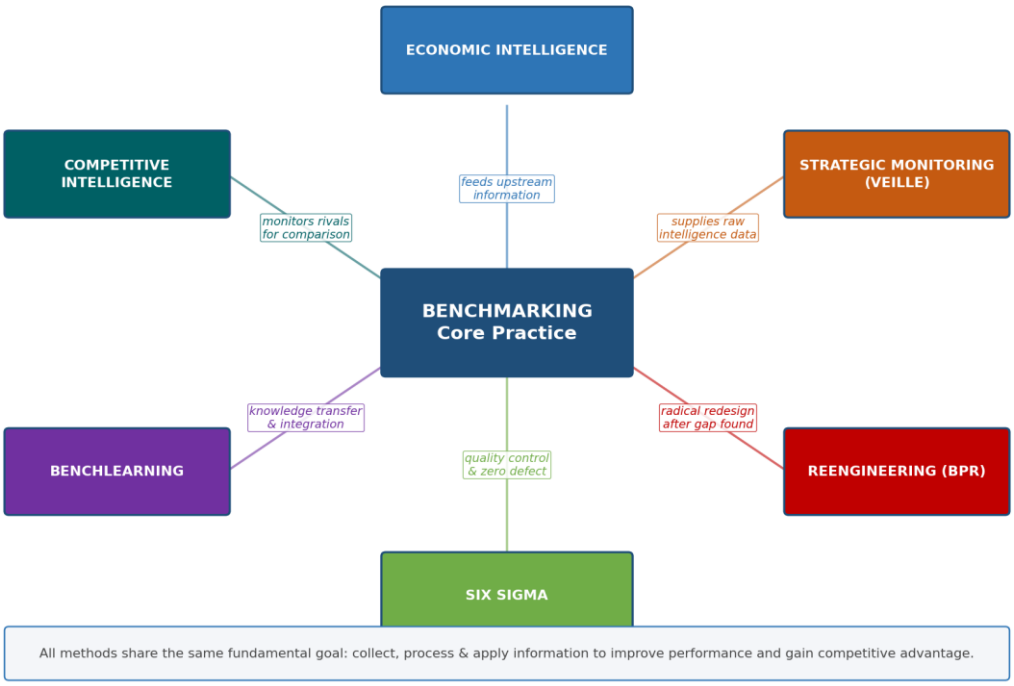
Source: (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)

5. Benchmarking as a Strategic Monitoring Approach

Benchmarking does not exist in isolation as a management tool. It is deeply interconnected with a broader ecosystem of strategic intelligence concepts and process improvement methodologies that together form the intellectual and operational environment within which modern organizations continuously improve their performance and competitive positioning. Among these related concepts, five are particularly relevant to the present study: economic intelligence, strategic monitoring (watch), business process reengineering, Six Sigma, and benchlearning.

The common thread linking all five is the central role of information collected, processed, and applied as the fundamental driver of organizational learning and competitive advantage (Jakobiak, Intelligence économique : techniques et outils, 2005)

Figure 19: Benchmarking and Its Related Management Concepts



Source: (Jakobiak, Intelligence économique : techniques et outils, 2005)

5.1Economic Intelligence

Economic intelligence is defined, following the foundational (Martre), 1994), as the set of coordinated actions of research, processing, distribution, and protection of information for the purpose of its use by economic actors, obtained legally. It extends the various monitoring activities by integrating influence strategies and the cultural realities specific to each organization and region

Economic intelligence provides organizations with the offensive means to increase their competitiveness and pursue permanent innovation, while ensuring the security of their information assets (Jakobiak, Intelligence économique : techniques et outils, 2005). It is simultaneously an instrument of competitiveness research for firms and a lever of national economic power, implemented by organizations in cooperation with the state, organized in internal and external networks to capture the maximum amount of scientific, technical, and economic information destined to feed the decision-making process of economic actors.

5.1.2Global Models of Economic Intelligence

Several world models of economic intelligence have been identified in the literature. The United Kingdom, positioning information as a strategic tool, is considered one of the pioneers of economic intelligence, mobilizing intelligence services, banks, multinational

companies, and diplomatic missions for national economic promotion. Japan, Germany, the United States, France, Russia, and several Asian countries subsequently developed their own economic intelligence systems for national economic development (Jakobiak, Intelligence économique : techniques et outils, 2005)

Figure 20: Economic Intelligence Definition and Core Pillars

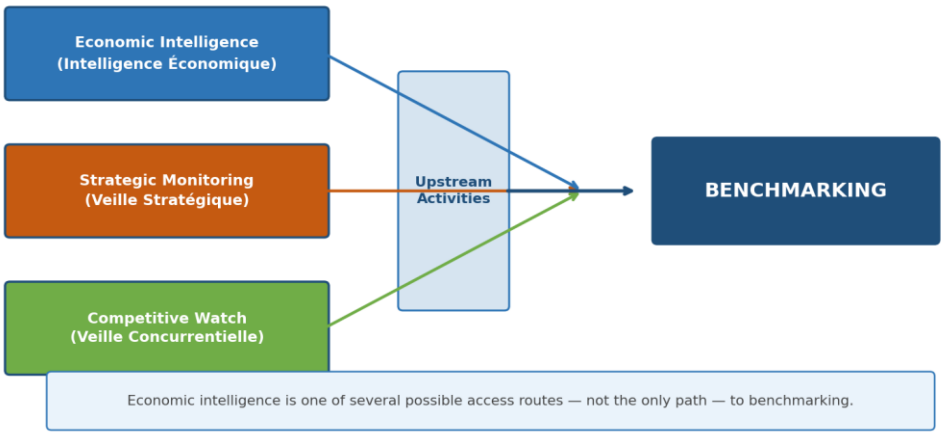
Source : (Jakobiak, Intelligence économique : techniques et outils, 2005)

5.1.3Relationship between benchmarking and economic intelligence:

According to (Jakobiak, Intelligence économique : techniques et outils, 2005), there are three ways of accessing benchmarking.

These three access paths constitute upstream activities of benchmarking. Economic intelligence is therefore one of the means among others of arriving at benchmarking. It feeds the benchmarking process with processed, strategic information that allows organizations to identify where comparison is most needed and most valuable.

Figure 21: The Three Access Routes to Benchmarking



Source (Jakobiak, Intelligence économique : techniques et outils, 2005)

5.2Strategic Monitoring

Strategic monitoring is defined as the continuous and long-term search for and processing of information that may be of interest to an organization. The results of monitoring activities are published progressively, in the form of short analyses that serve as inputs to the organization's strategic and operational decision-making processes.

The global and intelligent surveillance of the company's environment in search of factual information carrying future significance (Hermel L. &., 2007)

5.2.1 What Strategic Monitoring Enables

More specifically, strategic monitoring enables the organization to:

- Know new trends and anticipate structural changes before they become unavoidable imperatives
- Better adapt its products and services to a changing environment, maintaining alignment with evolving customer expectations
- Increase its capacity and speed of reaction to events, reducing response time and decision latency
- Improve its competitiveness and reinforce its competitive positioning relative to market rivals
- Ensure the daily fulfilment of its organizational mission, by tracking developments that could challenge its strategic objectives

Strategic monitoring therefore constitutes a genuine competitive advantage, a factor of competitiveness and for certain organizations operating in particularly volatile or threatened sectors, a genuine key success factor

5.2.2Types of Strategic Monitoring

The literature identifies four main types of strategic monitoring, each targeting a different dimension of the organizational environment:

Technological watch: the continuous monitoring of scientific and technical research evolution and innovation.

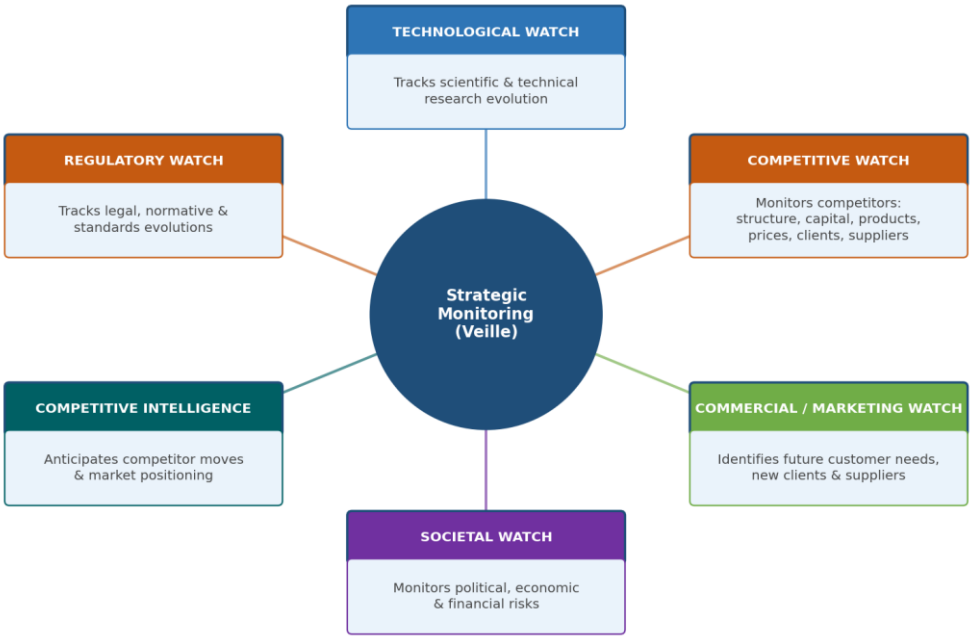
Marketing and commercial watch: the search for future customer needs, new market opportunities, and supplier intelligence.

Competitive watch: the surveillance of direct competitors in terms of structure, capital, products, prices, suppliers, and customers.

Societal watch: the monitoring of political, economic, regulatory, and financial risks that may affect the organization's strategic environment.

As (Rouach, 2010) famously described it, strategic monitoring is the sixth sense of the organization an anticipatory radar that allows the firm to sense changes before they materialize into competitive threats. Strategic monitoring feeds economic intelligence with raw environmental signals, while benchmarking converts these signals into structured comparative performance insights and actionable improvement plans.

Figure 22 The Four Types of Strategic Monitoring



Source: (Hermel P. , 2007)

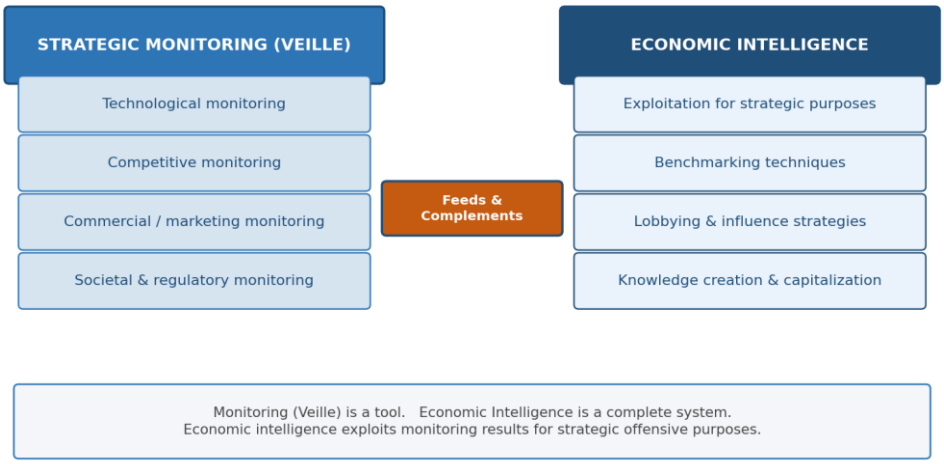
5.2.4 Relationship Between Strategic Monitoring and Economic Intelligence

Strategic monitoring and economic intelligence are closely linked, yet distinct in nature and scope. The economic intelligence system is built upon the results of monitoring activities. It exploits the information gathered through monitoring for strategic offensive purposes, and additionally employs techniques closer to intelligence in the Anglo-Saxon sense including benchmarking, lobbying, and influence strategies.

It also incorporates systems for knowledge capitalization and creation, placing it at the intersection of multiple disciplinary fields.

The fundamental distinction can be summarized as follows: monitoring is a tool, while economic intelligence is a complete integrated system. Monitoring supplies raw intelligence; economic intelligence transforms it into strategic action.

Figure 23: Relationship Between Strategic Monitoring and Economic Intelligence



Source: (Boizard, 2004)

After examining these three interrelated concepts economic intelligence, strategic monitoring, and benchmarking it is clear that the common thread running through all of them is information: collecting it, processing it, and disseminating it. Whether the approach is economic intelligence, strategic monitoring, or benchmarking, the pathway is identical. What differs is the objective. All three approaches rest on the permanent need to be informed, to monitor the competitive environment, to compare oneself to others, and to understand market trends.

5.3Reengineering (Business Process Reengineering)

5.3.1 Definition

Reengineering also known as Business Process Reengineering (Champy, 1993)means starting over from scratch. It requires setting aside much of the accumulated knowledge inherited from two centuries of industrial management. Reengineering proceeds from the premise that most processes do not function as well as they should everywhere in the organization, and that rapid, fundamental transformation is both possible and necessary.

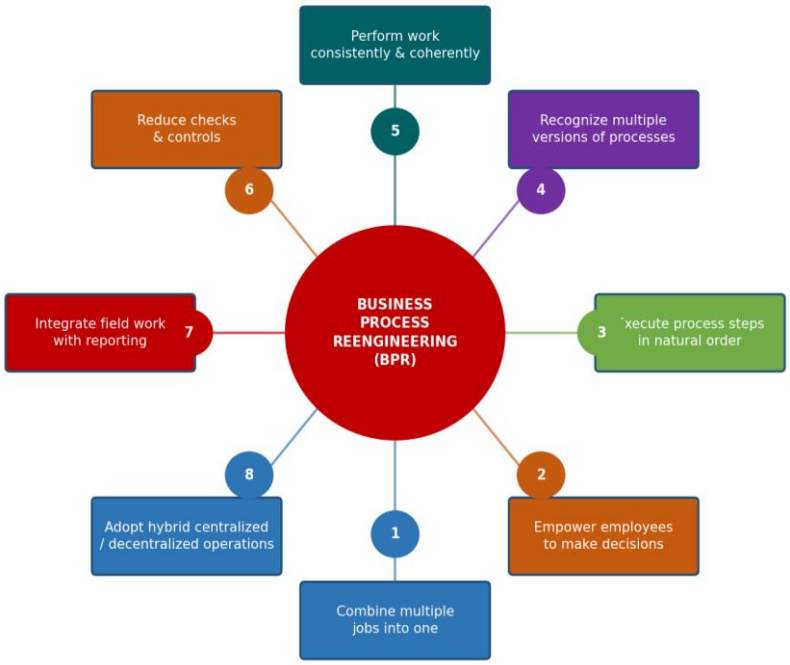
Unlike approaches that define change in terms of strategy or marketing, reengineering defines it as rapid mobilization and radical redesign. It is not a recipe for improving what already exists it is a total reinvention of the enterprise, starting from its strategic choices and rebuilding the entire organization on a zero base.

5.3.2 The Eight Principles of Reengineering

The principles governing the reengineering approach are as follows:

- Combine multiple jobs into a single role, eliminating unnecessary hand-offs between positions
- Empower employees to make decisions autonomously, reducing the need for hierarchical approval at every step
- Execute process steps in their natural order, freeing processes from the artificial constraints of sequential dependencies
- Recognize that multiple versions of a process may be required to serve different use cases and customer segments efficiently
- Perform work consistently and coherently, minimizing variation and ensuring quality at every stage
- Reduce unnecessary controls and checks, which add cost without adding value
- Integrate field work with reporting, eliminating the separation between doing and documenting
- Adopt hybrid centralized and decentralized operations, combining economies of scale with local flexibility

Figure 24: The Eight Principles of Business Process Reengineering (BPR)



Source: (Champy, 1993)

5.3.3The Three Key Merits of Reengineering

The value of reengineering as a management approach can be attributed to three distinctive qualities:

Radicality: reengineering does not simply rearrange existing activities it rethinks the entire enterprise from its foundation, on a zero base, starting from its strategic choices. The result is a reinvented organization, not a modified one.

Cross-functionality: reengineering deliberately breaks through the traditional silos of departments and functions. Rather than working within the inherited division of Taylorist labor, it recomposes work across the full end-to-end process from the customer's initial need to its final satisfaction. In doing so, it unravels the structural fabric of the organization and reconstructs it around processes rather than functions.

Systematic use of information technology: reengineering harnesses the most advanced capabilities of information technology not for their own sake, but for their capacity to revolutionize the parameters of the problem. It bypasses bureaucratic complexity without sacrificing rigor or control.

Reengineering is therefore a powerful lever for organizational change that fosters innovation and transforms the enterprise into an intelligent, learning organization one in which creativity is the norm rather than the exception.

5.4Six Sigma

5.4.1 Definition

Six Sigma is a quality and profitability improvement methodology based on the statistical mastery of processes. It is simultaneously a management philosophy resting on a highly structured organizational framework dedicated to project management. Originally developed at Motorola in the 1980s and popularized by General Electric under Jack Welch in the 1990s, Six Sigma has since become one of the most widely adopted quality management methodologies in the world.

5.4.2Three Core Objectives

Six Sigma is typically employed to simultaneously pursue three organizational objectives:

- Equip the organization with measurable, effective, and actionable improvement initiatives
- Reduce quality losses, operational defects, and associated costs

- Strengthen the organization's brand image and demonstrate operational credibility to investors and stakeholders

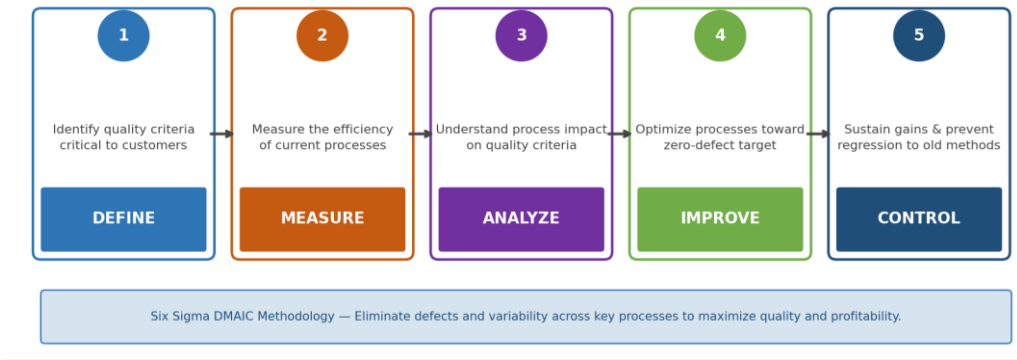
This final objective has generated considerable debate particularly in the United States where some organizations have leveraged Six Sigma certification as a market signal to attract investors. However, while Six Sigma undeniably represents sound internal management practices, it cannot be used as the sole indicator of financial health.

5.4.3The DMAIC Methodology

Six Sigma is not merely a method but a management system centered on a powerful problem solving and process optimization methodology. (George, 2002) Define, Measure, Analyze, Improve, Control structures the pursuit of zero-defect performance across the critical processes of the organization. Its four foundational steps are as follows:

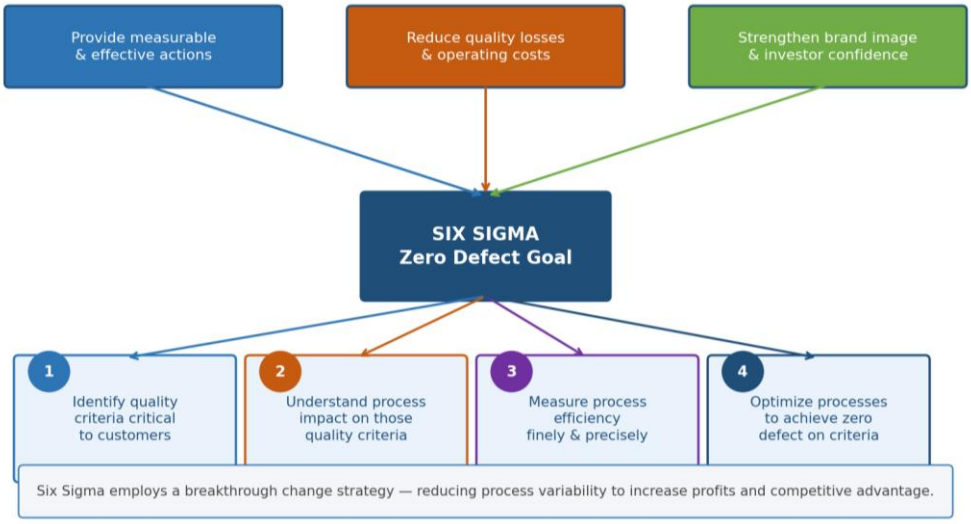
- Identify the quality criteria that are essential in the eyes of customers those performance dimensions that directly determine customer satisfaction and loyalty
- Understand the impact of the organization's processes on those quality criteria mapping the causal relationship between operational behavior and customer-perceived outcomes
- Measure the efficiency of these processes finely and precisely using statistical tools to quantify current performance levels and identify the sources of variability and defect
- Optimize these processes until zero-defect performance is achieved on the essential quality criteria implementing targeted improvements and sustaining them over time.

Figure 25: Six Sigma DMAIC Process The Five Phases



Source (Peter S. Pande, 2002)

Figure 26:. Six Sigma Management System and Strategic Objectives



Source: (Schroeder, 2002)

5.4.4 Six Sigma as a Breakthrough Strategy

In terms of organizational change, the Six Sigma methodology is characterized by a breakthrough strategy: it drives the organization forward by systematically reducing variability across all its processes, with the objective of continuously increasing profits and strengthening competitive advantage.

Regardless of the specific objectives assigned to Six Sigma projects quality improvement, cost reduction, cycle time reduction, or customer satisfaction the resulting change is always considered strategic for the enterprise. The typical strategic outcome is the conquest or consolidation of a competitive advantage in the market.

6.Benchlearning

6.1 Definition and Origin

Benchlearning is a concept developed and registered by (Östblom, 1993) Consulting. It designates the process of learning the best practices identified through benchmarking whether through internal benchmarking (practices identified within the organization itself) or external benchmarking (practices drawn from different organizations and best-in-class performers).

Like Business Process Reengineering, benchlearning can be classified as a radical, top-down change method. Its approach rests on two complementary principles: on one hand, acquiring knowledge of efficient routines that others have already experimented with without having

to experiment with them oneself and on the other hand, drawing lessons from the negative experiences that others have lived through, without having to endure them directly.

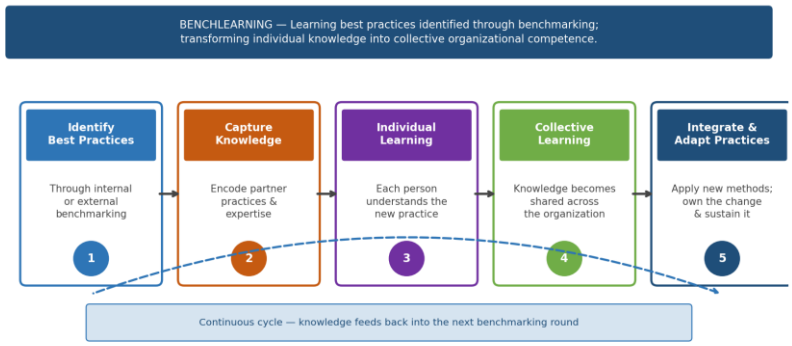
6.2The Benchlearning Process

Benchlearning must be understood as a systematic and continuous process responsible for identifying and evaluating the best practices of benchmarking partners referred to as the "good example" with the explicit goal of integrating those practices into the organization's current activities.

Implementing benchlearning requires a set of mechanisms specifically dedicated to knowledge acquisition. More precisely, the benchlearning process must integrate mechanisms for transforming individual knowledge into collective knowledge.

The process begins with the development of new knowledge at the individual level, and then progressively extends to the collective level. The dynamics of the process manifest through successive transformations of knowledge from one state to another.

Figure 27: The Benchlearning Process Knowledge Transformation Cycle



Source (Östblom, 1993)

6.3 Benchlearning as the Final Step of Benchmarking

Benchlearning gives the organization the ability to capture, utilize, and internalize the experiences and expertise of another organization through the transfer of encoded knowledge. Whereas a benchmarking process focuses on making an organization change by leading it to imitate and adapt successful practices, benchlearning is the indispensable final step of that process.

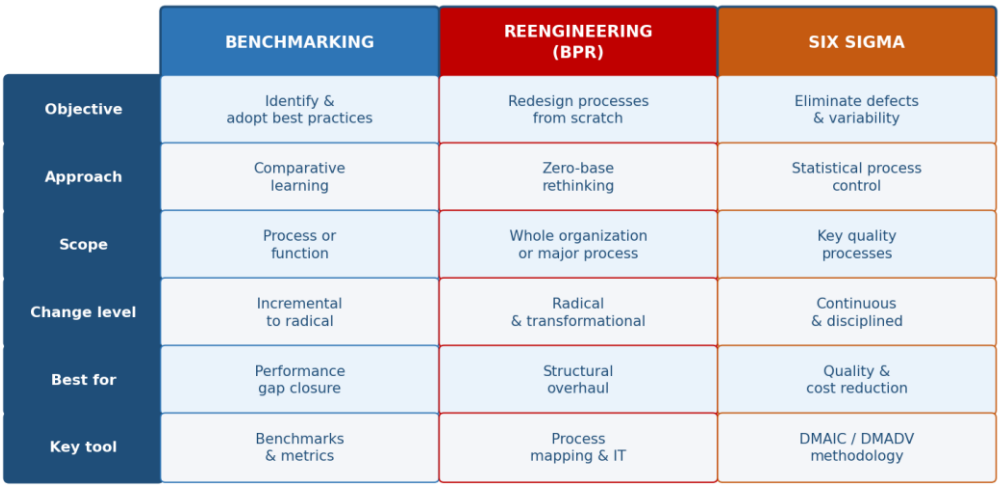
This is because benchlearning targets the heart of the change challenge: it aims not merely to copy what successful organizations do, but to make the organization genuinely understand and appropriate the knowledge underlying those good practices. Without this appropriation

phase, benchmarking risks producing superficial imitation rather than genuine and sustainable transformation.

Benchlearning therefore bridges the gap between benchmarking as observation and benchmarking as transformation converting external intelligence into embedded organizational competence.

The following table and figure present a structured comparison of all five approaches examined in this chapter, positioning them relative to benchmarking across key analytical dimensions: objective, method, scope, level of change, primary use, and key tools.

Figure 28: Comparative Analysis Benchmarking, Reengineering and Six Sigma



Source: (Champy, 1993)

Table19: Comparative Summary of Benchmarking-Related Management Approaches

Dimension	Economic Intelligence	Strategic Monitoring	Reengineering (BPR)	Six Sigma	Benchlearning
Primary objective	Collect & exploit strategic information offensively	Monitor & anticipate environmental changes continuously	Radically redesign processes from zero	Eliminate defects & reduce variability	Internalize & learn from best practices
Approach	Coordinated intelligence & influence	Continuous environmental scanning	Zero-base process redesign	Statistical process control (DMAIC)	Knowledge transfer & transformation

Scope	Organizational & national level	All environmental dimensions	Entire organization or core process	Key quality-critical processes	Benchmarked practices & knowledge
Level of change	Strategic offensive	Anticipatory proactive	Radical transformational	Incremental breakthrough	Deep learning appropriation
Role relative to benchmarking	Upstream enabler feeds information	Upstream enabler feeds intelligence	Downstream implements after gap found	Complementary quality focus	Final step ensures real adoption
Key tools	Intelligence networks, influence, lobbying	Scanning tools, monitoring dashboards	Process mapping, IT systems, redesign workshops	DMAIC, statistical control charts, Pareto	Knowledge management, learning mechanisms

Source: (Champy, 1993)

In conclusion, all five approaches examined economic intelligence, strategic monitoring, reengineering, Six Sigma, and benchlearning converge toward the same fundamental objective: the systematic collection, processing, and application of information to improve organizational performance and gain or sustain a competitive advantage.

Benchmarking sits at the intersection of all these approaches, drawing on economic intelligence and monitoring as upstream inputs, informing reengineering and Six Sigma as downstream improvement tools, and finding its ultimate expression in benchlearning as the mechanism by which best practices are truly internalized and transformed into enduring organizational capability.

7.Strategic Analysis Tools

Strategic analysis tools enable an organization to move beyond simple observation of its competitive environment and into a structured, anticipatory reading of market dynamics.

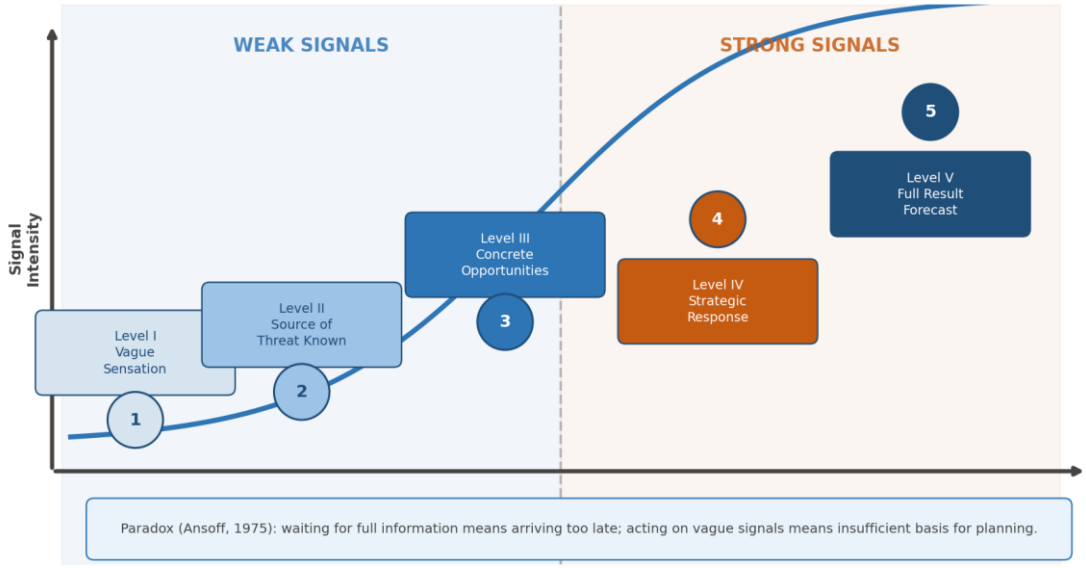
This section introduces two complementary analytical frameworks signal theory (weak and strong signals) and SWOT analysis and applies them directly to the competitive landscape of the Algerian mobile telecommunications market, with Mobilis as the central benchmarking subject.

1.Weak and Strong Signals

Signal theory was introduced by (Ansoff, 1975)in 1975 as a counterpoint to traditional strategic planning, which relies exclusively on quantifiable, confirmed information. Ansoff argued that by the time strong, clear signals of change are visible to all market actors, the window for strategic advantage has already narrowed significantly. The concept of weak signals was therefore developed as a mechanism for early strategic warning enabling organizations to anticipate discontinuities before they become competitive crises.

There are two modes in which a firm can respond to the environment: the normal response in which established planning and implementation systems are used, and the ad hoc crash response which crosses established lines and uses ad hoc task forces to produce a rapid response (Ansoff, 1975)

Figure 29: Signal Amplification Process From Weak to Strong Signals



Source: (Ansoff, 1975)

1.1Definition of Weak Signas

Weak signals are premature, incomplete, unstructured, and fragmented informational raw material that, when scrutinized, compiled, and analyzed, can be converted into indicators of potential change. They constitute advanced and imprecise symptoms of impending future problems or opportunities early warning signs of meaningful change that appear before trends become obvious to mainstream markets.

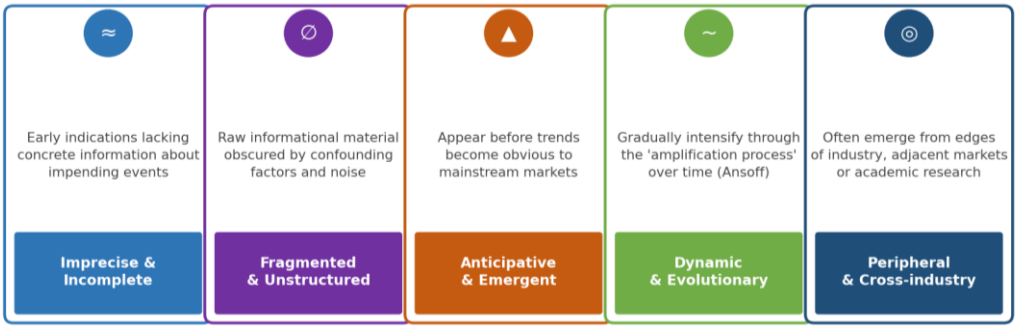
In (Ansoff, 1975) framework, weak signals are vague information that develop and improve gradually over time through an 'amplification process'. They occupy the lower intensity

levels of the signal spectrum at a stage where the source of the potential threat or opportunity is sensed but not yet concretely identifiable, and where strategic responses must remain broad and flexibility-oriented rather than specific and targeted.

(Toivonen, 2012)) elaborated on (Ansoff, 1975) definition, emphasizing weak signals as indicators of potential future changes that should be used as warnings or indications of emerging opportunities. (al., 2011)further specified them as premature and imperfect information usually obfuscated by confounding factors which indicates the incoming of discrete shocks or new developments in powerful trends.

The key paradox identified by (Ansoff, 1975) is the following: if the firm waits until information is adequate for strategic planning, it will be increasingly surprised by crises; if it acts on vague information, the content will not be specific enough for thorough strategic planning. The solution lies in graduated response through amplification.

Figure 30:. Five Defining Characteristics of Weak Signals



Source: (Ansoff, 1975)

1.2Definition of Strong Signals

Strong signals, by contrast, are issues identified through environmental surveillance that are sufficiently visible and concrete to permit the firm to compute their impact and to devise specific plans for response. As (Ansoff, 1975) stated: issues identified through environmental surveillance will differ in the amount of information they contain and strong signals contain enough to support direct strategic action.

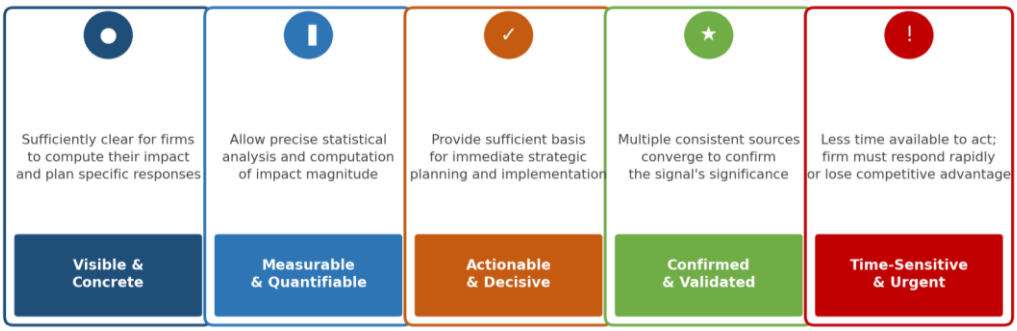
Strong signals emerge from the amplification of weak signals over time.

According to (Ansoff, 1975)it is at Level IV of the signal intensity when an organization has identified both the concrete nature of a threat or opportunity and the strategic responses required to address it that weak signals transition into strong signals.

At Level V, the organization is capable of foreseeing the results of its strategic answers.

Importantly, the more precise and confirmed a signal, the less time the organization has to act on it effectively. Strong signals demand urgent, specific, and well-resourced responses while the prior buildup of strategic flexibility from earlier weak signal detection makes those responses faster and better executed.

Figure 31: Five Defining Characteristics of Strong Signals



Source: (Ansoff, 1975)

2.Difference Between Weak and Strong Signals

The distinction between weak and strong signals is not merely one of precision or certainty it is fundamentally a distinction of strategic urgency, organizational posture, and the nature of the required response. Understanding this distinction is essential for building an effective strategic early warning system (SEWS) within any competitive organization.

Figure 32: Comparative Framework Weak Signals vs. Strong Signals

WEAK SIGNALS	Dimension	STRONG SIGNALS
Imprecise, fragmented, preliminary	Information Quality	Precise, complete, actionable
Very early — barely detectable	Stage of Emergence	Mature — widely observable
Maximum — broad flexibility window	Time to Act	Minimal — urgent response required
Uncertain, exploratory, flexible	Response Type	Specific, planned, direct
Broad environmental scanning	Detection Method	Structured monitoring & reporting
Strategic surprise avoidance	Strategic Purpose	Direct competitive response
Fringe sources, cross-industry trends	Typical Sources	Industry reports, market data, KPIs
Low — requires interpretation	Confidence Level	High — multiple source validation

Source: (Ansoff, 1975)

Table20: Weak Signals vs. Strong Signals Comparative Framework

Criterion	Weak Signals	Strong Signals
Nature of information	Vague, imprecise, fragmented preliminary data	Precise, complete, structured, actionable data
Stage of emergence	Very early Barely detectable above noise	Mature widely observable by all market actors
Strategic time window	Maximum Broad window for proactive preparation	Minimal requires immediate, focused response
Type of organizational response	Broad, exploratory, flexibility-building	Specific, planned, direct tactical or strategic action
Confidence level	Low requires active interpretation	High validated by multiple convergent sources
Detection method	Broad environmental scanning across all industries	Structured competitive monitoring and market reporting
Typical sources	Fringe publications, academic research, startups	Industry reports, kpis, analyst forecasts, market data
Risk of ignoring	Strategic surprise, missed opportunity, disruption	Competitive loss, crisis management, market share erosion

Source: (Ansoff, 1975).

In the context of the Algerian mobile telecommunications market, this distinction has direct strategic implications for Mobilis. The rise of customer demand for 5G services, the growing preference for digital-first customer interactions, and the emergence of data-heavy use cases (cloud gaming, streaming, augmented reality) were initially weak signals peripheral trends observable in other markets that have now become strong signals requiring immediate competitive response. Organizations that detect and respond to these transitions early maintain initiative; those that wait for confirmation arrive too late.

Section 04: Consumer Perception

Consumer perception is one of the central constructs in marketing theory and one of the most critical determinants of competitive performance in the service sector. In a market as dynamic and competitive as the Algerian mobile telecommunications industry, understanding how customers perceive their operator across dimensions of network quality, brand image, value for money, and customer experience is not a secondary concern but a strategic imperative.

This section presents a comprehensive theoretical review of consumer perception, its relationship to satisfaction and loyalty, the factors that shape it, the models used to measure it, and its direct connection to benchmarking practice.

1.Concepts and Definitions of Consumer Perception

1.1Definition of Consumer Perception

Perception is the process through which an individual becomes aware of and interprets the information emanating from their environment. It serves a dual function: first, it selects information from among the totality of stimuli to which the consumer is exposed; second, it categorizes and organizes information by grouping it with existing knowledge.

Several foundational definitions have been advanced in the marketing and consumer behavior literature:

(Kotler, 2000): Perception is the process by which an individual selects, organizes and interprets external elements of information to construct a coherent image of the world surrounding them.

(Dussart, 1983)): The environment must be interpreted in a way that is consistent with the individual's reference framework.

(al. C. e., 1986): Perception is the process by which the individual organizes and interprets their sensory impressions in order to give meaning to their environment.

Synthesizing these definitions, consumer perception can be understood as the psychological process through which an individual organizes, interprets, and memorizes external information in order to construct a personal image and vision of the world one that is necessarily shaped by prior experience, cultural background, beliefs, and motivational states.

1.2 The Perception Process

The perception process unfolds through four sequential phases:

Attention(how the individual receives stimuli), selection (how they process those stimuli), interpretation (how they understand them), and memorization (how they retain them). Multiple individuals subjected to the same stimulus may develop entirely different perceptions depending on their surrounding environment and personal characteristics.

In marketing, customers' perceptions are more important than objective realityit is perception that drives purchase decisions, brand preference, and loyalty. Three key mechanisms govern the selective nature of perception:

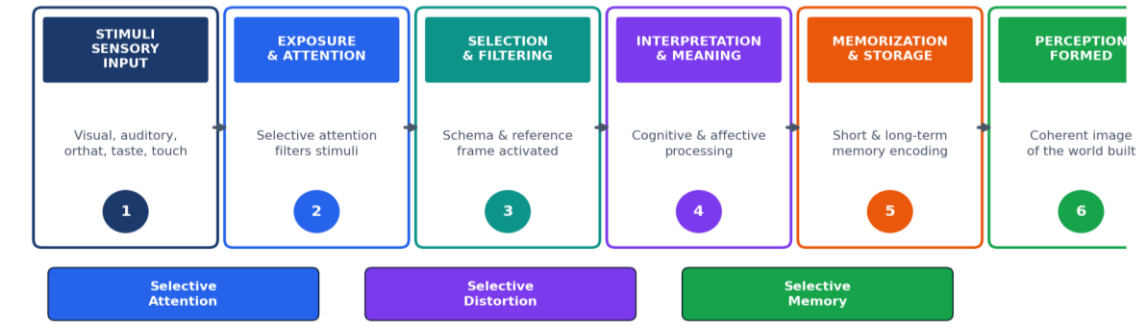
Selective attention: individuals are more likely to notice stimuli that relate to their needs, match their expectations, or are significantly more intense than the ambient level.

This explains why attracting and maintaining consumer attention is so challenging, even for relevant messages.

Selective distortion: the mechanism by which an individual deforms received information to make it more consistent with pre-existing beliefs. A consumer who prefers a particular brand tends to interpret new information in a manner favorable to that brand.

Selective memory: individuals tend to better memorize information that satisfies them, and tend to remember the positive attributes of preferred brands while forgetting those of brands they dislike.

Figure 33: The Consumer Perception Process Six Sequential Stages.



Source: (Philip Kotler, 2009)

1.2.1Characteristics of the Perception Process

The perception process presents three fundamental characteristics that marketing practitioners must understand and account for in strategy design:

Perception is subjective: reactions to the same stimulus vary across individuals. A consumer accepts information that is most compatible with their cultural background, self-image, and belief system their 'reference schema.This subjectivity is why identical products or messages are received very differently across consumer segments.

Perception is temporal: as (Dussart, 1983)observes, consumer perception is a short-term phenomenon, not a permanent state. A well-known product can see its salience decrease or disappear entirely. Brands must continuously maintain and renew their perceptual presence.

Perception is cumulative: the consumer simultaneously records multiple sensory inputs, then produces a summation of these stimuli to create a unified whole. The consumer looks, listens, reads what others say, examines the product, and ultimately forms a global impression.

1.3Difference Between Satisfaction, Loyalty and Perception

Although perception, satisfaction, and loyalty are closely interrelated constructs, they are conceptually distinct and must be carefully differentiated in both theoretical and empirical work.

Consumer perception is the antecedent the cognitive and affective process through which customers evaluate and assign meaning to their interactions with a brand, a service, and its communication. It shapes, but is not identical to, satisfaction.

Customer satisfaction, as defined by (Oliver, 1997) is the extent to which the perceived performance of a product or service meets, exceeds, or falls short of the customer's prior expectations. It is therefore a gap-based evaluation: satisfaction arises when perception confirms or exceeds expectation; dissatisfaction arises when perception falls below expectation.

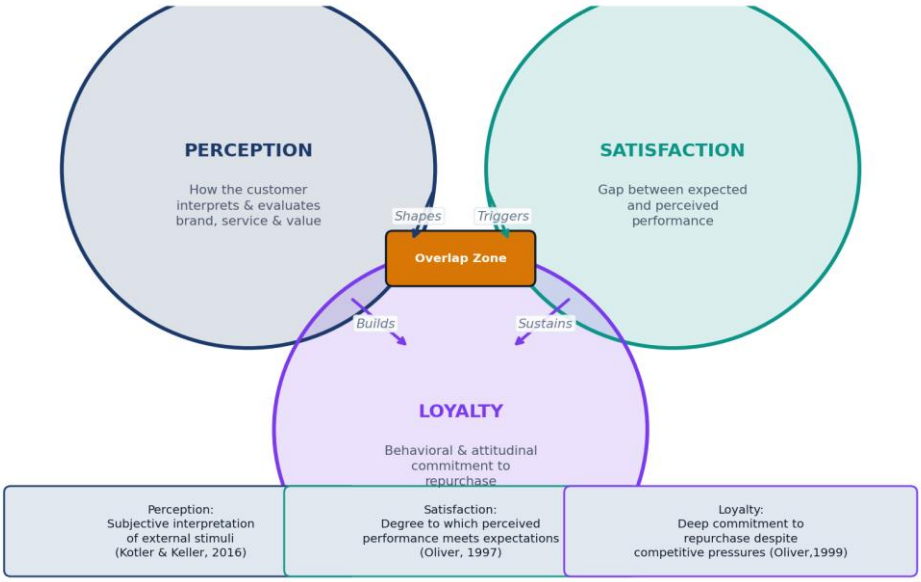
Loyalty, in turn, is not simply the behavioral consequence of satisfaction. (Oliver, 1997)defines consumer loyalty as a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior.

Loyalty therefore has two properties: persistence (stability over time) and resistance to competing pressures.

The relationship between the three constructs is sequential but not deterministic:

Positive perception typically generates satisfaction, which in turn tends to build loyalty but this path is neither automatic nor linear. Situational constraints, switching barriers, social norms, and competitive alternatives can produce apparent loyalty without genuine satisfaction, or satisfaction without enduring loyalty.

Figure 34: The Perception–Satisfaction Loyalty Relationship



Source: (Oliver, 1997)

1.4Theories and Models of Loyalty

The conceptualization of consumer loyalty has evolved significantly through three principal theoretical traditions behavioural, attitudinal, and composite and a fourth relational perspective that has emerged from the limitations of the preceding approaches.

1.4.1 The Behavioural Approach

The behavioural or behaviourist approach defines loyalty exclusively in terms of purchase behaviour. It mobilizes indicators such as purchase frequency, purchase sequence, total purchase value, and brand purchase probability.

According to this approach, a consumer is loyal when they purchase the same brand regularly (Sheth, 1986)However, this approach is limited by its inability to explain why a consumer repeats purchases. Repeated buying may reflect habit, switching costs, market structure, or lack of attractive alternatives rather than genuine attachment. As (N'Goala, 2005) observes, the absence of brand switching is not synonymous with loyalty.

1.4.2 The Attitudinal Approach

Influenced by cognitivism, the attitudinal approach situates loyalty in the intentional phenomena that lead a consumer to purchase a brand durably (Basu, 1994) It considers loyalty as the expression of a preference,a positive attitude toward the product or service, and a durable commitment to the supplier.

The main advantage of this approach is its ability to distinguish passive loyalty from genuine voluntary loyalty. However, a favorable attitude does not necessarily translate into actual purchase behavior an attitude can reflect latent loyalty with little concrete influence on business outcomes.

1.4.3 The Composite Approach

Recognizing the limitations of each prior approach, (Day, 1969)argued that brand loyalty must be evaluated on both attitudinal and behavioral grounds.

The composite approach combines both dimensions (Kyner, 1973)define brand loyalty through six conditions: it is (1) a behavioral response (purchase), (2) non-random, (3) expressed over time, (4) by a decision unit, (5) with respect to one or more brands from a set, (6) as a function of a psychological process.

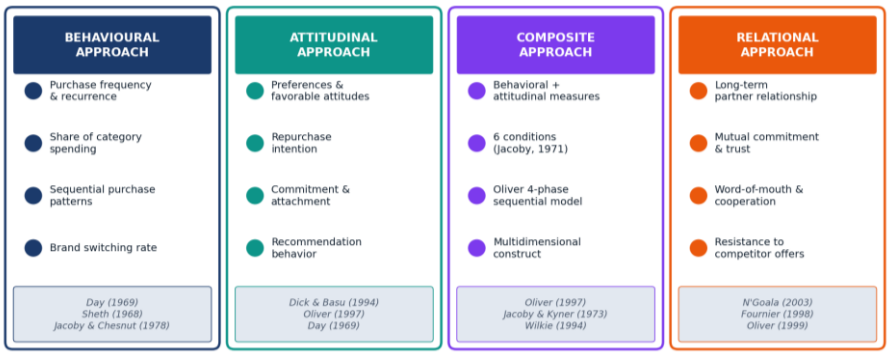
(Oliver, 1997)extends this framework into a four-phase sequential model: cognitive loyalty (beliefs), affective loyalty (favorable attitude), conative loyalty (behavioral intention), and action loyalty (repurchase).

1.4.4 The Relational Approach

The relational approach, which emerged in response to the limitations of transactional frameworks, considers loyalty not as a state but as a relationship a continuous, multi-dimensional bond between the consumer and the brand that extends beyond mere repurchase. (Fournier, Gainesville, Florida, USA)defines the supplier consumer relationship as **a voluntary or imposed interdependence between a person and a brand, characterized by a unique history of interactions and an anticipation of future occurrences.** (Oliver, 1997)proposes one of the most influential conceptualizations: loyalty as a deep commitment to repurchase, with two fundamental properties persistence and resistance to competitive pressures.

(N'Goala, research work on brand relationship and loyalty, 2003)further extends this view, arguing that loyalty should encompass not only repurchase behavior but also other relational manifestations such as word-of-mouth, cooperation, and tolerance in the face of service incidents. According to (Basu, Customer Loyalty: Toward an Integrated Conceptual Framework, 1994)), crossing relative attitude with repeat purchase behavior generates four distinct forms of loyalty:

Figure 35: Four Theoretical Approaches to Consumer Loyalty



Source: (Oliver, 1997)

2.Factors Influencing Consumer Perception

Consumer perception in the mobile telecommunications context is shaped by a complex interplay of internal and external factors. The internal factors needs, motivations, attitudes, learning, beliefs, and personality condition how the consumer interprets and evaluates the information they receive.

The external factors family influence, social class, economic conditions, cultural values, and the firm's marketing actions shape the frame of reference within which perceptions are formed and updated.

In the specific context of mobile service perception, four strategic factors are particularly determinant: service quality, brand image, price and value for money, and communication and customer experience.

Figure 36:Factors Influencing Consumer Perception in the Service Context

Source: (Kotler, 2000)

2.1Service Quality

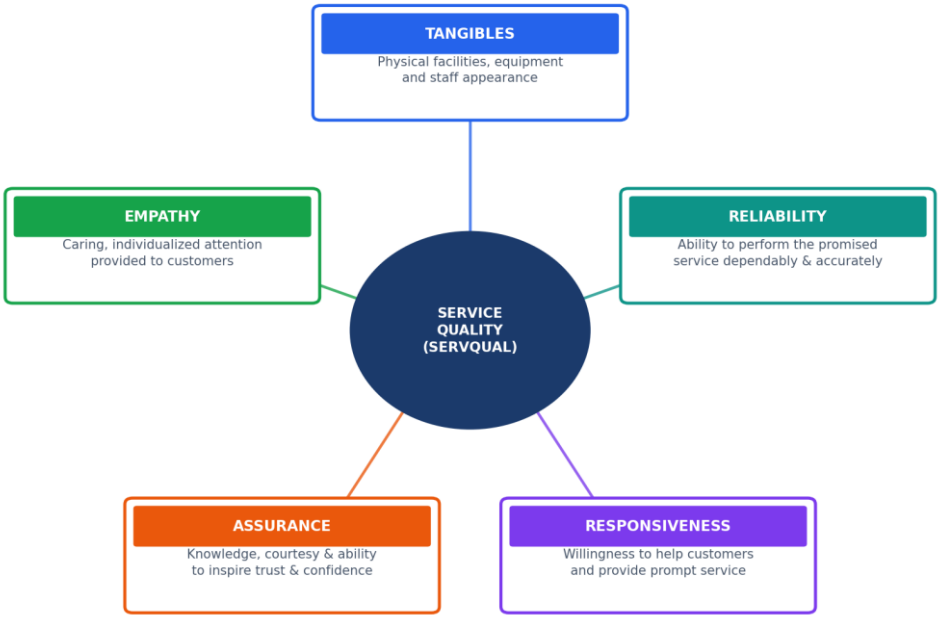
Service quality is arguably the most powerful driver of consumer perception in service-dominant industries. The SERVQUAL model, developed by (Authors: A. Parasuraman, 1988)defines service quality as the gap between customer expectations of the service and their actual perception of the service received. This gap model rests on the core principle that service quality is perceived positively when the service meets or exceeds expectations, and negatively when it falls short.

The SERVQUAL scale comprises 22 items organized across five dimensions:

- Tangibles: the physical facilities, equipment, and appearance of service personnel
- Reliability: the ability to perform the promised service dependably and accurately
- Responsiveness: the willingness to help customers and provide prompt service
- Assurance: the knowledge, courtesy, and ability of employees to inspire trust and confidence

Empathy: the caring, individualized attention provided to customers

Figure 37: The SERVQUAL Model Five Service Quality Dimensions



Source: (Zeithaml, 1988)

In the telecommunications context, service quality perceptions are shaped by network performance (a tangible, reliability, and responsiveness dimension), the quality of human

and digital interaction (assurance and empathy), and the consistency of service delivery across all touchpoints. A deterioration in any one of these dimensions has been shown to significantly affect overall perception, satisfaction, and loyalty (Minkyung Kim, 2004)

2.2Brand Image

Brand image is the set of perceptions and associations that consumers hold in memory regarding a brand. According to (Keller, 1993), brand image is a component of customer-based brand equity the differential effect that brand knowledge has on consumer response to brand marketing. Positive brand associations generate favorable perceptions, reduce perceived risk, and create preference and loyalty.

(Aaker, 1991)conceptualizes brand equity as the aggregation of brand awareness, brand associations, perceived quality, brand loyalty, and other brand assets. In the mobile telecommunications sector, brand image encompasses the operator's reputation for innovation, its communication style, its perceived closeness to customer values, and the symbolic meaning it conveys.

Figure 38: Brand Image and Brand Equity Hierarchical Framework

Source: (Keller, Conceptualizing, measuring, and managing customer-based brand equity, 1993)

2.3Price and Value for Money

Price perception is a fundamental driver of consumer evaluation and loyalty in competitive markets (Zeithaml, Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence, 1988) defines perceived value as the consumer's overall assessment of the utility of a product or service, based on perceptions of what is received

relative to what is given. Value for money is therefore not a simple measure of price, but a ratio: perceived quality relative to perceived sacrifice (price paid).

From a perceptual standpoint, the price is not only a monetary signal but also a quality cue, a fairness indicator, and a status marker. Consumers develop internal reference prices expectations about what constitutes a reasonable price level against which they evaluate current offers. Promotions and tariff structures are evaluated not in isolation but in comparison to competitor offerings and to past experiences, making the competitive benchmarking of pricing a critical input into customer perception management.

Lewi and (Lacoeuilhe, 2007)note that the famous 'psychological pricing' effect demonstrates that price perception is not linear: a change from 5.00€ to 4.90€ is perceived as significantly different despite the minimal actual difference. In the mobile context, the perception of value for money is highly sensitive to how data packages, call rates, and promotional offers compare against those of competing operators.

2.4Communication and Customer Experience

The perception of marketing communication refers to how consumers receive, interpret, and evaluate the messages emitted by a brand. According to (Kelle, 2016)), marketing communication is a strategic tool for establishing a dialogue with the target market not merely for transmitting information, but for building lasting relationships of trust. The perception of communication is influenced by the clarity, relevance, attractiveness, and coherence of the message with the brand's identity.

Customer experience (CX) constitutes the sum of all interactions between a customer and an organization across the entire customer journey from initial awareness through purchase, service use, complaint resolution, and renewal. Lemon and (Verhoef, Understanding Customer Experience Throughout the Customer Journey, 2016) define it as a multidimensional construct that encompasses both cognitive and affective responses across multiple touchpoints. In an increasingly digital market, the quality of the digital customer experience mobile application usability, website navigation, self-service tools has become a critical driver of overall operator perception.

A communication perceived as intrusive, misleading, or ethically questionable can generate rejection and mistrust (Jacques Lendrevie, 2015). Conversely, personalized, transparent, and responsive communication particularly through digital channels reinforces brand image and

differentiates the operator in a market where product and price comparisons are easily accessible.

3.Benchmarking and Consumer Perception

The relationship between benchmarking practices and consumer perception is not merely theoretical it is empirically grounded in the logic of continuous improvement and competitive convergence. Benchmarking enables an organization to systematically identify the specific performance gaps that separate it from best-in-class competitors across the dimensions that customers actually value and evaluate. By closing these gaps, the organization directly improves the service experience that customers perceive.

Camp (1989) establishes that the ultimate goal of benchmarking is the improvement of performance relative to the best in class. In a customer-centric framing, 'performance improvement' is not an internal operational metric it is the improvement of what the customer perceives, evaluates, and ultimately chooses to be loyal to. The connection between benchmarking and perception therefore operates through four channels:

- Network benchmarking → improved coverage, speed, and reliability → improved perceived network quality
- Service benchmarking → improved processes, standards, and customer service → improved brand image and perceived value
- Digital experience benchmarking → improved app, website, and self-service tools → improved customer experience perception
- Competitive benchmarking → adoption of best competitor and best-in-class practices → improved positioning across all perception dimensions

This logic forms the theoretical backbone of the central hypothesis of this study (H1): benchmarking practices have a significant and positive effect on customer perception at Mobilis in the Algerian mobile telecommunications sector.

The moderating role of service quality (H5) adds a conditioning layer to this relationship: the higher the baseline service quality of the operator, the more amplified the positive effect of benchmarking improvements on customer perception. An operator that already delivers high service quality creates a perceptual context in which each marginal improvement is more visible, valued, and remembered by customers.

3.1Link Between Benchmarking and Consumer Perception

The relationship between benchmarking practices and consumer perception constitutes one of the most strategically significant linkages in contemporary service management theory. Understanding how systematic performance comparison translates into perceptual change is foundational to this study's empirical model.

3.1.1Conceptual Architecture of the Link

The conceptual link between benchmarking practices and consumer perception operates through a well-established theoretical logic. As (Camp, Benchmarking: The Search for Industry Best Practices That Lead to Superior Performance, 1989)established in his foundational work on the Xerox benchmarking model, the ultimate goal of benchmarking is the improvement of organizational performance relative to the best-in-class competitor. In a customer-centric paradigm, however, performance cannot be understood in purely operational terms: it must be reconceptualized through the lens of what customers actually perceive, evaluate, and respond to in their daily interactions with a service provider.

Consumer perception, as defined by (Kotler, 2000)is the process by which an individual selects, organizes, and interprets information from their environment to construct a coherent image of the world surrounding them. In the mobile telecommunications context, this process operates continuously: every interaction with the operator's network, every exposure to a competitor's offer, and every marketing communication received by the customer contributes to the formation and permanent revision of their perceptual judgments across four critical dimensions network quality, brand image, value for money, and overall customer experience.

Theoretical proposition: Benchmarking intervenes at the structural level of perception formation. By systematically identifying the performance gaps that separate an operator from its competitors across the dimensions customers most value, benchmarking creates the conditions for targeted, evidence-based improvement improvements that, when successfully implemented, translate into perceptible and measurable changes in service quality, thereby shifting the gap between customer expectations and perceived performance in a positive direction.

The disconfirmation paradigm established by (A. Parasuraman V. A., A Conceptual Model of Service Quality and Its Implications for Future Research, 1985) provides the most robust theoretical foundation for this link. Their model demonstrates that service quality perception

arises from the comparison between prior customer expectations and actual service experience the"perception gap." Benchmarking acts on both sides of this equation simultaneously: it elevates the quality of what is actually delivered (shifting perceived performance closer to expectations), while simultaneously enabling operators to manage the expectation baseline through competitive positioning and targeted communication.

This logic is further enriched by the perceived value theory of (Zeithaml, Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence, 1988), who conceptualized perceived value as the customer's overall assessment of utility based on perceptions of what is received relative to what is given. Benchmarking that drives improvements in network reliability, service responsiveness, or digital convenience directly alters the numerator of this value equation the quality received without requiring price reductions. This explains why operators like Mobilis that systematically benchmark their service processes register measurable improvements in value-for-money perception, even in markets where price competition is intense (Chalise S. , 2021).

The connection between benchmarking and consumer perception further operates through the hierarchical service quality model of (Jr., Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach, 2001)who demonstrated that quality perception conforms to a third-order factor model, structured around three primary dimensions outcome quality, interaction quality, and environmental quality each of which is directly amenable to benchmarking-driven improvement.

In the Algerian mobile telecommunications context, each of these dimensions has a direct competitive benchmarking referent: Djezzy's superior quality of experience indicators represent an interaction quality benchmark, Ooredoo's digital platform leadership represents an environmental quality benchmark, and Mobilis's network coverage advantage represents an outcome quality benchmark (Opensignal, Mobile Network Experience Report – Algeria, 2026).

3.1.2The Moderating Role of Service Quality

The link between benchmarking and consumer perception is not uniform across all operators and service contexts. It is conditioned moderated by the baseline level of service quality within which benchmarking improvements occur. Operators that already deliver higher baseline service quality create a perceptual environment in which each marginal improvement driven by benchmarking is more visible, more valued, and more durably

memorized by customers (Ullah R. , 2021)This conditioning effect forms the basis of Hypothesis H5 of this study: service quality significantly moderates the relationship between benchmarking practices and customer perception at Mobilis. An organization with low baseline service quality may implement benchmarking-driven improvements without generating proportionate perception gains, because customer trust and judgment are conditioned by accumulated prior negative experience — a phenomenon consistent with Parasuraman et (A. Parasuraman V. A., SERVQUAL model, 1988)expectation framework and (Oliver, Satisfaction: A Behavioral Perspective on the Consumer, 1997)commitment-based loyalty theory.

The practical implication for Mobilis is significant: the positive effect of network benchmarking improvements on perceived network quality will be stronger among subscribers who already perceive Mobilis as a reliable operator (high baseline service quality), compared to subscribers who hold prior negative quality judgments. This directional asymmetry in the benchmarking–perception relationship requires that Mobilis pursue both benchmarking-driven service improvements and proactive reputation management simultaneously, rather than treating technical performance and perception management as sequential activities.

3.2Benchlearning and Customer-Centered Strategies

The concept of benchlearning was developed and registered by (Östblom, Benchmarking: A Signpost to Excellence in Quality and Productivity, 1993) as a direct response to a fundamental limitation of traditional benchmarking practice: organizations that treat benchmarking as a measurement exercise collect comparative data without necessarily understanding the deeper organizational mechanisms and knowledge systems that produce superior performance. Benchlearning corrects this limitation by integrating the benchmarking process with the logic of the learning organization, ensuring that external intelligence is not merely observed but genuinely appropriated and institutionalized across the organization (Jagadeesh R. D., A Review of Literature on Benchmarking, 2003)

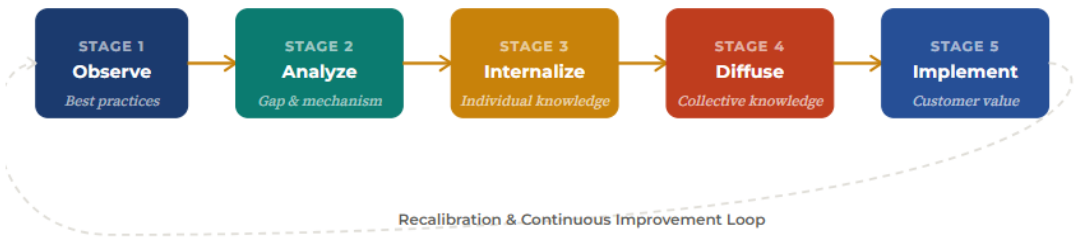
Definition (Östblom S. , 1993)**:** Benchlearning is a systematic and continuous process responsible for identifying and evaluating the best practices of benchmarking partners the "good example" with the explicit goal of integrating those practices into the organization's current activities through a structured knowledge transformation cycle that moves from individual learning to collective organizational competence.

Benchlearning rests on two complementary principles. First, it enables the acquisition of knowledge of efficient routines that others have already experimented with, allowing the organization to benefit from proven practices without bearing the cost and risk of experimentation. Second, it permits the drawing of lessons from the negative experiences of others, allowing the organization to avoid costly errors that benchmark partners have already encountered and resolved (Östblom S. , 1993).

In the mobile telecommunications context, this dual principle is directly applicable to Mobilis. When Ooredoo's superior digital experience performance is identified through benchmarking (Opensignal, Mobile Network Experience Report – Algeria, 2026), benchlearning requires Mobilis to go beyond merely matching Ooredoo's technical specifications: it must understand why Ooredoo's app and self-service tools generate higher customer satisfaction the organizational capabilities, customer experience design philosophy, and continuous feedback loops that produce those outcomes and adapt this knowledge intelligently to its own operational context and customer base.

This distinction between imitation and genuine learning is central to (Jakobiak, L'intelligence économique, 2005) analysis of the relationship between benchlearning and economic intelligence. Without a structured learning mechanism, benchmarking risks producing superficial convergence in surface features while leaving the underlying performance architecture unchanged a form of organizational mimicry that generates no durable competitive advantage. Benchlearning, by contrast, transforms external intelligence into embedded organizational capability the highest expression of the dynamic capabilities framework of (David J. Teece, 1997).

Figure 39: The Benchlearning Knowledge Transformation Cycle



Source: (Östblom S. , 1993)

3.2.2 Benchlearning Across Three Customer-Centered Dimensions

In a customer-centered application, the benchlearning knowledge transformation cycle operates across three interconnected dimensions, each corresponding to a strategic layer of Mobilis's competitive positioning in the Algerian mobile market.

A) Translating Network Knowledge into Customer Value

When Mobilis conducts network benchmarking and identifies that Ooredoo achieves superior download speeds (31.22 Mbps median) and lower network latency through specific infrastructure configurations or spectrum management strategies (Opensignal, Mobile Network Experience Report – Algeria, 2026), the benchlearning process requires the organization to go beyond technically matching these specifications. It must understand the customer experience mechanisms through which these technical improvements translate into perception gains: how faster download speeds reduce daily user frustration, how lower latency improves perceived quality during video streaming and gaming sessions, and how consistent quality across different geographic locations builds cumulative trust in the operator's reliability commitment. This customer-value translation of technical benchmarking findings is the core of what (al. P. L., 2013)describe as the qos-to-qoe bridge the transformation of objective network metrics into subjective customer experience value.

B) Translating Service Knowledge into Experience Design

Service benchlearning applies the same knowledge transformation logic to the human and process dimensions of the customer relationship. The SERVQUAL framework of (A. Parasuraman V. A., SERVQUAL model, 1988)provides the structural architecture: benchmarking reveals which service quality dimensions reliability, responsiveness, assurance, empathy, tangibility are most valued by different customer segments and which competitors deliver them most effectively. Benchlearning then asks the deeper organizational question: what employee training systems, process designs, complaint resolution protocols, and incentive structures produce these superior service quality perceptions at Djezzy and Ooredoo? (Abd-Elrahman, Customer Experience and Service Quality in Telecom Industry, 2022).

In the Algerian context, Djezzy's first-ranked advertising position reflecting a stronger emotional resonance with Algerian consumers and Ooredoo's digital experience leadership each represent concrete benchlearning reference points for Mobilis. The benchlearning imperative is not to replicate Djezzy's advertising budget or Ooredoo's technology platform,

but to understand and adapt the organizational philosophies and customer experience design principles that generate these perception advantages in the specific cultural and demographic context of Algeria.

C) Translating Competitive Knowledge into Strategic Positioning

Strategic benchlearning, aligned with (Watson, Gregory H. Watson, 1993) fourth-generation model, addresses the qualitative competitive mechanisms that produce sustained perception advantages: core competencies in customer experience design, leadership approaches to customer-centricity, and organizational change management capabilities that sustain benchmarking-driven improvements over time (David J. Teece, Dynamic Capabilities and Strategic Management, 1997) dynamic capabilities framework positions this form of benchlearning as the highest expression of organizational strategic competence: the ability to continuously sense competitive opportunities, learn from external best practices, and reconfigure organizational resources to maintain a durable perception advantage in a rapidly evolving market.

3.2.3 Five Customer-Centered Strategies Derived from Benchlearning

The integration of benchlearning into customer-centered strategy design produces five actionable strategic orientations for Mobilis, each grounded in the theoretical and empirical literature reviewed in this study.

1Continuous Customer Perception Monitoring

Drawing on (Heinonen, Customer Experience in Everyday Life (CX theory / ordinary experience approach), 2023)**)** ordinary customer experience theory, which identifies the accumulation of routine daily interactions not exceptional service peaks as the primary driver of long-term loyalty, a customer-centered benchlearning strategy must institutionalize the continuous monitoring of how benchmarking-driven improvements are perceived by customers in real time. This requires deploying systematic NPS tracking, sentiment analysis across digital channels, and standardized satisfaction indices aligned with the benchmarking KPI framework promoted by the (Union, Quality of Service (QoS) and Quality of Experience (QoE) Guidelines, 2016) For Mobilis, this means transitioning from periodic customer satisfaction surveys to embedded, always-on perception measurement infrastructure.

2Journey-Level Benchmarking Integration

(Verhoef K. N., 2016)customer journey framework conceptualizes experience as the cumulative product of multiple touchpoints across the pre-purchase, purchase, and post-purchase lifecycle. Rather than benchmarking isolated service dimensions, Mobilis must benchmark the entire customer journey against Djezzy and Ooredoo from initial advertising exposure through agency visit, daily network usage, mobile app interaction, billing clarity, complaint resolution, and contract renewal. Each touchpoint represents both a benchlearning opportunity and a perception leverage point. (researchers, 2023)provide the validated six-dimensional CX measurement scale cognitive, emotional, behavioral, sensorial, social, and relational to operationalize this journey-level benchmarking.

3Customer-Centered Innovation Through Generic Benchlearning

(Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989) identifies generic benchmarking as the most powerful and most innovative form: comparing against best practices in entirely different industries. A customer-centered benchlearning strategy for Mobilis would extract learnings from world-class customer experience operators in adjacent service sectors — banking (mobile banking UX), retail (omnichannel service design), hospitality (personalized interaction) — and adapt them to the mobile telecommunications context. This cross-industry benchlearning approach can generate breakthrough improvements in Mobilis's customer experience design that competitive benchmarking within the telecom sector alone cannot produce, directly addressing the "Not Invented Here" syndrome identified by (Brilman J. , Les meilleures pratiques de management, 2003) as a primary barrier to organizational learning.

4.Customer Co-Creation as a Benchlearning Source

(Theodoulidis, 2018)identify five dimensions of customer experience social, physical, sensorial, emotional, and cognitive suggesting that customers themselves are a critical benchlearning source. Organizations that systematically collect, analyze, and act on customer feedback across all experience dimensions engage customers as co-creators of service improvement. This approach generates both practical intelligence (identifying what customers value most across different segments) and relational capital (building trust by demonstrating responsiveness to customer feedback). (CX, 2024)confirm that co-creation through voice-of-customer mechanisms significantly reduces churn intention and enhances brand image perception among mobile subscribers.

5.Service Quality as the Benchlearning Anchor

The moderating role of service quality identified in H5 of this study provides the anchoring principle for all customer-centered benchlearning strategies meta-analysis of 687 articles confirms that perceived value is fundamentally context-dependent, and that the relational context of the customer-operator interaction significantly moderates the impact of benchmarking improvements on perception. A customer-centered benchlearning strategy must therefore prioritize the consistent elevation of baseline service quality so that each benchmarking-driven improvement is received in a perceptual context of trust and organizational credibility, maximizing its cumulative impact on satisfaction and long-term loyalty (Oliver, Satisfaction: A Behavioral Perspective on the Consumer, 1997).

Conclusion of Chapter I

This first chapter has established the theoretical and conceptual foundations of this study. Through a systematic review of the academic literature, three central constructs were rigorously defined and operationalized: benchmarking, customer perception, and customer experience.

The review revealed that benchmarking has evolved from a simple performance measurement tool (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)to a strategic dynamic capability (Teece D. J., 1997) a conceptualization particularly relevant in the competitive Algerian mobile telecommunications market. Customer perception was established as a multidimensional cognitive construct that precedes and shapes both satisfaction and loyalty, justifying its positioning as the central dependent variable of this study. Customer experience, understood as the holistic and cumulative impression formed across all customer touchpoints, was confirmed as the most strategically critical dimension of perception in competitive service markets.

The literature review consistently demonstrated that benchmarking-driven improvements in network quality, service delivery, and digital experience have a significant and positive impact on customer perception while also revealing the scarcity of empirical studies specifically focused on the Algerian context. This gap directly motivates the empirical investigation conducted in the following chapters.

On the basis of these theoretical foundations, Chapter II presents the methodological framework adopted to empirically test the five research hypotheses and measure the impact of benchmarking awareness on customer perception among subscribers of Mobilis, Djezzy, and Ooredoo in Algeria.

CHAPTER II: METHODOLOGICAL FRAMEWORK

This chapter is divided into two main parts. The first part presents the methodological framework, while the second part outlines the research context.

1.METHODOLOGICAL FRAMEWORK

In this section, we present the epistemological and methodological approaches adopted to conduct this study, including the research methods, data collection instruments, and the techniques used for data analysis.

1.1 Epistemological Stance

This study adopts a positivist epistemological stance, which holds that social phenomena such as customer perception can be measured objectively, quantified, and analyzed through rigorous statistical methods (Yong H. Park, 2020). Positivism assumes that reality is external to and independent of the researcher, and that knowledge is generated through empirical observation and hypothesis testing (Al-Ababneh, 2020). This stance is consistent with the nature of the research objectives, which require the empirical testing of causal relationships between benchmarking practices (IV) and customer perception (DV) across a representative sample of Algerian mobile subscribers.

1.2 Research Approach:

The research adopts a hypothetico-deductive approach, which begins with the formulation of theoretical hypotheses derived from the dynamic capabilities framework (David J. Teece, Dynamic Capabilities and Strategic Management, 1997) and the academic literature on benchmarking and customer perception. These hypotheses are then tested empirically using quantitative data collected from subscribers of Mobilis, Djezzy, and Ooredoo in Algeria. This approach is consistent with the positivist paradigm and is widely used in marketing research to test the relationships between managerial practices and customer (Thiétart, 2014)

1.3Data Collection Strategy:

1.3.1 Survey Instrument

Primary data were collected through a structured, self-administered questionnaire designed specifically for this study. The questionnaire was developed based on validated measurement scales drawn from the academic literature on benchmarking (Camp, Benchmarking: The

search for industry best practices that lead to superior performance, 1989), service quality (A. Parasuraman V. A., SERVQUAL model, 1988), customer perception (Kotler, 2000)) , and customer experience.

It was administered in three languages French, English, and Arabic to ensure comprehension across all respondent profiles, in line with the multilingual context of the Algerian population.

1.3.2 Questionnaire Structure:

The questionnaire is structured into two main sections, based on a filter question identifying the respondent's mobile operator (Mobilis vs non-Mobilis subscribers):

- **Section 1:Mobilis subscribers:** This section measures benchmarking awareness (IV), perceived network quality, brand image, value for money, customer experience, service quality, and overall perception (DV dimensions), as well as behavioral intentions.
- **Section 2:Non-Mobilis subscribers (Djezzy and Ooredoo):** This section focuses on the comparative perception of Mobilis versus respondents' current operator, particularly in terms of network quality, service offers, brand image, pricing, and switching intentions.

Both sections are preceded by a screening question that determines the respondent's operator, ensuring that each participant is automatically directed to the relevant section.

The questionnaire concludes with a socio-demographic profile section covering age, gender, geographic area, education level, and professional status.

1.3.3 Measurement Scale

All attitudinal items included in the questionnaire are measured using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale is applied to capture respondents' levels of agreement with statements related to service quality, customer experience, perceived value, brand perception, and behavioral intentions across mobile operators in Algeria.

However, the overall brand image comparison item is measured using a bipolar scale ranging from 1 (Much Worse) to 5 (Much Better), in order to capture comparative judgments between Mobilis and competing operators (Djezzy and Ooredoo) in a more direct evaluative format.

The 5-point Likert scale is widely recognized as an appropriate and reliable measurement tool for assessing consumer attitudes and perceptions in service quality and marketing research, as it offers a good balance between simplicity and measurement sensitivity (McCoach, 2010). It is also consistent with established service quality measurement traditions, particularly the SERVQUAL model developed by (A. Parasuraman V. A., SERVQUAL model, 1988), which has been extensively applied in customer perception and satisfaction studies.

Table 21:measurement scales used in the questionnaire

Variables	Measurement Scale Items	Authors
SECTION 1 Benchmarking Awareness and Practices (Independent Variable)		
Benchmarking Practices (BP1–BP4) Independent Variable	BP1 Mobilis regularly improves its services and offers. BP2 I pay attention to advertisements and promotional campaigns from competing mobile operators. BP3 Mobilis's offers and services have become more competitive and attractive compared to previous years. BP4The improvements made by Mobilis over the past year have positively changed my overall perception of it.	Camp (1989); Chalise (2021); ITU (2016); Madsen et al. (2017)
SECTION 2 Customer Perception Dimensions (Dependent Variables)		
Perceived Network Quality (NQ1–NQ4) Dependent Variable H1	NQ1 Mobilis's network is reliable and works well in different locations. NQ2 Mobilis offers the best network quality compared to other operators. NQ3 Mobilis's network quality has improved compared to previous years. NQ4 I am satisfied with the 4G/5G internet speed provided by Mobilis in my area.	Parasuraman, Zeithaml & Berry (1988); Le Callet et al. (2013); Opensignal (2026*)*
Brand Image Perception (BI1–BI5) Dependent Variable H2	BI1 Mobilis has a good and strong reputation among subscribers in Algeria. BI2 Mobilis has a modern and innovative image compared to its competitors. BI3 Mobilis's communication and advertising campaigns are visible and effective. BI4 Mobilis's communication and advertising are more visible than those of Djezzy and Ooredoo. BI5 I trust Mobilis to keep its promises regarding service quality.	Keller (1993); Aaker (1991); Zeithaml (1988); Kotler (2000*)*
Value for Money (VM1–VM4) Dependent Variable H3	VM1 Mobilis's prices are fair relative to the quality of service I receive. VM2Mobilis's promotional offers are affordable and competitively priced compared to other operators. VM3 Mobilis provides sufficient information about its services and offers to help customers make purchase decisions.	Zeithaml (1988); Blut et al. (2024); Kotler (2000*)*

	VM4 Mobilis's prices are competitive compared to Djezzy and Ooredoo in the Algerian market.	
Customer Experience (CX1–CX4) Dependent Variable H4	CX1 My interactions with Mobilis's physical agencies are efficient and satisfying. CX2 Mobilis's customer service (call center) is responsive, helpful, and professional. CX3 Mobilis provides a modern and easy-to-use digital experience in its services. CX4 Mobilis provides a consistent and good-quality experience across all its channels (agency, website, customer service).	*Lemon & Verhoef (2016); Becker & Jaakkola (2020); Gahler et al. (2023)*
SECTION 3 Service Quality Perception (Dependent Variable H4)		
Service Quality (SQ1–SQ5) Dependent Variable H4	SQ1 Mobilis understands my specific needs and adapts its services accordingly. SQ2 Mobilis delivers its services consistently and exactly as promised. (Reliability) SQ3Mobilis's services are easy to use. SQ4 Mobilis responds quickly and efficiently to my complaints and requests. (Responsiveness) SQ5 I am satisfied with Mobilis's services.	Parasuraman, Zeithaml & Berry (1988); Abd-Elrahman (2022); Ullah (2021*)*
SECTION 4 Overall Perception and Behavioral Intentions (Dependent Variable)		
Overall Perception (OP1–OP6) Dependent Variable H1 overall	OP1 I have a positive perception of Mobilis as my mobile operator. OP2 I intend to continue using Mobilis's services in the future. OP3 Mobilis easily comes to my mind when I think about mobile operators. OP4 Mobilis has strong visibility in its communication and advertising compared to Djezzy and Ooredoo. OP5Compared to Djezzy and Ooredoo, how would you describe Mobilis's overall brand image? OP6 I would recommend Mobilis to my friends and family.	Oliver (1997); Kotler (2000); Parasuraman et al. (1988); Keller (1993)
SECTION 5 Comparative Benchmarking (Non-Mobilis Subscribers Djezzy & Ooredoo)		
Comparative Perception (CP1–CP5) Comparative Variable H1–H4	CP1 My current operator offers better network quality (speed and coverage) than Mobilis. CP2 My current operator provides more attractive and competitive plans than Mobilis. CP3 My current operator has a better brand image than Mobilis. CP4 I chose my current operator because it offers better network performance than Mobilis. CP5 My current operator offers better value for money than Mobilis.	Camp (1989); Opensignal (2026); ARPCE (2025); Zeithaml (1988)

Source: Self depiction

1.3.4 Distribution Channels and Collection Period

The questionnaire was distributed through two complementary channels. First, it was shared online via Google Forms, distributed through whatsapp groups, university student networks, and professional social media platforms in Algeria. Second, it was distributed directly at Mobilis agencies in Algiers, allowing the collection of responses from subscribers visiting physical service points and ensuring access to a more diverse geographic and

sociodemographic profile of respondents. Data collection was conducted during the academic year 2024–2025.

1.4 Sampling:

1.4.1Target Population

The target population of this study comprises all mobile phone subscribers in Algeria aged 18 years and above who use the services of one of the three main mobile operators: Mobilis, Djezzy, or Ooredoo. The study includes both prepaid and postpaid subscribers, as both segments are directly exposed to the service dimensions assessed in this research and are therefore relevant to the benchmarking analysis.

The inclusion criteria require that respondents have been subscribers to their current operator for at least one month, in order to ensure a minimum level of exposure and enable the formation of informed perceptions regarding operator performance. This condition helps improve the reliability of responses related to service quality, customer experience, and perceived value.

1.4.2Sampling Method

Given the absence of a complete and accessible sampling frame covering all mobile subscribers in Algeria, a convenience sampling approach was adopted. This is a non-probability sampling technique widely used in marketing research when the target population is large, dispersed, and not fully identifiable (Mark Saunders, 2023).

The data were collected through a combination of online distribution via the Google Forms platform and in-person dissemination in selected Mobilis agency locations. This mixed distribution strategy allowed broader access to mobile subscribers across different operator segments and improved the diversity of responses.

This approach is justified by the exploratory and empirical nature of the study, as well as the practical constraints associated with constructing a probabilistic sampling frame. It is also consistent with similar studies conducted in mobile telecommunications markets in emerging economies, where probability sampling is often impractical due to population size and accessibility limitations (Adhikari, 2021).

1.4.3Sample Size and Distribution

A total of 326 responses were collected, of which 316 were retained after removing 10 duplicate or incomplete questionnaires. The final effective sample is therefore composed of 316 respondents, distributed across the three main mobile operators in Algeria as follows:

Table 22:DISTRIBUTION OF THE SAMPLE

Main mobile operator	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Mobilis	154	48.7%	48.7%	48.7%
Djezzy	85	26.9%	26.9%	75.6%
Ooredoo	77	24.4%	24.4%	100.0%
Total	**316**	**100%**	**100%**	

Source: Self depiction(SPSS frequency output)

The effective sample for hypothesis testing (H1 to H4) comprises 153 Mobilis subscribers. According to (Joseph F. Hair, 2019), a minimum of 50 observations is required for reliable regression analysis, and a ratio of at least 10 observations per predictor variable is recommended. With n = 153 and a single predictor (IV_BENCHMARKING) in each regression model, this study comfortably exceeds the recommended threshold, ensuring the statistical power and reliability of the regression results.

1.5 Survey Modalities and Practical Implementation

1.5.1 Questionnaire Pre-Test

Before the full deployment of the questionnaire, a pre-test was conducted with a restricted group of respondents in order to verify the clarity and comprehension of all items, identify ambiguous or technically complex formulations, and ensure that the trilingual version (French, English, Arabic) was fully consistent across all three languages. The pre-test allowed for the correction and removal of several items that generated confusion or produced inconsistent responses, contributing to the final reliability of the measurement instrument.

1.5.2Data Collection Period

The full data collection was conducted from **April 25,** to**may 4, 2025** The questionnaire was distributed simultaneously through two complementary channels: online via Google Forms shared across whatsapp groups and university student networks, and physically at Mobilis agencies in Algiers.

The ten-day collection window proved sufficient to reach the final clean sample of 316 respondents across all three operator groups, owing to the wide reach of the digital distribution channel and the direct engagement of subscribers at physical agency locations.

Table 23: Survey Implementation Timeline

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Questionnaire Design Scale selection & trilingual translation	Pre-Test Restricted group item validation	Online Distribution Google Forms whatsapp & university networks	Physical Collection Mobilis agencies Algiers	Data Cleaning Removal of duplicates SPSS coding	Statistical Analysis Reliability, normality, regression

Source: Self depiction**.**

1.6 Data Processing and Analysis Method

After the administration of the questionnaire and the collection of all responses, the data were processed and analyzed using IBM SPSS Statistics version 26. Microsoft Excel was also used to organize and visualize certain results in a clearer and more readable format.

For the analysis strategy, we began with a descriptive statistical analysis of the sample profile and the main variables. We then verified the preliminary conditions required for inferential analysis, starting with the internal consistency of all measurement scales using Cronbach's Alpha reliability test. The normality of the composite variables was subsequently assessed using the Kolmogorov-Smirnov test. The results indicated a quasi-normality of the data distribution, which, combined with a sample size of n = 153 Mobilis subscribers exceeding the threshold of 30 observations, justified the use of parametric tests in accordance with the Central Limit Theorem.

To assess the strength and direction of the relationships between the independent variable and the dependent variable dimensions, we conducted a Spearman correlation analysis. Finally, to test the validity of our four research hypotheses, we applied simple linear regression models with benchmarking awareness as the sole predictor and each customer perception dimension as the dependent variable. A hypothesis is confirmed when the regression coefficient B is positive and statistically significant at $p < 0.05$.

2. RESEARCH CONTEXT

2.1Overview of the Algerian Mobile Telecommunications Sector

The Algerian mobile telecommunications market provides the empirical context for this study. As of the first quarter of 2025, the market is served by three Mobile Network Operators: Mobilis (a subsidiary of state-owned Algérie Télécom), Djezzy (Optimum Télécom Algérie, with 96.57% state ownership), and Ooredoo Algérie (Wataniya Télécom Algérie, majority Qatari-owned with a 29% state stake). According to (ARPCE, 2025), Algeria counted 54.87 million mobile subscriptions in the second quarter of 2025, corresponding to a penetration rate of approximately 116% (ARPCE, 2025)This high penetration rate indicates a mature market characterized by widespread multi-SIM usage among consumers.

Market share distribution among the three operators reflects a competitive but somewhat concentrated structure. Based on first quarter 2025 estimates, Mobilis commands the largest market share at approximately 43%, followed by Djezzy with around 31%, and Ooredoo with approximately 25% (Confluences, 2026).

In absolute terms, this translates to roughly 23 million subscribers for Mobilis, 17 million for Djezzy, and 11.7 million for Ooredoo (Confluences, 2026). The prepaid segment dominates the market, accounting for the vast majority of subscriptions, which is characteristic of developing telecommunications markets.

The competitive landscape in Algeria has evolved from a straightforward battle for overall market share toward a more nuanced, segmented competition based on specialized performance niches. According to the Opensignal Mobile Network Experience Report for Algeria in February 2026, Djezzy leads in Quality of Experience indicators, including reliability experience and consistent quality. Ooredoo dominates in speed and performance metrics, leading in median download speed (31.22 Mbps) and lowest latency. Mobilis maintains its traditional leadership in territorial coverage, reflecting its heritage as the historical state-owned operator responsible for national network deployment (Opensignal, 2026).

This segmented competition where each operator excels in different performance dimensions has significant implications for customer perception. Consumers' choice of

operator increasingly depends on which performance attribute they prioritize: reliability, speed, or coverage. Benchmarking awareness thus becomes a critical determinant of perception, as customers compare operators across these distinct dimensions.

Total telecom service revenue in Algeria is projected to grow at a compound annual growth rate of approximately 0.5% over the 2024–2029 period, with mobile data revenue driving growth at a CAGR of around 5% (Markets, Algeria telecom market: Growth, trends, and forecasts (2024–2029), 2025) Looking forward, the three mnos are preparing for the commercial launch of 5G services, having collaborated with international equipment vendors to upgrade network infrastructure in anticipation of receiving licenses ((BuddeComm, 2026)The government has also announced plans to introduce a portion of Djezzy's capital on the Algerian stock exchange, signaling a potential shift toward greater private sector participation in the telecommunications market (Ecofin, 2025)

Table24:MARKET SHARE DISTRIBUTION (2025)

ALGERIAN MOBILE MARKET — SUBSCRIBER DISTRIBUTION (2025)		
MOBILIS	43%	~23M subscribers
DJEZZY	31%	~17M subscribers
OOREDOO	26%	~11.7M subscribers

Source: (ARPCE, 2025)

Table 25:key milestones of the algerian mobile sector

2001	**DJEZZY**	Orascom Telecom wins 2nd mobile license 73M. Becomes instant market leader.
2003	**MOBILIS**	ATM Mobilis created as subsidiary of Algérie Télécom. Becomes first public mobile operator.
2004	**OOREDOO**	WTA Wataniya launches Nedjma brand (now Ooredoo). First multimedia mobile operator in Algeria.

2014	**ALL 3**	Commercial launch of 4G LTE services digital transformation era begins.
2022	**DJEZZY**	Djezzy fully transferred to Algerian state (FNI) 100% state ownership.
2025	**MOBILIS**	Market leader: 43.7% market share. 97.6% coverage. 5G trials at 1.2 Gbps.
2026	**OPENSIGNAL**	Djezzy leads on 5 qoe indicators. Ooredoo leads on speed (31.22 Mbps). Mobilis leads on coverage only.
2001	**DJEZZY**	Orascom Telecom wins 2nd mobile license 73M. Becomes instant market leader.
2003	**MOBILIS**	ATM Mobilis created as subsidiary of Algérie Télécom. Becomes first public mobile operator.
2004	**OOREDOO**	WTA Wataniya launches Nedjma brand (now Ooredoo). First multimedia mobile operator in Algeria.
2014	**ALL 3**	Commercial launch of 4G LTE services digital transformation era begins.
2022	**DJEZZY**	Djezzy fully transferred to Algerian state (FNI) 100% state ownership.
2025	**MOBILIS**	Market leader: 43.7% market share. 97.6% coverage. 5G trials at 1.2 Gbps.
2026	**OPENSIGNAL**	Djezzy leads on 5 qoe indicators. Ooredoo leads on speed (31.22 Mbps). Mobilis leads on coverage only.

Source (ARPCE, 2025).

2.2 Presentation of the Three Mobile Operators

This part presents each of the three mobile network operators operating in Algeria Mobilis, Djezzy, and Ooredoo providing a structured overview of their history, ownership, market position, services, and competitive profile as of 2025. These three operators constitute the empirical field of the comparative benchmarking study conducted in this research.

2.2.1MOBILIS ATM (Algérie Télécom Mobile)

MOBILIS ™	ATM Mobilis Algérie Télécom Mobile Slogan: "Partout avec vous (Everywhere with you)"معكم أينما كنتم Founded: August 2003 Subscribers (2025): ~23 million (43%) Coverage: 97.6% of population Website: www.mobilis.dz	Market Rank 1st

2.2.1.1History and Creation

Mobilis, officially known as ATM Mobilis (Algérie Télécom Mobile), is Algeria's first mobile network operator and the current market leader by subscriber count. Created in August 2003 as a subsidiary of Algérie Télécom Algeria's state-owned fixed-line operator Mobilis began as a purely legal entity before becoming a fully operational subsidiary in January 2004. The company is placed under the supervisory authority of the Ministry of Post and Telecommunications, administered by a Board of Directors chaired by the ministerial representative, and led by a General Director appointed by presidential decree.

From its creation, Mobilis set itself three core objectives: customer satisfaction, customer loyalty, and technological innovation. These objectives guided the company through a remarkable growth trajectory achieving a 645% increase in subscribers within a single year following the deployment of new commercial and technical strategies in September 2004. Mobilis holds a share capital of 100,000,000,000 DA, divided into 1,000 shares entirely held by Algérie Télécom.

Figure 40:LOGO Mobilis

Source: Official website of Mobilis **https://www.mobilis.dz/page/accueil**.

2.2.1.2Market Position and Network Infrastructure

As of 2025, Mobilis commands the largest market share in Algeria at approximately 43%, serving roughly 23 million subscribers. Its territorial coverage network reaches 97.6% of the Algerian population the broadest coverage footprint among the three operators supported by more than 4,500 radio base stations (BTS) and 3,595 network sites. Mobilis maintains a commercial network of 117 physical agencies across Algeria's wilayas, with priority attention to isolated and desert regions where it has invested heavily in connectivity.

2.2.1.3Organization of ATM Mobilis

ATM Mobilis is organized according to international management standards. It is led by a Chief Executive Officer (CEO), supported by Division Directors, Central and Regional Directors, as well as Advisors.

Its Board of Directors is composed of members from diverse professional backgrounds. Their main role is to validate the company’s strategic decisions and ensure the achievement of the objectives derived from them.

The modernization of ATM Mobilis has been carried out at all levels: technological, financial, commercial, and human. This process required:

- The introduction of new tools in auditing, quality management, revenue assurance, geomarketing, marketing and technological monitoring, internal online communication, and information systems;

- The launch of a large-scale recruitment campaign to strengthen all company structures;
- The implementation of training programs to enhance employees' skills and competencies;
- The definition of the vision, strategy, and organizational structure of ATM Mobilis, as well as the development of realistic business plans;
- A complete redefinition of procedures and processes affecting all company activities.

➢ **ATM Mobilis Values:**

Transparency: ATM Mobilis strives to be clear about its products and to ensure consistency between what it says and what it does, in order to build with its partners a solid and lasting relationship based on trust.

Performance Excellence: It is fundamental for ATM Mobilis' teams to perform at a high level and to consistently deliver value. The complexity and importance of the projects ATM Mobilis undertakes demand rigorous execution and a high standard of quality. Team spirit and staff cohesion enable the pursuit of excellence and make the difference.

Commitment: ATM Mobilis engages in a relationship of trust with its partners in order to guarantee a healthy and lasting relationship. It also assumes social and civic responsibility by engaging with the shared concerns of society.

Agility: Convinced that technological developments are a source of enrichment, ATM Mobilis works to adapt internally by developing the professional skills of its employees and externally by ensuring customer satisfaction through the continuous adaptation and improvement of its offerings and network quality.

➢ **Missions:**

- Develop, operate, and manage mobile telephone networks and infrastructure;
- Optimize resources, performance, and profitability, and recommend corrective actions by recording, monitoring, and verifying all operations carried out by the company;

- Drive the quality approach within ATM Mobilis to ensure the continuous improvement of products and services and customer satisfaction;
- Design offers, services, and solutions for both enterprise and general public market customers, based on market research and technological developments;
- Diversify ATM Mobilis' products and services by proposing innovative products, services, and solutions;
- Establish relationships with national and international operators in order to conclude interconnection and roaming agreements;
- Develop the direct and indirect sales network across the national territory;
- Guarantee the development of competencies and enhance human capital (training, learning, career planning, talent retention, etc.).

➢ **Objectives:**

- Become the leader of the Algerian mobile telephone market;
- Continuously grow revenue;
- Achieve an unmatched brand reputation and image within its sector of activity;
- Ensure customer satisfaction by making the required products available and handling requests within set deadlines;
- Continuously improve its technical network through the ongoing deployment, modernization, and densification of its equipment; diversify equipment suppliers while requiring premium-grade materials, both to comply with the requirements of the Postal and Electronic Communications Regulatory Authority and to meet customer expectations.

➢ **Enterprise Offers:**

Offers specifically designed to meet the specific telecommunications needs of corporate clients (mobile telephony & internet)

Enterprise Solutions: VPN, MVPN, B2M connectivity & B-SMS.

➢ **Main Consumer Offers**

- Prepaid Offers (Carte / Prépayé): flexible recharge and pay-as-you-go usage
- Postpaid Plans (Forfait)**:** monthly packages including calls, SMS, and internet
- 4G Internet Offers**:** high-speed mobile internet plans with different data volumes
- Data Packages (Pass Internet)**:** daily, weekly, and monthly internet bundles

- Roaming Offers**:** international communication and internet services abroad
- VAS (Value-Added Services)**:** entertainment, music, cloud, and mobile services

➢ **Services:**

- Mobilis@afe
- Notification Service
- Meetmob
- Mycloud
- Roaming Plan
- Data Roaming Pass
- Arsselli via ATM & Arsselli via Post Office
- Mobsound
- Selekni & Racidi
- Naghmati

2.2.1.4Organizational Structure of the Company

ATM Mobilis is led by a Chairman and Chief Executive Officer (CEO), supported by Advisors, Divisional Directors, Central and Regional Directors. The Board of Directors is composed of members from various professional backgrounds, who validate the company's strategic decisions.

ATM Mobilis' organizational chart is structured around two Deputy General Directorates, from which five main divisions are derived:

Deputy General Directorate Organization, Administration & Finance:

- General Affairs Division
- Finance & Performance Division
- Deputy General Directorate Operations:
- Commercial Division
- Communication & Marketing Division
- Network & Services Division

In addition, several directorates report directly to the Chairman and CEO, including:

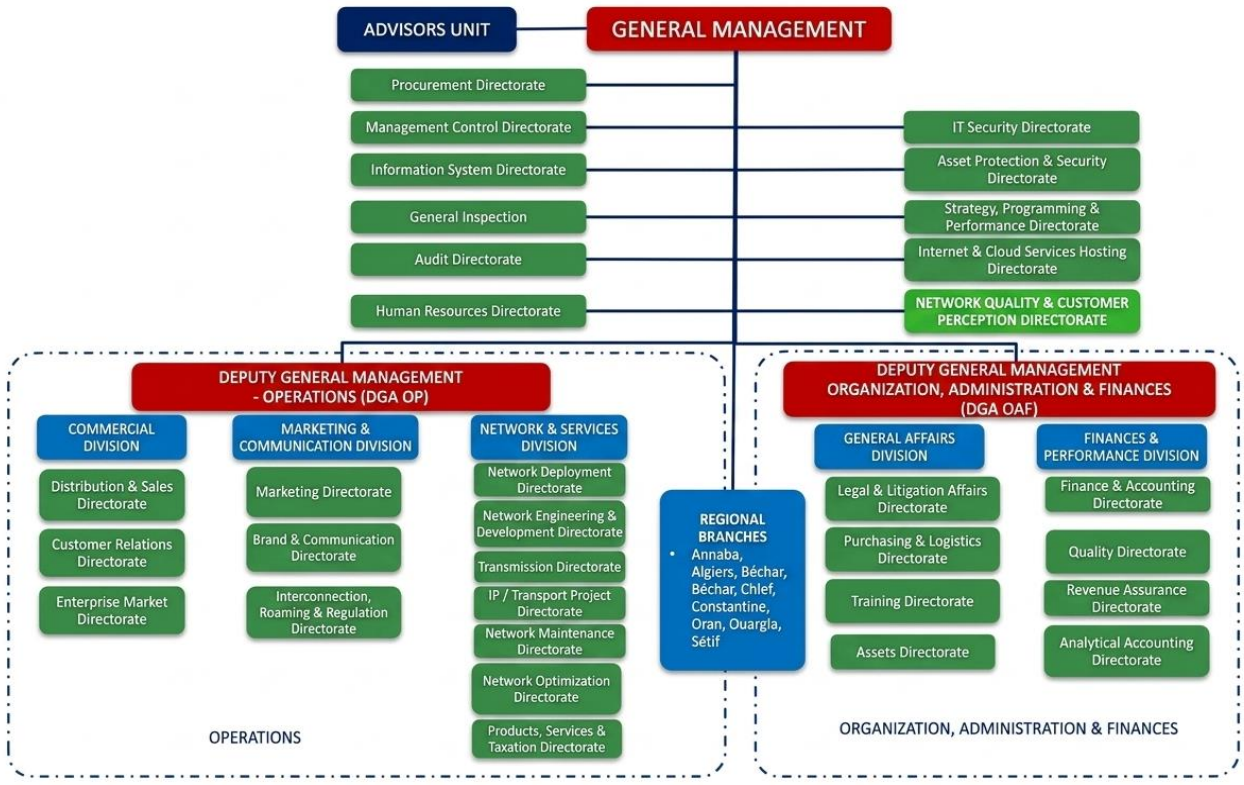
- Strategy, Planning & Performance Directorate
- Information Systems Directorate
- Asset Protection & Security Directorate

- Human Resources Directorate
- Information Systems Security Directorate
- Internet & Cloud Services Hosting Directorate
- Network Quality & Customer Perception Directorate
- Audit Directorate
- General Inspection

A unit of specialized advisors also supports the CEO in various fields, including technical, human resources, finance, legal, and general affairs.

Furthermore, ATM Mobilis has eight Regional Directorates located in major cities: Algiers, Constantine, Chlef, Sétif, Béchar, Annaba, Oran, and Ouargla.

Figure 41:ATM Mobilis organizational chart



Source: Human Resources Department

2.2.2 DJEZZY OTA (Optimum Télécom Algérie)

DJEZZY ™	OTA Optimum Télécom Algérie (formerly Orascom Telecom Algérie) Slogan: Vivez le Futur / Live the Future/ عش المستقبل Founded: July 2001 Subscribers (2025): ~17 million (31%) Coverage: ~95% of population Website: www.djezzy.dz	Market Rank 2nd

2.2.2.1History and Creation

Djezzy is Algeria's second mobile operator by subscriber count and was historically the market leader throughout the 2000s and 2010s. Originally established as Orascom Télécom Algérie (OTA) after winning the second mobile license in July 2001 for 73 million, Djezzy was operated by the Egyptian Orascom Telecom Holding group a regional leader with 50 million subscribers across the Middle East, North Africa, and Asia. In 2022, the Algerian state completed the acquisition of 100% of Djezzy's shares through the Fonds National d'Investissement (FNI), making Djezzy a fully state-owned operator renamed Optimum Télécom Algérie (OTA).

At its peak, Djezzy commanded 47% of the Algerian mobile market with over 16 million subscribers, positioning it as the undisputed favorite of Algerian consumers. Despite its structural repositioning since 2015 falling to second place in subscriber count — Djezzy maintains its leadership in brand recognition, advertising investment, and customer quality of experience.

Figure 42:LOGO Djezzy

Source: Official website of Djezzy https://www.djezzy.dz

2.2.2.2Market Position and Competitive Strengths

As of 2025, Djezzy holds approximately 31% of the Algerian mobile market with around 17 million subscribers. It is the #1 advertiser in Algeria across all media a position it has maintained for years and leads on five quality of experience indicators according to the Opensignal Mobile Network Experience Report for Algeria (February 2026): gaming experience, voice call quality, reliable quality, network reliability, and consistent quality. Djezzy operates 130 physical agencies and an extensive dealer network, and maintains its reputation as "l'opérateur favori des Algériens."

- **Services and Communication**

- Mobile voice, data, and messaging services for prepaid and postpaid subscribers
- Competitive promotional pricing consistently the most aggressive pricing strategy in the market
- Active 5G network trials in partnership with international equipment vendors
- Extensive sponsorship portfolio: Algerian national football team, handball team, 3 major football clubs (MCA, USMA, ES Sétif)

Strong digital communication presence 1st advertiser in Algeria (Sigma study)

2.2.3 OOREDOO WTA (Wataniya Télécom Algérie)

OOREDOO ™	WTA Wataniya Télécom Algérie (formerly Nedjma) Slogan: Upgrade ton monde / Upgrade Your World/ طوّر عالمك Founded: December 2003 Subscribers (2025): ~11.7 million (26%) Coverage: Nationwide quality Website: www.ooredoo.dz	Market Rank 3rd

2.2.3.1History and Creation

Ooredoo Algeria originally launched as Nedjma (meaning 'star' in Arabic) under Wataniya Télécom Algérie (WTA) obtained its national mobile service license on December 2, 2003, for a winning bid of 421 million USD. Commercial services were launched under the Nedjma brand on August 25, 2004. The operator subsequently rebranded to Ooredoo Algeria, aligning with its parent group Ooredoo, a Qatari multinational telecommunications company with operations across the Middle East, North Africa, and Southeast Asia.

From its launch, Ooredoo introduced new standards in Algeria's telecommunications industry: the latest transmission equipment, the highest customer service standards, and highly competitive pricing. It is recognized as Algeria's first multimedia mobile operator, having pioneered innovative data services and digital offerings. As of 2025, the Algerian state holds a 29% stake in WTA, with the Qatari Ooredoo Group maintaining majority ownership.

Figure 43:LOGO Ooredoo

Source: Official website of Ooredoo https://www.ooredoo.dz

2.2.3.2Market Position and Digital Leadership

Ooredoo holds approximately 26% of the Algerian mobile market with around 11.7 million subscribers third by volume but first in digital experience quality. According to Opensignal (2026), Ooredoo leads on four performance indicators: download speed (31.22 Mbps median highest in Algeria), upload speed, network availability, and video experience. It operates 100 boutiques across Algeria, employing a smaller but notably customer-attentive team recognized for service quality.

2.2.3.3Services and Innovation

- Best-rated digital experience platform in Algeria Ooredoo App and self-service tools (Operatorwatch, 2025)
- Fastest mobile data network leading download speed at 31.22 Mbps (Opensignal, 2026)
- Advanced 5G infrastructure trials leveraging Ooredoo Group's MENA-wide 5G expertise
- Major sponsorship of the Algerian Football Federation (FAF) and the Algerian national football team
- Sponsor of 9 Ligue Professionnelle clubs (JSK, CRB, JSMB, MCO, and others)
- Positioned as Algeria's most innovative multimedia operator targeting tech-savvy demographics

2.3Comparative Analysis of the Three Operators

The following comparative table synthesizes the key performance indicators and competitive characteristics of Mobilis, Djezzy, and Ooredoo across the dimensions directly relevant to this benchmarking study network quality, brand image, value for money, digital experience, and customer service.

Table 26:COMPARATIVE ANALYSIS OF THREE ALGERIAN MOBILE OPERATORS (2025)

Indicator	MOBILIS	DJEZZY	OOREDOO
Market Share (2025)	43% Leader	31% 2nd	26% 3rd
Subscribers	~23 million	~17 million	~11.7 million
Network Coverage	97.6% Best	~95% Strong	Nationwide quality

5G Status	Trials 1.2 Gbps	Active trials	MENA Group expertise
Brand Color	Green	Red	Orange
Slogan	Everywhere with you	Live the Future	Upgrade Your World
Agencies	117 agencies	130 agencies	100 boutiques
Advertising Rank	3rd in Algeria	1st in Algeria	2nd in Algeria
Download Speed	Average	Moderate	31.22 Mbps Best
Reliability Score	3rd	1st Best	2nd
Digital Experience	Improving	Good	Best-rated (2025)
Ownership	State (Algérie Télécom)	100% Algerian State	Qatari Ooredoo Group

Source: (ARPCE, 2025)

CHAPTER III: RESULTS AND DISCUSSION

This chapter is dedicated to the analysis and interpretation of the data collected from the survey conducted on the impact of benchmarking practices on customer perception in the Algerian mobile telecommunication sector, with a particular focus on Mobilis. In the first section, we present the profile and structure of our sample. We then proceed to the preliminary analyses required to validate our measurement scales and verify the conditions for inferential testing. In the second section, we test our four research hypotheses using simple linear regression models, and we interpret the results in light of the academic literature reviewed in Chapter I.

I. PRESENTATION OF RESULTS

1. Description of the Sample

The total sample comprises 316 respondents distributed across the three main Algerian mobile operators: Mobilis (48.7%), Djezzy (26.9%), and Ooredoo (24.4%). The sample is predominantly composed of employees (46.5%) and students (24.1%), with a strong representation of the 25–34 age group (44.0%), which is consistent with the active digital consumer profile targeted by this study.

The majority of respondents hold a Master's degree (47.2%) or a Bachelor's degree (28.5%), reflecting the educated and digitally aware profile of the surveyed population. In terms of geographic distribution, respondents are spread across the Centre (37.0%), West (24.1%), East (21.8%), and South (17.1%) regions of Algeria, ensuring a reasonable territorial diversity of the sample. Regarding subscription duration, 32.6% of respondents have been with their current operator for more than 5 years, indicating a predominantly loyal and experienced subscriber base.

The majority of respondents use both data and voice services (50.3%), while 25.9% use voice calls only and 23.7% use data only. All respondents in the sample are prepaid subscribers (100%). Among non-Mobilis subscribers, 66.5% declared having been previously subscribed to Mobilis at some point, which provides a particularly relevant basis for the comparative benchmarking analysis conducted in this study.

The table below presents the detailed profile of the sample:

Table 27 : Respondent Profile

Variable	Category	Frequency	Percentage
Main Mobile Operator	Mobilis	154	48.7%
	Djezzy	85	26.9%
	Ooredoo	77	24.4%
Subscription Duration	Less than 3 months	22	7.0%
	Less than 1 year	37	11.7%
	1 to 3 years	84	26.6%
	3 to 5 years	70	22.2%
	More than 5 years	103	32.6%
Age Group	18–24	78	24.7%
	25–34	139	44.0%
	35–44	89	28.2%
	55 and above	10	3.2%
Geographic Area	Centre	117	37.0%
	East	69	21.8%
	West	76	24.1%
	South	54	17.1%
Education Level	High School	33	10.4%
	Bachelor	90	28.5%
	Master	149	47.2%
	Phd	28	8.9%
	Other	16	5.1%
Professional Status	Student	76	24.1%
	Employee	147	46.5%
	Self-employed	73	23.1%
	Unemployed	20	6.3%
Subscription Type	Prepaid	316	100%
Mobile Services Used	Data (4G/5G)	75	23.7%
	Voice Calls	82	25.9%
	Both	159	50.3%
Previously Subscribed to Mobilis	Yes	117	66.5%
	No	59	33.5%

Source: Self depiction(SPSS frequency output)

Table28: Perception of Current Operator Compared to Mobilis

Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The current operator has better network quality than Mobilis	10 (5.7%)	11 (6.3%)	41 (23.3%)	39 (22.2%)	75 (42.6%)
The current operator has more attractive offers than Mobilis	14 (8.0%)	9 (5.1%)	39 (22.2%)	43 (24.4%)	71 (40.3%)
The current operator has a better brand image than Mobilis	9 (5.1%)	6 (3.4%)	30 (17.0%)	51 (29.0%)	80 (45.5%)
The choice of the current operator was influenced by better network quality than Mobilis	15 (8.5%)	11 (6.3%)	38 (21.6%)	43 (24.4%)	69 (39.2%)
The current operator offers better value for money than Mobilis	14 (8.0%)	8 (4.5%)	40 (22.7%)	48 (27.3%)	66 (37.5%)

Source: Self depiction(SPSS frequency output)

We observe that respondents did not choose Mobilis mainly due to perceived better performance of competing operators. In particular, **42.6%** of respondents strongly agree that their current operator offers better network quality than Mobilis, while **40.3%** strongly agree that it provides more attractive offers. In addition, **45.5%** strongly agree that their operator has a better brand image, and **37.5%** strongly agree that it offers better value for money compared to Mobilis. Consequently, these factors explain the preference for other operators over Mobilis.

For the remainder of the study, we focus on the valid sample of **176 respondents** who provided usable responses.

2. Descriptive Analysis of Central Concepts

This section analyzes the four dimensions of customer perception that are influenced by benchmarking practices. Each dimension is evaluated based on the mean scores of its respective items.

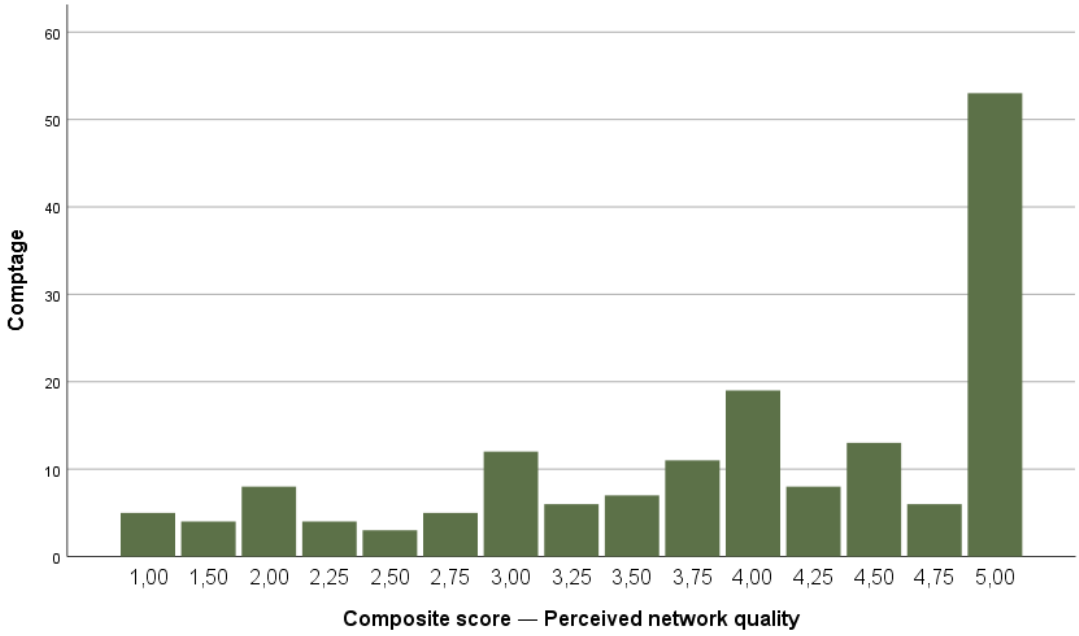
2.1 Perceived Network Quality

This dimension evaluates how customers perceive the performance of Mobilis's network in terms of coverage, speed, and stability, compared to its main competitors, Djezzy and Ooredoo.

The results illustrated in the chart below indicate that the **Perceived Network Quality** is significantly above the theoretical average. As shown in the distribution, a substantial majority of respondents assigned the highest possible score (**5.00**), reflecting strong satisfaction with the operator's technical infrastructure.

This confirms that the technical benchmarking efforts and network investments made by Mobilis are effectively perceived by the subscribers as a superior value proposition in the Algerian market.

Figure 44: Mean scores of network quality items



Source: Self depiction SPSS software outputs.

2.2Brand Image & Reputation

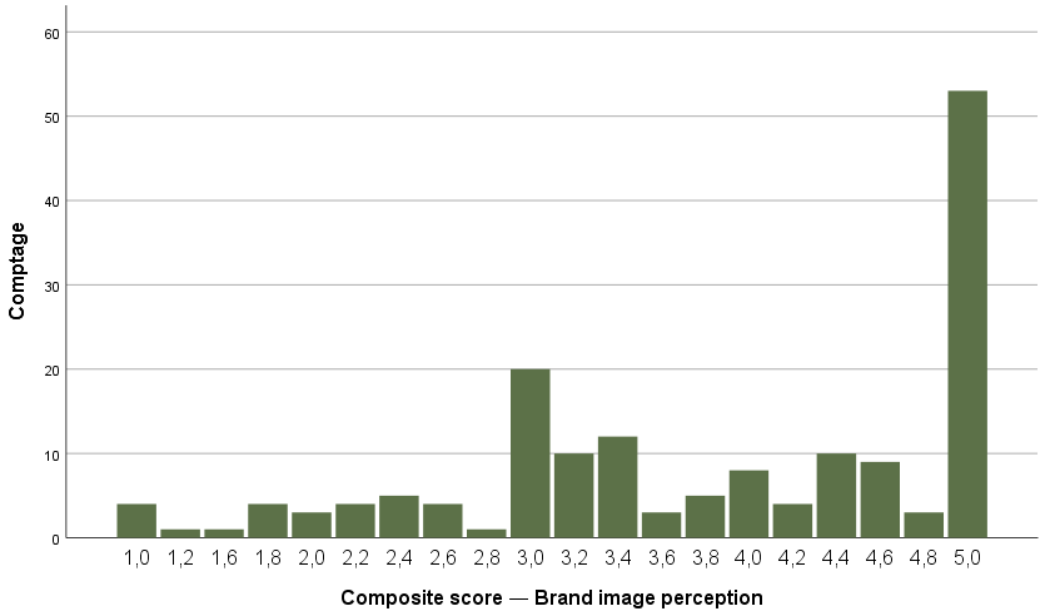
Brand image is a critical competitive lever in the telecommunications sector. This dimension measures the level of trust, reputation, and the "citizen-enterprise" identity that differentiates Mobilis from its rivals, Djezzy and Ooredoo.

As illustrated in Figure 52, the results demonstrate a **strong and positive brand image**.

The distribution shows a significant concentration of responses at the highest level (**5.00**), with more than 50 respondents expressing total agreement regarding the operator's positive reputation. Another cluster of respondents is situated around the neutral-to-positive mark (**3.00** to **3.40**).

These findings confirm that Mobilis's strategic benchmarking focused on its identity as a national leader and its proximity to Algerian citizens is highly successful. The operator is perceived not just as a service provider, but as a reliable and prestigious brand in the minds of the consumers.

Figure 45: Distribution of brand image perception scores.



Source: Self depiction SPSS software outputs.

2.3 Value for Money Perception

Value for money measures how Mobilis subscribers evaluate the fairness of prices relative to the quality of service received, the competitiveness of promotional offers compared to Djezzy and Ooredoo, the sufficiency of information provided to support purchase decisions, and the overall price competitiveness in the Algerian mobile market.

As illustrated in Figure 53, the distribution of Value for Money perception scores reveals a clearly bimodal pattern with two dominant peaks.

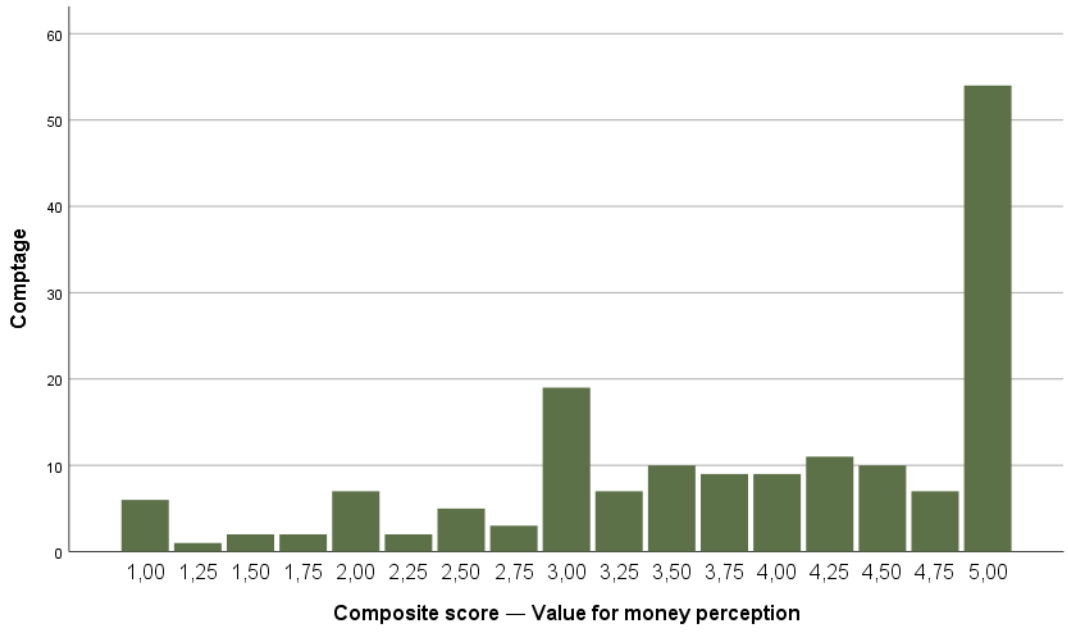
The most striking feature of this distribution is the dominant peak at **5.00**, with approximately **54 respondents** the highest count of any score expressing total agreement that Mobilis offers fair and competitive pricing relative to the service quality received. This represents the single largest group of respondents in this dimension.

A second significant concentration appears at **3.00** (neutral), with approximately **19 respondents**, suggesting that a portion of subscribers hold a moderate or undecided view regarding Mobilis's pricing competitiveness, likely reflecting ongoing comparisons with Djezzy and Ooredoo offers in the market.

The remaining scores between 1.00 and 4.75 are relatively dispersed, with modest frequencies ranging from 1 to 11 respondents per score interval, indicating a diversity of opinions across the subscriber base regarding this dimension.

Overall, the distribution is **positively skewed**, with the majority of responses concentrated in the upper range of the scale (scores ≥ 3.75), confirming that Mobilis subscribers generally perceive the operator's pricing strategy as fair and competitive. This result suggests that the competitive benchmarking efforts deployed by Mobilis in terms of pricing alignment and promotional offer design are positively perceived by its subscriber base, even in a market where Djezzy and Ooredoo actively compete on price.

Figure 46: Distribution of value of money perception scores



Source: Self depiction SPSS software outputs.

2.4 Customer Experience Perception

Customer experience measures how Mobilis subscribers evaluate their interactions across all touchpoints physical agencies, call center, digital platforms, and consistency of service across all channels.

As illustrated in Figure 54, the distribution of Customer Experience perception scores shows a broadly dispersed pattern with a dominant peak at the upper end of the scale.

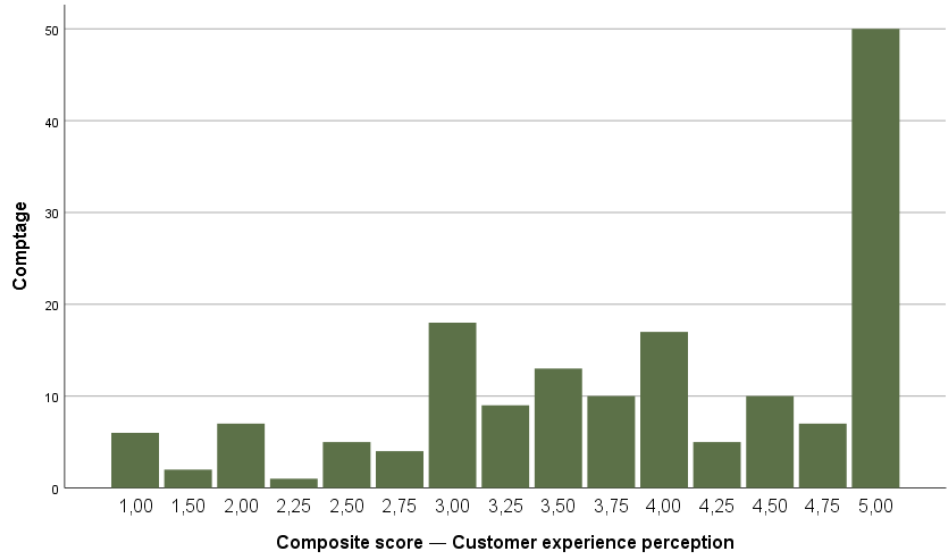
The most notable feature is the strong peak at **5.00**, with approximately **50 respondents** expressing total satisfaction with their overall experience across all Mobilis service channels. This is the single highest count in the distribution and signals that a significant portion of subscribers consider Mobilis's customer experience to be excellent.

A second concentration appears at **3.00** with approximately **18 respondents**, and another at **4.00** with approximately **17 respondents**, indicating that positive-to-neutral evaluations are well represented across the sample. The distribution between scores 3.00 and 4.00 is relatively dense, suggesting that the majority of subscribers place their experience evaluation in the positive-to-moderate range.

Scores below 2.50 are present but limited, reflecting a small minority of dissatisfied subscribers likely those who experienced difficulties with call center responsiveness or digital platform usability, which are dimensions known to be improvement priorities for Mobilis based on the ARPCE 2021 quality of service report.

Overall the distribution is **positively skewed**, confirming that Mobilis's benchmarking-driven improvements in customer touchpoint management are perceived positively by its subscriber base.

Figure 47: Distribution of customer experience scores



Source: Self depiction SPSS software outputs.

2.5 Service Quality Perception

Service quality measures how subscribers evaluate Mobilis's ability to understand their specific needs, deliver services as promised, provide easy-to-use services, and respond quickly and efficiently to complaints.

As illustrated in Figure 55, the distribution of Service Quality perception scores follows a pattern very similar to the previous dimensions, with a strong positive skew and a dominant concentration at the top of the scale.

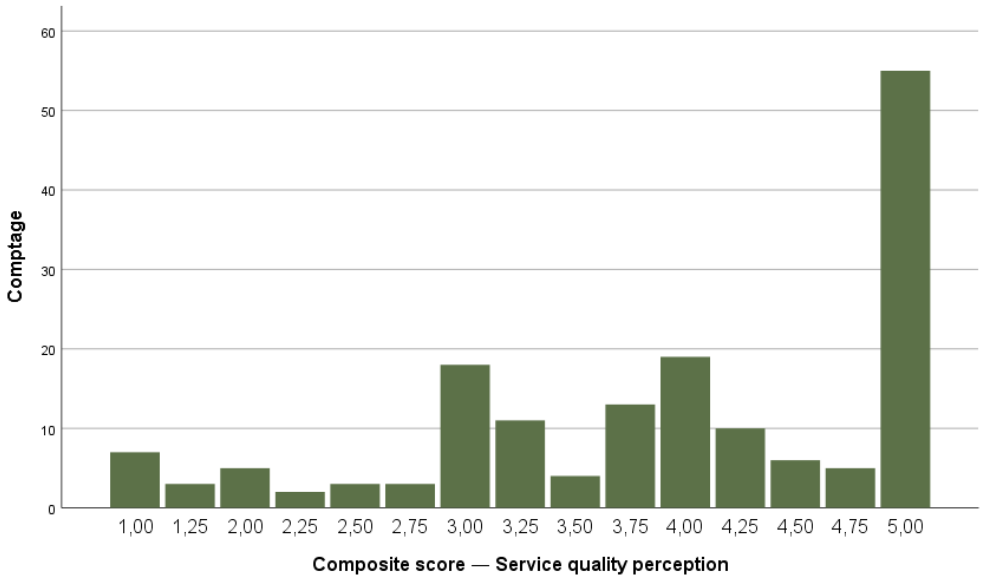
The peak at **5.00** is the most pronounced in this dimension, with approximately **55 respondents** the highest count observed across all dimensions analyzed in this study indicating that service quality reliability and responsiveness are the most strongly perceived strengths of Mobilis among its subscriber base.

A second notable cluster appears at **3.00** with approximately 18 respondents and at **4.00** with approximately **19 respondents**, reflecting a substantial group of subscribers who rate service quality positively but not at the maximum level. This middle-to-high concentration is consistent with the findings of Parasuraman et al. (1988), who established that service quality perception is shaped primarily by the gap between expected and received service and suggests that Mobilis broadly meets or exceeds subscriber expectations in this dimension.

Scores of 1.00 are present with approximately **8 respondents**, representing a small but non-negligible group of highly dissatisfied subscribers, likely concentrated around complaint handling and personalization dimensions which are the most challenging to standardize across a large national operator.

Overall the distribution is **strongly positively skewed**, confirming that service benchmarking particularly improvements in reliability, ease of use, and complaint resolution is effectively translating into positive subscriber perceptions of Mobilis's service quality.

Figure 48:distribution of service quality perception scores



Source: Self depiction SPSS software outputs.

3.Preliminary Analyses Data Adequacy for Inferential Testing

Before analyzing the data collected from our sample, it is important to verify the adequacy of the data for inferential statistical analysis. This verification consists of examining missing values, the quasi-normality of the data, and multicollinearity between variables.

3.1 Missing Values

Missing values must be treated before analysis using appropriate methods. In this research, all questionnaires were collected in complete form. This is due to the online administration mode via Google Forms and the mandatory response function activated for all items, which

prevented respondents from submitting incomplete questionnaires. No missing value treatment was therefore necessary prior to analysis.

3.2 Quasi-Normality of the Data

In order to conduct inferential analyses, the normality of the data was assessed using both the Kolmogorov-Smirnov test with Lilliefors correction and the Shapiro-Wilk test on the Mobilis subscriber sample (n = 153). The results are presented in the table below.

The results show that all variables are statistically significant ($p < 0.001$) for both tests, indicating a deviation from strict normality. However, this outcome is expected due to the relatively large sample size and the ordinal nature of Likert-scale data. Indeed, normality tests such as Kolmogorov-Smirnov and Shapiro-Wilk are known to be highly sensitive and tend to detect even minor deviations from normality in large samples (Joseph F. Hair, Multivariate Data Analysis (8th ed.), 2019) .

Nevertheless, according to the Central Limit Theorem, a sample size exceeding 30 observations is sufficient for the sampling distribution of the mean to approximate normality (Field, 2018). Given that the present study includes 153 observations, the data can be considered approximately normal (quasi-normal).

Therefore, the assumption of normality is sufficiently satisfied, allowing the use of parametric tests such as correlation and regression analyses.

Table 29: Results of the Kolmogorov-Smirnov Normality Test

Variable	K-S Statistic	Ddl	Sig.
Benchmarking awareness (IV)	0.176	153	0.000
Perceived network quality	0.176	153	0.000
Brand image perception	0.182	153	0.000
Value for money perception	0.183	153	0.000
Customer experience perception	0.167	153	0.000
Service quality perception	0.184	153	0.000
Overall perception of Mobilis	0.153	153	0.000
Global customer perception	0.147	153	0.000

Source: Self depiction SPSS software outputs.

4.Functional Analysis of Responses According to Questionnaire Dimensions and Reliability Assessment of Measurement Items

In this section, a comprehensive analysis of the collected responses is conducted based on the different dimensions defined in the questionnaire. The objective is to assess the internal consistency, validity, and reliability of the measurement items in order to ensure the robustness of the statistical results used for testing the research hypotheses related to the impact of benchmarking practices on consumer perception in the mobile telecommunications sector.

4.1Content Validity

To ensure the scientific rigor of the questionnaire, a content validation process was implemented during its development. The initial version of the instrument was submitted to a panel of university professors and data analysis experts in marketing and management sciences for evaluation.

Their feedback focused on assessing the clarity, relevance, and coherence of the measurement items. Based on their recommendations, several modifications were introduced, including:

- The reformulation of ambiguous statements to improve clarity,
- The removal of redundant or irrelevant items,
- The addition of new items to better capture the theoretical dimensions of the research model.

This iterative process resulted in a final version of the questionnaire that is considered valid in terms of content and aligned with the methodological requirements of quantitative research in management sciences.

4.2 Reliability of Measurement Scales(Cronbach's Alpha)

The internal consistency of all measurement scales was assessed using Cronbach's Alpha coefficient, which is the standard reliability measure for Likert-scale instruments in social science research (Nunnally, 1978)).

A coefficient of $\alpha \geq 0.70$ is considered the minimum acceptable threshold, while $\alpha \geq 0.80$ indicates good reliability and $\alpha \geq 0.90$ indicates excellent reliability (Hair, 2019)Reliability

was assessed separately for the independent variable, the six dimensions of the dependent variable, and the non-Mobilis comparative perception scale.

4.2.1 Reliability of the Independent Variable Benchmarking Awareness

Table30:Reliability Test Benchmarking Awareness (IV)

Dimension	**Number of Items**	**Cronbach's Alpha**
Benchmarking Awareness (IV)	4	0.860
Total IV	**4**	**0.860**

Source: Self depiction SPSS software outputs.

The Cronbach's Alpha coefficient for the Benchmarking Awareness scale reaches 0.860, indicating a good level of internal consistency among the four items composing this variable. This result confirms that the items measuring benchmarking awareness are coherent with each other and reliably measure the same underlying construct. The scale can therefore be considered statistically solid for use as the independent variable in the regression models.

4.2.2Reliability of the Dependent Variable (Customer Perception Dimensions).

Table31: Reliability Test Dependent Variable (Customer Perception Dimensions)**.**

Dimension	Number of Items	Cronbach's Alpha
Perceived Network Quality	4	0.920
Brand Image Perception	5	0.942
Value for Money	3	0.918
Customer Experience	3	0.918
Service Quality	4	0.948
Overall Perception	4	0.936
Total DV	23	0.944

Source: Self depiction SPSS software outputs.

All six dimensions of the dependent variable record Cronbach's Alpha coefficients well above the minimum acceptable threshold of $\alpha \geq 0.70$ recommended by (Nunnally, 1978), with values ranging from 0.918 to 0.948.

The highest reliability is observed for Service Quality (α = 0.948), reflecting the strong coherence between the four items measuring reliability, ease of use, responsiveness, and complaint handling.

Brand Image (α = 0.942) and Overall Perception (α = 0.936) also demonstrate excellent internal consistency.

The lowest coefficients Value for Money and Customer Experience (α = 0.918) remain well above the acceptable threshold and confirm good reliability.

These results validate the psychometric quality of all dependent variable scales.

4.2.3Reliability of the Non-Mobilis Comparative Perception Scale

Table31: Reliability Test Non-Mobilis Comparative Perception Scale.

Dimension	Number of Items	Cronbach's Alpha
Non-Mobilis Comparative Perception	5	0.888
Total	5	0.888

Source: Self depiction SPSS software outputs.

The Cronbach's Alpha coefficient for the Non-Mobilis comparative perception scale reaches 0.888, indicating a good level of internal consistency among the five items measuring how Djezzy and Ooredoo subscribers evaluate their current operator relative to Mobilis.

This result confirms the reliability of the comparative benchmarking scale and validates its use in the descriptive comparative analysis.

Overall Conclusion on Rliability

The results of the reliability analysis confirm that all measurement scales used in this study for both the Mobilis subscriber section (n = 153) and the Non-Mobilis comparative section (n = 163) demonstrate satisfactory to excellent internal consistency.

These results validate the psychometric robustness and stability of the measurement instrument across all dimensions, and confirm that all scales can be used reliably to test the research hypotheses and analyze respondent perceptions in the context of this benchmarking study. We therefore proceed to the correlation and regression analyses with full confidence in the quality of our data.

4.3 Correlation Analysis

Before proceeding to hypothesis testing through regression analysis, a Spearman correlation analysis was conducted to assess the strength and direction of the relationships between the independent variable Benchmarking Awareness (IV_BENCHMARKING) and all dimensions of the dependent variable Customer Perception. Spearman's Rho was selected as a non-parametric correlation measure appropriate for Likert-scale data.

The results are presented in the table below:

Table32: Spearman Correlation Matrix Benchmarking Awareness and Customer Perception Dimensions

	IV Benchmarking	Network Quality	Brand Image	Value for Money	Customer Experience	Service Quality	Overall Perception	Global Perception
IV Benchmarking	1.000	.639	.632	.602	.612	.571	.544	.654
Network Quality	.639	1.000	.881	.830	.738	.720	.677	.885
Brand Image	.632	.881	1.000	.869	.785	.746	.710	.910
Value for Money	.602	.830	.869	1.000	.841	.788	.752	.928
Customer Experience	.612	.738	.785	.841	1.000	.876	.750	.909
Service Quality	.571	.720	.746	.788	.876	1.000	.787	.894
Overall Perception	.544	677	.710	752	.750	.787	1.000	.866
Global Perception	.654	.885	.910	.928	.909	.894	.866	1.000

Source: Self depiction SPSS software outputs.

The correlation analysis reveals that Benchmarking Awareness is significantly and positively correlated with all dimensions of Customer Perception at the 0.01 significance

level ($p < 0.001$),for all 153 Mobilis subscribers. These results provide a first preliminary confirmation of all four research hypotheses before regression testing.

The strongest correlation is observed between Benchmarking Awareness and Global Customer Perception ($\rho = 0.654$), confirming that the overall perception of Mobilis is strongly associated with the level of benchmarking awareness among subscribers. This result provides preliminary support for **H1**.

Regarding the specific dimensions, the correlation between Benchmarking Awareness and Network Quality is the highest among individual dimensions ($\rho = 0.639$), indicating that subscribers who perceive Mobilis as actively improving its offers also tend to rate the network performance more positively. This provides preliminary support for **H2**.

Brand Image records a strong correlation with Benchmarking Awareness ($\rho = 0.632$), closely followed by Customer Experience ($\rho = 0.612$) and Value for Money ($\rho = 0.602$), providing preliminary support for **H3**.

The lowest though still strong correlation is observed for Service Quality ($\rho = 0.571$) and Overall Perception ($\rho = 0.544$), providing preliminary support for **H4**.

All correlation coefficients fall within the strong range (0.54 to 0.65) according to the classification of Field (2018), confirming that Benchmarking Awareness is a meaningful and significant predictor of all customer perception dimensions measured in this study. These results justify the use of simple linear regression to formally test the research hypotheses, as presented in the following section.

5.Hypothesis Testing

The research hypotheses were tested using simple linear regression. The quantitative nature of the variables used in our theoretical model measured on a 5-point Likert scale and aggregated into composite scores allows us to perform this type of analysis. The significance threshold adopted for the validation of these tests is **$\alpha = 0.05$ (5%)**, applied to the ANOVA F-test, which verifies whether R^2 is significantly different from zero. The regression method used throughout all hypothesis tests is the Enter method. Given that the normality assumption was not fully met (Kolmogorov-Smirnov and Shapiro-Wilk, $p < 0.05$), the large sample size ($n = 153$) allows us to invoke the Central Limit Theorem**,**

which justifies the use of linear regression as a robust analytical method under quasi-normality conditions.

5.1 Benchmarking Awareness Has a Significant Impact on Customer Perception of Mobilis (H1)

Hypothesis 1 was tested using a simple linear regression between the independent variable Benchmarking Awareness (IV) and the dependent variable Global Composite Score Customer Perception of Mobilis**.**

The results are presented in the tables below.

Table33:model summary simple linear regression hypothesis 1

Model	R	R^2	R^2 Adjusted	Std Error of Estimate	R^2 Change	F Change	ddl1	ddl2	Sig. F Change
1	.686	.471	.467	.744	.471	134.358	1	151	.000

Source: Self depiction SPSS software outputs.

- **R = 0.686** represents the correlation between the IV and DV. It falls within [−1; +1], indicating a **strong positive correlation**.
- **R^2 = 0.471** means that benchmarking awareness explains **47.1% of the variance** in customer perception of Mobilis. The remaining 52.9% is explained by factors not included in this model.
- **R^2 Adjusted = 0.467 (46.7%)**, which is close to 50%, confirming the model is acceptable and moderately reliable**.**

Table34:ANOVA HYPOTHESIS 1

Model	Sum of Squares	ddl	Mean Square	F	Sig.
Regression	74.408	1	74.408	134.358	.000
Residual	83.624	151	.554		
Total	158.032	152			

Source: Self depiction SPSS software outputs.

The Sig. value is **0.000**, which is below the significance threshold α = 0.05 (5%). Furthermore, the regression sum of squares **(74.408**) is less than the residual sum of

squares **(83.624)**, however the F value of **134.358** with Sig. = 0.000 confirms that the model is globally significant and that R^2 is significantly different from zero.

There is therefore a statistically significant relationship between the two variables.

Table35:regression coefficients hypothesis 1

Variable	B	Std. Error	Beta (β)	t	Sig.	95% CI Lower	95% CI Upper
(Constant)	1.170	.245		4.769	.000	.685	1.655
Benchmarking Awareness IV	.692	.060	.686	11.591	.000	.574	.810

Source: Self depiction SPSS software outputs.

The results show a **significant positive effect** of benchmarking awareness on customer perception of Mobilis, with a significance level of **Sig. = 0.000 < 0.05**. The standardized coefficient **β = 0.686** confirms a strong positive direction: the more customers are aware of Mobilis's benchmarking practices, the more favorable their overall perception of the operator.

Based on these results, **Hypothesis H1 is validated**.

Since the regression model is significant (Sig. < 0.05), the regression equation can be written as follows: **Yi = B0 + B1X1 + Ei**

Where:

- **Yi** = Dependent variable (Customer Perception)
- **X1** = Independent variable (Benchmarking Awareness)
- **B** = Unstandardized coefficient
- **Ei** = Random error (epsilon)

Replacing B with the unstandardized coefficients:

Customer Perception of Mobilis = 1.170 + 0.692 × Benchmarking Awareness

This means that for every one-unit increase in benchmarking awareness, customer perception of Mobilis increases by **0.692 points**.

5.2 Benchmarking Awareness Has a Significant Impact on Perceived Network Quality (H2)

Hypothesis 2 was tested using a simple linear regression between the independent variable Benchmarking Awareness (IV) and the dependent variable Composite Score Perceived Network Quality. The results are presented in the tables below.

Table36:MODEL SUMMARY SIMPLE LINEAR REGRESSION HYPOTHESIS 2

Model	R	R^2	R^2 Adjusted	Std. Error	R^2 Change	F Change	ddl1	ddl2	Sig. F Change
1	.651	.423	.419	.842	.423	110.840	1	151	.000

Source: Self depiction SPSS software outputs.

- **R = 0.651** indicates a **strong positive correlation** between benchmarking awareness and perceived network quality.
- **R^2 = 0.423** means benchmarking awareness explains **42.3% of the variance** in perceived network quality.
- **R^2 Adjusted = 0.419 (41.9%)**, confirming the model is **acceptable and moderately reliable**.

Table37:ANOVA HYPOTHESIS 2

Model	Sum of Squares	ddl	Mean Square	F	Sig.
Regression	78.660	1	78.660	110.840	.000
Residual	107.160	151	.710		
Total	185.819	152			

Source: Self depiction SPSS software outputs.

The Sig. value is **0.000 < 0.05**, and the F value of **110.840** confirms that the model is globally significant and that R^2 is significantly different from zero. There is therefore a statistically significant relationship between benchmarking awareness and perceived network quality.

Table38:regression coefficients hypothesis 2

Variable	B	Std. Error	Beta (β)	t	Sig.	95% CI Lower	95% CI Upper
(Constant)	1.137	.278		4.093	.000	.588	1.686
Benchmarking Awareness IV	.711	.068	.651	10.528	.000	.578	.845

Source: Self depiction SPSS software outputs.

The results show a significant positive effect of benchmarking awareness on perceived network quality, with **Sig. = 0.000 < 0.05**. The standardized coefficient **β = 0.651** confirms a strong positive direction: the more customers perceive that Mobilis actively monitors competitor network performance, the more positively they evaluate Mobilis's own network quality.

Based on these results, Hypothesis H2 is validated**.**

The regression equation is written as follows:

Perceived Network Quality = 1.137 + 0.711 × Benchmarking Awareness

This means that for every one-unit increase in benchmarking awareness, perceived network quality increases by **0.711 points**.

5.3 Benchmarking awareness has a significant impact on brand image perception and value for money perception (h3)

Hypothesis 3 examines the effect of benchmarking awareness on two dimensions of customer perception: Brand Image and Value for Money.

Two separate simple linear regressions were conducted, one for each dependent variable.

5.3.1 Effect of Benchmarking Awareness on Brand Image Perception

Table 39 :MODEL SUMMARY SIMPLE LINEAR REGRESSION H3.1

Model	R	R^2	R^2 Adjusted	Std. Error	R^2 Change	F Change	ddl1	ddl2	Sig. F Change
1	.658	.433	.429	.844	.433	115.403	1	151	.000

Source: Self depiction SPSS software outputs.

- **R = 0.658** indicates a **strong positive correlation** between benchmarking awareness and brand image perception.
- **R^2 = 0.433** means benchmarking awareness explains **43.3% of the variance** in brand image perception.
- **R^2** Adjusted **= 0.429 (42.9%)**, confirming the model is acceptable and moderately reliable

Table40:ANOVA H3.1

Model	Sum of Squares	ddl	Mean Square	F	Sig.
Regression	82.235	1	82.235	115.403	.000
Residual	107.601	151	.713		
Total	189.835	152			

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Source: Self depiction SPSS software outputs.

The Sig. value is **0.000 < 0.05** and the F value of **115.403** confirms the model is globally significant. There is therefore a statistically significant relationship between benchmarking awareness and brand image perception.

Table41:REGRESSION COEFFICIENTS H3.1

Variable	**B**	**Std. Error**	**Beta (β)**	**t**	**Sig.**	**95% CI Lower**	**95% CI Upper**
(Constant)	1.011	.278		3.631	.000	.461	1.561
Benchmarking Awareness IV	.727	.068	.658	10.743	.000	.594	.861

Source: Self depiction SPSS software outputs.

The results show a **significant positive effect** of benchmarking awareness on brand image perception, with **Sig. = 0.000 < 0.05**. The standardized coefficient **β = 0.658** indicates a strong positive direction: the more customers perceive that Mobilis monitors and responds to competitor branding strategies, the more favorably they evaluate Mobilis's brand image.

Sub-hypothesis H3.1 is validated.

The regression equation is:

Brand Image Perception = 1.011 + 0.727 × Benchmarking Awareness

5.3.2 Effect of Benchmarking Awareness on Value for Money Perception

Table42:MODEL SUMMARY SIMPLE LINEAR REG RESSION H3.2

Model	R	R^2	R^2 Adjusted	Std. Error	R^2 Change	F Change	ddl1	ddl2	Sig. F Change
1	.640	.409	.405	.870	.409	104.496	1	151	.000

Source: Self depiction SPSS software outputs.

- R = 0.640 indicates a strong positive correlation between benchmarking awareness and value for money perception.
- R^2 = 0.409 means benchmarking awareness explains 40.9% of the variance in value for money perception.
- R^2 Adjusted = 0.405 (40.5%)**,** confirming the model is acceptable and moderately reliable**.**

Table43:ANOVA H3.2

Model	Sum of Squares	ddl	Mean Square	F	Sig.
Regression	79.042	1	79.042	104.496	.000
Residual	114.219	151	.756		
Total	193.261	152			

Source: Self depiction SPSS software outputs.

The Sig. value is 0.000 < 0.05 and the F value of 104.496 confirms the model is globally significant. There is therefore a statistically significant relationship between benchmarking awareness and value for money perception.

Table44:REGRESSION COEFFICIENTS H3.2

Variable	B	Std. Error	Beta (β)	t	Sig.	95% CI Lower	95% CI Upper
(Constant)	1.083	.287		3.775	.000	.516	1.649
Benchmarking Awareness IV	.713	.070	.640	10.222	.000	.575	.851

Source: Self depiction SPSS software outputs.

The results show a significant positive effect of benchmarking awareness on value for money perception, with **Sig. = 0.000 < 0.05**. The standardized coefficient **β = 0.640** indicates a strong positive direction: the more customers perceive that Mobilis benchmarks competitor pricing and offers, the more positively they evaluate the value for money provided by Mobilis.

Sub-hypothesis H3.2 is validated.

The regression equation is:

Value for Money Perception = 1.083 + 0.713 × Benchmarking Awareness

H3 Combined Conclusion

Based on the results of both simple linear regressions conducted under Hypothesis 3, both sub-hypotheses are validated:

Sub-hypothesis	Dependent Variable	β	Sig.	Result
H3.1	Brand Image Perception	.658	.000	Validated
H3.2	Value for Money Perception	.640	.000	Validated

Source: Self depiction SPSS software outputs.

Both dimensions show a significant positive relationship with benchmarking awareness at the 0.05 threshold. Therefore, Hypothesis H3 is fully validated**:** benchmarking awareness

has a significant positive impact on both brand image perception and value for money perception among Mobilis customers.

5.4 Benchmarking Awareness Has a Significant Impact on Customer Experience and Service Quality Perception (H4)

Hypothesis 4 examines the effect of benchmarking awareness on two dimensions of customer perception: Customer Experience and Service Quality. Two separate simple linear regressions were conducted, one for each dependent variable.

5.4.1 Effect of Benchmarking Awareness on Customer Experience Perception

Table45:MODEL SUMMARY SIMPLE LINEAR REGRESSION H4.1

Model	R	R^2	R^2 Adjusted	Std. Error	R^2 Change	F Change	ddl1	ddl2	Sig. F Change
1	.630	.397	.393	.862	.397	99.462	1	151	.000

Source: Self depiction SPSS software outputs.

- **R = 0.630** indicates a strong positive correlation between benchmarking awareness and customer experience perception.
- **R^2 = 0.397** means benchmarking awareness explains **39.7%** of the variance in customer experience perception.
- **R^2 Adjusted = 0.393 (39.3%)**, confirming the model is acceptable and moderately reliable.

Table46:ANOVA H4.1

Model	Sum of Squares	ddl	Mean Square	F	Sig.
Regression	73.880	1	73.880	99.462	.000
Residual	112.162	151	.743		
Total	186.042	152			

Source: Self depiction SPSS software outputs.

The Sig. value is 0.000 < 0.05 and the F value of 99.462 confirms the model is globally significant. There is therefore a statistically significant relationship between benchmarking awareness and customer experience perception.

Table47:REGRESSION COEFFICIENTS H4.1

Variable	B	Std. Error	Beta (β)	t	Sig.	95% CI Lower	95% CI Upper
(Constant)	1.152	.284		4.055	.000	.591	1.714
Benchmarking Awareness IV	.689	.069	.630	9.973	.000	.553	.826

Source: Self depiction SPSS software outputs.

The results show a significant positive effect of benchmarking awareness on customer experience perception, with **Sig. = 0.000 < 0.05**. The standardized coefficient **β = 0.630** indicates a strong positive direction: the more customers perceive that Mobilis monitors and improves its services based on competitor benchmarking, the more positively they evaluate their overall customer experience with Mobilis.

Sub-hypothesis H4.1 is validated.

The regression equation is:

Customer Experience Perception = 1.152 + 0.689 × Benchmarking Awareness

5.4.2 Effect of Benchmarking Awareness on Service Quality Perception

Table48:MODEL SUMMARY SIMPLE LINEAR REGRESSION H4.2

Model	R	R^2	R^2 Adjusted	Std. Error	R^2 Change	F Change	ddl1	ddl2	Sig. F Change
1	.614	.377	.373	.896	.377	91.281	1	151	.000

Source: Self depiction SPSS software outputs.

- **R = 0.614** indicates a strong positive correlation between benchmarking awareness and service quality perception.
- **R^2 = 0.377** means benchmarking awareness explains **37.7%** of the variance in service quality perception.
- **R^2 Adjusted = 0.373 (37.3%)**, confirming the model is acceptable and moderately reliable**.**

Table49:Anova H4.2

Model	Sum of Squares	ddl	Mean Square	F	Sig.
Regression	73.243	1	73.243	91.281	.000
Residual	121.160	151	.802		
Total	194.403	152			

Source: Self depiction SPSS software outputs.

The Sig. value is 0.000 < 0.05 and the F value of 91.281 confirms the model is globally significant. There is therefore a statistically significant relationship between benchmarking awareness and service quality perception.

Table50:REGRESSION COEFFICIENTS H4.2

Variable	**B**	**Std. Error**	**Beta (β)**	**t**	**Sig.**	**95% CI Lower**	**95% CI Upper**
(Constant)	1.208	.295		4.091	.000	.625	1.792
Benchmarking Awareness IV	.687	.072	.614	9.554	.000	.545	.828

Source: Self depiction SPSS software outputs.

The results show a significant positive effect of benchmarking awareness on service quality perception, with **Sig. = 0.000 < 0.05**. The standardized coefficient **β = 0.614** indicates a strong positive direction: the more customers perceive that Mobilis benchmarks competitor service standards and adjusts its own accordingly, the more positively they evaluate the quality of service provided by Mobilis.

Sub-hypothesis H4.2 is validated.

The regression equation is:

Service Quality Perception = 1.208 + 0.687 × Benchmarking Awareness

H4 Combined Conclusion

Based on the results of both simple linear regressions conducted under Hypothesis 4, both sub-hypotheses are validated:

Sub-hypothesis	**Dependent Variable**	**β**	**Sig.**	**Result**
H4.1	Customer Experience Perception	.630	.000	Validated
H4.2	Service Quality Perception	.614	.000	Validated

Source: Self depiction SPSS software outputs.

Both dimensions show a significant positive relationship with benchmarking awareness at the 0.05 threshold. Therefore**,** Hypothesis H4 is fully validated: benchmarking awareness has a significant positive impact on both customer experience perception and service quality perception among Mobilis customers.

5.5 External Perception of Mobilis by Non-Mobilis Subscribers (H5)

A comparative descriptive analysis was conducted on the responses of non-Mobilis subscribers (Djezzy and Ooredoo users, n = 161) regarding their external perception of Mobilis. Since this group responded to a distinct measurement instrument adapted to their situation, no inferential statistical test (T-test or ANOVA) was applicable. Instead, a descriptive analysis based on mean scores was conducted, and the results were interpreted through the Theory of the Central Core (Théorie du Noyau Central)**,** which distinguishes between central associations stable, strong, and defining elements of a representation and peripheral associations more flexible and context-dependent elements.

The threshold adopted is Mean ≥ 4.00 for central associations and Mean < 4.00 for peripheral associations.

Table 51:EXTERNAL PERCEPTION OF MOBILIS (NON-MOBILIS GROUP)

Item	N	Min	Max	Mean	Std. Dev.
Current operator has better brand image than Mobilis	161	1	5	4.17	1.044
Current operator has better network quality than Mobilis	161	1	5	4.01	1.143
Current operator has more attractive offers than Mobilis	161	1	5	3.95	1.187
Current operator offers better value for money than Mobilis	161	1	5	3.91	1.172
Chose current operator because of better network than Mobilis	161	1	5	3.89	1.220

Source: Self depiction SPSS software outputs.

Table52:TABLE OF CENTRAL AND PERIPHERAL ASSOCIATIONS

	Mean ≥ 4.00 (Central)	**Mean < 4.00 (Peripheral)**
Strong association	• Inferior brand image (4.17)	• Less attractive offers (3.95)
	• Inferior network quality (4.01)	• Lower value for money (3.91)
		• Network not the switching reason (3.89)

Source: Self depiction SPSS software outputs.

Interpretation

The central associations reveal that non-Mobilis subscribers hold a stable and strong perception that their current operator offers a better brand image and better network quality than Mobilis. These are the most deeply rooted elements of Mobilis's external image and are the hardest to change.

The peripheral associations related to offers, value for money, and switching motivation are significant but less stable. They represent areas where Mobilis has room to act and improve its competitive positioning**,** as these perceptions are more sensitive to commercial actions and marketing efforts.

H5 is confirmed through descriptive analysis: non-Mobilis subscribers hold a predominantly unfavorable external perception of Mobilis, concentrated around brand image and network quality as central negative associations.

II. Discussion of Results

The analysis of our research results allows us to draw several observations regarding the factors that shape customer perception of Mobilis and the competitive positioning of the operator in the Algerian mobile telecommunications market.

Regarding the impact of benchmarking on global customer perception (H1), our results confirm a strong and significant positive relationship ($\beta = .686$, $R^2 = 47.1\%$). This finding aligns with the foundational work of (Camp, Benchmarking: The search for industry best practices that lead to superior performance, 1989)and Xerox's pioneering benchmarking model, which established that competitive benchmarking translates into measurable quality improvements perceived by end customers. In the Algerian telecom context, this result suggests that customers are not indifferent to the competitive efforts of their operator they actively integrate benchmarking signals into their overall brand evaluation.

Regarding perceived network quality (H2), benchmarking awareness explains 42.3% of variance in network quality perception ($\beta = .651$). This is consistent with literature establishing network quality as the primary driver of customer satisfaction in mobile telecommunications .The fact that a significant portion of network quality perception is driven by benchmarking awareness rather than technical performance alone — confirms that customer perception is as much a communication challenge as an infrastructure challenge for Mobilis.

Regarding brand image and value for money (H3), both sub-hypotheses are validated with comparable effect sizes ($\beta = .658$ and $\beta = .640$ respectively). These results suggest that benchmarking awareness simultaneously reinforces the symbolic dimension of the brand and its economic dimension in the customer's mind. This dual effect is particularly significant in a price-sensitive market like Algeria, where value for money is a primary decision criterion for operator selection.

Regarding customer experience and service quality (H4), both dimensions show significant positive relationships with benchmarking awareness, though they register the weakest effect sizes in the model ($\beta = .630$ and $\beta = .614$ respectively). This result indicates that while benchmarking positively influences how customers evaluate their interactions

with Mobilis, the relationship is less direct than for brand or network dimensions suggesting that service delivery quality depends on additional operational factors beyond competitive intelligence, such as agent training, complaint resolution processes, and digital channel experience.

Regarding the external perception of Mobilis by non-subscribers (H5), the descriptive analysis based on the Theory of the Central Core reveals a clearly structured and unfavorable external image. Brand image inferiority (Mean = 4.17) and network quality inferiority (Mean = 4.01) constitute central associations stable, resistant to change, and defining elements of how non-subscribers represent Mobilis. By contrast, perceptions of offers (Mean = 3.95), value for money (Mean = 3.91), and switching motivation (Mean = 3.89) remain peripheral, meaning they are more flexible and sensitive to commercial action. This distinction is strategically crucial: it tells Mobilis exactly where long-term brand investment is needed versus where short-term commercial tactics can produce results.

Taken together, our results converge on a central finding: benchmarking, as perceived and experienced by customers, is a meaningful and measurable driver of customer perception in the Algerian mobile telecommunications sector. However, the gap between the strong internal perception among Mobilis subscribers and the unfavorable external perception among non-subscribers reveals that the competitive intelligence Mobilis generates through benchmarking is not yet sufficiently translated into brand communication and market positioning strategies. Closing this gap represents the central strategic priority emerging from this research.

SWOT Analysis of Mobilis Strategic Development

1.STRENGTHS

- **S1. Benchmarking drives perception across all dimensions** All five regression models returned $\beta > 0.60$ and Sig. = 0.000, confirming that benchmarking awareness is a consistent and powerful driver of how subscribers evaluate Mobilis. This means Mobilis's competitive intelligence efforts are actually felt and valued by its customers a rare and exploitable advantage.

- **S2. Network quality is the strongest subscriber asset** With $\beta = 0.651$ and $R^2 = 42.3\%$, network quality perception is significantly shaped by benchmarking awareness. Given that Mobilis holds the largest 4G infrastructure coverage in Algeria as a public operator under Algérie Télécom, this structural advantage is not yet fully communicated to the market.
- **S3. Brand image positively anchored among subscribers** Subscribers who are aware of Mobilis's benchmarking efforts rate its brand image significantly higher ($\beta = 0.658$). This suggests that informed customers are brand advocates a base that can be leveraged for word-of-mouth and referral strategies.
- **S4. High customer loyalty base** With 32.6% of respondents subscribed for more than 5 years and 22.2% between 3 and 5 years, Mobilis benefits from a deeply loyal subscriber base that represents a stable revenue foundation.
- **S5. Geographic coverage across all Algerian regions** Survey respondents came from Centre (37%), West (24.1%), East (21.8%), and South (17.1%), confirming Mobilis's national presence a competitive edge that neither Djezzy nor Ooredoo fully matches in remote and southern regions.

2.WEAKNESSES

- **W1. Benchmarking explains less than 50% of perception variance** Across all dimensions, R^2 remains below 50% (highest at 47.1% for global perception). This means more than half of what shapes customer perception is not captured by benchmarking alone suggesting gaps in customer communication, service delivery consistency, and digital experience.
- **W2. Service quality has the weakest benchmarking impact** Service quality returned the lowest β (0.614) and R^2 (37.7%) of all dimensions, indicating that despite benchmarking efforts, frontline service quality customer care, complaint handling, retail experience remains disconnected from competitive intelligence outcomes.
- **W3. Customer experience perception is underperforming** With $R^2 = 39.7\%$, customer experience is the second weakest dimension. In an era where experience is the primary switching driver, this represents a structural vulnerability for Mobilis.

- **W4. Predominantly prepaid subscriber base** 100% of surveyed subscribers use prepaid subscriptions, which limits revenue per user (ARPU) and reduces Mobilis's ability to build long-term relational contracts with customers.

3.OPPORTUNITIES

O1. Peripheral perceptions are unstable and actionable Three out of five external perception items scored below 4.00 (offers: 3.95, value for money: 3.91, switching motivation: 3.89), classifying them as peripheral associations. These are the most flexible elements of Mobilis's external image and can be shifted through targeted commercial actions without requiring long-term structural change.

O2. Massive reacquisition potential among former subscribers 66.5% of non-Mobilis respondents previously subscribed to Mobilis. This is an exceptional reacquisition opportunity these individuals already have experience with the brand, reducing the cost and friction of re-engagement campaigns compared to acquiring entirely new customers.

O3. Young educated segment is dominant and digitally receptive The 25–34 age group represents 44% of the sample, and 47.2% hold a Master's degree. This demographic is highly responsive to digital marketing, loyalty apps, and value-added services areas where Mobilis can differentiate itself from competitors.

O4. 5G deployment as a market reset opportunity Algeria is in early stages of 5G preparation. As a state-backed operator, Mobilis is positioned to be the first mover in 5G rollout, which would directly address the central negative association of inferior network quality held by non-subscribers.

O5. Growing demand for mobile data 50.3% of all respondents use both voice and data services, and 23.7% are data-only users. The shift toward data-centric consumption creates an opportunity for Mobilis to reposition around digital services, streaming bundles, and professional data packages rather than competing purely on voice tariffs.

4.THREATS

T1. Brand image inferiority is a central and stable perception With a mean of 4.17 the highest score among all external perception items the belief that competitors have a better

brand image than Mobilis is deeply rooted. Central associations are resistant to change and require sustained, long-term brand repositioning efforts rather than short-term campaigns.

T2. Network quality inferiority is also centrally perceived Mean = 4.01 places network quality as the second central negative association. Despite Mobilis's actual infrastructure investments, the perceived gap remains. This disconnect between reality and perception is a critical threat to subscriber acquisition.

T3. Aggressive competitor commercial strategies Djezzy (backed by VEON) and Ooredoo (Qatar-backed) consistently invest in attractive commercial offers and brand visibility. With non-subscribers rating competitor offers at 3.95, Mobilis risks falling further behind in perceived commercial value if it does not respond with restructured tariff packages.

T4. Risk of accelerated churn among younger subscribers The dominant 25–34 segment is also the most likely to switch operators when better offers emerge. Without improvements in customer experience (the weakest internal dimension) and commercial attractiveness, Mobilis faces structural churn risk among its most valuable demographic.

Conclusion

We conclude this work by recalling its objectives, the methodology adopted to answer the research question, the results obtained, the SWOT analysis derived from our findings, and the strategic recommendations formulated for Mobilis. We will also present the limitations of this research as well as future research directions.

The objective of this research was to examine the impact of benchmarking awareness on customer perception of Mobilis in the Algerian mobile telecommunications sector, and to analyze how non-Mobilis subscribers externally perceive Mobilis in comparison to its competitors Djezzy and Ooredoo. To this end, a quantitative approach was adopted, and a structured questionnaire was administered to a sample of 316 respondents distributed across all regions of Algeria, divided into two groups: Mobilis subscribers and non-Mobilis subscribers.

Our results allowed us to fully validate all research hypotheses. Benchmarking awareness was found to have a significant positive impact on all five dimensions of customer perception among Mobilis subscribers global perception ($\beta = .686$), network quality ($\beta = .651$), brand image ($\beta = .658$), value for money ($\beta = .640$), customer experience ($\beta = .630$), and service quality ($\beta = .614$) all significant at $\alpha = 0.05$. Furthermore, the analysis of non-Mobilis subscribers through the Theory of the Central Core revealed that Mobilis suffers from a predominantly unfavorable external image, with brand image inferiority and network quality inferiority constituting stable central associations, while perceptions of offers and value for money remain peripheral and actionable.

The SWOT analysis constructed from these empirical findings highlights a fundamental strategic paradox: Mobilis possesses real and measurable internal strengths national geographic coverage, a loyal long-term subscriber base, and a proven positive relationship between benchmarking and customer perception that are not yet reflected in a strong external brand image among non-subscribers. This gap between internal reality and external perception represents both the central challenge and the greatest opportunity for Mobilis's competitive development.

Based on these findings, we recommend

1Launch a Mobilis Mobile Application The dominant profile in this study is young, educated, and digitally active. Yet Mobilis has no competitive application to serve this segment daily. The app should allow customers to monitor their consumption, manage

offers, contact support, track loyalty points, and visualize network coverage in real time. A well-designed app turns every daily interaction into a brand touchpoint directly improving the customer experience scores that ranked weakest in our study.

2Communicate Offers More Aggressively Non-subscribers rated Mobilis's offers as less attractive (Mean = 3.95) despite Mobilis continuously updating its packages. The problem is not the offers it is that people do not know about them. Mobilis must increase its presence on Instagram, TikTok, Facebook, and YouTube with clear, visual, and regular content showing exactly what subscribers get. Simple comparison posts showing Mobilis vs competitors more data, better price, wider coverage would shift peripheral perceptions quickly.

3 Restructure Pricing Around Perceived Value 100% of surveyed subscribers are prepaid, which limits both revenue and loyalty depth. Mobilis should introduce clear tiered packages student offers, family offers, heavy data user offers priced competitively and communicated transparently. The goal is not to be the cheapest but to be the most obvious choice for each segment.

4Make Network Quality Visible Mobilis invests heavily in infrastructure but non-subscribers still perceive its network as inferior (Mean = 4.01). Mobilis should publish independent network performance results, partner with platforms like Ookla for certified rankings, and display real-time coverage maps publicly. Objective third-party proof is the only tool that shifts a central negative association.

5 Build a Loyalty Program There is currently no ecosystem keeping customers engaged beyond their recharge cycle. A points-based loyalty program rewarding long subscription duration, referrals, and data usage would increase switching costs organically and reward the loyal base that already exists, 32.6% of whom have been with Mobilis for over five years.

Despite the contributions of this research, certain limitations must be acknowledged. The study relied exclusively on a quantitative approach, which, while allowing for statistical generalization, does not capture the depth of customer attitudes and motivations. Additionally, the non-Mobilis sample, though sufficient for descriptive analysis, did not share the same measurement instrument as the Mobilis group, which limited the scope of

inferential comparative testing. Finally, the study focused solely on benchmarking as an independent variable, leaving a substantial portion of perception variance unexplained, which points to the existence of other influential factors not captured in this model.

Future research could enrich this work by adopting a mixed-methods approach combining quantitative surveys with qualitative interviews to deepen understanding of how benchmarking shapes customer perception in the Algerian telecom market. Researchers could also expand the model by incorporating additional variables such as digital service quality, social media brand perception, customer loyalty, and operator switching costs.

A longitudinal study tracking changes in Mobilis's brand perception before and after targeted strategic interventions would also represent a valuable contribution to both academic literature and industry practice.

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ANNEXE A - QUESTIONNAIR

Dans le cadre de mon mémoire de Master en marketing, cette étude a pour objectif de connaître la perception des clients envers Mobilis par rapport aux autres opérateurs de téléphonie mobile en Algérie (Djezzy et Ooredoo)Votre participation est anonyme et vos réponses seront utilisées uniquement à des fins académiques Cela ne vous prendra que 2 minutes de votre temps. Merci pour votre participation

As part of my Master's thesis in marketing, this study aims to understand customer perception of Mobilis in relation to other mobile operators in Algeria (Djezzy and Ooredoo).
Your participation is anonymous and your responses will be used only for academic purposes.
This questionnaire takes only 2 minutes. Thank you for your participation

في إطار إعداد مذكرة ماستر في التسويق، تهدف هذه الدراسة إلى معرفة ومقارنة موبيليس مقارنة بباقي متعاملي الهاتف النقال في الجزائر (جازي وأوريدو).
مشاركتكم مجهولة الهوية، وستُستخدم إجاباتكم لأغراض أكاديمية فقط.
لن يستغرق سوى دقيقتين من وقتكم. شكراً لمشاركتكم

Part 1: General Information / Informations générales / المعلومات العامة

What is your main mobile operator?
Quel est votre opérateur mobile principal ?
ما هو مشغل الهاتف المحمول الرئيسي لديك؟

- Mobilis
- Djezzy
- Ooredoo

2.Hw long have you been subscribed to your current operator?
Depuis combien de temps êtes-vous abonné à votre opérateur actuel ?
منذ متى وأنت مشترك لدى مشغلك الحالي؟

- Less than 3 months / Moins de 3 mois / أقل من 3 أشهر
- Less than 1 year / Moins d'un an / أقل من سنة
- 1–3 years / 1–3 سنوات / من 1 إلى 3 سنوات
- 3–5 years / 3–5 سنوات / من 3 إلى 5 سنوات
- More than 5 years / Plus de 5 ans / أكثر من 5 سنوات

3What type of mobile subscription do you have?
Quel type d'abonnement mobile avez-vous ?
ما نوع اشتراك الهاتف المحمول لديك؟

▪ Prepaid / Prépayé / مسبق الدفع

▪ Postpaid / Postpayé / لاحق الدفع

4. Which mobile services do you currently use?

Quels services mobiles utilisez-vous actuellement ?

ما هي خدمات الهاتف المحمول التي تستخدمها حاليًا؟

▪ Data (4G/5G) / Internet / البيانات

▪ Voice calls / Appels / المكالمات

▪ Both / Les deux / كلاهما

Statements (EN / FR / AR)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My operator's mobile application is essential for managing my services. / L'application mobile de mon opérateur est indispensable pour gérer mes services. / تطبيق مشغلي ضروري لإدارة خدماتي.	1	2	3	4	5

Part 2: Benchmarking Awareness / Benchmarking / الوعي بالمقارنة

Through which channel did you hear about Mobilis?

Par quel canal avez-vous connu Mobilis ?

من خلال أي قناة تعرفت على موبيليس؟

▪ Advertising / Publicité / الإعلانات

▪ Friends & family / الأصدقاء والعائلة

▪ Agency / الوكالة

▪ Internet / الإنترنت

▪ Other / أخرى

Statements (EN / FR / AR)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Mobilis improves its services regularly. / Mobilis améliore régulièrement ses services. / تقوم موبيليس بتحسين خدماتها بانتظام.	1	2	3	4	5
I pay attention to competitors' ads. / Je fais attention aux publicités des concurrents. / أنتبه لإعلانات المنافسين.	1	2	3	4	5
Mobilis offers are more competitive. / عروض موبيليس أصبحت أكثر تنافسية. / أصبحت عروض موبيليس أكثر تنافسية.	1	2	3	4	5
Improvements improved my perception. / التحسينات حسّنت تصوري.	1	2	3	4	5

Part 3: Network Quality / Qualité du réseau / جودة الشبكة

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Mobilis network is reliable. / شبكة موبيليس موثوقة.	1	2	3	4	5
Mobilis has the best network. / موبيليس لديها أفضل شبكة.	1	2	3	4	5
Network improved over time. / تحسنت الشبكة مع الوقت.	1	2	3	4	5
I am satisfied with internet speed. / أنا راضٍ عن سرعة الإنترنت.	1	2	3	4	5

Part 4: Brand Image / Image de marque / صورة العلامة

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Mobilis has a strong reputation. / موبيليس تتمتع بسمعة قوية.	1	2	3	4	5
Mobilis is modern and innovative. / موبيليس حديثة ومبتكرة.	1	2	3	4	5

Ads are effective. / إعلانات موبيليس فعالة.	1	2	3	4	5
Communication is more visible. / تواصل موبيليس أكثر وضوحًا.	1	2	3	4	5
I trust Mobilis. / أثق في موبيليس.	1	2	3	4	5

Part 5: Value for Money / Rapport qualité-prix / القيمة مقابل السعر

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Prices are fair. / الأسعار عادلة.	1	2	3	4	5
Offers are affordable. / العروض ميسورة.	1	2	3	4	5
Info is sufficient. / المعلومات كافية.	1	2	3	4	5
Prices are competitive. / الأسعار تنافسية.	1	2	3	4	5

Part 6: Customer Experience / Expérience client / تجربة العميل

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Agency service is good. / خدمات الوكالة جيدة.	1	2	3	4	5
Customer service is fast. / خدمة العملاء سريعة.	1	2	3	4	5
Digital experience is easy. / التجربة الرقمية سهلة.	1	2	3	4	5
Experience is consistent. / التجربة متناسقة.	1	2	3	4	5

Part 7: Service Quality / Qualité de service / جودة الخدمة

Statements	Strongly Disagree	Disagree	Neutral	**Agree**	Strongly Agree

Mobilis understands my needs. / تفهم موبيليس احتياجاتي.	1	2	3	4	5
Services are reliable. / الخدمات موثوقة.	1	2	3	4	5
Easy to use. / سهلة الاستخدام.	1	2	3	4	5
Fast response. / استجابة سريعة.	1	2	3	4	5

Part 8: Satisfaction Satisfaction / الرضا /

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am satisfied. / أنا راضٍ.	1	2	3	4	5
Positive perception. / لدي تصور إيجابي.	1	2	3	4	5
I will continue using. / سأواصل الاستخدام.	1	2	3	4	5
I recommend Mobilis. / أوصي بموبيليس.	1	2	3	4	5

Part 9: Profile / Profil / الملف الشخصي

Age / Âge / العمر

- 18–24
- 25–34
- 35–44
- 55+

Gender / Sexe / الجنس

- Male / Homme / ذكر
- Female / Femme / أنثى

Region / Région / المنطقة

- Centre / الوسط
- East / الشرق
- West / الغرب
- South / الجنوب

Education / Niveau / المستوى الدراسي

- High School / ثانوي
- Bachelor / ليسانس
- Master / ماستر
- PhD / دكتوراه

Status / Statut / الحالة المهنية

- Student / طالب
- Employee / موظف
- Self-employed / عمل حر
- Unemployed / عاطل