الجمهورية الجزائرية الديمقراطية الشعبية
République Algérienne Démocratique et Populaire

Ministère de l'Enseignement Supérieur
et de la Recherche Scientifique

Ecole Nationale Supérieure de Management
Koléa

وزارة التعليم العالي و البحث العلمي

المدرسة الوطنية العليا للمناجمنت
القليعة

GRADUATE DISSERTATION

submitted in partial fulfillment of the requirements for Master's degree in

"Corporate Financial Management"

Designing a Management Control System for a Newly Established Bank: Case Study of the National Housing Bank (NHB)

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Academic Year 2025/2026

Acknowledgements

First and foremost, I would like to thank Allah for granting me the strength, patience, courage, and determination to complete my studies and accomplish this work.

My deepest appreciation goes to my supervisor, **Mr. MISSOUM Mohamed Rafik**, for the trust he placed in me by accepting to supervise this dissertation. I am truly grateful for his guidance, expertise, and insightful recommendations that enriched this research.

I would also like to extend my sincere thanks and respect to the managers and staff of the National Housing Bank for their cooperation throughout this research especially my supervisors **Mr. DJAOUT** and **Mr. OUROUA**, for their valuable guidance, patience, and availability.

Finally, my deepest gratitude to my beloved parents and family- my sisters, especially my sister "**Assma**" for her constant support, and my aunt "**Mounira**" for her endless encouragement, as well as my brothers, for their unconditional love, unwavering support, and continuous belief in me throughout this journey.

To my friends, thank you for your constant support, shared experiences, and the memorable moments that made these academic years both meaningful and enjoyable.

Abstract

Management control systems (MCSs) play a central role in monitoring financial performance, supporting governance, risk management, and decision-making in banking institutions. Yet, newly established banks face specific challenges in designing control systems adapted to their early-stage organizational context, a situation that remains underexplored in the existing literature. This dissertation examines how the National Housing Bank (NHB), an Algerian public bank established in 2022 through the institutional transformation of the National Housing Fund, can design and implement an effective MCS to ensure financial performance monitoring, risk control and governance.

The study adopts a constructivist epistemological stance and an abductive qualitative case study design. Data were collected through direct observation, document analysis, and nine semi-structured interviews with senior managers, and subsequently analyzed using the Gioia methodology.

The findings reveal that NHB's MCS remains at an emerging stage, characterized by fragmented control practices, deficiencies in information systems, human capital challenges, and strong regulatory influence. Based on these findings, the study proposes a context-specific phased MCS architecture supported by a financial performance dashboard, integrating nineteen key performance indicators across profitability, risk management, activity, efficiency, and compliance.

The study contributes to the management control literature by demonstrating the necessity of contextually sensitive, phased MCS design in newly established banking institutions operating in emerging economy contexts.

Keywords: Management Control System, Banking governance, Performance Measurement, Financial Dashboard.

Résumé

Les systèmes de contrôle de gestion (SCG) jouent un rôle central dans le pilotage de la performance financière, la gouvernance, la gestion des risques et la prise de décision au sein des établissements bancaires. Toutefois, les banques nouvellement créées sont confrontées à des défis spécifiques liés à la conception de systèmes de contrôle de gestion adaptés à leur contexte organisationnel dès les premières phases de leur développement, une problématique qui demeure insuffisamment explorée dans la littérature. Ce mémoire examine comment la Banque nationale de l'habitat (BNH), établissement public algérien créé en 2022 à travers la transformation institutionnelle de la Caisse Nationale du Logement (CNL), peut concevoir et mettre en œuvre un SCG efficace garantissant le pilotage de la performance financière, le contrôle des risques et la gouvernance.

L'étude adopte une posture épistémologique constructiviste et s'appuie sur une démarche qualitative abductive, fondée sur une étude de cas unique. Les données ont été recueillies par le biais de l'observation directe, de l'analyse documentaire et de neuf entretiens semi-directifs menés auprès de cadres dirigeants, puis analysées selon la méthode de Gioia.

Les résultats révèlent un SCG se trouve encore à un stade de développement, caractérisé par des pratiques fragmentées, des lacunes en matière de systèmes d'information, des difficultés en termes de capital humain et une forte influence réglementaire. En réponse, l'étude propose une architecture SCG phasée, appuyée par un tableau de bord intégrant dix-neuf indicateurs clés couvrant la rentabilité, le risque, l'activité, l'efficience et la conformité.

Cette recherche contribue à la littérature en démontrant la nécessité d'une conception contextuelle et progressive des SCG dans les banques émergentes.

Mots-clés : système de contrôle de gestion, gouvernance bancaire, mesure de la performance, tableau de bord financier.

الملخص

تُعد أنظمة الرقابة الإدارية من الأدوات الأساسية لمتابعة الأداء المالي، دعم الحوكمة، إدارة المخاطر، وتعزيز عملية اتخاذ القرار داخل المؤسسات المصرفية. غير أن البنوك حديثة النشأة تواجه تحديات خاصة، في تصميم أنظمة رقابة تتلاءم مع سياقها التنظيمي في المراحل الأولى من تطورها، وهي إشكالية لا تزال غير مستكشفة بالقدر الكافي في البحوث العلمية. لذا تطرقت هذه الدراسة الى كيفية تصميم وتطبيق نظام رقابة إدارية فعّال في البنك الوطني للإسكان، وهو بنك عمومي جزائري أُنشئ سنة 2022 نتيجة التحول المؤسسي للصندوق الوطني للسكن، بما يضمن ادارة ومتابعة الأداء المالي، إدارة المخاطر، وتعزيز الحوكمة.

تعتمد الدراسة على منظور إبستمولوجي بنائي، ومنهج دراسة حالة نوعية قائم على الاستدلال الاستنباطي التفسيري. جمعت البيانات من خلال الملاحظة المباشرة، وتحليل الوثائق، بالإضافة الى تسع مقابلات شبه مهيكلة مع إطارات مسيرة، التي تم تحليلها لاحقا وفق منهجية **Gioia** .

أظهرت النتائج أن نظام الرقابة الإدارية في البنك لا يزال في مرحلة التطور، ويتسم بتجزؤ ممارسات الرقابة، وقصور أنظمة المعلوماتية، وبعض العوائق المرتبطة برأس المال البشري، إضافة إلى التأثير القوي للإطار التنظيمي القانوني التي تفرضها السلطات العليا. استنادًا إلى هذه النتائج، اقترحت الدراسة هيكلًا مرحليًا لنظام الرقابة الإدارية يتلاءم مع حالة البنك الخاصة، مدعومًا بلوحة قيادة للأداء المالي تضم تسعة عشر مؤشرًا رئيسيًا للأداء تغطي الربحية، وإدارة المخاطر، والنشاط، والكفاءة، والامتثال.

تُساهم هذه الدراسة في البحث العلمي حول الرقابة الإدارية من خلال إبراز أهمية تصميم أنظمة رقابة إدارية مرحلية ومتكيفة مع السياق المؤسسي للبنوك حديثة النشأة العاملة في الاقتصادات الناشئة.

الكلمات المفتاحية :نظام الرقابة الإدارية، الحوكمة المصرفية، قياس الأداء، لوحة قيادة الأداء المالي.

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List of Abbreviation and Acronyms

ABC – Activity-Based Costing
ALCO – Asset-Liability Committee
ALM – Asset-Liability Management
AML – Anti-Money Laundering
AT1 – Additional Tier 1 Capital
BA – Bank of Algeria (Central Bank)
BCBS – Basel Committee on Banking Supervision
BI – Business Intelligence
BNH – National Housing Bank
CAR – Capital Adequacy Ratio
CBS – Core Banking System
CDS – Credit Default Swap
CET1 – Common Equity Tier 1 (Capital Ratio)
CFT – Combating the Financing of Terrorism
CIR – Cost-to-Income Ratio
CMMI – Capability Maturity Model Integration
CNL – National Housing Fund (Caisse Nationale du Logement)
COREP – Common Reporting Framework (Basel III Regulatory Reporting)
CTRF – Cellule de Traitement du Renseignement Financier (Algerian Financial Intelligence Unit)
DFC – Direction Financière et Comptable (Finance and Accounting Directorate)
GD / DGD – General Director / Deputy General Director (Directeur Général / Directeur Général Adjoint)
DFBC – Directorate of Forecasting and Budgetary Control (Direction des Prévisions et du Contrôle Budgétaire-DPCB)
DCNA – Directorate of Commercial Network and Animation (Direction du Réseau et de l'Animation Commerciale)
DRCC – Directorate of Recovery and Commitment Control (Direction du Recouvrement et du Contrôle des Engagements)
ECB – European Central Bank
ECL – Expected Credit Loss
ERP – Enterprise Resource Planning
EVA – Economic Value Added
FATF – Financial Action Task Force
FCA – Financial Conduct Authority (United Kingdom)
FINREP – Financial Reporting Framework (Supervisory Reporting)

FSB – Financial Stability Board
HQLA – High-Quality Liquid Assets
ICAAP – Internal Capital Adequacy Assessment Process
IFRS 9 – International Financial Reporting Standard 9: Financial Instruments
ILAAP – Internal Liquidity Adequacy Assessment Process
IS – Information System
KPI – Key Performance Indicator
KRI – Key Risk Indicator
KYC – Know Your Customer
LCR – Liquidity Coverage Ratio (Basel III)
LDR – Loan-to-Deposit Ratio
MAS – Management Accounting Systems
MBO – Management by Objectives
MC – Management Control
MCS – Management Control System(s)
NBI – Net Banking Income
NIM – Net Interest Margin
NOPAT – Net Operating Profit After Tax
NPL – Non-Performing Loan(s)
NSFR – Net Stable Funding Ratio (Basel III)
OECD – Organization for Economic Co-operation and Development
PLS-SEM – Partial Least Squares Structural Equation Modelling
PMS – Performance Management System
PRA – Prudential Regulation Authority (United Kingdom)
RAROC – Risk-Adjusted Return on Capital
ROA – Return on Assets
ROE – Return on Equity
ROI – Return on Investment
RWA – Risk-Weighted Assets
SICR – Significant Increase in Credit Risk
SMART – Specific, Measurable, Achievable, Relevant, Time-bound
VAR – Value-at-Risk

GENERAL INTRODUCTION

Research Context

Governance has become a defining concern for banking institutions in the contemporary financial landscape. The ability of a bank to set clear objectives, monitor its performance, manage risk effectively, and maintain accountability toward regulators and stakeholders is no longer considered a secondary administrative function but a fundamental condition for institutional sustainability. Several scholars have emphasized that sound governance frameworks are directly linked to financial stability and long-term performance in banking organizations, particularly in contexts where regulatory pressure and market volatility are high.

Within this governance framework, performance measurement and monitoring occupy a central position, as they provide the informational infrastructure through which banks assess whether their strategies are being executed effectively and whether risks are being adequately controlled.

Management Control Systems (MCS) represent the primary organizational mechanism through which governance objectives are translated into operational reality. Broadly defined, an MCS encompasses the formal and informal tools, processes, and routines that managers use to ensure resources are allocated efficiently and organizational behavior is aligned with strategic goals. In banking institutions specifically, these systems include budgetary control, financial dashboards, risk monitoring procedures, and strategic planning mechanisms. Recent researches (Byadi & Belatik, 2025; Fachrudin et al., 2024; Bedford and Malmi, 2016; Chenhall, 2003; Fazri,et al., 2024) has highlighted that the quality of MCS design is strongly associated with the capacity of banks to sustain financial performance, adapt to regulatory change, and make informed decisions under uncertainty. The absence or weakness of such systems, as the 2007-2009 global financial crisis demonstrated, can generate institutional failures with consequences that extend well beyond individual organizations.

These challenges take on a particular dimension in the case of newly established banks operating in emerging economies. Such institutions face a set of structural constraints that make MCS design both more urgent and more difficult than in mature organizations. They must simultaneously build their operational infrastructure, develop human capital, and meet demanding regulatory requirements, often with limited resources and tight timeframes. This situation is especially prevalent across North Africa and the MENA region, where ongoing financial sector reform programs have led to the establishment of new banking institutions whose internal control systems remain underdeveloped (Byadi & Belatik, 2025).

It is precisely this gap, both in practice and in the academic literature, that this dissertation seeks to address through an empirical study of the National Housing Bank (NHB), an Algerian public bank established in 2022 through the transformation of the National Housing Fund into a fully licensed commercial bank specializing in housing finance. The NHB represents a compelling case for examining how a newly established banking institution can design and implement an adapted MCS capable of supporting financial performance monitoring, risk control, and sound decision-making within a demanding and evolving institutional context.

Research Question and Objectives

The study is guided by the following central research question: **How can a newly created bank design and implement an effective management control system?**

This central question is disaggregated into four specific research objectives. The first is to construct a comprehensive theoretical framework integrating management control systems theory, banking governance, and financial performance measurement as applied to newly established banking institutions. The second is to document and analyze the current state of the NHB's management control practices, using the Gioia methodology applied to semi-structured interviews with senior NHB managers. The third is to identify the organizational, technological, human, and cultural factors that condition MCS design in a newly established public bank undergoing institutional transformation. The fourth is to propose a contextually adapted MCS architecture for the NHB, operationalized through a comprehensive financial performance dashboard integrating key performance indicators adapted to the bank's institutional mandate, maturity level, and strategic trajectory.

Justification and Academic Relevance

The academic relevance of this research derives from the intersection of several gaps in the existing literature. Management control systems research has historically been concentrated on mature, private-sector organizations in emerging economies (Chenhall, 2003; Malmi & Brown, 2008). The application of MCS theory to newly created banking institutions in emerging economies remains insufficiently examined in the literature. Similarly, while the literature on banking governance is extensive, it has focused primarily on established institutions and has devoted comparatively limited attention to governance challenges arising in institutional transformation contexts.

The NHB case is theoretically significant precisely because of its novelty. As an institution that had been operating for fewer than four years at the time of this research, it makes visible the MCS

construction process that in mature organizations has become invisible through institutionalization. Studying the NHB is thus studying management control in its formative stage before the sedimentation of organizational routines has rendered design choices opaque. From a practical standpoint, the relevance of this research extends to the numerous similar institutional transformation processes underway in the Algerian banking sector and, more broadly, in North African financial systems where state-driven housing finance reform is increasingly on the policy agenda.

Dissertation Structure

This dissertation is organized in three chapters, preceded by the present general introduction and followed by a general conclusion. Chapter One develops the theoretical framework through a comprehensive literature review organized in six sections. Section I traces the intellectual origins of Management by Objectives and its theoretical evolution into management control systems theory. Section II presents the conceptual framework of MCS, including its definitions, taxonomies, prerequisites, and instruments. Section III examines MCS in banking institutions. Section IV explores the relationship between corporate governance, banking governance, and MCS. Section V examines performance monitoring, financial KPIs, and prudential ratios. Section VI synthesizes the theoretical findings and positions the dissertation within the identified research gaps.

Chapter Two presents the methodological and organizational framework of the research. Section I justifies the epistemological, methodological, and analytical choices made. Section II introduces the NHB as a research setting, covering its macroeconomic context, institutional history, organizational structure, and the host department within which the fieldwork was conducted.

Chapter Three presents and discusses the empirical findings. Section I presents the Gioia data structure. Section II develops the findings by aggregate dimension. Section III elaborates the theoretical implications. Sections IV translate these findings into a design proposal for the NHB's MCS, including a phase-by-phase implementation architecture and a detailed financial performance dashboard. Section V concludes the chapter with specific recommendations.

Chapter I: literature Review

This chapter serves as the theoretical cornerstone of our research. It is structured into two complementary sections designed to bridge existing theory with our specific research objectives.

The first section presents a comprehensive literature review, synthesizing prior academic contributions regarding Management Control MC and Management Control Systems MCS. By evaluating various theoretical approaches and empirical outcomes, we aim to situate our research within the current scientific landscape.

The second section focuses on the development of a conceptual framework. Here, we define and articulate the key variables of our study specifically MCS, financial performance monitoring, and strategic decision making to ensure a rigorous basis for our subsequent analysis.

While existing literature provides a broad understanding of these concepts, the specific impact of MCS within the banking sector remains an area requiring further investigation. Consequently, this study seeks to clarify these dynamics by focusing on the unique challenges and performance indicators of the National Housing Bank**.**

Throughout the review, the analytical frameworks of (Bedford and Malmi 2015; Bedford, Malmi, and Sandelin 2016; Frare et al. 2023; Malmi and Brown 2008) and (Bouri, Guellil, and Belfilali 2025; Chenhall 2003; Felício, Samagaio, and Rodrigues 2021; Ferreira and Otley 2009; Flamholtz, Das, and Tsui 1985; Grabner and Moers 2013; Hamed 2023; Merchant and Van der Stede 2017; Omar and Islam 2024; Otley 1999; Shang 2018; Wang et al. 2025) are brought into dialogue, and their implications for the specific case of BNH are drawn out systematically

Section1: Theoretical foundations of management control system

1 The Origins of Management by Objectives: Intellectual Foundations and Financial Context

Management by Objectives (MBO) originated primarily from the work of Drucker (1954). Drucker criticized traditional bureaucratic organizations in which employees were evaluated through subjective managerial judgement rather than clear performance standards. He argued that organizations without explicit and measurable objectives could not effectively allocate resources, evaluate employee contributions, or improve performance in a systematic manner.

Drucker proposed that organizations should define clear organizational goals, translate them into measurable objectives for each department and employee, and evaluate performance according to achieved results rather than effort or obedience. This shifted organizational control from authority-based supervision to results-based management, a principle that is particularly important in financial institutions, where accountability, auditability, and regulatory compliance are essential. Drucker also identified eight major areas of organizational objectives: market position, innovation, productivity, financial and organizational resources, profitability, managerial development, employee performance, and public responsibility. In banking, these dimensions remain central to performance governance, especially regarding profitability, operational efficiency, risk management, and compliance.

1.1 Defining MBO: Conceptual Consolidation and Subsequent Theoretical Development

While Drucker established the philosophical foundations of MBO, Odiorne (1970) operationalized it as a formal management process. Odiorne defined MBO as a collaborative system in which managers and employees jointly establish goals, define responsibilities based on expected results, and evaluate performance using mutually agreed performance standards. This definition emphasized participation, measurable outcomes, and accountability rather than unilateral managerial authority.

Later scholars expanded the concept further. Humble (1970) connected MBO to strategic planning by showing how financial objectives at the organizational level can be translated into individual performance commitments. Other researchers viewed MBO as a mechanism for converting organizational strategy into operational targets while improving employee motivation and accountability. Despite these developments, the central principles of MBO remained consistent: participative objective-setting, measurable results, structured feedback, and performance evaluation based on pre-established criteria. These principles later became fundamental components of modern management control systems in banking and financial institutions.

1.2 The SMART Goals Framework: Operationalizing Objectives in Regulated Financial Environments

One limitation of early MBO was the lack of clear guidance regarding how objectives should be formulated. Doran (1981) addressed this issue through the SMART framework, which defined effective objectives as Specific, Measurable, Achievable, Relevant, and Time-bound. The SMART model transformed MBO from a general philosophy into a practical system for performance management and accountability.

In financial institutions, SMART objectives are particularly important because banking activities operate within strict regulatory and financial reporting environments. Objectives related to profitability, asset quality, capital adequacy, operational efficiency, and return on assets must therefore be precise, measurable, realistic, strategically aligned, and linked to supervisory timelines. Empirical studies, including Kadi & Lebcir (2024), confirmed that well-formulated SMART objectives positively influence organizational performance. This finding aligns with the broader goal-setting literature developed by Latham & Locke (1991), which demonstrates that specific and challenging goals improve performance more effectively than vague objectives.

Table 1: The SMART Framework and Its Financial Application within the Banking MBO Context

Letter	Criterion	Definition	Financial Application in Banking MBO
S	Specific	Objectives must be unambiguous, targeting a precisely defined financial or operational outcome.	Branch managers commit to a defined reduction in the NPL ratio (e.g., from 4.2% to 3.5%) within a specified portfolio segment, not a vague "improve credit quality" aspiration.
M	Measurable	Achievement is tracked through quantifiable KPIs, drawn from financial statements or regulatory returns.	Performance is monitored through Return on Assets (ROA), Net Interest Margin (NIM), Cost-to-Income Ratio (CIR), or Capital Adequacy Ratio (CAR), allowing objective comparison against targets.
A	Achievable	Targets must be demanding but realistically attainable given credit market conditions and capital constraints.	Return on equity (ROE) targets are calibrated against peer-group benchmarks and macroeconomic projections, avoiding demotivation from unattainable aspirations.
R	Relevant	Objectives align with the institution's strategic plan, risk appetite statement, and regulatory capital requirements.	Individual lending officers' targets are directly cascaded from the bank's annual ICAAP (Internal Capital Adequacy Assessment Process) and strategic asset allocation decisions.

T	Time-bound	Each objective has a defined horizon consistent with reporting cycles and supervisory review calendars.	Quarterly financial performance reviews, aligned with Basel III supervisory reporting dates, structure the MBO cycle and feed directly into the bank's performance appraisal and variable compensation determinations.

Source: Adapted from (Doran, 1981) and (Kadi & Lebcir , 2024), and Basel Committee on Banking Supervision (2011).

1.3 The Multidimensional Architecture of MBO: Functions and Financial Implications

The MBO literature has consistently demonstrated that the approach serves multiple organizational functions simultaneously, a multidimensionality that constitutes both its theoretical richness and its practical complexity. Altergott (1970) and Drucke(1954) identified eight principal functional domains in which MBO has been deployed: individual motivation, performance appraisal, organizational planning, inter-unit coordination, organizational control, individual development, supervisory relationship governance, and total systems management. From the vantage point of financial institutions, each of these dimensions carries specific operational significance.

Table 2: Multidimensional Framework of MBO: Functions, Theoretical Foundations, and Financial Relevance

Dimension	Core Functions	Theoretical Reference	Financial Relevance in Banking
Goal-Setting	Collaborative definition of individual and unit-level objectives across all hierarchical levels.	Drucker (1954); Odiorne (1965); Locke & Latham (1990)	Ensures that credit officers, treasury desks, and risk functions each hold objectives cascaded from the bank's financial plan, preventing strategic misalignment.

Performance Appraisal	Periodic evaluation of results against pre-agreed financial and operational standards.	Altergott (1970); Humble (1967); Rodgers & Hunter (1991)	Provides the governance basis for variable compensation, promotion decisions, and the identification of under-performing portfolios requiring remedial action.
Individual Motivation	Enhancing employee engagement and financial accountability through objective clarity.	McGregor (1960); Maslow (1943); Odiorne (1965)	Bankers with clear, individually owned ROE or client acquisition targets demonstrate higher engagement and lower reputational-risk-generating conduct.
Organizational Planning	Translating strategic financial intent into operational commitments.	Anthony (1965); Koontz & O'Donnell (1968)	The bank's Annual Operating Plan and ICAAP are operationalized through the MBO cascade, tying capital allocation decisions to business line objectives.
Control & Feedback	Comparing financial outcomes to predetermined targets; initiating corrective action.	Otley (1999); Merchant & Van der Stede (2007)	Monthly management accounts and quarterly supervisory reports function as the formal feedback mechanism, triggering remedial actions when NIM or CIR deviates from plan.
Individual Development	Linking performance reviews to capability-building investments.	Humble (1967); Weihrich (2000)	Deficit performance against risk management objectives triggers compliance training or

			credit skill development, reducing the probability of future credit losses.
Supervisory Relationships	Repositioning manager-subordinate interaction around financial results rather than behavioural compliance.	McGregor (1960); Kadi & Lebcir (2024)	Relationship managers and their supervisors engage in structured quarterly reviews anchored in loan book performance data, aligning incentive structures with the bank's long-term financial health.

Source: Compiled from Altergott (1970), Odiorne (1965), Humble (1967), Drucker (1954), Otley (1999), Merchant & Van der Stede (2007), and Kadi & Lebcir (2024).

1.3.1 The Multidimensional Architecture of MBO: Functions and Financial Implications

The motivational dimension of MBO acquires particular salience in financial institutions because of the direct, quantifiable connection between individual conduct and firm-level financial performance. Odiorne (1965) observed that where objectives are rendered explicit, they exert a powerful motivating effect upon the subordinate, as individuals possess an intrinsic orientation toward goal achievement that is activated by clear performance standards (as cited in Altergott, 1970, p. 3). In banking, this mechanism operates at multiple levels simultaneously. A retail branch manager whose MBO objective specifies a 12% year-on-year increase in deposits under management is motivated not by managerial exhortation but by the objective itself, its measurability creating an internal performance scoreboard that generates autonomous monitoring behavior. Douglas McGregor's Theory Y (1960) provides the humanistic foundation for this argument: organizational systems designed on the assumption that employees are capable of self-direction and are oriented toward goal achievement the governing assumption of MBO release motivational potential that hierarchical control structures systematically suppress.

1.3.2 Financial Performance Appraisal and the Governance of Banking Results

The appraisal dimension of MBO is perhaps the most consequential for financial governance. By transforming performance evaluation from a subjective exercise of managerial judgement into a structured comparison of financial outcomes against pre-agreed standards, MBO provides the institutional infrastructure for results-based accountability that regulators increasingly expect of financial institutions. Altergott (1970) conceptualized this function as providing management with proper control: the comparison of actual results with predetermined objectives and the initiation of corrective action when objective standards are not met (p. 8). In banking, this definition maps precisely onto the supervisory reporting cycle: quarterly financial accounts, regulatory capital returns (COREP), and stress testing outputs all function as the formal comparison mechanism through which deviations from plan are identified, attributed, and remedied.

The governance implications are significant. The Basel III framework and subsequent supervisory guidance from the Financial Stability Board (FSB) have increasingly emphasized the importance of aligning variable remuneration with risk-adjusted financial performance — a requirement that is practically unimplementable without a formal MBO process capable of generating auditable, risk-calibrated performance assessments at the individual and business-unit level. The transformation of remuneration governance in post-crisis banking thus represents, in structural terms, a regulatory mandate for rigorous MBO implementation.

1.4 Advantages and Limitations of MBO in the Financial Sector

The MBO approach offers well-documented organizational advantages that are amplified in the particular governance environment of financial institutions. The framework generates directional clarity — every operational unit possesses an explicit understanding of its financial performance obligations and the criteria against which its contribution will be assessed. It structures the governance relationship between executive management, business line heads, and front-line practitioners around quantifiable results rather than subjective assessments of effort or process compliance, thereby reducing the scope for the kind of reputational and conduct risk that arises when performance cultures are driven by managerial personality rather than institutional standards. The participatory design of MBO requiring that objectives be jointly established rather than unilaterally imposed tends to increase the perceived legitimacy of performance standards, which in turn increases organizational commitment to their achievement. Rodgers and Hunter's (1991) meta-analytic finding of productivity improvements averaging 56% where senior management commitment was high confirms the institutional value of this dynamic.

The limitations of MBO are equally material and, in banking, carry systemic risk implications. The most structurally significant is the measurement problem: financial institutions generate numerous dimensions of value that resist straightforward quantification. Risk culture, ethical conduct, client relationship quality, institutional reputation, and long-term franchise value are among the most strategically important contributors to sustainable financial performance, yet they are also among the most resistant to incorporation into SMART-aligned objective frameworks. The perverse incentives that arise when easily measured financial metrics displace these harder-to-quantify dimensions of performance have been documented extensively in the post-financial-crisis literature. Seyna (1986) characterized MBO as a technique that changed

management precisely because of its capacity to reshape the motivational architecture of organizations — a capacity that generates dysfunctional as well as functional consequences when the objectives selected systematically exclude dimensions of performance that matter for long-term financial stability.

(Kadi & Lebcir , 2024) note that MBO is not a universal model but a management mode among others that must be adapted to the context and needs of each situation. This observation is particularly apposite for financial institutions, where context is defined not only by firm-specific strategy and culture but by an externally imposed regulatory environment that constrains and shapes the range of objectives that can legitimately be pursued. The integration of MBO within a broader management control architecture one that incorporates compliance, risk appetite, and long-term capital sustainability alongside short-term financial performance — is accordingly a design imperative rather than an organizational preference.

1.5 The MBO Process Cycle: Phases, Financial Review Points, and Supervisory Alignment

The MBO process operates as a continuous management cycle that is repeated regularly, generally on an annual basis at the strategic level, with quarterly or semi-annual reviews at the operational level. According to Delavallée (2010), as cited in (Kadi & Lebcir , 2024), the Druckerian MBO cycle is structured around three main phases: objective-setting, performance monitoring, and results evaluation. Drucker emphasized that these phases are not strictly sequential but interact continuously, making MBO a dynamic and adaptive management process rather than a rigid administrative system.

The feedback mechanism within the MBO cycle is essential because it transforms MBO from a simple appraisal tool into a system of organizational learning and strategic adaptation. Performance outcomes from one cycle are used to revise future objectives and strategies. For example, if ROA falls below target levels, management evaluates not only employee performance but also the adequacy of financial targets, pricing strategies, funding costs, and external market conditions. This continuous reassessment links MBO directly to broader management control theory and financial governance practices.

1.6 From Management by Objectives to Management Control Systems: The Theoretical Transition and Its Financial Logic

The evolution from Management by Objectives (MBO) to Management Control Systems (MCS) represents not a replacement of MBO, but an expansion and formalization of its principles (Anthony & Dearden, 1976) distinguished between strategic planning, management control, and operational control, creating a broader framework for understanding how organizations align objectives with actual performance. While MBO focused mainly on objective-setting and performance evaluation, Anthony's framework incorporated the wider set of formal and informal mechanisms through which managers influence organizational behavior.

Scholars later recognized that setting objectives and evaluating results alone could not fully ensure alignment between employee behavior and organizational strategy. Organizations operate in environments characterized by uncertainty, competition, and information asymmetry, where decisions and risk-taking behaviors strongly influence outcomes. As a result, Management Control Systems (MCS) emerged as a broader governance framework designed to coordinate behaviors, decisions, and resources in line with strategic objectives. (Malmi & Brown, 2008) defined MCS as the collection of systems and practices managers use to ensure that employee actions remain consistent with organizational goals. Unlike MBO, which concentrates mainly on measurable objectives and appraisal, MCS focuses more broadly on behavioral alignment and organizational control.

(Otley, 1999) further developed this perspective by proposing a performance management framework based on five essential questions related to objectives, strategies, target-setting, reward systems, and feedback mechanisms. This framework extended the logic of MBO beyond simple performance measurement to include incentives, strategic adaptation, and organizational learning. In the banking sector, these principles correspond directly to governance and supervisory mechanisms such as ICAAP, SREP, ILAAP, and recovery planning processes.

(Simon, 1995) added another important contribution by distinguishing between four types of control systems: belief systems, boundary systems, diagnostic control systems, and interactive control systems. Within this framework, MBO functions mainly as a diagnostic control system because it focuses on setting objectives, monitoring financial results, and correcting deviations

from targets. However, developments in post-financial-crisis banking governance demonstrated that diagnostic controls alone are insufficient. Failures in organizational culture and conduct within financial institutions revealed the importance of belief systems and boundary systems in regulating employee behavior and preventing excessive risk-taking. Consequently, modern banking governance integrates MBO within broader management control systems that combine financial performance monitoring with cultural, ethical, and risk-management controls.

2 The Conceptual Landscape: Defining Management Control Systems

The concept of management control systems has undergone significant development since its early formalization in organizational and accounting research. Over time, it has not remained a fixed or clearly bounded notion; rather, it has been interpreted and redefined in multiple ways by different scholars. As a result, the field today brings together a variety of approaches, models, and conceptual frameworks, each shaped by distinct disciplinary perspectives, analytical focuses, and underlying assumptions about how organizations function and should be managed and controlled.

2.1 Foundational Definitions: Process, Results, and Objectives

Management control systems MCS have been defined in various ways across the literature, yet a common thread runs through all major contributions. Drawing on (Flamholtz et al. 1985; Malmi and Brown 2008; Merchant and Van der Stede 2017), a consensus emerges: MCS can be understood as the set of processes, devices, and mechanisms through which organizations guide the behavior of their members at all levels toward the achievement of organizational goals and strategies, while mitigating the risks of misalignment between individual and organizational interests.

This definition captures what all three perspectives fundamentally agree on: control systems exist not as ends in themselves, but as means of translating organizational intent into consistent, goal-directed behavior across the entirety of the organization.

As developed (Anthony & Dearden, 1976) the conception of management control based on budgets: *"Management control is the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives."*

Building on this, the following discussion draws entirely on the synthesis proposed by (Shang, 2018), who argues that the definition of management control has historically oscillated between "narrow" and "broad" perspectives:

- **The Narrow View:** Anthony (1965) initially separated MC from strategy and tasks, viewing it as just one piece of a company's activity. Merchant and Van der Stede (2007) refined this by positioning MC specifically as a process for managing **human behavior**.
- **The Broad View:** Modern scholars like Merchant and Otley (2007) argue that MC is all encompassing, including strategy development and organizational learning. Similarly, Malmi and Brown (2008) define MC as the collective "devices and systems" used to ensure employee decisions align with company goals.
- **The Hierarchical Gap:** A critical addition comes from Itami (1978), who notes that many definitions ignore **organizational hierarchy**. Itami views MC as the process through which superiors manage delegated authority, using both horizontal and vertical communication to coordinate subordinates and solve problems through feedback.

While he assumes that, if management controls are the individual tools, then Management Control Systems (MCS) are the cohesive collections of those tools.

The Relationship Between MC and MCS

A system exists when a set of controls are mutually related and function through a continuous **feedback loop** (Bertalanffy, 1969). While different systems may share similar controls (like budgeting), no two systems are identical in their total composition.

The Role of Management Accounting Systems (MAS)

A significant point of discussion is how MCS relates to accounting.

- **Evolution:** While a brand-new business might start without formal accounting, MAS eventually becomes the "center" of the MCS as a company matures (Sandelin, 2008).
- **Necessity:** Without MAS, performance evaluation becomes ambiguous, making it nearly impossible for superiors to make informed judgments (Hopwood, 1972).
- **The Transformation:** Chenhall (2003) and Malmi and Brown (2008) argue that while MAS includes technical practices like product costing, it only becomes a **Management Control System** when it is actively used to influence subordinate behavior.

Core Insight: As noted by Zimmerman (1997, 2001) and Flamholtz et al. (1985), a budget or an accounting report is not a control system on its own. It only becomes one when integrated into a "total system" designed to monitor actions, support decision-making, and harmonize with the organizational culture.

In this perspective, Management Control (MC) can be understood as the process that ensures organizations move toward achieving their objectives, while Management Control Systems (MCSs) refer to the set of tools and infrastructures that enable this process to be implemented in practice, such as budgeting, reporting, and performance monitoring systems.

Management control is generally based on three fundamental pillars: objectives, resources, and results. These elements are interconnected and form the foundation of organizational performance management.

2.2 The Management Control Triangle

According to (LÖning, et al., 2003) Management control is structured around these three pillars which are:

2.2.1 Objectives

The management control process begins with the definition of objectives. Objectives refer both to the type of performance expected, such as improving profitability or efficiency, and to the specific level of performance the organization aims to achieve. These objectives must remain aligned with the organization’s strategy and adapted to the economic environment.

2.2.2 Resources

Planning involves identifying how the organization will achieve its objectives before taking action. This includes selecting appropriate action plans and mobilizing the necessary resources. These resources may be technical, material, human, or financial, depending on the organization’s needs and strategic priorities.

2.2.3 Results

Results represent the outcomes generated by the actions and decisions implemented to achieve organizational objectives. These outcomes should not only meet expected targets but should also be achieved in an efficient and effective manner.

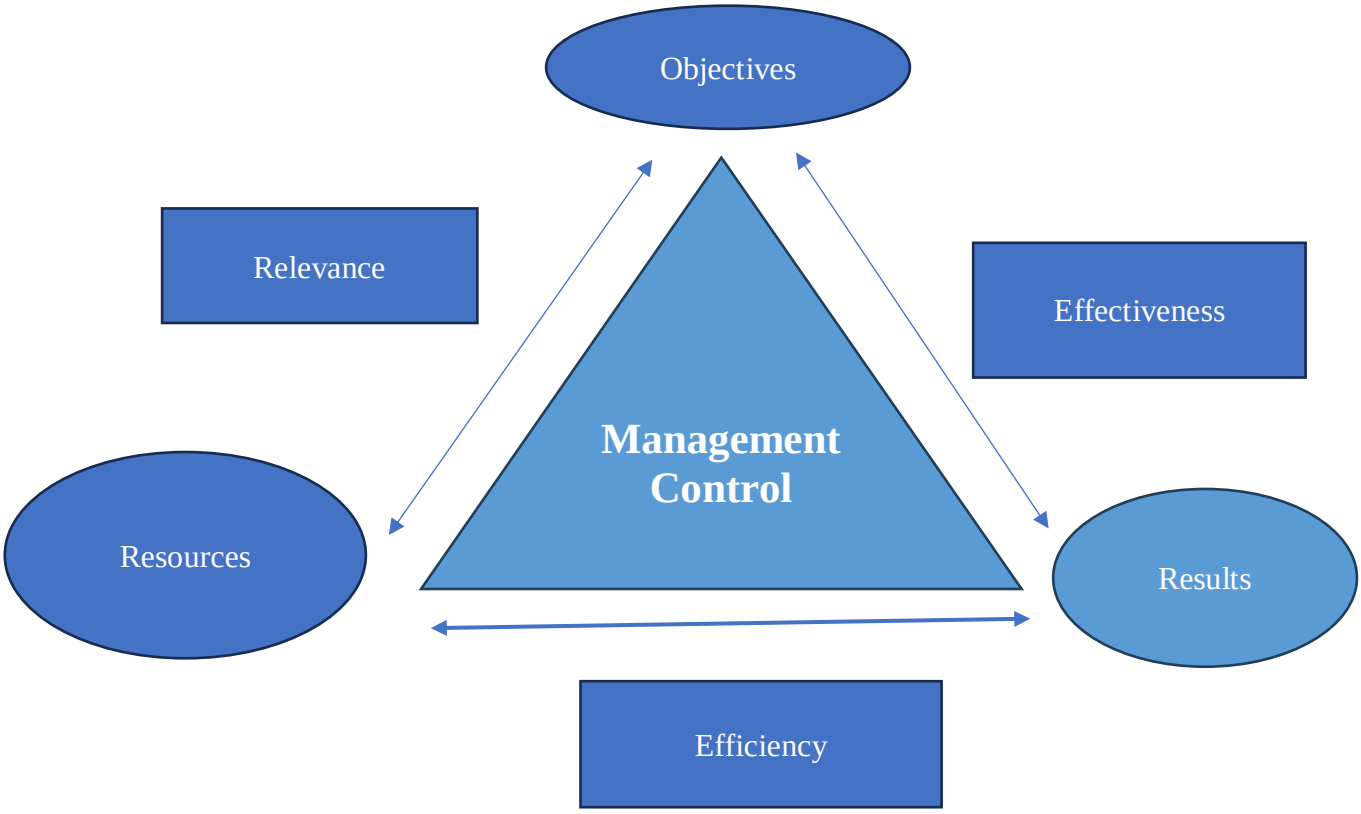
2.3 Fundamental Principles of Management Control

The relationship between objectives, resources, and results gives rise to three essential principles of management control:

- **Relevance:** the resources and methods selected must be appropriate and consistent with the objectives to be achieved.
- **Effectiveness:** the organization's ability to achieve the expected objectives and produce the desired results.
- **Efficiency:** the capacity to obtain the best possible results while using the minimum necessary resources.

These principles are commonly illustrated through the "Management Control Triangle," which highlights the interaction between objectives, resources, and results in evaluating organizational performance. (LÖning, et al., 2003)

Figure 1: The Management Control Triangle



Source: (LÖning, et al., 2003)

The following summary table presents the main findings, and the researches that this study base on

Table 3: Table of synthesis

Existing research	Summary
Malmi and Brown (2008)	This study draws on the concepts of planning controls, cybernetic controls, reward and compensation mechanisms, as well as administrative and cultural controls, to develop an integrated framework that captures the structure and functioning of a management control system.
Bedford and Malmi (2015)	This study relies on data collected from 400 firms to examine how different management controls are combined and how these combinations relate to organizational context. It subsequently identifies five distinct configurations that characterize management control systems.
Shang (2018)	This study reviews recent contributions that develop frameworks for management control systems in order to identify key limitations, such as unclear definitions of management controls, ambiguous relationships among them, and a lack of comprehensive integration. It then proposes a unified definition and compiles a set of 40 management controls, which are organized into a taxonomy structured around six variables: environment, technology, organizational structure, management accounting systems, culture, and the use of control systems to provide a more coherent and comprehensive framework.
Otley (1999)	This study develops an inductive framework for analyzing management control systems by focusing on five key dimensions: organizational objectives, strategies and plans, performance targets, reward systems, and information feedback mechanisms. Centered on performance management, the framework emphasizes the interconnections between these elements and is applied to existing control techniques such as budgeting, economic value added, and the balanced scorecard to highlight gaps and identify avenues for improving both practice and research.
Chenhall (2003)	This study analyzes contingency-based research on management control systems, showing that their design and effectiveness are influenced by contextual factors such as environment, technology, structure, strategy, and culture. It also highlights the shift toward broader control systems that integrate both financial and non-financial, as well as formal and informal, mechanisms, while pointing out ongoing challenges related to definition, measurement, and coherence.

2.4 The Process of Management Control

While the previous section addressed the question of *what* management control systems and management control are, it is equally important to understand *how* they operate that is, to grasp management control as a dynamic, ongoing process rather than a fixed organizational structure. The first is **planning and target setting**: the establishment of objectives, standards, and resource allocations that give operational units a direction and a benchmark. Löning et al. (2003) describe planning as the foundational task of management control, since every subsequent monitoring activity refers back to the standards set at this stage.

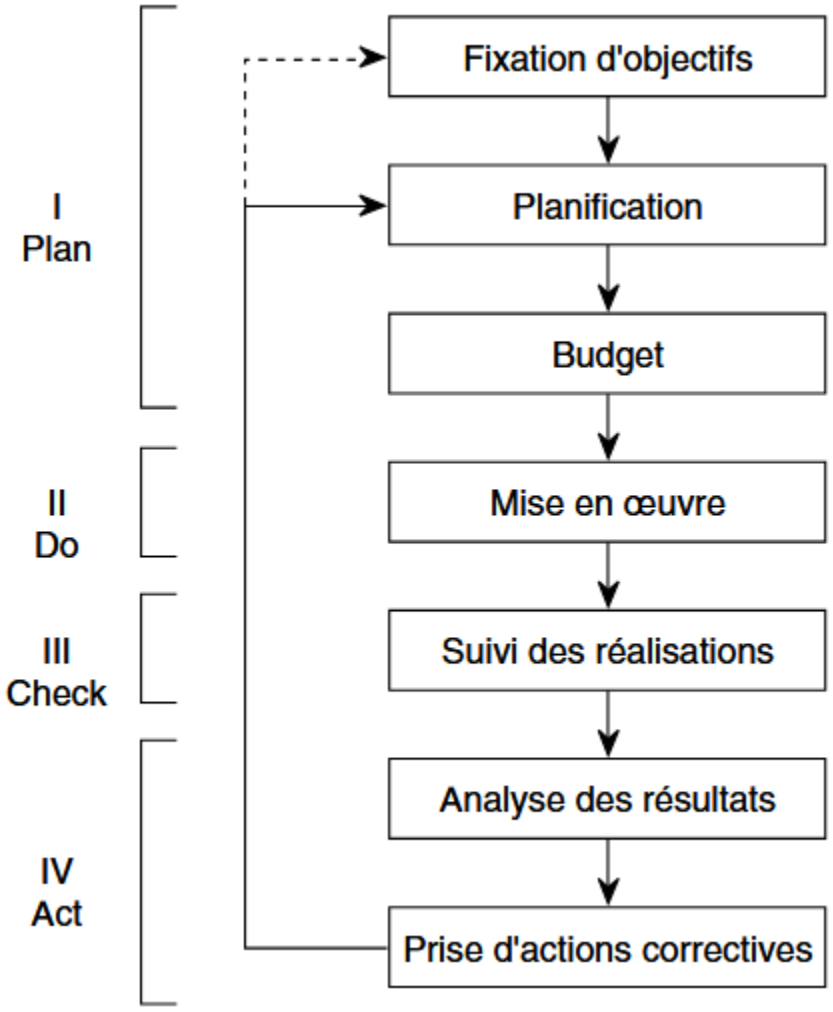
The second function is **performance measurement and reporting**: the collection, processing, and aggregation of operational data into indicators that can be compared against established targets. Malmi and Brown (2008) describe this as the measurement component of cybernetic control the feedback loop through which the organization learns whether it is on track.

The third function is **variance analysis and interpretation**: the diagnostic work of explaining why actual performance diverges from targets, distinguishing controllable from uncontrollable factors, and assessing the strategic significance of observed deviations. (De Kervier & De Kervier, 2006) rightly identify this as the most cognitively demanding dimension of management control, requiring both technical expertise and deep organizational knowledge.

The fourth function is **corrective action and organizational learning**: translating performance insights into concrete management decisions that address deviations and improve future performance. Bedford and Malmi (2015) found that organizations using performance data as the basis for genuine management dialogue rather than mere compliance reporting develop more adaptive and effective control configurations. This distinction between diagnostic and interactive use of performance systems, introduced by (Simon, 1995), is significant for dashboard design and will be returned to in Section 3.

The fifth function is **communication**: ensuring that performance information reaches the right decision makers at the right level of aggregation and at the right moment. Where information asymmetries between senior management and dispersed operational units are structurally significant, the quality of internal reporting is a critical determinant of control system effectiveness (Rouach & Naulleau, Le controle de gestion bancaire, 2020).

Figure 2: The process of management control system



Source: LÖning, et al., 2003

2.5 The Taxonomy of Management Control System

Three taxonomic frameworks dominate the contemporary MCS literature. The first is the Malmi and Brown (2008) *package taxonomy*, which classifies controls by their primary mechanism: planning, cybernetic, reward and compensation, administrative, and cultural. The second is the (Merchant & Van der Stede, 2012) *object of control taxonomy*, which classifies controls by what they target: results, actions, people, or culture. The third is the (Simon, 1995) *strategic function taxonomy*, which classifies controls by their role in strategy implementation: belief systems, boundary systems, diagnostic control systems, and interactive control systems.

Malmi and Brown (2008) address the lack of consensus in defining management control systems by arguing that the literature ranges from very broad to very narrow perspectives. Broad views, such as Chenhall (2003), treat MCS as a wide package including accounting systems, cultural mechanisms, and other formal and informal controls that shape organizational behavior. In contrast, narrower perspectives Merchant and Van der Stede (2012) focus specifically on controlling employee behavior and ensuring alignment with organizational objectives. The authors also distinguish between systems used for decision support and those used for control, arguing that only systems that influence or monitor behavior should be considered true MCS, while purely informational systems are classified as management accounting systems.

Based on this clarification, Malmi and Brown (2008) propose the idea of MCS as a "package" of interrelated control systems rather than a single unified mechanism. This package includes cultural, planning, cybernetic, reward and compensation, and administrative controls, all working together to guide organizational behavior. The framework emphasizes that control is achieved through the combination of multiple systems introduced at different times and by different actors, highlighting the need to study MCS as an integrated set of controls rather than isolated tools.

Table 4: MCS as a Package Taxonomy: MCS as a Package Taxonomy

Control Family	Primary Mechanism	Time Horizon	Formality Level
Planning Controls	Goal-setting and resource allocation ex ante	Long / medium term	Formal
Cybernetic Controls	Measurement, feedback, variance analysis	Short term	Formal
Reward & Compensation	Incentive alignment to organizational goals	Medium term	Formal / semi-formal
Administrative Controls	Governance, structure, procedures, policies	Ongoing	Formal
Cultural Controls	Values, norms, shared beliefs, clan controls	Long term	Informal

Source: Author's elaboration based on: Malmi & Brown (2008). Management control systems as a package. Management Accounting Research,

Table 5: Object of Control Taxonomy: Object of Control Taxonomy

Object of Control	Definition	Primary Risk Addressed	Example in Banking
Results controls	Monitor outputs; reward or penalize accordingly	Goal misalignment	ROA targets; NPL thresholds
Action controls	Prescribe or prohibit specific behaviors	Behavioral deviations	Credit approval procedures
Personnel controls	Select, train and develop staff capabilities	Competence gaps	Credit analyst training
Cultural controls	Shape values, norms and social expectations	Misaligned values	Professional ethics codes

Source: Author's elaboration based on: Merchant & Van der Stede (2012). Management Control Systems (3rd ed.)

(Simon, 1995) proposes a four-lever framework that is specifically oriented toward strategy implementation. **Belief systems** communicate the organization's core values and direction (mission statements, credos). **Boundary systems** define the domain of acceptable activity and establish risk limits. **Diagnostic control systems** are the formal feedback systems used to monitor organizational outcomes and correct deviations from preset standards of performance. **Interactive control systems** are formal systems that managers use to involve themselves regularly and personally in the decision activities of subordinates, generating organizational learning and adaptation. (Simons, 1994).

Table 6: MCS Taxonomy

Variable	Management control types	Main role in the organization
Environment	Eco/environmental controls	Responding to external pressures (limited identified controls)
Technology	Input controls, Process controls, Output controls	Managing production and transformation processes
MAS	Cybernetic controls, accounting controls, financial controls	Planning, measurement, feedback, and performance monitoring
Organizational structure	Administrative controls, technical controls, Procedural controls, Behavioral controls	Defining roles, authority, rules, and coordination mechanisms
Culture	Belief controls, Clan controls, social controls, Ideological controls, Leadership controls, Trust controls, Symbol controls, Entrepreneurial controls	Shaping values, norms, identity, and organizational behavior
Use of Management control systems	Tight/Loose controls, Interactive/Diagnostic controls, Enabling/Coercive controls, Flexible/Rigid controls	How controls are implemented and used by managers

Table: Source: Shang (2018). A Taxonomy of Management Controls in Management Control Systems Research.

Building on the conceptual ambiguity surrounding definitions of Management Control Systems (MCS), Chenhall (2003) provides an influential contingency-based perspective by positioning MCS as a broad package of controls, that integrates formal and informal controls, including administrative, cultural, and social controls. This broad view reinforces the idea that MCS are context-dependent and extend beyond accounting systems alone.

Extending this foundation, Shang (2018) operationalizes this package perspective by systematically identifying approximately 40 distinct management control mechanisms and organizing them into a structured taxonomy. This taxonomy classifies controls into six main variables: environment, technology, management accounting systems (MAS), organizational structure, culture, and use of control systems. Each variable groups related controls based on their dominant function, such as input–process–output controls under technology, cybernetic and financial controls under MAS, and belief or clan controls under culture. Shang's framework provides a more operational and structured representation of Chenhall's (2003) broad conceptualization, transforming the abstract "package view" into a detailed classification framework that captures the diversity and interdependence of management control systems.

2.6 Prerequisites for Implementing a Management Control System

Setting up a management control system is far more than a technical exercise; it requires a set of foundational conditions, without which even the most sophisticated control tools will fall short. Clearly Defined Organizational Objectives.

Management control can only function when the organization has formulated explicit, measurable, and time-bound objectives. As (Löning et al., 2003, p. 3) put it; without clear objectives the control process has no reference point it cannot distinguish satisfactory performance from performance deficiencies, or alignment from deviation. (Ouchi, 1979; Löning et al., 2003)

2.6.1 A Reliable Information System

The feedback-based mechanisms at the heart of financial MCS depend entirely on accurate and timely data. De Kervier & De Kervier (2006) argue that management control cannot function effectivelynwithout an information infrastructure capable of translating operational reality into decision-relevant signals (Boissilier, 2013).

2.6.2 Analytical Accounting Implementation

General accounting alone is insufficient to support effective management control. Analytical accounting fills this gap by enabling the organization to determine the costs of each activity, explain results by comparing product costs to their corresponding revenues, establish forecasts for income and expenditure, and monitor the achievement of those forecasts by analyzing variances. (Elktiri and Jaouhari 2022; Singh 2025)

2.6.3 A Clear Organizational Structure and Responsibility Centers

Control mechanisms can only work within a structure that assigns clear ownership of performance outcomes to identifiable managers. Malmi & Brown (2008) recognize this through their administrative control category, while (Bedford & Malmi, 2015; Dent, 1990) confirmed that more formalized structures tend to produce tighter, more results-oriented, control configurations. Responsibility centers are typically supported by periodic monitoring through budgetary control and reporting (LÖning, et al., 2003, p. 15).

Three types of responsibility centers are generally distinguished (Rouach, 2020, pp. 54-55):

- **Profit centers**, such as bank branches and treasury departments, where managers are delegated authority over commercial negotiation conditions and are held accountable for generating a margin or net banking income.
- **Revenue centers**, typically sales units without pricing authority, where managers commit to volume targets and operating budgets but do not control tariffication which remains centralized.
- **Cost centers**, which are further divided into *operational centers* performing repetitive, standardized tasks (e.g. cheque or transfer processing), *support centers* providing non-repetitive internal services such as IT, training, or maintenance, and *structural centers* handling general coordination and oversight activities such as senior management and the management control function itself.

2.6.4 Qualified Human Capital

Designing and operating dashboards, performance frameworks, and risk management systems requires real expertise. (Flamholtz et al. 1985; Frare et al. 2023; Laguir et al. 2022; Malmi and Brown 2008)showed that investing in the selection, training, and development of staff is a necessary condition for organizational resilience not a luxury.

2.6.5 A Sportive Organizational Culture

Perhaps the most underestimated prerequisite. Malmi & Brown (2008) place cultural controls at the very top of their MCS typology and rightly so. Löning et al. (2003) warn that even technically sound control systems can be undermined by gaming, symbolic compliance, or informational manipulation when the culture doesn't support honest use.

2.7 The Tasks of Management Control

If the prerequisites tell us "*What the organization needs"* before implementing an MCS, the tasks tell us "*What the MCS actually does"* once it is running. Five core functions define the operational content of management control in any complex organization. Chenhall (2003)

2.7.1 Planning and Target-Setting

Everything begins here. (LÖning, et al., 2003, p. 3)identify planning as the foundational task of management control because every subsequent monitoring and evaluation activity refers back to the standards set at this stage. In a banking context, this means strategic financial planning, operational budgeting by business line, and defining the risk appetite parameters that frame all operational decisions.

2.7.2 Performance Measurement and Information Collection

Once targets exist, performance must be tracked. (Ferreira and Otley 2009; Graña-Alvarez et al. 2024; Hamed 2023; Elktiri and Jaouhari 2022) state that this task involves collecting, processing, and aggregating operational data into indicators that can be meaningfully compared against established benchmarks. (Malmi & Brown, 2008)describe this as the measurement component of cybernetic control the feedback mechanism through which the organization learns whether it is on track.

2.7.3 Variance Analysis and Interpretation

Numbers alone don't tell the full story. When actual performance diverges from targets, the controller's job is to understand *why* distinguishing between controllable and uncontrollable factors, and assessing the strategic significance of each deviation. De Kervier & De Kervier (2006) rightly describe this as the most cognitively demanding dimension of management control, one that requires both technical expertise and deep organizational knowledge.

2.7.4 Corrective Action and Organizational Learning

Ultimately, management control is about action, not observation. The information generated through monitoring and analysis must translate into concrete decisions that correct deviations and improve future performance. Bedford & Malmi (2015) found that organizations using performance data as a basis for genuine management dialogue rather than mere compliance reporting develop more adaptive and effective control configurations

2.7.5 Reporting and Communication

Insight is only useful if it reaches the right people at the right time Rouach (2020) note that in banking institutions where information asymmetries between senior management and operational units are structurally significant the quality of internal reporting is a critical determinant of MCS effectiveness.

2.8 Instruments of Management Control

Management control does not rely on a single device; it depends on a set of instruments that translate strategy into measurable action, connect operational results to managerial decisions, and make performance visible across the organization. Reviews of the management control literature show that the field is broad rather than unitary, and that budgeting, cost accounting, dashboards, balanced scorecards, and benchmarking are commonly treated as complementary elements of one control architecture rather than isolated tools. (Strauss & Zecher, 2012) (Duller, Durstmüller, & Pabinger, 2022)

2.8.1 Budgetary control

remains one of the classic instruments of management control. In the literature, it functions as a short-horizon steering device: it turns strategic orientations into quantified targets, allocates resources, and then compares planned and actual results so that deviations can be explained and corrected. Its value comes not only from forecasting, but from the discipline it imposes on planning, coordination, and accountability within responsibility centers. (Strauss & Zecher, 2012)

2.8.2 Analytical accounting

provides a finer-grained view of performance than general financial accounting. It helps managers trace costs to products, activities, or customers, identify where resources are consumed, and see where profitability is created or eroded. The activity-based costing literature extends this logic by tracing overheads more accurately through activities, and it links ABC to cost behavior analysis,

customer profitability analysis, budgeting and cost control, and performance measurement. (Yoshikawa, Innes, & Mitchell, 1992)

2.8.3 Reporting systems

are the channels through which control information moves upward and across the organization. Recent work on management control and business intelligence shows that reporting is most effective when it combines financial and qualitative indicators, gives decision-makers timely access to relevant information, and reduces information asymmetries between operational units and senior management. In this sense, reporting is not just an administrative routine but a governance mechanism that shapes visibility, accountability, and corrective action. (Duller, Durstmüller, & Pabinger, 2022)

2.8.4 Dashboards

are among the most integrated instruments in contemporary management control. A dashboard condenses key indicators into a synthetic format, helping managers monitor performance, detect deviations, and support decisions. The dashboard literature emphasizes that effective designs must manage information load, preserve visual clarity, and allow drill-down when needed; when these features are present, dashboards can strengthen both monitoring and response. The balanced scorecard extends this logic by linking non-financial and financial measures to strategy, and the review literature suggests that organizations often use it primarily as a performance measurement and strategy-communication system. (Yigitbasioglu & Velcu , 2012 ; Kumar, Prince , & Baker, 2021).

Following (LÖning, et al., 2003; Rouach & Naulleau, 2020; Boissilier, 2013 and Selmer, 2013) we can disntguish 3 types of dashboards:

Decentralized Dashboard

The decentralized dashboard is a management support tool designed for decentralized units or departments. It monitors a limited number of key management indicators that are directly under the control of the entity and aligned with the company’s strategic priorities. It enables a dynamic analysis of performance by allowing immediate comparisons between actual results and predefined targets or benchmarks.

Centralized Dashboard

The centralized dashboard, also known as the executive management dashboard, serves as a tool for the continuous analysis of intermediate management balances and overall organizational performance. It communicates global economic performance indicators to senior management, allowing them to evaluate results within a competitive environment. It is primarily a post-control instrument used to assess delegated responsibilities through result indicators that are generally updated on a monthly basis.

Balanced Scorecard (Strategic Dashboard)

The balanced scorecard is a system of indicators directly connected to the organization's strategic orientations. It enables managers to monitor the different determinants of overall performance, particularly financial performance. In addition, it helps clarify strategic objectives and translate them into concrete and measurable targets. The balanced scorecard also provides strategic feedback, allowing organizations to evaluate, guide, and progressively refine their strategies over time.

2.8.5 Benchmarking

introduces an external reference point into management control. Its logic is straightforward: compare processes or results with higher-performing organizations, identify usable practices, and adapt them to the local context. The benchmarking literature stresses that the real value lies not in copying but in learning; comparisons are only useful when the organizations involved face genuinely similar constraints, and when the borrowing organization transforms observed practices into its own operational reality. (Boissilier, 2013)

3 Management Control Systems in Banking Institutions

3.1 Banking Institutions: Nature, Functions, and Operational Challenges

3.1.1 The Nature and Role of Banking Institutions

Banking institutions occupy a central position in any economic system, serving as the primary intermediary between those who hold surplus financial resources and those who require capital. At their most fundamental level, banks perform the function of collecting deposits from the public and redistributing these funds in the form of credit to individuals, enterprises, and governments (Byadi & Belatik, 2025; Singh, 2025; Hamed, 2023).

This intermediation function makes banks structurally distinct from other types of organizations, as their core activity revolves around the simultaneous management of liquidity, solvency, and profitability three objectives that are inherently in tension with one another.

The performance of banking institutions is not evaluated through a single lens. Rather, it is commonly assessed through a set of financial ratios designed to capture different dimensions of institutional health, including profitability, measured by indicators such as return on assets (ROA) and return on equity (ROE); operational efficiency, assessed through the cost-to-income ratio; liquidity risk, reflecting the institution's capacity to meet short-term obligations; asset quality, evaluated through the soundness of the loan portfolio; and capital adequacy, which measures financial resilience in relation to regulatory requirements (Al-Homaidi et al. 2018; Elktiri and Jaouhari 2022;). This multi-dimensional view of performance reflects the complexity of banking activity and the impossibility of reducing institutional success to any single metric.

Beyond their commercial purpose, banks particularly regional development banks carry a dual mandate that adds a further layer of complexity to their governance. Such institutions are expected to achieve commercial profitability while simultaneously fulfilling a social mission oriented toward regional economic development. This duality, which has been described as a defining characteristic of regional banks in emerging economies, creates inherent tensions between the drive for competitive returns and the obligation to serve broader community interests a tension that internal management systems must continuously navigate (Karaoulanis, 2015 ; Elktiri & Lhassane, 2022).

3.1.2 The Organizational Specificity of Banking Institutions

Recent researches (Chand et al. 2025; Graña-Alvarez et al. 2024; Karaoulanis 2015, Putri et al.;2023) showes that banking institutions present a distinctive organizational context for the design of management control systems. Several structural characteristics differentiate banks from non-financial firms: regulation by central banks, which imposes mandatory reporting requirements and capital adequacy constraints; the temporal mismatch between credit decisions and outcome evaluation, which extends the feedback horizon well beyond that of most commercial operations; highly leveraged balance sheets that amplify the consequences of operational errors; and pervasive information asymmetries between banks and their counterparties, which complicate both internal governance and external oversight.

Malmi and Brown (2008) note that administrative controls encompassing organizational design, governance structures, and policies and procedures are particularly important in organizations characterized by high task complexity, significant information asymmetries, and strong accountability requirements. All three of these features are present in banking institutions, making the administrative dimension of the management control architecture especially consequential. The design of control systems must therefore account not only for financial performance requirements but also for the structural properties that differentiate banks from other organizational contexts.

These organizational specificities have direct implications for the instruments and mechanisms through which management control is exercised. A control architecture designed for a manufacturing firm or a non-financial services provider cannot be transposed to a banking institution without significant adaptation. The simultaneity of financial performance requirements, regulatory obligations, risk management imperatives, and relational accountability creates a multi-dimensional governance challenge for which purpose-built control systems are required.

3.1.3 Structural Vulnerabilities and Operational Challenges

The banking sector is characterized by an exceptionally high exposure to risk, operating under dense regulatory oversight and managing transactions of considerable complexity (Byadi & Belatik, 2025). These structural features distinguish banks from other industries and generate a unique set of managerial challenges. The global financial crisis that began in 2007 brought these vulnerabilities into sharp relief, exposing fundamental weaknesses in internal control systems across the banking industry and demonstrating the systemic consequences that follow from inadequate internal governance (Putri et al., 2023).

One persistent challenge concerns the management of risk in an environment of expanding financial instruments and intensifying market competition. Research conducted in the Ethiopian banking sector found that controlling risk and returns simultaneously represents an extreme difficulty for banking managers, and that when control authority is concentrated exclusively at the top of the organizational hierarchy, conditions become favorable for fraudulent practices to take root(Al-Homaidi et al. 2018; Kunz and Heitz 2021; Марина, Мирошниченко, and Катранжи 2023;Putri et al., 2023). A related finding from the Icelandic and Danish banking sectors indicated that institutional crises in banking environments are linked to an insufficient use of interactive

management controls, highlighting the need for more dynamic and responsive governance mechanisms (Putri et al., 2023).

3.2 Management Control Systems as a Response to Banking Challenges

3.2.1 From Operational Problems to Control System Solutions

The accumulation of operational challenges described in the preceding section exposure to financial risk, governance failures, regulatory pressure, and the difficulty of balancing competing institutional mandates has progressively established management control systems (MCS) as a central response mechanism in the banking sector. Whereas management control was long perceived as a peripheral, primarily accounting-based function, it has gradually been recognized as an indispensable pillar of organizational governance and strategic execution (Byadi & Belatik, 2025).

The initial conceptual foundation for modern management control was laid by (Anthony & Dearden, 1976), who defined it as the ensemble of processes and procedures through which managers ensure that organizational resources are mobilized effectively in pursuit of established objectives (as cited in Byadi & Belatik, 2025). This foundational model positioned management control as a mediator between strategic planning at the top of the organization and operational execution at its base. While this hierarchical conception was influential, subsequent scholars found it insufficient for addressing the complexity of contemporary organizational environments, particularly in sectors subject to rapid change and intense regulation.

French scholarship of the following decades enriched the concept considerably. Bouquin (1991) conceived of management control not merely as a measurement device but as a system capable of guiding and orienting the behavior of organizational actors toward collective objectives, functioning simultaneously as a tool for performance regulation and organizational learning (as cited in Byadi & Belatik, 2025). Gervais (2005) further elaborated a cyclical understanding of control, articulating it as a process comprising three interdependent phases: the formulation of goals (finalisation), the monitoring of execution (pilotage), and the retrospective evaluation of results (postévaluation) a cycle designed to generate continuous improvement and adaptive capacity (as cited in Byadi & Belatik, 2025).

The contribution of (Simon, 1995) was particularly formative for the understanding of management control in dynamic environments. Simons conceptualized MCS as a set of formal,

information-based routines and procedures through which managers maintain and modify patterns of organizational activity (as cited in Chowdhury & Shil, 2023). His Levers of Control framework organized management control into four complementary mechanisms belief systems, boundary systems, diagnostic control systems, and interactive control systems each addressing a distinct dimension of organizational behavior: the articulation of core values, the delimitation of acceptable conduct, the monitoring of key performance variables, and the stimulation of organizational learning and innovation (Hernando et al., 2026). This framework has become one of the most extensively used theoretical lenses in management control systems research (Hernando et al., 2026).

The relevance of this framework to banking institutions derives precisely from the multidimensional nature of the challenges these organizations face. A control system confined to financial surveillance alone cannot adequately address the behavioral, cultural, and strategic dimensions of banking governance. As Chowdhury and Shil (2023) observe in their review of international MCS literature, management control research has historically been conducted from a narrow focus on formal financial controls, with insufficient attention to social control, organizational culture, and contextual factors — a limitation that is particularly consequential in banking environments, where behavioral and ethical dimensions carry direct financial implications.

3.2.2 Linking Banking Problems to Specific Control Mechanisms

a) The Problem of Behavioral Misalignment and the Role of Belief Control Systems

One of the most persistent problems in banking governance concerns the misalignment between individual behavior and institutional objectives. Research in Indonesia revealed that even where formal control systems exist, corruption and fraud are predominantly attributable to human rather than systemic factors (Putri et al., 2023), suggesting that formal rules alone are insufficient and that the internalization of institutional values represents a complementary and necessary dimension of control.

The belief control system, as conceptualized within Simons' framework, addresses this dimension directly by articulating and reinforcing the organization's core values, mission, and strategic vision (Hernando et al., 2026). By fostering a shared sense of purpose and aligning individual motivations with institutional objectives, belief controls serve as a moral and ethical foundation for employee decision-making, fostering greater accountability and intrinsic commitment. Research conducted

at a regional development bank in Jambi Province found that the belief control system exerted a significant positive influence on employee performance, operating through mechanisms of motivation, goal internalization, and collaboration (Hernando et al., 2026). These findings are corroborated by Hermawan et al. (2021),(as cited in Hernando et al., 2026), who demonstrated a positive association between belief control systems and managerial effectiveness across financial institutions in Indonesia.

The practical implementation of belief controls in banking takes the form of consistent communication of the institution's vision and mission, the embedding of core values in daily operational processes, and the cultivation of a positive organizational culture characterized by integrity and shared purpose (Hernando et al., 2026). By these mechanisms, belief systems help mitigate the conflicts of interest that frequently give rise to unethical conduct and facilitate the generation of innovative solutions through collaborative engagement among organizational members with diverse experience and knowledge (Hernando et al., 2026).

b) The Problem of Risk and Non-Compliance and the Role of Boundary Control Systems

Banking institutions face persistent and severe risks arising from non-compliance, fraudulent activity, and decisions that exceed permissible operational limits. In highly regulated environments, even minor deviations from established procedures can generate substantial financial and reputational damage (Hernando et al., 2026). Boundary control systems are specifically designed to address this category of risk by establishing explicit guidelines, policies, and procedures that delineate acceptable behaviors and decision-making parameters.

The empirical evidence from Hernando et al. (2026) demonstrated that boundary controls exert a strong and statistically significant positive influence on banking performance, with a path coefficient of 0.810 — the strongest relationship identified in their study. This finding underscores the critical role of boundary controls in ensuring that operational activities, investment decisions, and risk management practices remain aligned with both external regulatory requirements and the institution's internal policies. By defining clear behavioral "do not cross" lines, boundary systems function as institutional safeguards against opportunistic behavior, moral hazard, and procedural error (Hernando et al., 2026).

In the Moroccan banking context, Bank Al-Maghrib's regulatory framework has compelled financial institutions to develop increasingly robust internal control mechanisms, effectively institutionalizing boundary-type controls across the sector (Byadi & Belatik, 2025). The prudential

requirements associated with international norms such as the Basel accords have further reinforced the necessity of boundary systems, requiring banks to maintain capital adequacy ratios, monitor credit risk exposure, and report regularly on their risk positions all of which constitute formalized boundary control mechanisms.

c) The Problem of Strategic Incoherence and the Role of Diagnostic and Interactive Controls

Beyond the management of individual behavior and compliance risk, banking institutions face the challenge of translating broad strategic objectives into actionable operational plans and ensuring that organizational resources are mobilized coherently in their pursuit. Diagnostic control systems address this challenge by enabling the monitoring of key performance variables both financial and non-financial — and by providing structured feedback that allows deviations from planned trajectories to be identified and corrected (Byadi & Belatik, 2025).

The balanced scorecard, initially proposed by Kaplan and Norton (1996) and subsequently applied across numerous banking organizations, exemplifies the diagnostic control logic in practice. By integrating financial metrics — such as net interest margin, profitability ratios, and cost-to-income ratios with non-financial indicators relating to client satisfaction, process quality, and organizational learning, the balanced scorecard enables banking institutions to assess performance in its full multidimensional complexity (Byadi & Belatik, 2025; Chowdhury & Shil, 2023). Research by Kaplan et al. (2010, as cited in Chowdhury & Shil, 2023) demonstrated that when applied to alliance management in a pharmaceutical context, the balanced scorecard reduced the total cycle time for clinical studies by approximately forty percent a finding illustrative of the substantial efficiency gains that structured diagnostic tools can generate.

Interactive control systems, by contrast, are designed to stimulate double-loop learning and organizational creativity, enabling managers and employees to engage in ongoing dialogue about strategic uncertainties and to adapt the institution's course of action in response to changing environmental conditions (Hernando et al., 2026). Research conducted on the banking sectors of Iceland and Denmark found that the insufficient use of interactive controls was associated with institutional fragility during periods of crisis, reinforcing the importance of this control dimension in dynamic and uncertain environments (Putri et al., 2023). The complementarity between diagnostic and interactive controls one providing structured monitoring, the other enabling adaptive learning represents a core principle of effective banking control system design.

3.3 Management Control Instruments in the Banking Sector

3.3.1 Budgetary Management and Financial Planning

Among the instruments through which management control systems are operationalized in banking institutions, budgetary management occupies a foundational position. Budgets serve simultaneously as planning tools establishing resource allocations and performance targets and as control devices, providing the baseline against which actual results are compared (Byadi & Belatik, 2025). In banking, budgetary processes encompass not only operational expenditure planning but also the management of net banking product, which constitutes the primary revenue source for banks and serves as a central performance indicator (Byadi & Belatik, 2025).

However, the traditional budget, when applied rigidly, has been shown to carry significant limitations in dynamic environments. An excessively rigid budgetary framework can impede organizational responsiveness and, paradoxically, create incentives for dysfunctional behavior: research has demonstrated that certain budgetary control styles encourage the creation of budgetary slack and a short-term orientation among managers, particularly in business units pursuing differentiation strategies (Van der Stede, 2000, as cited in Chowdhury & Shil, 2023). These findings suggest the need for more agile budgetary approaches such as activity-based budgeting (ABB) and rolling forecasts that can better accommodate the rapid changes and regulatory demands characteristic of the banking environment (Byadi & Belatik, 2025).

3.3.2 Internal Control Devices and Risk Management Systems

Given the high exposure of banking institutions to financial, operational, and reputational risk, internal control devices constitute an indispensable component of the management control architecture. In the banking sector specifically, the management control function rests on three complementary pillars: financial management, oriented toward profitability, cost control, and balance sheet management; risk management, encompassing the assessment and monitoring of credit, liquidity, and market risks; and strategic and operational steering, which integrates client satisfaction and service quality dimensions into the institution's objectives (Byadi & Belatik, 2025).

Risk management dashboards, prudential ratio monitoring systems, and internal audit mechanisms all serve boundary control functions, establishing the parameters within which banking operations

may legitimately be conducted and providing early warning signals when those parameters are approached or breached. Research has demonstrated that institutions equipped with robust boundary control systems are significantly better positioned to manage regulatory risk and to prevent the fraud, legal violations, and managerial errors that can undermine financial stability and institutional sustainability (Hernando et al., 2026).

In the case of traditional financial institutions embedded in specific cultural contexts such as the Village Credit Institutions (LPD) studied by Putri et al. (2023) in Bali internal control mechanisms take on distinctive forms that reflect local values and social structures. The research found that control systems built on community-based principles of kinship, open management, and collective decision-making through forums produced strong goal congruence and institutional sustainability, demonstrating that effective internal control need not be confined to formal bureaucratic instruments but can also be constructed from culturally rooted social practices. This finding carries important implications for the design of control systems in banking institutions that operate within specific cultural contexts.

3.4 he Indispensable Character of Management Control Systems in Banking

3.4.1 A Non-Negotiable Requirement for Institutional Stability

The evidence reviewed in the preceding sections converges on a conclusion that the existing literature states with increasing clarity: the presence of well-designed management control systems is not an optional feature of banking governance but a structural necessity. The importance of MCS for banking institutions' macroeconomic stability was thrown into sharp relief by the global financial crisis, which demonstrated that inadequate control architectures generate risks that extend far beyond the boundaries of individual institutions (Putri et al., 2023; Byadi & Belatik, 2025).

This necessity operates at multiple levels simultaneously. At the strategic level, management control systems ensure the alignment between the institution's long-term vision and the operational decisions made at lower hierarchical levels, translating strategic intentions into measurable objectives and providing the feedback mechanisms through which strategic coherence can be continuously maintained (Byadi & Belatik, 2025). At the organizational level, control systems facilitate the coordination of diverse functions and actors, ensuring that the institution operates as a coherent whole rather than as a collection of independent units pursuing divergent objectives. At

the operational level, they provide the day-to-day oversight mechanisms that ensure process quality, cost control, and customer satisfaction are consistently maintained.

Research by El Hamzaoui and Bensouda (2019, as cited in Byadi & Belatik, 2025) demonstrated specifically in the Moroccan banking context that institutional performance is strongly dependent on effective management control and reinforced internal governance, enabling superior coordination between strategy, risk management, and organizational efficiency. This finding reflects a broader consensus in the international literature: banking performance, understood in its full multidimensional complexity, cannot be reliably achieved without a systematic control architecture that addresses simultaneously its financial, risk-related, organizational, and behavioral dimensions.

3.4.2 Organizational and Informational Constraints on MCS Design

Notwithstanding the demonstrated necessity of management control systems in banking institutions, the design and implementation of effective MCS architectures is subject to a set of structural constraints that vary considerably depending on the institutional context. These constraints are particularly acute in the case of newly transformed or recently established public banking institutions, and must be carefully accounted for in any realistic approach to control system design.

Four structural constraints are of particular relevance. The first is organizational immaturity: Bedford and Malmi (2015) found that younger firms are more likely to exhibit simple control configurations with minimal formalization, reflecting the limited administrative infrastructure available at early stages of institutional development. The second is informational poverty: effective MCS requires historical performance data that newly established institutions necessarily lack, limiting the reliability of benchmarks and the sophistication of diagnostic tools in the formative period of the institution's development.

The third constraint concerns human capital limitations. Sophisticated management control systems require specialized expertise in control design, financial analysis, risk modelling, and information systems expertise that may be scarce in newly established public banking institutions. Frare et al. (2023) emphasized personnel controls as necessary conditions for organizational resilience, underscoring the centrality of human capital in enabling MCS effectiveness. The fourth constraint is cultural inertia: in contexts where public banking culture has historically prioritized rule compliance over performance management, the introduction of dynamic and outcome-

oriented control mechanisms requires deliberate cultural change management alongside technical MCS reform. This constraint is particularly relevant in institutional contexts shaped by strong bureaucratic traditions, where the shift toward performance-oriented governance represents a significant organizational transition.

4 PERFORMANCE MONITORING, MEASUREMENT, AND FINANCIAL PROFITABILITY

Banks occupy a structurally distinctive position in the economy: they intermediate between savers and borrowers, transform maturities, and bear risk on behalf of their depositors and creditors. This functional specificity renders performance measurement in banking both more complex and more consequential than in other industries. The purpose of a Management Control System (MCS) in a banking institution is not merely to observe financial outcomes ex post, but to align behaviours, allocate resources, and steer decisions toward the institution's strategic and prudential objectives. As Otley (1999, p. 364) notes, the central task of performance management is to ensure, as far as possible, that the overall aims of the organization are achieved. In a bank, those aims are inseparable from the management of risk: profitability and solvency are not sequential concerns but simultaneous constraints. The present section examines, in order, the fundamental concepts of performance monitoring, the principal risks that define the banking environment, the key financial performance indicators through which management exercises oversight, and the prudential ratios through which regulators enforce minimum standards of soundness, before integrating these layers within a coherent MCS architecture applicable to newly established banks.

4.1 Basic Concepts of Performance Monitoring and Measurement

Performance monitoring and measurement constitutes the operational core of any management control and performance management system. Without systematic and rigorous measurement of organizational outcomes, management control remains aspirational — unable to generate the feedback signals necessary for corrective action or the information necessary for strategic learning.

4.1.1 Definition and Scope of Performance Monitoring

Performance monitoring can be defined as the continuous, systematic process of collecting, processing, analyzing, and reporting data on organizational performance relative to established objectives, plans, and standards. Otley (1999, p. 365) and Elktiri and Jaouhari (2022) positioned performance monitoring at the operational center of any performance management framework,

arguing that the systematic tracking of performance against targets is not merely an accountability mechanism but a primary vehicle for organizational learning and strategic adaptation.

Performance monitoring serves multiple organizational functions simultaneously. As a diagnostic function, it enables managers to identify deviations from planned performance, trigger corrective actions, and hold organizational units accountable for their results. As a strategic function, it provides the information base necessary for evaluating the effectiveness of current strategies and updating strategic priorities in light of performance experience. As a motivational function, it creates incentive structures through its link to performance-based reward systems that align individual and organizational goals. As a legitimacy function, it produces the evidence of performance that organizations are required to present to external stakeholders' supervisory authorities, shareholders, and government bodies.

4.1.2 From Output Measurement to Outcome Management

A critical conceptual distinction in performance monitoring is the difference between output measurement and outcome management. Output measurement focuses on quantifying what the organization has produced the volume of loans disbursed, the number of transactions processed, the costs incurred. Outcome management focuses on understanding whether organizational activities have actually achieved the desired results whether housing loans have actually improved housing access for target populations, whether cost management has actually improved financial sustainability. This distinction is particularly important for banking institutions, where the link between operational outputs and social outcomes is often complex, long-delayed, and difficult to quantify.

Ferreira and Otley (2009) emphasized in their extended PMS framework that effective performance management requires monitoring at multiple levels simultaneously from immediate operational outputs to medium-term financial results to long-term strategic outcomes. Their twelve-question framework explicitly addressed the need to identify key performance measures appropriate to each level of organizational activity, recognizing that the measures used at each level must be internally consistent and collectively aligned with the organization's strategic objectives.

4.1.3 Key Attributes of Effective Performance Measures

The design of an effective performance monitoring system requires the selection of performance measures that exhibit several key attributes. First, relevance: measures must capture dimensions of performance that are strategically important and directly actionable by managers. Second, reliability: measures must be based on data that can be consistently collected and accurately calculated over time, enabling meaningful comparison across periods. Third, balance: the performance measurement system must integrate multiple dimensions of performance financial and non-financial, short-term and long-term, internal process and external outcome to avoid the perverse incentive effects associated with single-metric accountability systems. Fourth, timeliness: performance data must be available with sufficient speed to enable timely management responses to emerging performance gaps. (Byadi & Belatik, 2025 ; Hernando et al., 2026)

Ittner and Larcker (1998), as cited in Malmi and Brown (2008), provided extensive empirical evidence that non-financial performance measures are leading indicators of future financial performance, implying that an effective performance monitoring system must integrate both types of measure to provide a complete and forward-looking picture of organizational health. Bedford and Malmi (2015) found empirically that hybrid performance measurement systems combining financial and non-financial indicators are characteristic of the most effective and sophisticated control configurations in complex organizational environments.

4.2 The Banking Risk Landscape: A Structured Taxonomy

Risk management and performance monitoring are two faces of the same governance imperative in banking. The Basel Committee on Banking Supervision has progressively formalized a taxonomy of risks that banks must identify, measure, and govern. These risks do not operate in isolation: they interact, amplify one another, and ultimately determine the profitability outcomes that MCS frameworks seek to optimize. Kohlscheen and Contreras (2018), analyzing 534 banks across 19 emerging markets, demonstrate empirically that sovereign risk premia, credit cycles, and interest rate dynamics jointly shape bank profitability — a finding that underscores the embeddedness of financial performance in a multi-dimensional risk environment.

Table 7: MCS Taxonomies

Risk Category	Definition	Key Drivers	MCS Implication
Credit Risk	Risk that a borrower or counterparty fails to meet contractual obligations, resulting in financial loss to the bank.	Loan growth rate, credit cycle, NPL ratio, borrower quality, collateral values.	Loan loss provisioning (IFRS 9 ECL); NPL monitoring; credit scoring systems; concentration limits.
Market Risk	Risk of losses from adverse movements in market prices: interest rates, exchange rates, equity prices.	Yield curve slope, CDS spreads, FX volatility, trading book positions.	VAR reporting; ALM gap analysis; duration mismatch monitoring; stress testing.
Liquidity Risk	Risk that the bank cannot meet short-term obligations without unacceptable losses.	Funding structure, non-core funding ratio, asset-liability maturity mismatch.	LCR and NSFR monitoring (Basel III); liquidity contingency planning; stress scenario dashboards.
Operational Risk	Risk of loss from inadequate/failed internal processes, people, systems, or external events (Basel II/III).	Process failures, fraud, IT incidents, human error,	Incident reporting; KRI dashboards; internal audit; Business

Risk Category	Definition	Key Drivers	MCS Implication
		cybersecurity breaches.	Continuity Planning.
Strategic Risk	Risk from poor business decisions, faulty strategy, or failure to adapt to competitive/macroeconomic change.	Business model obsolescence, fintech competition, macroprudential policy shifts.	Balanced Scorecard; strategic plan reviews; scenario planning; interactive control systems.
Compliance / Non-Conformity Risk	Risk of legal/regulatory sanctions or reputational damage from non-compliance with laws and standards.	AML/CFT breaches, GDPR violations, supervisory enforcement actions.	Compliance dashboards; three-lines-of-defence model; regulatory reporting calendars.
Systemic / Sovereign Risk	Risk of contagion from sovereign creditworthiness deterioration or macro-financial instability.	CDS spreads, sovereign rating downgrades, currency depreciation, fiscal imbalances.	Kohlscheen et al. (2018): 100bp rise in CDS reduces ROA by 24–27bp. Integrated in ICAAP stress scenarios.

Source: Compiled from Basel Committee on Banking Supervision (2011); Kohlscheen et al. (2018); Financial Stability Board (2015); IFRS Foundation (2014).

Two risk categories deserve particular attention from a performance monitoring perspective. Credit risk is the most direct determinant of bank profitability across business cycles: as Kohlscheen et al. (2018) demonstrate, bank-specific loan growth — and by extension the quality of that growth — consistently outperforms GDP growth as a predictor of ROA in emerging markets. The credit cycle thus matters more for profitability measurement than the business cycle. Sovereign and market risk operate as aggregate amplifiers: a 100-basis point increase in sovereign CDS spreads reduces ROA by 24 to 27 basis points — a relationship that is both statistically and economically significant (Kohlscheen et al., 2018). This finding has direct implications for the design of MCS dashboards, which must incorporate macro-financial risk indicators alongside firm-specific financial metrics.

4.3 Financial Performance in Banking: Definition and Dimensions

Financial performance constitutes the primary dimension of performance measurement in banking institutions, reflecting the institution's capacity to generate returns from its financial intermediation activities while maintaining acceptable levels of risk and regulatory compliance. The concept of financial performance in banking is multi-dimensional, encompassing profitability, efficiency, liquidity, and solvency dimensions that are interconnected but analytically distinct.

Ferrouhi (2018), in a comprehensive overview of theories and models of banking profitability and performance, identified three broad approaches to evaluating banking financial performance: the accounting-based approach (using financial ratios derived from published financial statements), the market-based approach (using stock market indicators for listed banks), and the efficiency-based approach (using frontier analysis methods such as Data Envelopment Analysis or Stochastic Frontier Analysis to compare banks' operational efficiency relative to a best-practice frontier). For BNH, as a publicly owned institution that is not listed on a stock exchange, the accounting-based approach is the most directly applicable, providing the primary framework within which the financial dashboard's indicators are developed.

The measurement of bank performance requires a layered set of indicators that capture, at a minimum, three distinct dimensions: profitability (is the bank generating returns commensurate with its cost of capital?), efficiency (is the bank converting revenues into net income without excessive operational waste?), and financial soundness (is the bank generating value over and above the regulatory minimum?). The following subsection reviews the core KPIs constituting the

diagnostic measurement architecture of a banking MCS, drawing from both academic literature and regulatory practice.

4.4 Key Performance Indicators and Methods for Measuring Banking Profitability

4.4.1 Return on Assets (ROA)

Return on Assets (ROA) is the most widely used benchmark for overall banking profitability, defined as net income divided by average total assets (Molyneux and Thornton, 1992; Golin, 2001; Kohlscheen et al., 2018). The Bank for International Settlements (BIS, 2017) described it as the simplest measure of bank profitability, reflecting how efficiently the institution deploys its asset base to generate net income. In the BIS dataset of 534 EME banks, median ROA moved between 1.0% and 1.5% prior to the global financial crisis, declining thereafter — driven predominantly by compressing net interest margins. An ROA below 0.5% is typically regarded as a signal of structural fragility, while values above 2% are associated with high-margin or high-risk business models.

A key strength of ROA is its independence from the bank's leverage structure: unlike ROE, it is not inflated by high leverage ratios, making it a more conservative and risk-adjusted measure of profitability.

4.4.2 Return on Equity (ROE)

Return on Equity (ROE) measures the financial return generated for the institution's equity holders, calculated as net income divided by shareholders' equity. It is related to ROA through the leverage multiplier:

$$ROE = ROA \times (Total\ Assets / Equity)$$

The European Central Bank (ECB, 2010) identified ROE as one of the most commonly used indicators of banking financial health, cautioning however that it can be misleading when banks use high leverage to amplify equity returns, since high ROE can coexist with elevated financial risk. This limitation is particularly important in the public banking context, where equity is provided by the state and the institution's sustainability rather than maximizing equity returns is the primary performance objective.

Kohlscheen et al. (2018) confirm that the drivers of ROE mirror those of ROA — long-term rates positively associated, short-term rates and CDS spreads negatively associated — validating cross-measure robustness. Post-Basel III, regulatory pressure to increase capital ratios has compressed

ROE across the banking industry, making it an increasingly unreliable standalone performance metric.

4.4.3 Net Interest Margin (NIM)

Net Interest Margin (NIM) is the primary measure of the profitability of a bank's core financial intermediation function, defined as the difference between interest income earned on loans and securities and interest paid on deposits and borrowed funds, expressed as a proportion of interest-earning assets. Kohlscheen et al. (2018) find that NIM responds positively to long-term interest rates and to bank-specific credit growth, while rising short-term rates compress it — consistent with Demirgüç-Kunt and Huizinga (1999) and Kasman et al. (2010). A steepening yield curve widens NIM because banks borrow short and lend long; a flattening or inverted curve squeezes it, pushing institutions toward non-interest income diversification.

Al-Homaidi et al. (2018) used NIM alongside ROA and ROE as the three primary proxies for banking profitability in their panel data study of Indian commercial banks, noting that NIM captures the efficiency with which the bank manages the interest rate spread between its lending and borrowing activities — dimensions that balance-sheet-based measures do not. Net Banking Income (NBI)

Net Banking Income (NBI) regulatory parlance — is the banking-sector equivalent of gross profit: it aggregates interest margin and non-interest income (fees, commissions, trading revenues) and represents the total value added by banking activity before operating expenses and provisions. It is the primary revenue line from which the Cost-to-Income Ratio is computed and serves as the base for business line allocation in RAROC frameworks and management accounts. NBI growth is a leading indicator of profitability sustainability, particularly when it reflects diversified income sources rather than a single revenue driver.

4.4.4 Cost-to-Income Ratio (CIR)

The Cost-to-Income Ratio (CIR) — also known as the efficiency ratio — measures the proportion of a bank's Net Banking Income that is absorbed by operating expenses:

$$CIR = \text{Operating Expenses} / NBI$$

The BIS (2017) and ECB (2010) both identified CIR as a critical indicator of banking operational efficiency, with lower ratios indicating more effective cost management. Al-Homaidi et al. (2018) found that operating efficiency (proxied by CIR) is one of the most consistently significant

determinants of bank profitability across institutional types. Industry benchmarks vary significantly: retail-heavy banks in developed markets typically operate between 55% and 65%, while well-managed emerging market institutions can achieve ratios below 50%. In MCS terms, the CIR is a key diagnostic control: persistent deterioration signals either revenue compression, cost inflation, or both, triggering corrective action.

4.4.5 Non-Performing Loan Ratio (NPL Ratio) and Provisioning

The Non-Performing Loan (NPL) ratio — calculated as the proportion of a bank's loan portfolio classified as non-performing relative to total gross loans — is the primary indicator of asset quality and credit risk, which are central dimensions of financial performance in banking. Al-Homaidi et al. (2018) and the BIS (2017) both found that asset quality is a highly significant determinant of banking profitability: deteriorating loan quality increases provisioning charges, which directly reduce net income and, through their impact on capital, constrain the bank's capacity for future growth.

4.4.6 Economic Value Added (EVA) and Risk-Adjusted Return on Capital (RAROC)

Economic Value Added (EVA), originally developed by Stern Stewart & Co. and applied to banking by Uyemura, Kantor, and Pettit (1996), is defined as Net Operating Profit After Tax (NOPAT) minus the weighted average cost of capital multiplied by invested capital:

$$EVA = NOPAT - (WACC \times Capital)$$

The EVA answers a question that accounting returns cannot: is the bank creating or destroying economic value relative to the cost of the capital it employs? A positive EVA indicates value creation above the minimum required by investors; a negative EVA signals value destruction even when accounting profits are positive.

Risk-Adjusted Return on Capital (RAROC) operationalizes EVA at the transaction and business-line level:

$$RAROC = \text{Risk-Adjusted Net Income} / \text{Economic Capital}$$

Unlike ROA and ROE, RAROC adjusts both the income numerator for expected credit and market losses and the capital denominator for the economic capital required to support the portfolio's risk profile, enabling banks to allocate capital efficiently, price credit products correctly, and evaluate divisional performance on a risk-neutral basis. The ECB (2010) identified RAROC as a critical tool for risk-return tradeoff decisions, while Malmi and Brown (2008) classify hybrid financial-

risk metrics of this type within the cybernetic control category, recognizing their role in linking performance measurement to accountability and decision-making within the MCS package.

Table 8: Core Banking KPIs: Formula, Benchmark, Cycle Sensitivity, and MCS Role

Indicator	Formula	MCS Function
ROA	Net Income / Avg. Total Assets	Primary profitability diagnostic
ROE	Net Income / Avg. Equity	Investor return benchmark
NIM	Net Interest Income / Earning Assets	Interest rate risk monitoring
NBI	NIM Revenue + Non-Interest Income	Revenue base for CIR and RAROC
CIR	Operating Expenses / NBI	Efficiency diagnostic control
EVA / RAROC	NOPAT − (WACC × Capital) / Risk-adj. Income ÷ Econ. Capital	Value creation assessment; capital allocation

Source: Compiled from Kohlscheen et al. (2018); Molyneux and Thornton (1992); Uyemura et al. (1996); BIS (2017); ECB (2010); Al-Homaidi et al. (2018).

4.5 Prudential and Regulatory Ratios: From Basel IV to IFRS 9

The prudential architecture within which banking MCS frameworks operate has been transformed over three decades by successive iterations of the Basel Accords, Basel I (1988), Basel II (2004), Basel III (2010–2017), and the final standards now collectively designated Basel IV, as well as by the introduction of IFRS 9 (2018), which replaced IAS 39 with a forward-looking Expected Credit

Loss (ECL) model. These frameworks do not merely impose minimum capital floors; they define the measurement conventions, disclosure requirements, and risk governance structures within which banks must construct their performance monitoring systems.

4.5.1 Capital Adequacy Ratios (Basel III / IV)

Capital adequacy is the cornerstone of banking prudential regulation. The Basel framework requires banks to hold minimum levels of capital in proportion to their risk-weighted assets (RWAs). Three capital ratios and a leverage ratio backstop are reported and continuously monitored:

Table 9:Core Banking KPIs: Formula, Benchmark, Cycle Sensitivity, and MCS Role

Ratio	Definition	Basel III Minimum	Basel IV Change
CET1 Ratio (Common Equity Tier 1)	Highest-quality capital (ordinary shares + retained earnings) / Risk-Weighted Assets.	4.5% + 2.5% buffer = 7%	Output floor (72.5% of standardized RWAs) constrains internal model advantages.
Tier 1 Capital Ratio	CET1 + Additional Tier 1 (AT1, incl. Coco bonds) / Risk-Weighted Assets.	6.0%	Stricter eligibility criteria for AT1 instruments.
Total Capital Ratio (CAR)	Tier 1 + Tier 2 Capital (subordinated debt, general provisions) / Risk-Weighted Assets.	8.0% + buffers	Revised credit risk standardized approach affects RWA calculation.
Leverage Ratio	Tier 1 Capital / Total Exposure (non-risk-weighted). Backstop	3.0% minimum	G-SIB surcharge of 50% of risk-based G-SIB buffer.

Ratio	Definition	Basel III Minimum	Basel IV Change
	to RWA-based measures.		

Source: Basel Committee on Banking Supervision (2017, 2019); European Banking Authority (2021).

4.5.2 Liquidity Ratios (Basel III)

The 2007–2009 financial crisis revealed that capital adequacy, however well-designed, was insufficient to prevent liquidity-driven bank failures. Basel III consequently introduced two mandatory liquidity standards.

The Liquidity Coverage Ratio (LCR) is defined as High-Quality Liquid Assets (HQLA) divided by Net Cash Outflows over 30 days, with a minimum requirement of 100%. The LCR ensures that a bank can survive a severe short-term stress scenario of 30 days without central bank support. Kohlscheen et al. (2018) include the bank liquidity ratio (securities / total assets) as a control variable in their profitability models, confirming its relevance both as a safety buffer and as a drag on earning assets when held in excess.

The Net Stable Funding Ratio (NSFR) is defined as Available Stable Funding (ASF) divided by Required Stable Funding (RSF), with a minimum requirement of 100%. The NSFR extends the liquidity horizon to one-year, incentivizing banks to fund longer-term assets with stable, longer-term liabilities. In the Kohlscheen et al. (2018) framework, the non-core funding ratio — the proportion of funding obtained from sources other than retail deposits — is negatively associated with profitability, underscoring the premium cost of wholesale and non-core funding. The NSFR operationalizes, at a regulatory level, the risk that this cost asymmetry creates.

4.5.3 IFRS 9 and the Expected Credit Loss Framework

Prior to IFRS 9 (effective 1 January 2018), banks recognized credit losses only when a loss event had occurred — the incurred loss model of IAS 39. The financial crisis exposed this model's fundamental procyclicality: provisions were too low in boom phases and rose dramatically in downturns, amplifying earnings volatility precisely when capital was most scarce. IFRS 9 replaced this with a three-stage Expected Credit Loss (ECL) model:

Table 10:I FRS 9 Three-Stage ECL Model: Classification and Provisioning Logic

Stage	Classification	Credit Loss Recognition	MCS / Performance Impact
1	Performing — no significant increase in credit risk since origination.	12-month ECL: probability-weighted present value of credit losses expected within 12 months.	Minimal provisioning drags on NIM and ROA; supports credit growth monitoring.
2	Underperforming — significant increase in credit risk since origination (SICR trigger).	Lifetime ECL: full expected losses over the remaining life of the instrument.	Provision cliff: migration from Stage 1 to Stage 2 can multiply provisions by 5–10×, sharply reducing profitability metrics.
3	Credit-impaired — objective evidence of default (NPL).	Lifetime ECL on a credit-impaired basis; interest income on net carrying amount only.	Full write-down impact on NIM, LLP, CIR, and capital. Recovery rates become the key performance variable.

Source: IFRS Foundation (2014); European Banking Authority, Guidelines on ECL (2017); Kohlscheen et al. (2018).

The ECL framework has several important MCS consequences. First, it makes provisioning forward-looking, increasing the information demand on management: banks must now integrate macroeconomic scenarios, probability-weighted forecasts, and point-in-time probability of default estimates into their quarterly provision calculations. Second, it creates a Stage 2 cliff effect: the migration of performing loans to the underperforming bucket triggered by a Significant Increase in Credit Risk (SICR) threshold causes a sudden and large provisioning charge that can materially reduce reported ROA without any loan having formally defaulted. This dynamic connects directly

to the loan loss provision results of Kohlscheen et al. (2018), who find that provisions rise significantly with short-term interest rates consistent with IFRS 9, since higher rates increase borrower refinancing costs and thus the probability of SICR triggers being met.

4.6 Integrating Risk, KPIs, and Prudential Ratios within the MCS Architecture: An Application to BNH

The performance indicators reviewed in the preceding subsections ROA, ROE, NIM, NBI, CIR, NPL ratio, provisioning, EVA/RAROC and the prudential ratios CET1, LCR, NSFR do not operate in isolation as management control instruments. Their full decision-support potential is realized only when they are integrated within a coherent financial dashboard architecture that presents them in their mutual relationships, contextualized by trend data, benchmarks, and qualitative commentary, and embedded in a clearly defined governance structure.

Merchant and Van der Stede's (2007) concept of result controls applies directly: banks must define which results constitute acceptable performance, set targets for each indicator, and initiate corrective action when deviations occur. But result controls in banking are insufficient without boundary controls in Simons's (1995) sense the prudential floors below which performance cannot fall without triggering regulatory intervention. The interaction between these two logics defines the performance governance architecture of banking institutions.

Ferreira and Otley's (2009) extended PMS framework provides a useful template for this integration, emphasizing that effective performance management requires clarity not only about what is being measured the indicators but also about how performance information is used: who receives it, in what format, at what frequency, with what feedback consequences, and within what governance structure.

The feedback loop constituting the operational heart of the banking MCS operates as follows: monthly management accounts generate the diagnostic signal; quarterly SREP (Supervisory Review and Evaluation Process) reporting tests whether the bank's risk profile remains within regulatory expectations; the annual ICAAP and ILAAP (Internal Capital and Liquidity Adequacy Assessment Processes) translate these signals into capital and liquidity planning; and the Board Risk Committee exercises ultimate oversight. Any indicator breaching its threshold a NIM compressed below the cost-of-funds breakeven, a CET1 ratio approaching its combined buffer requirement, or a Stage 2 migration rate accelerating triggers escalation and corrective response. This architecture reflects precisely what Otley (1999) identified as the performance management

imperative: not the measurement of outcomes alone, but the creation of conditions in which those outcomes can be improved.

The findings of Kohlscheen et al. (2018) take on clear managerial interpretation within this framework. The dominance of credit growth over GDP growth as a predictor of profitability implies that bank performance monitoring systems must be calibrated to the financial cycle, not merely to macroeconomic conditions. The negative effect of short-term rates on NIM and their positive effect on loan loss provisions implies that interest rate risk management is simultaneously a profitability and a credit quality concern, requiring coordination between the ALM function, the risk function, and the finance function within the MCS. The significant negative effect of sovereign CDS spreads on ROA underscores the importance of macro-financial scenario integration in ICAAP stress testing a regulatory requirement that is, at its core, a performance monitoring tool.

The conceptual linkage between management control, performance management, and financial performance monitoring can therefore be summarized as follows: management control systems, understood as packages of planning, cybernetic, administrative, reward, and cultural mechanisms (Malmi & Brown, 2008), find their ultimate expression in a performance management process oriented toward the achievement of strategic financial and mission objectives (Otley, 1999; Ferreira & Otley, 2009). The financial dashboard serves as the primary operational instrument of this performance management process — the interface through which management control generates the information necessary for organizational decision-making, learning, and adaptation. In BNH's specific context, this dashboard must integrate financial profitability metrics (ROA, ROE, NIM, NBI, CIR), asset quality indicators (NPL ratio, provisioning coverage), risk-adjusted performance measures (RAROC/EVA), public mission indicators, operational efficiency metrics, and prudential capital and liquidity ratios within a coherent, visually accessible, and decision-oriented framework.

Section 2: Corporate Governance, Banking Governance, and Management Control Systems

1 Defining Governance: Origins, Conceptual Debates, and the Plurality of Perspectives

The word *governance* has become one of the most widely used and, simultaneously, one of the most contested concepts in contemporary management and social science literature. Its etymological roots lie in the Latin *gubernare* and the Greek *kybernan*, both meaning to steer or to pilot, a metaphor that captures its essential logic: governance is about directing collective endeavors toward intended destinations while managing the risks and deviations that inevitably arise along the way. Despite this ancient heritage, governance as a formal object of academic study is relatively recent, gaining its current prominence largely through the corporate scandals and financial crises of the late twentieth and early twenty-first centuries that exposed the devastating consequences of its failure.

Before offering a working definition, it is worth acknowledging that governance means different things in different disciplinary traditions. Political scientists use it to describe the processes through which public authority is exercised and public decisions are made, including the roles of states, markets, civil society, and international institutions. Development economists use it to assess the quality of institutions in emerging economies, focusing on rule of law, corruption control, and accountability mechanisms. Management scholars use it primarily in the corporate sense, focusing on the internal structures and processes through which firms are directed, controlled, and made accountable to their various stakeholders. These different usages share a common thread: in every tradition, governance is ultimately about *accountability, control*, and the *alignment of power with responsibility*.

In the corporate context, the foundational definition was supplied by the Cadbury Committee (1992) in the United Kingdom, whose landmark report defined corporate governance simply as *the system by which companies are directed and controlled* (Cadbury Committee, 1992, p. 15). The elegance of this definition lies in its breadth: it does not specify the mechanisms of direction and control but opens the field to any institutional arrangement that shapes how decisions are made and who is held accountable for their consequences. The Organization for Economic Co-operation and Development (OECD, 2004) expanded this definition in its Principles of Corporate Governance, describing governance as a set of relationships between a company's management,

its board, its shareholders, and other stakeholders, and providing the structure through which the objectives of the company are set and the means of attaining them and monitoring performance are determined.

This OECD formulation is particularly significant for the purposes of the present study because it explicitly links governance to objective-setting and performance monitoring, the two activities that lie at the heart of both Management by Objectives (MBO) and management control systems (MCS). The OECD's framing thus anticipates the analytical connection that will be developed throughout this section: governance is not a separate administrative layer sitting above management but the institutional framework that gives management control its authority, its direction, and its accountability structure.

Table 1 below presents a selection of influential definitions of governance drawn from different theoretical traditions, highlighting the conceptual diversity that characterizes this literature while also identifying the common analytical threads that run through it.

Table 11:Selected Definitions of Governance Across Theoretical Traditions Selected Definitions of Governance Across Theoretical Traditions

Author(s)	Discipline / Context	Core Definition	Key Emphasis
Cadbury Committee (1992)	Corporate governance / UK	The system by which companies are directed and controlled.	Accountability & control
OECD (2004)	International / multi-sector	A set of relationships between a company's management, its board, shareholders, and other stakeholders, providing structure for setting and attaining objectives.	Stakeholder relationships
Jensen & Meckling (1976)	Financial economics / Agency theory	Governance as the resolution of agency conflicts arising from the separation of ownership and control in the modern corporation.	Agency problem & incentives
Shleifer & Vishny (1997)	Finance / law	The ways in which suppliers of finance to corporations assure themselves of getting a return on their investment.	Investor protection
Basel Committee (2006, 2015)	Banking / prudential regulation	Governance as the allocation of responsibilities among the board,	Risk governance & oversight

		senior management, and internal control functions, with the aim of ensuring the bank's safety, soundness, and compliance.	
Tirole (2001)	Financial theory	The design of institutions that induce or compel management to internalize the welfare of stakeholders.	Institutional design

Source: Compiled from Cadbury Committee (1992), OECD (2004), Jensen & Meckling (1976), Shleifer & Vishny (1997), Basel Committee on Banking Supervision (2015), and Tirole (2001).

Reading across the definitions presented in Table 1, several recurring themes emerge. First, governance is consistently understood as a *systemic* phenomenon: it is not reducible to a single actor, mechanism, or decision but encompasses the entire institutional architecture through which organizational behavior is shaped. Second, governance is inherently concerned with *conflict*: the conflicts of interest between owners and managers (Jensen & Meckling, 1976), between shareholders and other stakeholders (OECD, 2004), between short-term profitability and long-term stability (Basel Committee, 2015). Third, and perhaps most importantly for the purposes of this study, governance is fundamentally about *alignment*: the alignment of behavior with organizational objectives, of managerial incentives with stakeholder interests, of decision-making authority with accountability.

1.1 The Agency Theory Foundation: Why Governance Problems Arise

The modern academic study of corporate governance is inseparable from agency theory, the analytical framework developed by Jensen and Meckling (1976) to explain the problems that arise when ownership and control are separated in the modern corporation. Their seminal paper described the *principal-agent relationship* as a contract under which one or more persons (the principals: typically shareholders) engage another person (the agent: management) to perform a service on their behalf, which involves delegating some decision-making authority to the agent. The central problem is that the agent will not always act in the best interests of the principal,

because the agent has their own interests, information advantages, and risk preferences that may diverge from those of the principal (Jensen & Meckling, 1976).

This divergence of interests, which Jensen and Meckling called *agency costs*, takes several forms. Agents may pursue personal benefits such as excessive compensation, empire-building, or risk avoidance that are inconsistent with shareholder value maximization. Agents may also exploit information asymmetries: because management typically knows far more about the firm's internal operations and prospects than shareholders do, they can use this informational advantage strategically. The fundamental governance problem, in this framework, is how principals can structure their relationship with agents so as to minimize these agency costs and align agent behavior with principal interests (Shleifer & Vishny, 1997).

The mechanisms that governance scholars have identified for managing agency problems map almost directly onto the typology of management controls developed in the MCS literature. Monitoring mechanisms, such as board oversight, internal audit, and external financial reporting, correspond to what (Simon, 1995) called diagnostic controls: formal information systems used to monitor outcomes and correct deviations from preset standards. Incentive alignment mechanisms, such as performance-related pay, equity stakes, and claw back provisions, correspond to reward and compensation controls in the (Malmi & Brown, 2008) taxonomy. Behavioral restrictions, such as conflict-of-interest policies, investment mandates, and regulatory capital requirements, correspond to boundary controls that define the limits of permissible action (Simon, 1995). The conceptual overlap is not coincidental: both governance theory and MCS theory are ultimately addressing the same fundamental problem of how to ensure that people with delegated authority behave in ways that serve the interests of those who delegated it.

Jean Tirole (2001), whose work on the theory of corporate finance integrated governance concerns into the broader framework of financial economics, argued that the key challenge of governance was the design of institutions that induce or compel management to internalize the welfare of stakeholders. This formulation is strikingly close to what the MCS literature describes as the purpose of management controls: to ensure that employees' behaviors and decisions are consistent with the organization's objectives and strategies (Malmi & Brown, 2008, p. 290)The intellectual kinship between governance theory and MCS theory is, in this light, fundamental rather than superficial.

1.2 Corporate Governance in Banking Institutions: Specificities, Challenges, and Regulatory Responses

While the general principles of corporate governance apply across all types of organizations, banking institutions present a set of characteristics that make governance both more complex and more consequential than in non-financial firms. Understanding these specificities is essential for appreciating why governance in banking has attracted such intense regulatory attention, and why the relationship between governance and management control is particularly tight in this sector.

1.2.1 The Unique Complexity of Banking Governance

The governance of banks is structurally more demanding than the governance of ordinary corporations for at least four interconnected reasons.

First, banks are *opacity-intensive* organizations. Unlike manufacturing firms, whose assets are largely tangible and therefore observable, banks' primary assets are loans, financial instruments, and off-balance-sheet exposures that are notoriously difficult to value and monitor from the outside. This opacity amplifies the information asymmetry between insiders (management) and outsiders (shareholders, depositors, regulators), making the agency problem particularly acute. As Caprio and Levine (2002) noted, the governance of banks is harder than the governance of other firms precisely because what banks do is so hard to observe.

Second, banks are *highly leveraged* institutions. A typical large bank funds over ninety percent of its assets with debt, primarily deposits and wholesale market borrowings, and only a small fraction with equity capital. This extreme leverage means that shareholders have a small cushion of equity protecting them from losses, which can create incentives for excessive risk-taking: shareholders gain the upside of risky strategies while depositors and taxpayers bear much of the downside if risks materialize (Dewatripont & Tirole, 1994). Governance mechanisms must therefore address not only the standard shareholder-manager agency conflict but also the conflict between shareholders and debt-holders, including depositors and the public purse.

Third, banks are *systemically important* in ways that ordinary firms are not. The failure of a large bank, or the simultaneous distress of multiple smaller banks, can disrupt credit supply, payment systems, and financial markets in ways that cascade through the entire economy. This systemic dimension creates a public interest in bank governance that goes well beyond the private interests of shareholders: poorly governed banks can impose massive negative externalities on

society, as the 2007-2009 global financial crisis demonstrated with extraordinary force (Laeven & Levine, 2009).

Fourth, banks are *heavily regulated* entities subject to a dense and constantly evolving body of prudential rules, disclosure requirements, and supervisory oversight that has no equivalent in most other industries. This regulatory environment does not replace the need for governance but fundamentally shapes it: bank boards and senior management must simultaneously manage business objectives and ensure compliance with a regulatory framework designed to protect depositors, preserve financial stability, and maintain public trust. The interaction between regulatory requirements and internal governance structures is itself a complex management challenge (Adams & Mehran, 2012).

1.2.2 The Basel Committee Principles of Corporate Governance for Banks

The international regulatory community's most authoritative response to the challenges of banking governance is the Basel Committee on Banking Supervision's (BCBS) *Corporate Governance Principles for Banks*, most recently updated in 2015. These principles, which build on earlier versions published in 1999, 2006, and 2010, reflect the lessons of the global financial crisis and provide a comprehensive framework for sound governance in banking institutions.

The Basel principles are organized around thirteen core areas, covering the responsibilities and composition of the board of directors, the role of senior management, the governance of risk management, the compliance function, internal audit, compensation, and transparency. What is immediately striking about these principles, viewed through the lens of management control theory, is how closely they mirror the typology of management controls identified in the academic literature. Table 2 below identifies the key selected Basel principles and maps them onto their corresponding MCS dimensions.

Table 12:Selected Basel Committee (2015) Governance Principles and Their MCS Equivalents

Principle	Theme	Relevance to MCS and MBO
1	Board overall responsibilities	The board sets the bank's strategic direction, which is the origin point of any objective-setting cascade. Without board-level clarity, MBO agreements at lower levels lack strategic coherence.
2	Board qualifications and composition	Board members must possess sufficient expertise to evaluate management's use of MCS information; without this capacity, diagnostic control reports are effectively unread.
6	Risk governance	The risk management function is a formalized MCS subsystem: it quantifies, monitors, and reports risk exposures against board-approved risk appetite statements.
9	Compliance function	The compliance function operationalizes boundary controls (Simons, 1995), defining and enforcing the behavioral limits within which performance objectives are pursued.
11	Compensation	Sound compensation structures align individual incentives with the bank's long-term risk appetite; poorly designed incentives are among the most common causes of MCS dysfunction in banking.
13	Disclosure and transparency	External disclosure requirements create public accountability feedback loops that complement and reinforce internal MCS mechanisms.

Source: Compiled from Basel Committee on Banking Supervision (2015) and Simons (1995), Malmi & Brown (2008).

Table 2 reveals that the Basel governance framework is, in effect, a sector-specific formalization of MCS principles. Risk governance (Principle 6) corresponds to diagnostic and cybernetic controls. The compliance function (Principle 9) corresponds to boundary controls. Compensation (Principle 11) corresponds to reward and compensation controls. Transparency

(Principle 13) corresponds to the feedback and information loops that are the fifth element of Otley's (1999) performance management framework. The Basel framework did not derive these principles from MCS theory, but the convergence reflects the fact that both are responding to the same fundamental challenge: how to ensure that people with delegated authority in complex organizations behave in ways that serve the interests of those who delegated it.

1.3 The Architecture of Banking Governance: Key Pillars and Their Institutional Functions

Bank governance is typically described in terms of a multi-layered architecture of accountability structures, each operating at a different level of the organization and serving complementary functions. Table 3 below synthesizes the key governance pillars in banking institutions, their institutional mechanisms, and their functions.

Table 13: The Architecture of Governance in Banking Institutions: Pillars, Mechanisms, and Functions

Pillar	Institutional Mechanism	Function in Banking Governance
Board of Directors	Independent directors, audit committee, risk committee, nomination and remuneration committee	Sets strategic direction; oversees senior management; approves risk appetite; safeguards depositor and shareholder interests
Senior Management	Executive committee, chief risk officer, chief compliance officer	Translates board directives into operational plans; manages day-to-day performance; ensures objective alignment through MBO-type processes
Internal Control Functions	Risk management, compliance, internal audit (the Three Lines of Defence)	Identifies, measures, monitors, and reports risks; ensures regulatory compliance; provides

		independent assurance to the board
Transparency & Disclosure	Financial reporting, regulatory filings, Pillar 3 disclosures (Basel III)	Provides markets, regulators, and stakeholders with accurate information about financial condition, risk exposures, and governance practices
External Control	Prudential supervisors, external auditors, credit rating agencies, market discipline	Supplements internal governance by imposing externally enforced standards; detects governance failures that internal controls miss

Source: Adapted from Basel Committee on Banking Supervision (2015), Adams & Mehran (2012), and Laeven & Levine (2009).

The most important institutional innovation in banking governance over the past two decades has been the formalization of the *Three Lines of Defence* model, which provides a structured framework for distributing risk management and control responsibilities across the organization. The first line consists of the business functions themselves: relationship managers, traders, credit officers, and other operational staff who originate transactions and are responsible for managing the risks they create. The second line consists of the independent risk management and compliance functions, which set risk policies, establish limits and monitoring frameworks, and provide challenge to the first line's risk-taking. The third line is internal audit, which provides independent assurance to the board and senior management that the first two lines are functioning as intended (Institute of Internal Auditors, 2013).

This three-layer structure maps directly onto the administrative and behavioral control typology developed in the MCS literature. Malmi and Brown (2008) defined administrative controls as those that direct employee behavior by organizing individuals, monitoring behavior, and specifying who is responsible for the actions of employees and how tasks should be performed.

The Three Lines of Defence is precisely such an administrative control structure: it specifies who is responsible for risk management (first line), who monitors and challenges risk behavior (second line), and who provides independent assurance (third line). The model thus institutionalizes the control logic that MCS theory prescribes, embedding it in the governance architecture of the bank.

1.4 The Governance-MCS Nexus in Banking: From Theoretical Overlap to Institutional Integration

Having examined governance and MCS separately, it is now possible to articulate the relationship between them with greater precision. The argument developed here is that governance and MCS are not two separate domains that occasionally intersect but two analytical perspectives on the same organizational phenomenon, viewed from different levels of abstraction and with different points of emphasis.

From the governance perspective, the central question is: *how are accountability relationships structured so that those with authority over organizational resources are answerable for how they use them?* This is fundamentally a question about institutional design: who sits on the board, what committees exist, what information flows to whom, what sanctions exist for misconduct. From the MCS perspective, the central question is: *how are the formal and informal mechanisms that influence employee behavior designed and operated so as to produce outcomes consistent with organizational objectives?* This is fundamentally a question about management technology: what controls are in place, how are they configured, and do they function as intended.

The connection between these two perspectives runs through the concept of *performance management* as formalized by Otley (1999). His five-question framework, which asks about objectives, strategies, targets, rewards, and feedback loops, is simultaneously a description of what MCS must address and a specification of what governance structures must provide. Without governance, MCS lacks authority and accountability: controls can be designed but not enforced, objectives can be set but not sanctioned, and feedback can be generated but ignored. Without MCS, governance lacks operational substance: board oversight cannot function without the information systems that produce the data the board reviews, and compensation policies cannot align incentives without the performance measurement systems that determine what is rewarded.

(Anthony & Dearden, 1976), whose distinction between strategic planning, management control, and operational control remains foundational in the MCS literature, effectively described governance as the strategic planning layer that sets the direction and constraints within which

management control operates. Boards of directors engage in something very close to what Anthony called strategic planning: they approve the bank's risk appetite, set the strategic direction, establish the values and ethical standards, and approve the overall budget and resource allocation. Senior management then engages in management control: translating the board's strategic direction into operating plans, setting performance targets, monitoring results, and initiating corrective action. The operational staff engage in what Anthony called operational control: executing the plans within the constraints and objectives set by management.

Simons (1995) provided the most explicit theoretical framework for understanding how governance structures and MCS interact through his Levers of Control model. Simons argued that effective organizational control required the simultaneous use of four types of control systems: belief systems that communicate core values and inspire commitment, boundary systems that define the limits of acceptable behavior, diagnostic control systems that monitor performance against preset standards, and interactive control systems through which senior managers engage with key performance uncertainties. In the banking context, these four levers correspond almost perfectly to the four layers of governance identified by the Basel Committee. Belief systems correspond to the tone-at-the-top and cultural governance promoted by the Basel principles. Boundary systems correspond to the compliance and regulatory limit frameworks. Diagnostic systems correspond to the risk management reporting and internal audit functions. Interactive systems correspond to the board-level engagement with strategic risks and uncertainties.

1.5 Governance Failures in Banking and the Role of MCS Dysfunction

The theoretical connection between governance and MCS becomes particularly stark when examined through the lens of governance failure. The 2007-2009 global financial crisis, which originated in the United States mortgage market and spread with devastating speed through the global financial system, was widely interpreted by regulators, academics, and practitioners as, at its root, a governance failure. The Financial Stability Board (2009), the Basel Committee (2010), and numerous national regulatory inquiries reached broadly similar conclusions: that the boards of many large financial institutions had failed to understand or challenge the risks being taken by their management, that incentive structures had encouraged excessive short-term risk-taking, that risk management functions had been insufficiently independent and resourced, and that the cultural norms of many institutions had prioritized growth and profit over sound risk management and ethical behavior.

Each of these governance failures has a direct MCS counterpart. Board failure to understand and challenge management corresponds to a dysfunction in diagnostic and interactive controls: the information systems were either not producing the right data, not presenting it clearly, or not being used interactively by senior managers to question and revise strategy. Incentive structures that encouraged excessive risk-taking correspond to a failure of reward and compensation controls: performance-related pay was generating perverse behaviors because it was tied to short-term revenue rather than risk-adjusted, long-term value creation (Bebchuk & Spamann, 2010). The marginalization of risk management functions corresponds to a failure of the Three Lines of Defence model: boundary controls were in place on paper but lacked the authority and independence to constrain first-line risk-taking in practice. Cultural normalization of excessive risk-taking corresponds to a failure of belief controls: the values communicated by senior leadership were inconsistent with the risk management principles articulated in formal governance documents.

The aftermath of the crisis produced a wave of regulatory reform explicitly designed to address these MCS dysfunctions through governance mechanisms. The Basel III capital and liquidity requirements imposed tighter cybernetic controls through mandatory quantitative limits on risk-taking. The supervisory review process (Pillar 2) required banks to demonstrate the adequacy of their internal governance and MCS arrangements to regulators. The compensation guidelines issued by the Basel Committee (2015) sought to realign reward structures with long-

term, risk-adjusted performance. The enhanced expectations for board risk oversight sought to strengthen the diagnostic control function at the governance level.

What this post-crisis regulatory history demonstrates is that governance and MCS reform cannot be pursued independently: they are the same reform agenda expressed in different registers. Strengthening governance without improving the underlying MCS infrastructure is futile, because governance depends on management information that only functioning MCS can produce. Improving MCS without strengthening governance is equally futile, because MCS effectiveness depends on the authority and accountability structures that only governance can provide.

Conclusion of the chapter

This chapter has reviewed the theoretical and empirical literature relevant to management control systems, banking governance, financial performance measurement, and the specific challenges faced by newly established banking institutions. It has highlighted the main theoretical perspectives, identified the existing gaps in the literature, and established the conceptual foundations of this research. These insights provide the basis for the methodological approach adopted in the following chapter to examine the design and implementation of a Management Control System within the National Housing Bank.

CHAPTER II: METHODOLOGICAL AND ORGANIZATIONAL FRAMEWORK

Section 1: Methodology and Data Collection Procedures

1 The Choice of a Constructivist Positioning

The objective of this dissertation is to examine how a newly established bank can design and implement an effective management control system, with a particular focus on the development of a financial KPIs dashboard. More specifically, the research seeks to understand how such a system can support financial performance monitoring, risk control, and decision-making in a context of institutional transformation.

A review of the literature reveals that while management control systems have been extensively studied, limited attention has been given to their design in newly established banking institutions, particularly in emerging or transforming contexts. Moreover, the integration of performance measurement tools such as dashboards within a broader control architecture remains insufficiently explored in situations characterized by organizational emergence and structural instability.

Given this theoretical gap and the complexity of the research object, this study adopts a constructivist epistemological stance. From this perspective, organizational realities such as control systems are not considered as fixed or objective structures, but rather as socially constructed artifacts, shaped by the interpretations, interactions, and practices of organizational actors.

In line with this positioning, the research also follows the engineering science paradigm, which aims not only to understand organizational phenomena but also to design and propose actionable solutions. In this case, the goal is to develop a context-specific management control system, operationalized through a financial KPI dashboard adapted to the needs of a newly created bank.

Thus, the research adopts an abductive approach, seeking to capture how actors perceive, design, and use control mechanisms, while simultaneously contributing to the construction of a practical managerial tool.

2 An Abductive Logic of Inference

2.1 Definition and Distinction from Competing Logics

The methodology literature classically distinguishes three logics of inference through which scientific knowledge is constructed: deduction, induction, and abduction. Each requires precise definition before our choice can be justified.

Deduction proceeds from the general to the particular: from a theory or set of general laws, the researcher derives hypotheses that are submitted to empirical verification. This logic is characteristic of positivist hypothetico-deductive approaches and presupposes the existence of a sufficiently developed theoretical body to authorize the formulation of testable hypotheses.

Induction proceeds inversely, from the particular to the general: from accumulated empirical observations, the researcher infers regularities or general theoretical propositions. It is characteristic of grounded theory approaches (Glaser and Strauss, 1967), in which theory emerges from data without prior mobilization of existing theoretical frameworks or concepts.

Abduction constitutes a third logic, introduced by the American pragmatist philosopher Charles Sanders Peirce (1878) and developed in the management sciences notably by Koenig (1993) and Dumez (2011). Abduction consists in formulating the best plausible explanation of an observed phenomenon, drawing jointly on empirical data and existing theoretical frameworks in an iterative back-and-forth movement. For Peirce, abduction is the only type of inference capable of generating genuinely new ideas: it is not a demonstration but a reasoned conjecture a provisional explanatory hypothesis submitted to the dual test of the field and the existing literature.,

Koenig (1993, p. 7) defines abduction as the operation which consists in drawing from observation conjectures that must subsequently be tested and discussed.

More precisely, the abductive process involves three movements: the observation of a surprising or unexpected fact on the field; the formulation of an explanatory hypothesis which, if true, would render that fact intelligible; and the submission of this hypothesis to iterative testing through movements between the field and the literature. Abduction is thus distinguished from induction which departs from data without prior theoretical framework and from deduction which departs from a theory for the purpose of testing by combining both in a dynamic and iterative movement. Dubois and Gadde (2002, p. 554) capture this in their notion of systematic combining,

according to which 'the theoretical framework, the empirical fieldwork, and the case analysis are developed simultaneously'.

2.2 Justification of the Abductive Choice

Several reasons motivate our adoption of an abductive logic of inference.

First, our research object involves a dimension of **discovery**: we seek to identify and construct conceptual entities capable of capturing a poorly charted phenomenon. This constructive ambition is not compatible with deduction, which presupposes a complete theoretical framework, nor with pure induction, which ignores the contributions of existing literature and risks reinventing theoretical wheels already available in the scholarly conversation.

Second, our constructivist epistemological stance implies that knowledge is the product of interactions between the researcher, their theoretical framework, and field actors. Abduction is precisely the inferential logic that best reflects this co-production of knowledge: it does not claim to discover a pre-existing reality (positivism) nor merely to describe actors' meanings (pure interpretivism), but to construct, through successively tested conjectures, viable representations of the phenomenon studied. This is entirely coherent with what Le Moigne (2012) characterizes as the constructivist project of knowledge.

Third, the abductive logic is particularly well-suited to our research design: the back-and-forth movements between the field and the literature constitute, the very engine of our hybrid exploratory approach. Each return to the field nourishes a revision or refinement of our theoretical conjectures; each return to the literature enables us to test the coherence, and reach of those conjectures. This iterative movement is the operational definition of abduction as practiced in qualitative management research.

3 A Qualitative Research Approach

3.1 Definition

Qualitative research is defined by Paillé and Mucchielli (2016, p. 13) as inquiry that involves personal contact with research subjects, principally through interviews and the observation of practices in the very environments in which actors evolve. More fundamentally, Grenier and Josserand (2014, p. 124) emphasize that the most distinctive characteristic of qualitative inquiry resides in the centrality of **interpretation**: not that of the researcher, but those of the individuals being studied, the researcher positioning themselves as an interpreter of the field, even if their own interpretation may be more theoretically elaborated than that of the subjects.

Qualitative research simultaneously admits the subjectivity of the researcher and that of the subjects. It offers the opportunity for a confrontation with multiple realities, insofar as it exposes the nature of the relationship between the researcher and the research object, thereby enabling a more nuanced evaluation of the researcher's posture of interaction with the phenomenon described. Qualitative research does not seek statistical generalization to a population, but rather **in-depth understanding** of a phenomenon in context, and the construction of theoretically grounded propositions on the basis of this understanding.

3.2 Justification

Our choice of a qualitative approach is necessitated by epistemological, theoretical, and empirical considerations operating simultaneously.

On the **epistemological** level, constructivism is fundamentally incompatible with hypothetico-deductive quantitative approaches, which presuppose the existence of measurable variables, independent of one another, linked by stable causal relationships. Our constructivist stance requires instead rich, dense, and contextualized data, capable of rendering the complexity of the organizational phenomena we study. As Avenier and Gavard-Perret (2008) note, constructivist research positions itself within the human and social sciences referential, in which the hypothesis of subject/object separability is rejected, and the methodological principles appropriate to the study of complex social phenomena are interpretive rather than experimental.

On the **theoretical** level, the scarcity of prior work on our research object makes it impossible to mobilize operationalized and validated measures. Qualitative research is, as Eisenhardt (1989, p. 532) observes, particularly appropriate 'in the early stages of research on a topic or to provide freshness in perspective to an already researched topic.

On the **empirical** level, the nature of the data we have been able to collect in-depth interviews, observations, internal documents, and secondary sources is intrinsically qualitative. These data are not reducible to numerical variables: they consist of discourses, narratives, observed practices, and representations that only a qualitative approach is capable of processing with the rigor and fidelity the research requires.

3. Data Collection

3.1. Access to the Field

Access to the research field was obtained through direct contact with the host organization. Initial interactions allowed the researcher to gain a preliminary understanding of the organizational context, as well as the existing practices related to management control and performance monitoring.

These early exchanges also helped refine the research problem and identify key informants.

3.2. Data Collection Process

Data collection was conducted using multiple methods:

- A comprehensive review of recent literature on management control systems and the main research themes examined in this dissertation.
- Semi-structured interviews (primary data),
- Observation,
- Internal document analysis.

The process followed an iterative logic, where data collection and analysis were conducted simultaneously, enabling progressive refinement of the research focus.

3.3. Data Collection Techniques

Document Analysis

Internal documents (financial reports, dashboards, internal procedures) were analyzed to gain a formal understanding of the existing management control system practices.

This method also enabled cross-validation of information obtained through interviews and observations.

This framework enables both:

- a deep understanding of how management control systems are constructed in a newly established bank,
    - and the design of a practical tool, namely a financial KPI dashboard, adapted to the organization's specific needs

Interviews

Semi-structured interviews constitute the main source of data. They were conducted with key organizational actors, including managers involved in finance, risk management, and strategic decision-making.

The interview guide covered several themes inspired by multiple research (Magnani & Gioia, 2023; Corley and Gioia, 2004; Arian and Sands, 2019; Avallone et al., 2026, Gioia, 2020; Kressmann and Mueller-Seeger, 2025)

As part of this study, a semi-structured interview guide was developed to ensure a consistent and organized data collection process. The guide is composed of open-ended questions structured around several thematic sections, allowing respondents to express their views freely while remaining aligned with the objectives of the research. For this reason, the interviews were conducted in French, as the participants were more comfortable speaking French than English.

The guide is organized as follows:

Introduction:

The interviews began with an introduction outlining the objectives of the dissertation and the purpose of the study. Participants were then presented with the main themes and structure of the interview guide. Prior to commencing the interview, their informed consent was obtained to audio-record the discussion for transcription and analysis purposes.

Section 1: Profile and Institutional Context

This section aims to identify the interviewee's role and responsibilities within the bank, as well as to understand the institution's mission and its current stage of development.

Section 2: Management Control System

This section focuses on the existence and functioning of the management control system. It explores how objectives are defined, the presence of formal procedures, and the role of organizational culture in performance management.

Section 3: Management Control Tools

This part examines the main tools used, such as budgeting, reporting, and management accounting, in order to assess how performance is monitored within the bank.

Section 4: Dashboard and Financial KPIs

This section addresses the use of dashboards and financial indicators. It aims to identify the key performance indicators used and the challenges related to their implementation, plus the expectations regarding KPI dashboards.

Section 5: Financial Performance Measurement

This section explores how financial performance is evaluated and monitored, including the use of financial ratios and the monitoring of credit risk.

Section 6: Information System

This part focuses on the capacity of the information system to provide reliable data for performance measurement and reporting.

Section 7: Governance

This section examines the influence of regulatory requirements, organizational culture, and governance practices on the management control system.

Section 8: Perspectives and Recommendations

The final section aims to collect the interviewees' suggestions and perspectives regarding the improvement of the management control system and its future development.

Acknowledgment

At the end of each interview, the participants were sincerely thanked for their time, their availability, and the valuable information they provided, which greatly contributed to the advancement of this research.

The interview guide was designed to cover the main aspects of the research topic while allowing flexibility during the interviews. It ensured the collection of relevant and structured qualitative data, this flexible format allowed respondents to express their perspectives while ensuring consistency across interviews.

Observation

Observation was used to complement interview data by providing insights into actual organizational practices. It allowed the researcher to better understand the context in which control systems operate.

4 Interview Process

The interviews were conducted individually during the internship period with several managers involved in the organization's management control activities, including management control officials, department heads, and human resources managers. These preliminary exploratory discussions made it possible to gain a better understanding of the organizational environment and helped in the development of a structured interview guide, which was later used to conduct the semi-structured interviews included in the appendix.

The interview process lasted approximately two weeks, with each interview ranging from 20 to 60 minutes. To ensure the reliability and accuracy of the collected information, all interviews were recorded and later transcribed for analysis.

Table 14: Table of interviewees

interviewees	Position	Duration
1	Director of Forecasting and Budgetary Control	**54 min**
2	Head of Budgetary Control Department	**57 min**
3	Director of Risk	**48 min**
4	Head of Reporting and Taxation Department	**1 hr 15 min**
5	Human Resources Director	**55 min**
6	DWIRA Program and CBS Project Director	**25 min**
7	Director of Branch Networks and Sales Animation	**30 min**
8	Director of E-Banking and Digital Banking	**45 min**
9	Director of Credit Commitments	**40 min**

Source: elaborated by author

5 . Data Analysis

To analyze the field data collected during the study, the research adopted the following methodological approach:

5.1 The Gioia Methodology

This research relied on the Gioia methodology developed by Dennis A. Gioia (2013), which provides a systematic approach for transforming raw qualitative data into structured theoretical insights. The methodology is organized around three successive analytical stages:

- **First-order concepts:** These represent the initial coding stage based directly on interview responses, organizational documents, and field observations. The analysis at this level remains descriptive and closely reflects the terminology and viewpoints expressed by participants.

- **Second-order themes:** At this stage, the researcher moves from simple description to analytical interpretation by grouping related concepts into broader explanatory themes.
- **Aggregate dimensions:** The final stage consists of synthesizing the identified themes into overarching dimensions that explain the phenomenon under study and provide a comprehensive interpretation of the management control system.

5.2 Justification for Using the Gioia Methodology

The Gioia methodology is particularly suitable for examining complex organizational processes and management control practices. Initially introduced by Corley and Gioia (2004) as a theoretical perspective, it was later formalized into a rigorous methodological framework for qualitative research in 2013.

The Gioia methodology was selected as the analytical framework for this study because it provides a rigorous and transparent approach to abductive qualitative data analysis while preserving the richness of participants' perspectives (Gioia et al., 2013).

Through its structured coding process, which progresses from first-order concepts to second-order themes and aggregate dimensions, the methodology facilitates the systematic transformation of empirical data into theoretical insights. This process enhances the credibility, transparency, and methodological rigor of qualitative research by maintaining a clear connection between participants' narratives and the researcher's interpretations (Gioia et al., 2013; Corley & Gioia, 2011; Charmaz, 2014; Gioia, 2021; Eisenhardt and Graebner 2007; Hambrick, 2007)

This methodology is appropriate for the objectives of this dissertation, which seeks to examine the implementation of a Management Control System at the National Housing Bank from the perspectives of key organizational actors. As an exploratory qualitative case study, this research aims to identify emerging themes and develop context-specific insights grounded in empirical evidence rather than predefined assumptions (Eisenhardt, 1989; Eisenhardt and Graebner, 2007; Schwarz and Stensaker, 2014; Magnani and Gioia, 2023).

Furthermore, the systematic organization of qualitative data offered by the Gioia methodology strengthens the trustworthiness of the findings and provides a coherent framework for analyzing complex management practices (Tracy, 2010; Gioia et al., 2013).

Section 2: ORGANIZATIONAL FRAMEWORK

The banking sector was selected due to the critical importance of management control in a highly sensitive environment characterized by money creation and financial intermediation. Given the systemic risks involved and the sector's exposure to strict and evolving regulations, banks must ensure rigorous control over their activities. This requires strong governance frameworks based on transparency, compliance, and effective risk management.

In this context, management control systems play a key role by integrating performance monitoring into organizational processes. Through indicators, reporting tools, and control mechanisms, they enable banks to evaluate performance, identify deviations, and support decision-making, ensuring alignment between strategic objectives, regulatory constraints, and actual outcomes.

These characteristics make the banking sector a relevant field for studying the design and implementation of management control systems.

Within this framework, the National Housing Bank (NHB) constitutes a particularly relevant case study. As a newly established institution, it provides an opportunity to analyze how a management control system and its associated performance monitoring mechanisms are progressively developed and implemented within a regulated and strategically important environment.

1 Presentation of the host organization

In this section, we will present the National Housing Bank through its history, the rationale behind its institutional transformation, vision, activities, and its organizational structure.

The National Housing Bank (NHB) is the result of a major institutional transformation in Algeria's housing finance system. It originates from the National Housing Fund (Caisse Nationale du Logement-CNL), which was established in 1991 as a public industrial and commercial entity (EPIC). The CNL was primarily responsible for managing state housing subsidies and supporting public housing policies, particularly for low- and middle-income households.

Over the years, the CNL played a central role in financing housing programs, notably through the allocation of public funds. However, this model, heavily reliant on the State budget, gradually revealed its limits in the face of increasing housing demand, growing financial pressure on public resources, and the need to ensure the sustainability of financing mechanisms.

In response to these challenges, public authorities initiated a structural reform aimed at modernizing and diversifying the housing financing system. This led to the transformation of the CNL into a banking institution, better suited to operate within a market-oriented financial environment while maintaining its public service mission.

The National Housing Bank was officially established in 2022 following a series of regulatory and institutional milestones, including the transformation of the CNL into a joint-stock company (SPA) and the approval granted by the Bank of Algeria. This transformation reflects a strategic shift toward reducing dependence on direct public funding and promoting the mobilization of market-based financial resources, particularly through savings collection and credit allocation.

The establishment of the NHB thus marks a transition from a predominantly social and administrative model to a hybrid model combining public policy objectives with banking and commercial logic. It aims to enhance efficiency in housing finance, strengthen financial intermediation, and support the long-term sustainability of housing programs in Algeria.

The main milestones in the development of the institution can be summarized as follows:

- **1991**: Establishment of the National Housing Fund CNL as a public entity (EPIC).
- **1994**: Placement of the CNL under the supervision of the Ministry of Housing.
- **2018**: Transfer of the activities of the former CNAT to the CNL.
- **October 2022**: The National Housing Fund was transformed from an Industrial and Commercial Public Establishment (EPIC) into a Public Economic Enterprise (EPE)

organized as a joint-stock company (Société par Actions – SPA), pursuant to **Executive Decree No. 22-357** (JORADP, 2022)

- **December 2022**: The National Housing Bank (NHB) was officially established and authorized through **Decision No. 22-03**, issued by the Algerian authorities (JORA.DP, 2022).
- **January 2023**: The NHB obtained its official banking license and commenced banking operations. The bank was subsequently included in the List of Licensed Banks as of 5 January 2023, published in the *Official Journal of the People's Democratic Republic of Algeria* (JO.RADP, 2023), following authorization by the Bank of Algeria.

Through this transformation, the NHB has become a key institutional actor in the financing of housing in Algeria, combining its historical expertise with new banking functions to meet the evolving needs of the sector**.**

The National Housing Bank (NHB) performs two complementary strategic functions **i**n addition to its banking mission. First, it operates an **engineering consultancy (design and engineering office)**, providing technical studies, project design, and consultancy services to construction companies and other stakeholders in the construction sector. Second, the NHB has retained the responsibilities previously entrusted to the National Housing Fund, namely the management of Algeria's public housing programs and the administration of government housing subsidies.

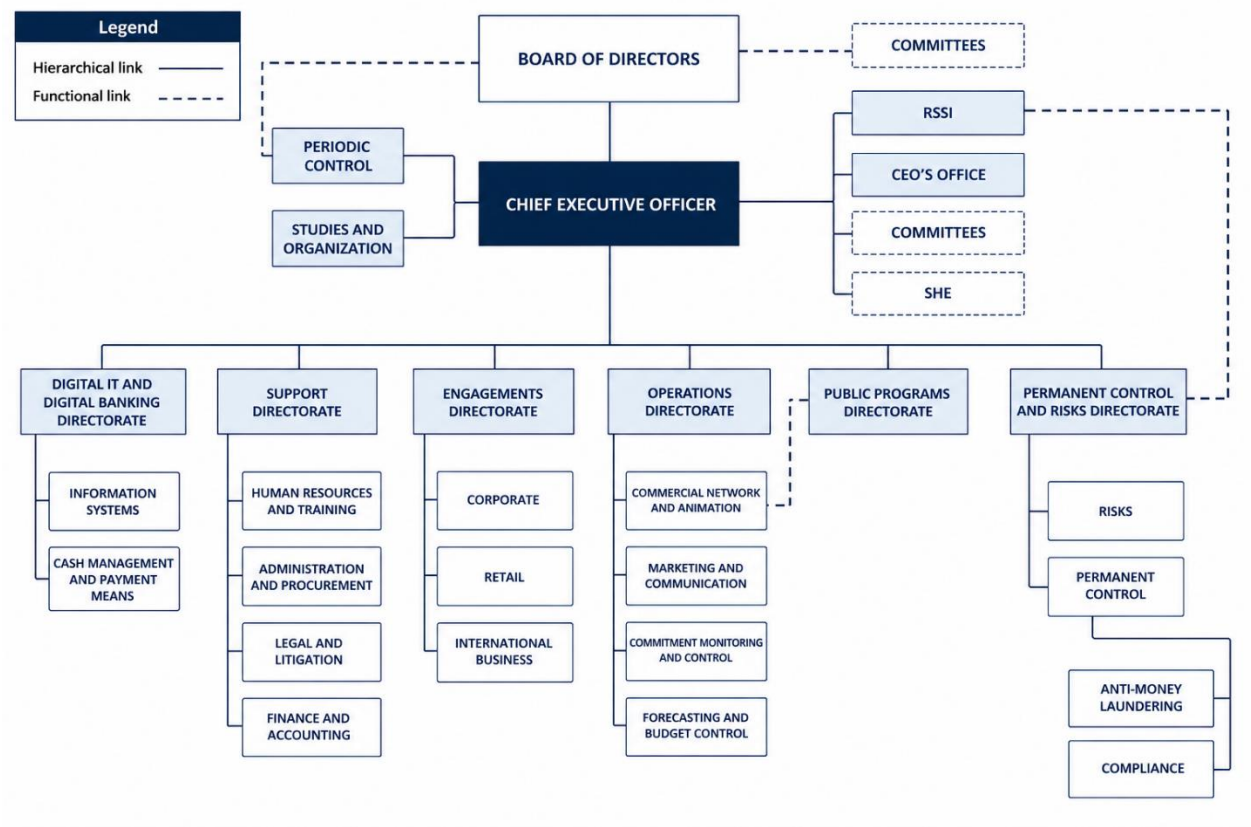
In this capacity, the NHB currently serves as the **lead institution** for the financing and management of the **AADL 3** housing program, one of the largest public housing programs in Algeria. Furthermore, the bank offers a comprehensive range of financial products and services to individuals, professionals, and corporate clients through both conventional and Islamic banking. Its service portfolio also includes a variety of digital banking (e-banking) solutions designed to enhance customer accessibility and service delivery.

1.1 Organizational design principles

The organizational structure of the NHB was designed in accordance with two simultaneous sets of constraints. On one side, the Bank of Algeria's prudential requirements impose minimum standards in terms of risk governance, compliance, internal audit, and the separation of commercial and control functions that every licensed bank must respect. On the other side, the specific sectoral mandate of the NHB, as a bank specializing in housing and real estate, required the creation of operational units with deep knowledge of the housing market, construction cycles, public housing programs, and the interaction between banking products and State subsidy mechanisms. The Business Plan describes the operational activity as organized around **six functions** that enshrine the principle of separation of activities, built from the reorganization of the CNL's existing structures and the creation of new ones.

Reading the organogram provided by the institution, the structure articulates around a Board of Directors and its specialized committees at the governance level, a General Director with functional units reporting directly (Periodic Control, Studies and Organization, IT Security, HSE), and six Deputy General Directorates (DGAs) covering IT and Digital Banking, Support, Engagements, Exploitation, Public Programs, and Permanent Control and Risks. This architecture reflects both universal banking standards and the NHB's specific public mission, with the DGA for Public Programs being an original structural feature that no purely commercial bank would carry, dedicated entirely to managing the State-funded housing programs inherited from the CNL.

Figure 3: the organizational organigramme of the NHB



Source: internal documents

1.2 The Host Department: Direction of Forecasting and Budgetary Control

1.2.1 Placement within the organization

The internship that forms the empirical basis of this thesis was carried out within the **Department of Forecasting and Budgetary Control** (***Direction des Prévisions et du Contrôle Budgétaire DPCB***), a specialized unit attached to the **DGA Exploitation**, the Deputy General Directorate responsible for the bank's operational activities. Within DGA Exploitation, the DPCB sits alongside three other departments: the Branch Network and Commercial Animation Department, the Marketing and Communication Department, and the Recovery and Commitment Control Department. This positioning reflects the DPCB's dual role: it is both an operational unit that supports the commercial activities of the network through budget allocation and monitoring, and a strategic unit that produces the financial projections and performance reports that inform decision-making at the highest governance levels of the institution.

1.2.2 Missions and functions of the DPCB

- Preparation and consolidation of the annual budget across all directorates.
- Alignment of budget forecasts with the strategic objectives approved by the Board of Directors.
- Translation of strategic objectives into an operational financial plan.
- Integration of banking revenues, subsidy management income, operating expenses, and investment needs into the budgeting process.
- Monitoring of budget execution through periodic budgetary control (monthly and quarterly).
- Comparison of actual results with budget forecasts and identification of variances.
- Preparation of management reports for the General Direction and the Board to support corrective decision-making.
- Production of multi-year financial projections for strategic planning purposes.
- Preparation of prudential and financial projections required by the Bank of Algeria.
- Assessment of the sustainability of the bank's business model under different economic scenarios

1.2.1 Synthesis: Why the BNH Is a Relevant Research Setting

The presentation developed in this chapter makes clear why the BNH constitutes not just convenient but theoretically relevant research setting for the study of MBO and management control. The institution combines, in a single context, four characteristics that make it particularly informative for the research questions addressed in this thesis.

- A newly created organization undergoing institutional and managerial transformation.
- An evolving management control structure still in its formative stage.
- A dual mandate combining commercial banking objectives and public policy missions.
- The coexistence of financial profitability objectives and social housing responsibilities.
- The presence of objective tensions between commercial performance and social impact goals.

- A central budgetary control function linking strategy, operational execution, and performance monitoring.
- The strategic role of the DPCB in translating Board objectives into operational budgets and control mechanisms.
- A unique observational context for studying the interaction between MBO and management control systems.
- A high level of institutional self-awareness among managers and employees due to the novelty of the organization.
- An environment where organizational choices, control mechanisms, and governance practices remain visible, negotiable, and reflexively discussed.

CHAPTER 3: RESULTS ANALYSIS AND DISCUSSION

Results Discussion

This chapter constitutes the analytical core of our research. It aims to present, interpret, and discuss the results of our case study on the implementation of an effective management control system in the National Housing Bank. Mobilizing data collected through direct observation, document analysis, and semi-structured interviews, we conduct a cross-reading using the Gioia method to uncover the underlying logics that structure the ongoing implementation of the MCS during the institutional transformation marked by the transition of the host organization from the *Caisse Nationale du Logement (CNL)*, a public housing institution, to the National Housing Bank (NHB), a newly established banking institution operating under a fundamentally different regulatory, financial, strategic, and managerial framework.

To gain a comprehensive understanding of this institutional transformation and the prerequisites, challenges, and phases followed in the implementation of the Management Control System (MCS), we conducted interviews with representatives from various organizational units involved in the process. The data collection was facilitated and coordinated by the Director of Forecasting and Budgetary Control, who guided us throughout the different stages of the investigation.

The interview corpus was then subjected to a systematic two-stage analysis process. During the first stage, a set of first-order codes was generated and labelled as closely as possible to the informants' own terminology and expressions. In the second stage, these codes were grouped into broader second-order themes through a comparative analysis informed by the theoretical literature on Management Control Systems (MCS), Management by Objectives (MBO), and bank performance governance reviewed in the preceding chapters.

1 Cross-analysis of data using the Gioia method

Following the methodology presented in the previous chapter, the Gioia method (2014) enables us to move from raw verbatims collected in the field to second-order themes, and then to aggregated dimensions that constitute the structural elements of our analysis. This abductive, data-driven movement gives our interpretive approach a rigor that mere description would not achieve.

1.1 Analysis across all the interviews sections

Table 15:Gioia coding structure

First-order concepts	Source	Second-order themes	aggregated dimensions
"The IS is archaic, abandoned since 2018" "The IS does not allow easy data extraction" "Everything is done manually, it is not efficient" "Data quality, existence and relevance are our main limits"	**Interviews**	**Information System as the Central Bottleneck of MCS Construction**	**DIMENSION 1 Information System Deficiency as the Primary MCS Constraint**
"The CBS project is underway; by end of 2025 we expect to have it" "Both the ERP and CBS projects are in progress" "Once IS is in place, everything will follow"	**Interviews**	**IS Implementation as a Strategic MCS Enabler in Progress**	**DIMENSION 1 (cont.)**
"We only have budgetary control for now" (Multiple informants) "Analytical accounting not yet in place" "No formalized MCS structure exists yet" "There are no responsibility centers"	**Interviews**	**Embryonic MCS: Budgetary Control as the Sole Operational Instrument**	**DIMENSION 2 Partial and Fragmented MCS Architecture**
"We have a simple comparative dashboard" "At my level we track 3 indicators: accounts opened, resources collected, loans granted" "We have a financial TBD but not complete"	**Interviews**	**Rudimentary Dashboards Without Integrated KPI Framework**	**DIMENSION 2 (cont.)**
"La note de cadrage from DG defines strategic priorities" "Objectives are cascaded pyramidally from DGA to departments" "Commercial objectives are set by the DGA-Exploitation"	**Interviews**	**Top-Down Objective Cascade**	**DIMENSION 3 Incipient Goal-Setting Logic**
"Objectives are adjusted every year through variance analysis" "Quarterly reporting to DG and Board comparing actuals vs. targets"	**Interviews**	**Feedback Loop Exists but Remains and Manual**	**DIMENSION 3 (cont.)**

"If we are going to adopt the MBO: we need to train managers to set attainable objectives and staff to achieve them"			
"Of 1,500 employees, only ~400 have banking backgrounds" "The challenge was redeploying CNL profiles to a banking paradigm" "We pass more time collecting info than analyzing it" "Human capital must be well trained; a bad expression of need gives a bad IS"	**Interviews**	**Human Capital Gap: Profiles, Banking Culture, and Analytical Skills**	**DIMENSION 4 Human Capital as a Dual Constraint and Critical MCS Enabler**
"The culture is still oriented toward compliance, not performance" "Making employees understand what a bank is that is the challenge" "Resistance to change is human; it is managed through communication and training" "Shifting from a public service to a commercial enterprise is a paradigm shift"	**Interviews**	**Cultural Transition: From Compliance Orientation to Performance Culture**	**DIMENSION 4 (cont.)**
"The MCS must be updated with each new BA regulation" "There are 40–50 regulatory reports to produce periodically" "Prudential ratios: solvency, liquidity, permanent resources ratios" "Digitalization remains limited; but future integration of a Core Banking System and fintechs will lead to an ERP for total relevance of info and accrual of performance monitoring" "The performance culture is mainly oriented towards compliance with rules and procedures"	**Interviews**	**Banque d'Algérie Regulation as an Exogenous MCS Architecture Constraint**	**DIMENSION 5 Regulatory Governance as Both Constraint and MCS Foundation**
"We are realizing the forecast budget together"			

"We have interactions with the budget department to give them the realization rates, budget consumption rates" "The budget setting process is operational; it starts with the collection of needs from structures" "The forecast budget is submitted to the board of directors for validation" "At my level we don't have a formalized management control system, we only have budgetary control"	**Interviews**	**Operational budgeting as a primary control mechanism**	**Formal Management Control Practices**

1.2 Analytical Synthesis of the Organizational Structure: An Adaptive Organization in Transition

The National Housing Bank's structure results from a logic of transformation rather than a from-scratch creation which was mentioned by all the informants. Two foundational decisions shaped the current organizational architecture: redeployment of existing CNL staff, supported by an intensive training policy, and targeted recruitment of experienced banking profiles assigned to central directorates. This dual approach reflects the constitutive tension of the transformation: preserving institutional assets while introducing banking-specific skills.

The current organization includes six central deputy general directorates, enshrining the principle of activity separation in accordance with Bank of Algeria requirements. Although functional, this structure remains in a state of permanent adjustment, notably because of its dependence on the CBS information system deployment. In other words, the definitive structuring of the organization is conditional on the complete commissioning of the bank's technological core.

The single most consistent finding across all nine interviews is the identification of the information system (IS) as the foundational prerequisite without which no meaningful MCS can function. Every informant, regardless of their functional position whether in budgetary control, risk management, commercial operations, or financial reporting converged on this conclusion with an unanimity that is itself analytically significant. The current IS was characterized as archaic,

abandoned since 2018, and replaced by an interim solution that all interviewees described as technically insufficient for the data extraction requirements of modern banking performance monitoring.

This finding resonates powerfully with the theoretical framework developed in our preceding sections. Anthony and Dearden (1976) defined the management control level of the organization as the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives. This process is inherently informational: it presupposes the existence of reliable, timely, and granular data flows connecting operational activity to managerial decision-making. Where such flows are absent, the MCS collapses into a collection of isolated instruments in the NHB's case, a budgetary control system operating largely on manually collected data.

The Core Banking System CBS was described as project expected to be operational by the end of 2025, alongside an ERP covering support functions. The planned data warehouse structure would feed direction-level dashboards and enable the transition from quarterly to monthly, and eventually real-time, reporting. This technological roadmap is fully consistent with what Malmi and Brown (2008) call the 'package' view of MCS: the IS is not itself an MCS instrument, but it is the infrastructure without which the instruments cybernetic controls, planning systems, performance dashboards cannot operate coherently.

The IS bottleneck also explains what might otherwise appear as an organizational anomaly: a bank in its third year of operation that has not yet implemented analytical accounting, has no responsibility center-level profitability calculation, and cannot compute standard financial ratios such as ROA or NIM at the branch level. As Kohlscheen et al. (2018) demonstrated, these very metrics are the primary determinants of bank profitability their absence from the NHB's management information system is not a choice but a technical constraint that the CBS implementation is designed to resolve.

1.2 Analytical synthesis of the Existing Management Control Practices at the NHB

The gap between the NHB's budgetary control system and a full MCS is significant and theoretically important. Simons (1994) distinguishes diagnostic control systems which monitor outcomes against preset standards and generate variance signals from the broader MCS architecture that includes belief systems, boundary systems, and interactive controls. What the NHB currently operates is a rudimentary diagnostic control system in Simons's (1995) terms: it compares actual budget consumption, against forecast and generates quarterly reports for the DG and Board. What it lacks are the feedback loops, the analytical accounting infrastructure, and the responsibility center architecture necessary for a fully functional MCS.

At The NHB, budgetary control currently represents the dominant and most formalized management control instrument. Although interviewees acknowledge the absence of a fully structured management control system, the budgeting process already performs essential control functions such as planning, coordination, controlling the budget execution. The interviews reveal a collaborative budgeting logic where operational structures participate in defining needs and communicating realization and budget consumption rates to the Direction of Forecasting and Budgetary Control (*Direction des prévisions et controle budgétaire DPCB*).

This demonstrates that budgetary control is not limited to financial supervision but operates as a coordination mechanism linking operational units, senior management, and the Board of Directors.

The DFBC occupies a central position in this architecture by transforming strategic orientations into operational financial targets through annual budget preparation, variance analysis, reporting, and financial projections. Through these activities, the department ensures the alignment between strategic objectives, operational execution, and regulatory requirements. The validation of the forecast budget by the Board of Directors further illustrates the institutional importance of the budgeting process within NHB’s governance structure.

In practice, budgetary control functions as the bank’s principal management control mechanism because it provides the only formalized framework for monitoring performance and supporting managerial decision-making. However, the findings also indicate that NHB’s management control system remains predominantly budget-centered, with limited development of

broader strategic or multidimensional control tools. Consequently, budgetary control currently acts as the operational backbone of the bank's formal management control practices during its ongoing institutional transformation.

The absence of analytical accounting explicitly confirmed by multiple informants is a particularly consequential gap. Without it, it is impossible to allocate head office overhead costs to operating branches, to calculate the net contribution of each agency, or to evaluate the profitability of individual product lines. As noted in the preceding section on banking KPIs, the NBI and CIR at the branch level are the foundational metrics of commercial bank performance monitoring. Their absence from the NHB's current information set means that management cannot distinguish high-performing from low-performing agencies, cannot reward differential performance, and cannot allocate scarce resources efficiently. This is precisely the gap that MBO approach, as articulated by Odiorne (1965) and formalized by Doran's (1981) SMART criteria, is designed to address: by setting clear, measurable objectives for each responsibility center, management creates the accountability structure within which performance differences become visible and actionable.

1.3 The Human Dimension in Management Control System Implementation

The human dimension is both the main challenge and the key driver of NHB's transformation and management control system implementation. The institution inherited a workforce largely composed of former CNL employees specialized in public accounting, while only a limited number possessed banking expertise, highlighting the scale of the cultural and professional transition required.

To support this transformation, NHB adopted a human resource strategy based on three priorities: acquiring experienced banking professionals for critical functions, developing employee competencies through intensive training programs exceeding regulatory requirements, and maintaining acquired skills through knowledge transfer and retention initiatives. The increasing training completion rates and the implementation of specialized banking programs reflect the institution's strong commitment to professionalization and organizational alignment. Centralized training management also ensures coherence, coordination, and cost control throughout the transformation process.

1.4 The CBS as the backbone of management control system implementation

The information system constitutes the main structural challenge to the implementation of the management control system at NHB. The bank currently relies on a transitional technological infrastructure with limited functionalities, restricting performance monitoring, reporting reliability, data integration, and strategic decision-making.

To address this limitation, NHB launched the DWIRA Core Banking System (CBS) project in 2024 and expected to be done by the end of 2026, considered the cornerstone of the future management control framework. The project aims to provide the digital infrastructure necessary for integrated banking operations, automated reporting, and effective performance management. In addition to the CBS, the transformation includes the development of communication networks, cybersecurity systems, and data protection mechanisms.

The acronym DWIRA reflects the project's strategic vision: **D**igital **W**orkspace, **I**nformation, **R**esources, and **A**ccess. The findings indicate that project DWIRA is expected to significantly enhance organizational performance through the progressive automation of banking processes, improved reliability of operations, strengthened managerial oversight, and reduced processing times. Furthermore, the system is designed to improve customer experience by facilitating access to banking services while reducing the need for physical travel. Beyond its operational benefits, the CBS project also supports regulatory compliance and information security requirements through the integration of advanced cybersecurity, data protection, and business continuity mechanisms. As such, the implementation of DWIRA emerges as a key enabler of both the bank's institutional transformation and the successful operationalization of its Management Control System.

Although the CBS is viewed as essential for strengthening management control practices, its effectiveness will depend on the institution’s ability to successfully implement and fully utilize the system’s functionalities within the broader organizational and managerial structure.

1.5 Analytical synthesis of the current governance Practices

It was observed that the NHB governance is strongly shaped by the regulatory framework imposed by the Bank of Algeria. The interviews reveal that the management control system doesn't get impacted directly by the new banking regulations but it must continuously adapt theme and extensive regulatory reporting requirements. Prudential indicators such as solvency, liquidity, and permanent resource ratios occupy a central role in managerial monitoring, demonstrating that governance within the bank is largely compliance-oriented and structured around risk control and regulatory discipline. As a result, regulatory governance acts both as an external constraint and as the foundational basis of the bank's management control architecture.

The findings also indicate that NHB's governance model remains highly procedural, with organizational performance mainly evaluated through respect for rules and regulatory conformity. While digitalization and integrated control technologies are still limited, the anticipated implementation of a CBS, ERP solutions, and fintech integration is expected to strengthen information reliability and performance monitoring capabilities. Overall, governance at NHB currently reflects a prudential and compliance-centered model focused on institutional stability and supervisory requirements during the bank's ongoing transformation process.

2 Proposed Architecture for the National Housing Bank's Management Control System

Drawing upon the theoretical foundations presented in the first chapter, the empirical findings of the case study, and the specific institutional context of the National Housing Bank (NHB), this research proposes a phased architecture for the design and implementation of its Management Control System (MCS). Rather than advocating the immediate adoption of sophisticated management control practices, the proposed framework recognizes that newly established banking institutions evolve through successive stages of organizational maturity. Consequently, the proposed MCS architecture follows a progressive implementation logic, whereby each phase establishes the organizational, technological, and managerial capabilities required for the subsequent stage.

Phase 1 – Foundations (Short Term)

The first phase aims to establish the fundamental infrastructure upon which the future MCS will be built. At this stage, priority should be given to the full implementation and integration of the Core Banking System (CBS) and Enterprise Resource Planning (ERP) system in order to ensure reliable, centralized, and consistent financial and operational information. Simultaneously, analytical accounting should be introduced to enable the allocation of costs and revenues across organizational units and banking activities. The formal establishment of responsibility centers will clarify managerial accountability, while the adoption of SMART objectives will provide measurable performance targets aligned with the bank's strategic priorities. Together, these elements constitute the essential organizational and informational foundations of the management control system.

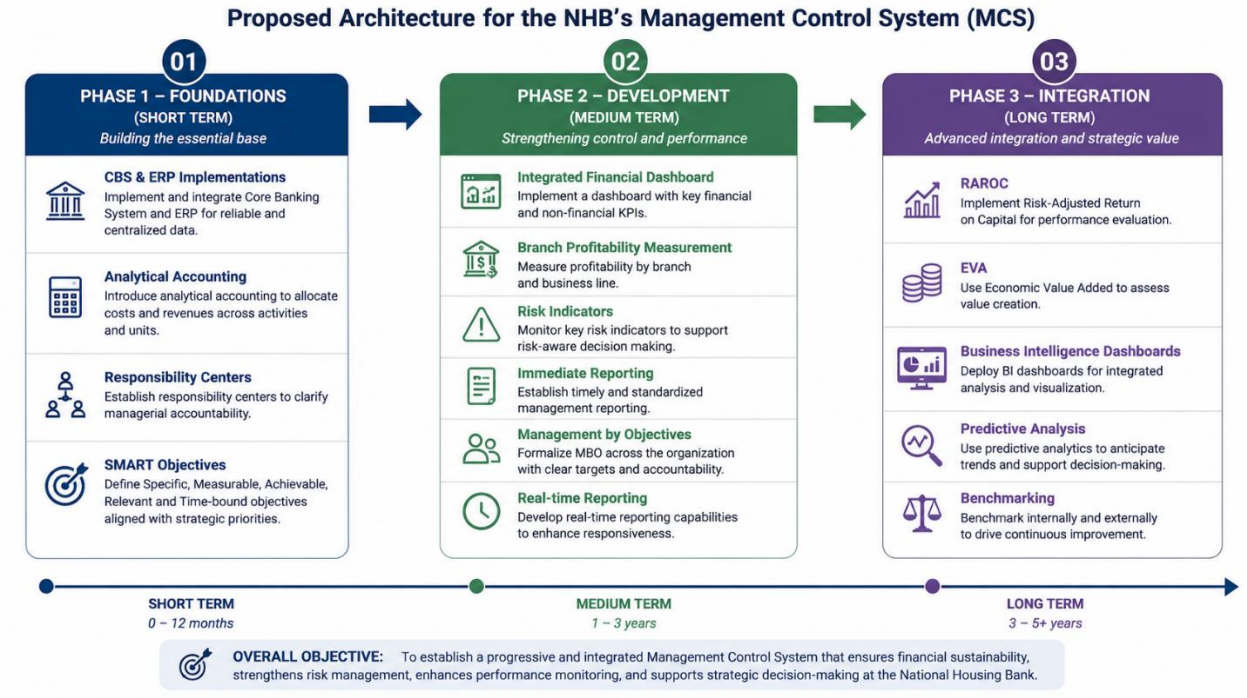
Phase 2 – Development (Medium Term)

Once the foundational infrastructure has been consolidated, the second phase focuses on strengthening managerial control and performance monitoring. This stage involves the implementation of an integrated financial performance dashboard combining key financial and non-financial performance indicators. Branch profitability measurement should be progressively introduced alongside the systematic monitoring of key risk indicators to support managerial decision-making. Reporting processes should evolve towards timely and standardized management reporting, while Management by Objectives (MBO) preferably be formally institutionalized throughout the organization. The integration of real-time reporting capabilities will further enhance the responsiveness of management by providing continuous access to performance information.

Phase 3 – Integration (Long Term)

The final phase represents the transition toward a fully integrated, strategically oriented MCS. At this level of organizational maturity, advanced value-based performance measurement techniques, including Risk-Adjusted Return on Capital (RAROC) and Economic Value Added (EVA), should be incorporated into managerial decision-making. Business Intelligence (BI) dashboards should provide integrated analytical capabilities supported by predictive analytics to anticipate financial and operational trends. Finally, internal and external benchmarking should be embedded within the management control process to facilitate continuous improvement, strategic learning, and long-term organizational performance.

Figure 4: The Proposed Architecture for the National Housing Banks' management Control System



Source: Author's own development, based on the reviewed literature (Byadi & Belatik, 2025; Ahmad and Muslim, 2024; Chenhall, 2003) and empirical evidence collected within the National Housing Bank.

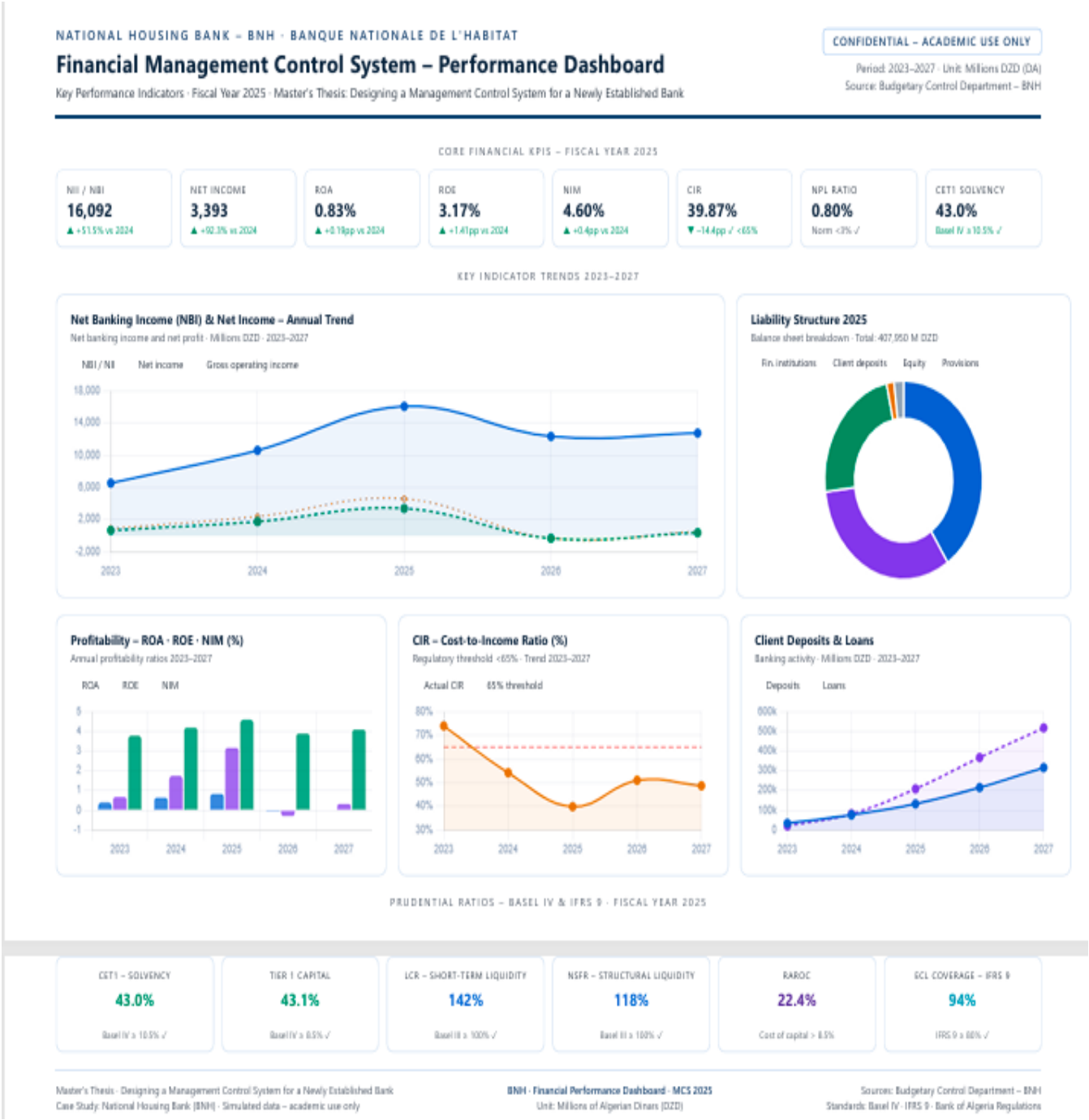
The proposed phased architecture provides a realistic implementation roadmap that acknowledges NHB's current organizational maturity while establishing a clear pathway toward a comprehensive, integrated, and risk-adjusted Management Control System capable of supporting sustainable financial performance, effective governance, regulatory compliance, and strategic decision-making.

While the proposed MCS architecture provides a phased roadmap for the progressive implementation of management control capabilities within NHB, its effectiveness ultimately depends on the availability of appropriate performance measurement and reporting tools. Accordingly, the proposed financial performance dashboard constitutes the operational core of the Management Control System, translating strategic objectives into measurable indicators and providing managers with timely, reliable, and decision-oriented information. The following section therefore presents the proposed financial dashboard and its key performance indicators.

3 The proposed financial dashboard

The proposed dashboard was designed to support the implementation of an integrated Management Control System adapted to the specific context of NHB. Its construction was inspired both by the budgetary control dashboards currently used within the bank and by the theoretical contributions identified in the literature on management control, banking performance measurement, and strategic steering. The selection of indicators was also guided by international banking regulatory frameworks, particularly Basel III/IV prudential requirements and IFRS 9 standards, in order to ensure coherence between financial performance monitoring, risk management, regulatory compliance, and strategic decision-making. Consequently, the dashboard combines operational, financial, risk, compliance, and strategic indicators to provide a comprehensive and dynamic steering tool adapted to the transformation and progressive structuring of NHB.

Figure 5: A Financial KPIs Oriented Dashboard



Source: Author's own development, based on the reviewed literature and empirical evidence collected within the National Housing Bank.

3.1 KPI Interpretation and Theoretical Justification

Each indicator is presented according to the following structure: (1) definition, (2) why it was selected for the MCS, (3) interpretation of NHB's actual value, and (4) what the value reveals about NHB as a newly established bank. All figures are drawn from the NHB Budgetary Control Department and have been slightly adjusted for confidentiality purposes**.**

3.1.1 . PROFITABILITY INDICATORS

NBI – Net Banking Income:

In designing a Management Control System for NHB, NBI serves as the primary reference metric against which all efficiency and cost ratios are measured (CIR, staff costs/NBI, etc.). The **NBI** increased from 6,558 M DZD in 2023 to 16,092 M DZD in 2025, reflecting the rapid expansion of NBH's loan portfolio and banking activity. The projected decline in 2026 (12,352 M DZD) is mainly linked to higher funding costs and provisioning pressure as the portfolio matures. This evolution illustrates the typical growth cycle of a newly established bank building its revenue-generating capacity.

ROA – Return on Assets

ROA is particularly relevant for NHB because, as a housing bank, its assets are predominantly long-term mortgage loans making asset efficiency a critical strategic concern. ROA improved from 0.40% in 2023 to 0.83% in 2025, showing better monetization of assets and progressive operational efficiency.

ROE – Return on Equity

In a MCS framework, ROE serves as a key financial performance indicator from which all sub-objectives cascade downward. Kaplan & Norton (1992) position profitability indicators such as ROE at the top of the financial perspective hierarchy in their Balanced Scorecard model.

NBH's ROE rose gradually from 0.68% in 2023 to 3.17% in 2025. Although still below international banking benchmarks, this remains normal for a highly capitalized newly established bank. The large equity base strengthens solvency but mechanically compresses ROE during the first years of activity. High capitalization is a regulatory and strategic requirement for a new bank; it ensures solvency and inspires confidence.

NIM – Net Interest Margin

For NHB, a housing bank whose primary business model is mortgage lending funded by deposits and institutional borrowings, the NIM is one of the most important revenue drivers. A strong NIM means the bank is lending at rates sufficiently above its funding costs to generate sustainable income. In the MCS, NIM is monitored monthly by the Asset-Liability Management (ALM) committee to detect compression risks arising from interest rate movements, funding cost increases, or loan repricing lags. It is classified as a "levers control" variable in Simons (1994) framework a metric that management can directly influence through pricing decisions.

NHB's NIM improved from 3.8% in 2023 to 4.6% in 2025, confirming NHB's increasing capacity to generate net interest income from mortgage activities while controlling funding costs. The slight decline expected in 2026 reflects higher institutional borrowing costs.

CIR – Cost-to-Income Ratio

CIR is a cornerstone indicator in banking MCS design because it simultaneously captures revenue performance and cost discipline. The Bank of Algeria sets a regulatory guidance threshold of 65% banks operating above this level are considered operationally inefficient. For NHB, tracking CIR is essential because the early years of operation are inevitably characterized by a high fixed cost base (premises, technology, staff) deployed against a still-limited revenue base. The MCS must therefore track CIR trajectory not just the absolute level to ensure that revenue is

growing faster than costs. Merchant & Van der Stede (2017) identifies cost efficiency ratios as essential "results controls" in financial institutions. For NHB, as a newly established institution investing heavily in building its organizational infrastructure, the CIR is likely to be high (89% in 2024) in the initial years of operation a normal feature of institutional development that should be evaluated against a trajectory of improvement over time rather than against the benchmarks of established banks. The financial dashboard should therefore track CIR trends over multiple periods and against sector benchmarks, rather than applying a point-in-time threshold.

EVA – Economic Value-Added

EVA is selected because it answers a question that traditional accounting profit cannot: is NHB truly creating value, or merely covering its costs? A bank can report a positive net income and still destroy value if its return falls below the cost of capital. Including EVA in the MCS ensures that NHB's management is held accountable not just for profitability, but for wealth creation a distinction that is particularly important for a state-owned institution where the opportunity cost of public capital must be explicitly recognized. remained positive from 2023 to 2025, reaching +310 M DZD in 2025, indicating that NHB was able to create value above its cost of capital despite being a newly established institution.

3.1.2 RISK INDICATORS

RAROC – Risk-Adjusted Return

Its inclusion in NHB's MCS reflects international best practice (Basel IV explicitly encourages RAROC-based internal capital allocation) and ensures that profitability is assessed net of the true cost of risk. For a housing bank like NHB, where credit risk is concentrated in long-term mortgage exposures, RAROC enables the MCS to compare the risk return profiles of different product segments (individual mortgages vs. social housing loans vs. developer financing) and allocate capital to the most efficient uses. RAROC was included in the proposed dashboard as a long-term strategic indicator rather than a currently operational tool. Although RAROC

represents an international best practice in banking risk-adjusted performance measurement under Basel recommendations, NHB does not yet possess the technical, informational, and modelling capabilities required to calculate and implement such a complex ratio effectively. The indicator was therefore proposed as a future development objective of the MCS, once the bank's information system, risk modelling tools, and Core Banking System become sufficiently mature to support advanced risk-adjusted performance measurement.

NPL Non-Performing Loans Ratio

The NPL ratio is one of the most important risk indicators in the MCS. It feeds directly into provisioning requirements (IFRS 9), capital adequacy calculations (Basel IV), and ultimately into profitability (through the cost of risk). Monitoring NPL is not merely a compliance obligation it is a strategic necessity for detecting portfolio deterioration early enough to take corrective action. NHB's NPL remained very low, increasing gradually from 0.20% in 2023 to 1.10% in 2025, still far below regulatory and regional averages. This reflects both the young age of the portfolio and strict credit standards, although the MCS must continue monitoring future portfolio deterioration.

LCR – Liquidity Coverage Ratio

For NHB, whose funding structure relies heavily on institutional borrowings represent 41% of liabilities in 2025, managing liquidity is a top priority. The LCR is mandated by the Bank of Algeria and is monitored monthly by the ALM committee. In the MCS, it serves as a "boundary system" in Simons' (1994) terminology a hard constraint that management must never breach. NHB's LCR is declined from 185% in 2023 to 128% in 2026 as liquid resources were progressively transformed into loans. Despite this reduction, the ratio remained comfortably above the 100% Basel minimum, confirming adequate short-term liquidity management.

NSFR – Net Stable Funding Ratio

Definition: The NSFR, also from Basel III, requires that the amount of stable funding available (equity, long-term debt, stable deposits) exceeds the amount of stable funding required (determined by the bank's long-term asset profile) over a one-year horizon.

NSFR = Available Stable Funding / Required Stable Funding ≥ 100%

The NSFR was selected for the MCS because while the LCR addresses short-term liquidity, the NSFR addresses structural funding resilience. For NHB a housing bank granting 20-to-30-year mortgages the structural funding gap between long-term assets and short-term liabilities is a permanent strategic challenge. The NSFR ensures that NHB's long-term lending is funded by long-term resources, preventing the maturity mismatch that historically triggers banking crises followed the same trend, decreasing from 145% in 2023 to around 108% in 2026. This evolution reflects the normal transition from excess liquidity toward a more balanced funding structure as long-term mortgage activity expands.

CET1 – Common Equity Tier 1 Ratio

Capital adequacy is the bedrock of banking stability. Regulators, counterparties, and rating agencies all assess a bank's CET1 ratio as the first line of defense against losses. For NHB, maintaining an adequate CET1 is not only a regulatory obligation it is a strategic signal to the market that the bank is well-capitalized and resilient. In the MCS, the CET1 ratio is a "diagnostic control" variable monitored continuously by the Risk Committee and reported quarterly to the Board. fell from an exceptionally high 267.2% in 2023 to 27% in 2026. This decline is normal for a growing bank because risk-weighted assets increase faster than equity. Nevertheless, the ratio remained significantly above Basel regulatory requirements, confirming NHB’s strong solvency position.

ECL Coverage – IFRS 9 Provisioning

IFRS 9 represents a fundamental shift from the "incurred loss" model (IAS 39) to a "forward-looking" model that requires banks to anticipate future losses. For NHB, a bank that began operations in 2023 with no legacy portfolio, IFRS 9 must be implemented rigorously from day one making it a critical component of the MCS. Adequate ECL provisioning protects capital, ensures financial statement accuracy, and demonstrates regulatory compliance. The MCS tracks ECL by stage monthly, with escalation triggers when Stage 2 migration rates accelerate. ECL reached 94% in 2025, exceeding the minimum expected threshold. The predominance of Stage 1 exposures confirms the relatively healthy quality of the loan portfolio during the early years of activity.

3.1.3 ACTIVITY & EFFICIENCY INDICATORS

Staff Productivity (NBI / Headcount)

This indicator measures the revenue generated per employee, providing a measure of human capital efficiency.

Staff Productivity = NBI / Number of Employees

Human capital is typically the largest cost driver in banking. Including staff productivity in the MCS ensures that headcount growth is justified by commensurate revenue growth. For NHB building its workforce from scratch this indicator helps management calibrate recruitment against business development, avoiding over-staffing in the early years. The NBI per employee rises from 4.64 M DZD in 2023 to 11.16 M DZD in 2025 a tripling in three years confirming that NHB's workforce is becoming significantly more productive as the business scales.

3.1.4 Market and Compliance indicators

Market Share – Housing Loans & Deposits

Market share measures NBH's proportion of the total Algerian banking market in housing loans and deposit collection. NHB was established with a specific mandate: to develop the housing finance market in Algeria, Market share is therefore not merely a commercial indicator it is a measure of institutional mission fulfillment. The MCS must track whether NHB is gaining ground in its target market and contributing to the national housing finance agenda. This aligns with the "customer perspective" of the Balanced Scorecard (Kaplan & Norton, 1992). NHB's market share in housing loans grows from 0.8% in 2023. For a bank that did not exist before 2022, this represents a rapid market penetration. The deposit market share grows more slowly (0.3% to 3.1%), reflecting the challenge of attracting retail deposits against established competitors with extensive branch networks.

KYC Compliance Rate

The KYC (Know Your Customer) compliance rate measures the proportion of clients for whom a complete and up-to-date KYC profile has been established, in accordance with anti money laundering (AML) regulations. For a new bank establishing its compliance function from scratch, embedding KYC monitoring into the MCS from day one is essential. It is classified as a "boundary system" control in Simons' (1994) framework a non-negotiable constraint within which all business activity must operate. NHB's KYC compliance rate of 92% in 2025 is strong for a three-year-old institution, but below the 95% target. The 8% gap represents clients whose profiles require updating or completion. The MCS includes a quarterly KYC remediation plan to close this gap systematically.

AML Alert Rate and CTRF Reporting

AML (Anti-Money Laundering) alerts are generated by the bank's transaction monitoring system when client behavior matches suspicious transaction patterns. CTRF (*Cellule de Traitement du Renseignement Financier*) is the Algerian Financial Intelligence Unit, to which suspicious transaction reports must be submitted. AML compliance is both a legal obligation and a reputational imperative. Including AML metrics in the MCS ensures that compliance is treated as a managed process rather than a bureaucratic exercise.

3.1.5 STRATEGIC MCS INDICATORS

MCS Maturity Score

The MCS Maturity Score is a composite indicator measuring the level of development of BNH's Management Control System across 8 dimensions, rated on a scale of 1 (Initial) to 5 (Optimized), adapted from the Capability Maturity Model Integration (CMMI) framework and applied to banking management control. The MCS Maturity Score is the meta-indicator of this dissertation it measures not what the bank achieves, but how well it manages its achievement. A bank with a mature MCS generates more reliable information, makes better decisions, detects problems earlier, and allocates resources more efficiently. Tracking MCS maturity is therefore a strategic priority, particularly in the early years when control systems are still being designed and implemented. NBH’s overall MCS maturity score of 2.5/5 (between "Emerging" and "Defined") is appropriate for a bank in its third year of operation.

4 Limitations and Field Constraints

Although this dissertation provides valuable insights into the design and implementation of a Management Control System (MCS) within the National Housing Bank (NHB), several limitations should be acknowledged.

First, this research was conducted as a qualitative single-case study within the National Housing Bank. Although this methodological choice enabled an in-depth understanding of the organizational context and the design of a Management Control System tailored to the bank's specific needs, the findings cannot be generalized to all banking institutions without considering differences in organizational structures, governance arrangements, and institutional environments.

Second, this dissertation proposes a conceptual architecture for the implementation of a Management Control System rather than assessing an already operational system. As several components, including analytical accounting, performance measurement tools, and supporting information systems, are still being progressively developed, the proposed framework could not be empirically validated. Consequently, the study emphasizes the design and coherence of the proposed architecture rather than its operational performance.

Finally, the findings are based primarily on qualitative evidence collected through interviews, documentary analysis, and field observations. While the triangulation of these data sources strengthened the credibility of the analysis, the absence of quantitative performance data limited the possibility of assessing the measurable impact of the proposed Management Control System on organizational performance and managerial decision-making.

5 Recommendations for Future Research

This dissertation provides a foundation for several avenues of future research on the development and institutionalization of Management Control Systems within public financial institutions.

A first area for future investigation concerns the organizational conditions that facilitate the successful institutionalization of Management Control Systems. Future studies could examine how leadership commitment, governance arrangements, organizational culture, and change management practices influence the adoption and long-term sustainability of management control mechanisms.

Another promising research direction would be to explore the integration of Management Control Systems with corporate governance, internal audit, risk management, and compliance functions. Investigating how the governance mechanisms interact could provide a more comprehensive understanding of their collective contribution to organizational performance, accountability, and strategic decision-making.

Future research could also focus on developing a maturity model for Management Control Systems in Algerian public banks. Such a framework would enable organizations to assess the level of development of their management control practices, identify implementation gaps, and establish priorities for continuous improvement throughout their organizational transformation.

Finally, future studies could investigate the competencies and skills required of management controllers in increasingly digitalized banking environments. Examining the evolving role of management controllers in the use of business intelligence, data analytics, and integrated information systems would contribute to a better understanding of how management control can adapt to the digital transformation of the banking sector.

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GENERAL CONCLUSION

This dissertation set out to examine how a newly established bank can design and implement an effective Management Control System capable of supporting financial performance monitoring, risk control, and decision-making. The case of the National Housing Bank (NHB) was particularly relevant because the institution is still in a formative stage following its transformation from the former National Housing Fund into a commercial banking institution with a public mission. This situation made it possible to study management control not as a mature and stabilized system, but as an emerging architecture being progressively constructed through organizational, technological, and cultural change.

The theoretical review showed that an MCS cannot be reduced to budgetary control or financial reporting alone. It must be understood as a coherent package of planning controls, cybernetic controls, administrative controls, cultural controls, and incentive mechanisms, as emphasized by Malmi and Brown (2008). It also confirmed the importance of adapting control systems to organizational context, in line with the contingency perspective developed by Chenhall (2003) and Bedford and Malmi (2015). For a banking institution, this adaptation is especially important because performance must be assessed not only through profitability indicators, but also through risk, liquidity, solvency, regulatory compliance, operational efficiency, and strategic mission indicators.

The empirical findings demonstrate that NHB is currently in a transitional phase. Its management control practices are real, but they remain incomplete and largely centered on budgetary control, manual reporting, and regulatory monitoring. The absence of a fully integrated information system still limits the production of reliable, automated, and granular performance data. In the same way, the lack of formal analytical accounting and clearly defined responsibility centers prevents the bank from measuring profitability by activity, branch, or business line. These limitations explain why advanced indicators such as RAROC, detailed NPL segmentation, and real-time performance dashboards cannot yet be fully implemented.

At the same time, the study also highlights several enabling factors. The ongoing Core Banking System and ERP projects are expected to provide the informational foundation required for a more integrated MCS. The recruitment of employees with banking experience represents an important source of managerial knowledge and technical competence. Moreover, the interviews show a growing awareness among managers that management control should not be perceived

only as a compliance or reporting function, but as a tool for coordination, learning, accountability, and strategic steering. This evolution is essential for the transition from a traditional control logic toward a broader performance management approach.

In response to the research question, the dissertation proposes a progressive MCS architecture adapted to NHB's current stage of development. In the short term, priority should be given to finalizing the information infrastructure, formalizing responsibility centers, implementing analytical accounting, and institutionalizing a structured Management by Objectives cycle based on SMART objectives. These elements constitute the prerequisites without which a sophisticated MCS cannot function effectively. Once these foundations are in place, NHB can develop an integrated financial dashboard organized around profitability, liquidity, solvency, credit quality, operational efficiency, compliance, and strategic indicators. This dashboard should not be limited to passive reporting; it should also serve as an interactive instrument for managerial dialogue, early warning, and corrective action.

The main managerial contribution of this research lies in the proposed phased design. Instead of recommending the immediate adoption of a complex control system copied from mature banks, the dissertation argues for a maturity-based approach. The NHB had begun with reliable basic controls and gradually move toward more advanced tools such as risk-adjusted performance measurement, Business Intelligence dashboards, benchmarking, rolling forecasts, and predictive risk analysis. Such a progressive approach respects the institution's current constraints while preparing it for future growth.

The research also has theoretical relevance. It confirms that the design of MCS in newly established public banks must be analyzed through both technical and human dimensions. Information systems, accounting tools, and dashboards are necessary, but they are not sufficient. Their effectiveness depends on human capital, organizational culture, managerial communication, and the capacity of the institution to transform control data into learning and decision-making. In this sense, the NHB case reinforces the idea that formal and informal controls must be combined in a coherent package adapted to the specific context of the organization.

Despite the limitations mentioned previously, the study remains highly relevant because it reflects the concrete realities of implementing a management control system within a transforming Algerian bank. The challenges encountered during the research process ultimately provided additional insight into the complexity of organizational change and the practical difficulties associated with introducing new management control practices in public institutions.

Overall, this dissertation shows that the successful implementation of a Management Control System at NHB depends on the alignment of four elements: reliable information infrastructure, clear responsibility and objective-setting mechanisms, competent and trained human resources, and a performance-oriented organizational culture. If these elements are progressively integrated, NHB will be better equipped to monitor its financial performance, control its risks, support strategic decisions, and fulfill its dual role as both a public housing finance institution and a modern banking organization.

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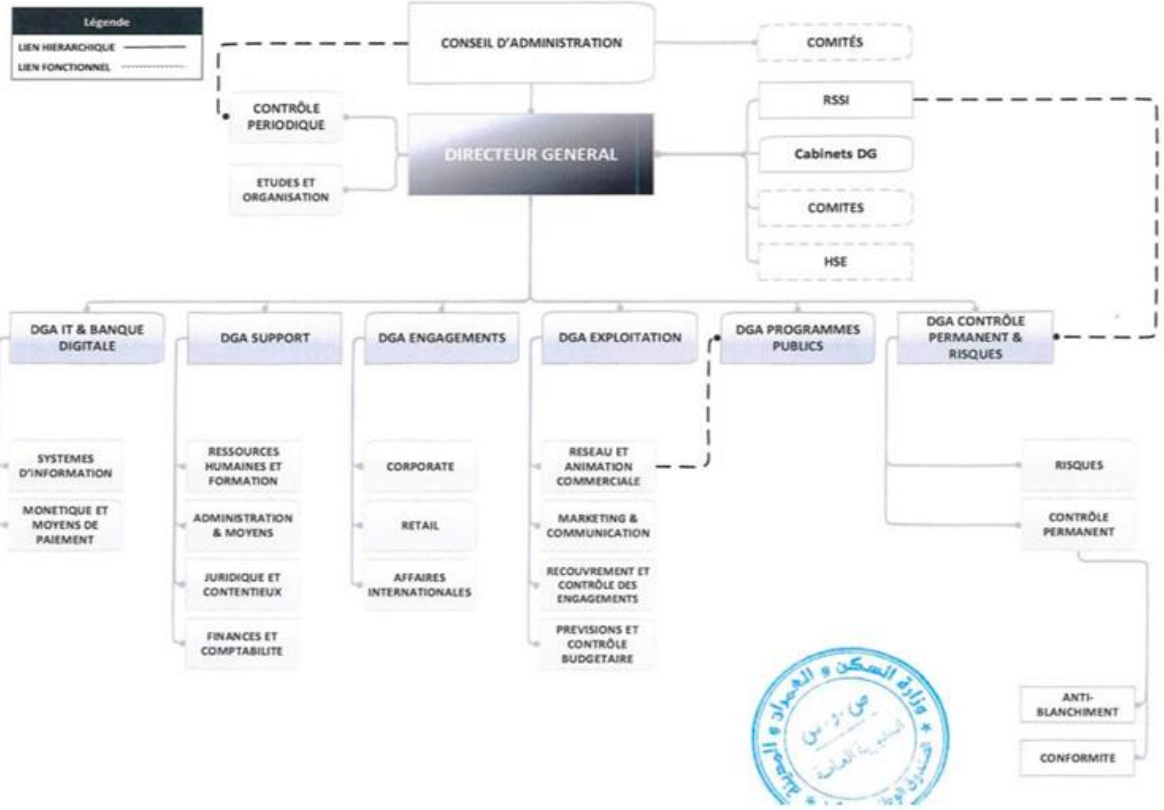
APPENDICES

APPENDIX

Appendix A: the organigram of the National Housing Bank



APPENDIX

Appendix B : the interview guide

Étude de cas — Banque Nationale de l'Habitat (BNH)

Guide d'entretien semi-directif

Conception d'un système de contrôle de gestion
pour une banque nouvellement créée :
création d'un tableau de bord (KPI financiers)

> Durée estimée : 60–90 minutes
> Type : Entretien semi-directif
> Langue : Français
> Enregistrement : Avec accord préalable de l'interviewé

Section 1 — Profil et contexte institutionnel

Q 1.1 Pouvez-vous vous présenter brièvement et décrire vos responsabilités actuelles au sein de la BNH

Q 1.2 Comment décririez-vous la mission principale de la BNH et les particularités de son statut de banque publique spécialisée dans le financement du logement ?

Q 1.3 À quel stade de transformation institutionnelle se trouve la BNH aujourd'hui ? Quels sont les principaux défis liés à sa création récente ?

Section 2 — Système de contrôle de gestion (MCS)

Q 2.1 Disposez-vous actuellement d'un système de contrôle de gestion formalisé à la BNH ? Si oui, comment est-il structuré ?

> → *Existe-t-il des procédures de planification, de suivi budgétaire, de reporting ? Qui en est responsable ?*

Q 2.2 Comment les objectifs stratégiques de la BNH sont-ils traduits en objectifs opérationnels mesurables au niveau des équipes et des agences ?

> → *Existe-t-il des centres de responsabilité (centres de profit, de coût, de revenus) ? Comment sont-ils définis ?*

Q 2.3 Quelle est la place des contrôles informels (culture organisationnelle, valeurs partagées, engagement du personnel) dans le pilotage de la performance à la BNH ?

> → *Les mécanismes formels et informels se complètent-ils ou entrent-ils en tension ?*

Q 2.4 Quels sont, selon vous, les prérequis les plus critiques qui font encore défaut pour qu'un système de contrôle de gestion efficace fonctionne à la BNH ?

> → *Système d'information, comptabilité analytique, culture de performance, ressources humaines qualifiées ?*

Section 3 — Instruments et outils de contrôle de gestion

Outils budgétaires, reporting et comptabilité analytique

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Q 3.1 Quels outils de contrôle de gestion sont actuellement utilisés à la BNH (budgets, reporting, comptabilité analytique, outils de pilotage) ?

> → *Ces outils sont-ils adaptés aux spécificités bancaires ? Sont-ils intégrés entre eux ?*

Q 3.2 Le processus budgétaire est-il opérationnel ? Comment sont construits les budgets et comment sont-ils suivis dans le temps ?

Q 3.3 Disposez-vous d'un système de reporting interne régulier ? À quelle fréquence, sous quelle forme, et à qui est-il adressé ?

Section 4 — Tableau de bord (KPI financiers)

Q 4.1 Existe-t-il un tableau de bord de pilotage avec des indicateurs clés de performance (KPI) financiers à la BNH ? Si tel est le cas, quelle est sa structure et quels sont les principaux indicateurs qu'il regroupe ?

Q 4.2 Comment le tableau de bord est-il utilisé concrètement dans les réunions de direction ? S'agit-il d'un outil de contrôle diagnostique ou d'un outil interactif de dialogue stratégique ?

Q 4.3 Quels sont les indicateurs clés de performance (KPI) que vous jugez les plus pertinents pour piloter simultanément la performance financière et la mission de la BNH ?

Q 4.4 Quels sont les principaux obstacles à la mise en place d'un tableau de bord de pilotage avec des (KPI) financiers efficace à la BNH ?

> → *Qualité des données, intégration des systèmes, résistance au changement, adoption culturelle ?*

Section 5 — Mesure de la performance financière

Q 5.1 Comment la performance financière de la BNH est-elle actuellement mesurée ? Quels ratios sont calculés et suivis régulièrement (ROA, ROE, PNB, NIM, CLE) ?

Q 5.2 Comment la qualité du portefeuille de crédit est-elle surveillée ? Existe-t-il un suivi systématique des créances non performantes (NPL) par vintage, par type de produit et par région ?

Q 5.3 Avez-vous envisagé ou mis en œuvre une approche de mesure de performance ajustée au risque (de type RAROC) pour évaluer la rentabilité par ligne métier ou par type de crédit ?

> → *Le niveau de maturité actuel de la BNH le permet-il ? Quelles seraient les étapes nécessaires ?*

Section 6 — Système d'information et infrastructure de données

Q 6.1 Le système d'information actuel permet-il d’extraire facilement les données nécessaires au calcul de vos indicateurs financiers ?

Q 6.2 Quelles sont les limites techniques qui freinent aujourd’hui la production de vos rapports de gestion ?

Section 7 — Gouvernance

Q 7.1 Dans quelle mesure les exigences réglementaires de la Banque d'Algérie (ratios prudentiels, reporting obligatoire) influencent-elles la conception du système de contrôle de gestion de la BNH ?

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Q 7.2 Quelle est la culture de performance au sein de la BNH ? Les agents et cadres sont-ils orientés vers les résultats et la responsabilisation, ou davantage vers la conformité aux règles et procédures ?

> → *Comment cette culture conditionne-t-elle l'adoption des outils de contrôle de gestion ? Des résistances sont-elles observées ?*

Q 7.3 Les pratiques de contrôle de gestion d'autres banques publiques algériennes ou d'institutions similaires dans d'autres pays en développement sont-elles prises en référence dans la conception du MCS de la BNH ?

Q 7.4 Comment la transformation numérique impacte-t-elle les pratiques de gouvernance et de contrôle à la BNH ?

Section 8 — Perspectives et recommandations

Q 8.1 Si vous deviez définir les trois priorités absolues pour concevoir et mettre en œuvre un système de contrôle de gestion financier efficace à la BNH, quelles seraient-elles ?

Q 8.2 Comment envisagez-vous l'évolution du tableau de bord de pilotage avec des (KPI) financiers de la BNH dans les prochaines années, notamment en intégrant les dimensions risque ?

Q 8.3 Y a-t-il des aspects du contrôle de gestion ou de la performance de la BNH que vous souhaiteriez aborder et que mes questions n'ont pas couverts ?

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Appendix C: Extract from an Interview

Section 1 — Profil et contexte institutionnel

Q 1.1 Pouvez-vous vous présenter brièvement et décrire vos responsabilités actuelles au sein de la BNH

R : je suis le directeur des prévisions et du contrôle budgétaire. Ma mission principale, c'est de traduire la stratégie de l'entreprise en objectifs chiffrés sur une année et suivre leur exécution.

Q 1.2 Comment décririez-vous la mission principale de la BNH et les particularités de son statut de banque publique spécialisée dans le financement du logement ?

R : La banque vient suite à une décision des pouvoirs publics, pour créer une banque spécialisée dans le secteur de la BNH. L'objectif étant de créer des mécanismes de financement pour la réalisation des logements et de l'habitat en général. L'idée est d'alléger un petit peu les dépenses budgétaires et d'offrir aux citoyens des possibilités de financement adaptées à leurs besoins pour l'accès au logement.

Q 1.3 À quel stade de transformation institutionnelle se trouve la BNH aujourd'hui ? Quels sont les principaux défis liés à sa création récente ?

R : C'est difficile d'évaluer à quel point la transformation s'est faite. Dans le processus global de transformation, il y a beaucoup de jalons qui ont été atteints. Beaucoup de choses ont été réalisées. Toute la partie juridique, la transformation sur le plan juridique, la mise en place d'organisations, le recrutement des managers et des top managers avec les compétences nécessaires, notamment sur le métier bancaire. L'aménagement des agences, le déploiement d'un système d'information intermédiaire, qui est une solution provisoire en attendant la mise en place du système d'information CBS. Tout cela a été réalisé. Maintenant, je pense qu'on est en phase finale de transformation pour aller vers une nouvelle étape qui est la consolidation et le développement de l'activité.

Section 2 — Système de contrôle de gestion (MCS)

Q 2.1 Disposez-vous actuellement d'un système de contrôle de gestion formalisé à la BNH ? Si oui, comment est-il structuré ?

> → *Existe-t-il des procédures de planification, de suivi budgétaire, de reporting ? Qui en est responsable ?*
>
> R : Pour le système de contrôle de gestion, nous sommes en phase de construction. Il est toujours en phase de conception et de construction. Aujourd'hui, sur le plan organisationnel, nous disposons d'une direction chargée des prévisions et du contrôle budgétaire. La notion de contrôle de gestion est implicitement intégrée dans les missions de cette direction. Le contrôle budgétaire est une partie du système de contrôle de gestion, c'est juste un outil. Aujourd'hui, nous sommes en train de préparer tous les prérequis nécessaires à la formalisation et à la mise en place d'une structure contrôle de gestion.
>
> Effectivement, nous avons des projets en cours de validation qui décrivent tout le processus d'élaboration et d'animation des campagnes budgétaires.
>
> Nous allons de l'expression des besoins recensés au niveau des structures jusqu'à une consolidation et une présentation d'un budget prévisionnel, avec des projections financières sur la rentabilité, donc la construction de TCR et autres éléments.
>
> Nous travaillons actuellement avec des reportings trimestriels. Vu la difficulté de recueillir l'information, nous sommes en phase de déploiement d'un système d'information spécifique qui va nous permettre d'avoir la donnée nécessaire en temps voulu pour construire rapidement nos reporting.

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Aujourd'hui, la fréquence est trimestrielle, mais notre objectif est d'aller vers le mensuel, voire même vers du reporting à la demande, afin d'être capable de fournir l'information en temps réel au pilotage pour la prise de décision.

Q 2.2 Comment les objectifs stratégiques de la BNH sont-ils traduits en objectifs opérationnels mesurables au niveau des équipes et des agences ?

→ *Existe-t-il des centres de responsabilité (centres de profit, de coût, de revenus) ? Comment sont-ils définis ?*

R : D'abord, il y a la définition des objectifs issus des orientations des pouvoirs publics. C'est une banque qui répond aux orientations des pouvoirs publics, notamment le financement du secteur et la proposition de produits de financement pour le logement en général. Ensuite, il y a la stratégie de la banque traduite par un plan d'affaires (business plan) prévisionnel, comportant des objectifs à moyen terme. A partir de ca, il y a les budgets annuels élaborés à partir de cette vision globale. Les objectifs stratégiques sont ensuite déclinés en objectifs opérationnels répartis entre les différentes structures. Chaque structure a une partie des objectifs. Ensuite, il y a les budgets annuels qui s'inscrivent dans cette vision globale. Chaque année, une évaluation est réalisée entre les réalisations et les prévisions, aussi bien au niveau du budget annuel que du plan stratégique. Des ajustements sont ensuite effectués pour améliorer les résultats ou corriger les écarts et réévaluer les objectifs.

Q 2.3 Quelle est la place des contrôles informels (culture organisationnelle, valeurs partagées, engagement du personnel) dans le pilotage de la performance à la BNH ?

→ *Les mécanismes formels et informels se complètent-ils ou entrent-ils en tension ?*

R : C'est difficile de faire la part entre ce qui est formel et informel. Je pense que la notion d'informel, l'accès à l'information informelle, est importante. C'est un levier pour l'accès à l'information et pour la constitution de la data, mais il est difficile de mesurer la part la plus importante dans le processus global. Un bon système avec des accès encadrés et des habilitations permet de disposer de l'information rapidement.

Cela permet de consacrer plus de temps à l'analyse qu'à la production de l'information. L'objectif est d'analyser les données reçues et de tirer les indicateurs nécessaires à la prise de décision. Aujourd'hui, la structure n'étant pas encore mature, nous passons plus de temps à collecter l'information qu'à l'analyser. Un bon système d'information facilite le travail du contrôle de gestion et réduit également les pratiques informelles.

Q 2.4 Quels sont, selon vous, les prérequis les plus critiques qui font encore défaut pour qu'un système de contrôle de gestion efficace fonctionne à la BNH ?

→ *Système d'information, comptabilité analytique, culture de performance, ressources humaines qualifiées ?*

R : la disponibilité de l'information, en premier lieu. C'est la première contrainte d'un système de contrôle de gestion. Ensuite, il y a la composante humaine, qui possède de l'expérience mais qui doit être renforcée par la formation. Enfin, il faut mettre en place toute l'architecture du système de contrôle de gestion, les flux informationnels, et la conception globale du système avec la définition des indicateurs par structure. Tout cela dépend toujours de la disponibilité de l'information.

Section 3 — Instruments et outils de contrôle de gestion

Outils budgétaires, reporting et comptabilité analytique

Q 3.1 Quels outils de contrôle de gestion sont actuellement utilisés à la BNH (budgets, reporting, comptabilité analytique, outils de pilotage) ?

→ *Ces outils sont-ils adaptés aux spécificités bancaires ? Sont-ils intégrés entre eux ?*

R : Nous avons déjà le contrôle budgétaire. C'est un outil. Nous avons également des tableaux de bord financiers. Nous ne disposons pas encore de tous les indicateurs nécessaires, mais nous avons un minimum d'indicateurs qui nous permettent d'évaluer, à ce stade de transformation, certains éléments pertinents de suivi. Et nous avons les TBD financiers pas complétement avec tous les KPIs mais a minimum les indicateurs

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> pertinents en ce moment de notre transformation par exemple : le produit net bancaire (PNB) le coefficient d'exploitation (CLE), le résultat net plus tous qui est trésorerie ratio liquidité, et la partie risque notamment les ratios prudentielles, solvabilité pour une phase de démarrage

Q 3.2 Le processus budgétaire est-il opérationnel ? Comment sont construits les budgets et comment sont-ils suivis dans le temps ?

R : le processus oui est opérationnel, il commence par le recensement de besoin des structures centraliser consolider u niveau de direction de budget il y a premier arbitrage qui se fait par comparaison aux données des années précédentes les niveau inscriptions les projets ensuite y a un arbitrage qui se fait entre la direction de budget et les différentes structure dès que on avons un budget cohérent il sera remonter à la direction générale et il y a la tenue de la comité tous les structures sont représenter au sein de ce comité ils examinent le projet de budget et il y a un deuxième arbitrage qui se fait et à partir de là il y a les dernières correction validation ensuite adoption par le conseil d'administration et la dernière étape c'est la diffusion et notification pour déférente structure avant la nouvelle année ou bien au début de l'année et pour la mise en œuvre de budget validé le suivi on de reporting trimestriel avec toute les structures, réalisation de toute les projets rubrique par rubrique de tous qui a été fait durant le trimestre et le rapport remonte à la direction générale également le comité de politage budgétaire il se réunir il examine les résultats de reporting les réalisations et en fonction de y aura des décisions qui seront prise par le top management.

3.3 Disposez-vous d'un système de reporting interne régulier ? À quelle fréquence, sous quelle forme, et à qui est-il adressé ?

R : Oui, le reporting interne à fréquence trimestriel sous forme de rapport avec des tableaux de bord destiné au directeur général.

Section 4 — Tableau de bord (KPIs financiers)

Q 4.1 Existe-t-il un tableau de bord de pilotage avec des indicateurs clés de performance (KPI) financiers à la BNH ? Si tel est le cas, quelle est sa structure et quels sont les principaux indicateurs qu'il regroupe ?

R : oui ça existe un tableau de bord financier, nous construisons périodiquement ce TBD qui est remonter à la direction générale et le top management pour la prise de décision. Aujourd'hui nous travaillons sur une vision globalement banque, on a un seul tableau de bord qui regroupe toutes les données de la banque et notre objectif à court terme c'est d'arriver à avoir des TBD au niveau de chaque centre de profit : au niveau de l'agence il faut avoir un tableau de bord pour évaluer la performance et voir quelle sont les centres performant, mettre en place un système de répartition des charges de siège, de structure en productive, les centres de charges il faut les répartir sur centres de profit et voir la rentabilité de chaque centre, ca fait parti aussi de pilotage de l'activité commerciale au niveau de nos agences et nos points de vente aujourd'hui avec les informations dont nous disposons ne n'avons peut aller jusqu'au là. Mais un TBD au niveau central avec toutes les données de la banque on le suit régulièrement.

Q 4.2 Comment le tableau de bord est-il utilisé concrètement dans les réunions de direction ? S'agit-il d'un outil de contrôle diagnostique ou d'un outil interactif de dialogue stratégique ?

R : Oui, c'est un outil de dialogue stratégique et un outil d'aide à la décision. Il permet de revoir nos objectifs stratégiques, de réorienter nos actions pour répondre toujours à l'objectif et à la vision prospective que nous avons. C'est le support utilisé dans les réunions du comité de pilotage budgétaire. on le présente, il est diffusé, il est transmis à tous les membres du comité et ensuite il est discuté pratiquement ligne par ligne. On regarde notre niveau de réalisation du PNB, notre niveau de charge, est-

ce qu'il n'y a pas d'optimisation à faire par exemple sur nos charges, notre performance commerciale et tout le reste, notre budget de développement, le retour sur les investissements. Tout ça, c'est des sujets qui sont discutés avec le support et l'appui de ce tableau de pilotage.

Q 4.3 Quels sont les indicateurs clés de performance (KPI) que vous jugez les plus pertinents pour piloter simultanément la performance financière et la mission de la BNH ?

R : le produit net bancaire (PNB) le coefficient d'exploitation (CLE), le résultat net plus tous qui est trésorerie ratio liquidité, et la partie risque notamment les ratios prudentielles, solvabilité pour une phase de démarrage

Q 4.4 Quels sont les principaux obstacles à la mise en place d'un tableau de bord de pilotage avec des (KPI) financiers efficace à la BNH ?

> → *Qualité des données, intégration des systèmes, résistance au changement, adoption culturelle ?*
>
> R : On revient toujours à la data. La data, c'est surtout ça, l'absence d'un outil, d'un système d'information. Mais ça, c'est un projet en cours. Nous avons un ERP de gestion pour toutes les fonctions support, achat, budget, toute la partie comptabilité fournisseur. Et nous avons le projet de CBS, qui est le système d'information du métier de la banque qui va permettre aussi d'alimenter cette structure de contrôle de gestion avec toutes les données nécessaires. Donc oui, le système d'information, un outil pour la gestion de l'information, c'est un obstacle, mais les deux outils sont un projet en cours et quand on les avoirs d'ici la fin de l'année nous devons travailler sur l'autre partie qu'est la conception de notre système l'architecture et tous les prérequis nécessaires comme ça dès que on va déployer ce système on va alimenter notre système de contrôle de gestion pour pouvoir faire tous les calculs qu'il faut.

Section 5 — Mesure de la performance financière

Q 5.1 Comment la performance financière de la BNH est-elle actuellement mesurée ? Quels ratios sont calculés et suivis régulièrement (ROA, ROE, PNB, NIM, CLE) ?

R : C'est toujours le PNB, le résultat d'exploitation. À terme, nous ambitionnons d'aller au niveau des centres de profit, au niveau de chaque agence pour voir la rentabilité des agences et pour pouvoir ajuster et réajuster les objectifs. En choisi nos KPIs en fonction du besoin du pilotage. Aujourd'hui, par exemple, nous sommes en phase de démarrage. On passe de zéro activité à un certain niveau d'activité. Pour ça, c'est un indicateur qu'on doit suivre, à savoir notre PNB. Donc là, c'est un indicateur qui va nous indiquer si effectivement nous avons démarré et à quel niveau. Par exemple, pour le coefficient d'exploitation, aujourd'hui, nous ne sommes pas regardants parce que nous sommes en phase de développement. Ce KPI n'est pas très suivi en ce moment, sauf pour suivre son évolution et dès que la banque atteint ca maturité cet indicateur devient très important.

Q 5.2 Comment la qualité du portefeuille de crédit est-elle surveillée ? Existe-t-il un suivi systématique des créances non performantes (NPL) par vintage, par type de produit et par région ?

R : Aujourd'hui, le niveau de maturité de la banque n'est pas arrivé à ça. Nous sommes en phase de mettre en place nos premiers crédits. Nous avons déjà une structure chargée de suivre, la Direction du recouvrement et du contrôle des engagements (DRCE). Elle intervient en amont pour vérifier les dossiers et après le déblocage de crédit pour suivre le recouvrement. Actuellement, le suivi se fait en extra, sans outil automatisé, mais cela sera automatisé avec le système d'information.

Q 5.3 Avez-vous envisagé ou mis en œuvre une approche de mesure de performance ajustée au risque (de type RAROC) pour évaluer la rentabilité par ligne métier ou par type de crédit ?

> → *Le niveau de maturité actuel de la BNH le permet-il ? Quelles seraient les étapes nécessaires ?*
>
> R : ça relève du périmètre de la direction des risques.

Section 6 — Système d'information et infrastructure de données

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Q 6.1 Le système d'information actuel permet-il d'extraire facilement les données nécessaires au calcul de vos indicateurs financiers ?

R : C'est difficile.

Q 6.2 Quelles sont les limites techniques qui freinent aujourd'hui la production de vos rapports de gestion ?

R : C'est toujours le système d'information. Mais la banque est consciente de cet aspect. Les projets sont lancés, notamment le CBS. D'ici la fin de l'année, nous allons déployer ce système et on aura l'information nécessaire pour construire les indicateurs.

Section 7 — Gouvernance

Q 7.1 Dans quelle mesure les exigences réglementaires de la Banque d'Algérie (ratios prudentiels, reporting obligatoire) influencent-elles la conception du système de contrôle de gestion de la BNH ?

R : La Banque d'Algérie définit des indicateurs et des reportings réglementaires. Il y a une quarantaine à une cinquantaine de reporting à produire périodiquement. Cela implique plusieurs structures : finances, risques, conformité. Ce n'est pas centralisé uniquement au contrôle de gestion. Tous les reporting repose sur des Canvas sur des méthodes de calcul y a des calculs qui sont très complexe y a une liste de reporting qui il faut préparer et transmettre.

Q 7.2 Quelle est la culture de performance au sein de la BNH ? Les agents et cadres sont-ils orientés vers les résultats et la responsabilisation, ou davantage vers la conformité aux règles et procédures ?

> → *Comment cette culture conditionne-t-elle l'adoption des outils de contrôle de gestion ? Des résistances sont-elles observées ?*
>
> R : l'agence est issue d'une transformation le défi est d'inculqué au personnel cette fibre commercial cette notion de performance avant cette notion était inexcitable chez nous parce que l'activité était une sous gestion de service publique pour le compte de l'état elle avait pas besoin d'aller démarcher la clientèle de faire des performances c'était juste une performance en terme de la prise en charge de la mission qui nous a été convié, aujourd'hui c une autre vision c'est complétement un changement de paradigme nous allons vers une entreprise purement commerciale qu'elle doit démarcher ca clientèle et se battre dans le marché pour avoir des parts de marché comment. Par la mise en place de la procédure de gestion qui sont rédiger d'une façon très pédagogique avec trop de définitions et nouvelles notions pour permettre a eux de comprendre cette nouvelle dimension qui nous intégrons et le suivi de reporting nous essayons d'inculquer à nos collaborateurs la notion commerciale à travers des reporting qui font périodiquement pour les communiquer leur niveau de performance.

Q 7.3 Les pratiques de contrôle de gestion d'autres banques publiques algériennes ou d'institutions similaires dans d'autres pays en développement sont-elles prises en référence dans la conception du MCS de la BNH ?

R : le métier de contrôle de gestion est un métier universel il est encadré avec certain nombre de règle et par des objectifs qui sont commun à toutes les institutions et tous les organisme son objectif est de manager la performance, d'être efficace et atteindre les objectifs, faire des optimisations sur les couts. Nous à la BNH nous venons les derniers donc nous allons insérer et adapter à notre contexte par a rapport à nos besoins et niveau maturité.

Q 7.4 Comment la transformation numérique impacte-t-elle les pratiques de gouvernance et de contrôle à la BNH ?

R : la notion de la sécurité de système d'information est une dimension qui il faut prendre en considération en termes d'utilisation de nouvelles technologies

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Section 8 — Perspectives et recommandations

Q 8.1 Si vous deviez définir les trois priorités absolues pour concevoir et mettre en œuvre un système de contrôle de gestion financier efficace à la BNH, quelles seraient-elles ?

R : 1 déploiement des outils en cours pour avoir de la data ; 2 la conception de notre système de contrôle de gestion et toutes l'architecture nécessaire ; 3 la formation continue des équipes de la banque

Q 8.2 Comment envisagez-vous l'évolution du tableau de bord de pilotage avec des (KPI) financiers de la BNH dans les prochaines années, notamment en intégrant les dimensions risque ?

R : elle doit impérativement suivre l'évolution de notre activité, à chaque étape de notre croissance et développement y a des indicateurs les plus cohérent et ensuite dès qu'en arrive à atteindre la maturité ça sera tous les indicateurs nécessaires notamment es indicateurs risque et ratios prudentiels c'est primordial et nécessaire vis-à-vis la banque d'algérien. Aujourd'hui c'est difficile de faire ça avec l'absence de système d'information mais a très court terme nous seront en mesure de mettre en place tout ça

Q 8.3 Y a-t-il des aspects du contrôle de gestion ou de la performance de la BNH que vous souhaiteriez aborder et que mes questions n'ont pas couverts ?

R :le questionner était très large vous avez tout couverts

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