

Strategic Management Of The Product Portfolio And Value Creation In Commercial Banks In Kinshasa: An Integrated BCG–Resource-Based View Approach.

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Résumé : Cette étude examine l'influence de la gestion stratégique du portefeuille de produits, fondée sur la matrice BCG, sur la performance des établissements bancaires en République démocratique du Congo. Elle vise à évaluer les effets de la croissance du marché, de la part de marché relative, de l'allocation des ressources et des décisions d'investissement stratégiques sur la performance bancaire. Une approche quantitative a été adoptée auprès d'un échantillon de 384 répondants, avec des analyses descriptives, des tests de fiabilité, une analyse factorielle exploratoire et une régression linéaire multiple. Les résultats montrent que les quatre dimensions étudiées exercent une influence positive et significative sur la performance des banques ($R^2 = 0,649$; $p < 0,001$). L'allocation des ressources apparaît comme le facteur le plus déterminant, suivie de la croissance du marché, des décisions d'investissement stratégiques et de la part de marché relative. L'étude confirme ainsi la pertinence de la matrice BCG comme outil d'aide à la décision stratégique et d'amélioration durable de la compétitivité bancaire.

Mots-clés : Gestion stratégique, portefeuille de produits, matrice BCG, performance bancaire, allocation des ressources, décisions d'investissement.

Abstract: This study investigates the influence of strategic product portfolio management based on the BCG matrix on the performance of banking institutions in the Democratic Republic of the Congo. It aims to assess the effects of market growth, relative market share, resource allocation, and strategic investment decisions on bank performance. A quantitative research design was adopted using a sample of 384 respondents. Data were analyzed through descriptive statistics, reliability tests, exploratory factor analysis, and multiple linear regression. The findings reveal that all four dimensions have a positive and statistically significant impact on bank performance ($R^2 = 0.649$; $p < 0.001$). Resource allocation emerged as the strongest predictor, followed by market growth, strategic investment decisions, and relative market share. The study confirms the relevance of the BCG matrix as an effective strategic decision-making tool for optimizing product portfolio management, improving competitiveness, and enhancing the long-term performance of banking institutions in an increasingly competitive and dynamic financial environment.

Keywords: Strategic management, product portfolio, BCG matrix, bank performance, resource allocation, strategic investment decisions.

Introduction

The banking sector today operates in an environment characterized by increased competition, accelerated digital transformation, increasingly stringent regulatory requirements, and constantly evolving customer expectations [1]–[3]. Faced with these changes, banks are called upon to diversify their offerings and optimize the management of their product portfolios in order to improve their competitiveness, profitability, and ability to retain customers [4], [5]. In this context, strategic product portfolio management is a

key lever enabling banking institutions to allocate their resources effectively, develop the highest-performing products, and streamline those whose contribution to performance remains limited [6], [7].

A bank's performance no longer depends solely on its ability to attract deposits or grant loans, but also on its capacity to manage a diverse range of financial products and services, such as bank accounts, loans, payment cards, savings products, digital services, bank insurance (bancassurance), and electronic payment solutions [8], [9]. Each product exhibits a different level of growth, profitability, maturity, and development potential, necessitating a rigorous strategic analysis approach to guide investment and development decisions [1], [10].

Among strategic decision-making tools, the Boston Consulting Group (BCG) matrix plays a significant role in product portfolio analysis. Based on market growth and relative market share assessments, this matrix classifies products into four categories—Stars, Cash Cows, Question Marks, and Dogs—to determine the most appropriate strategies for investment, maintenance, development, or divestment [11], [1]. While widely used in the industrial and commercial sectors, its application to the banking sector remains relatively undocumented, particularly in emerging economies [12], [10].

In many African countries, and particularly in the Democratic Republic of Congo, the banking sector is undergoing rapid evolution due to the increasing financial inclusion of the population, the development of financial technologies (FinTech), the rise of digital banking services, and the arrival of new financial players [13]–[15]. This dynamic is leading banks to diversify their products and services to meet the needs of an increasingly demanding clientele. However, this diversification is not always accompanied by strategic management that allows for an objective assessment of each product's contribution to value creation and the institution's overall performance [10], [7].

As a result, some banks continue to invest in products with low profitability or low growth potential, while other high value-added products do not receive the resources necessary for their development. This situation can lead to an inefficient allocation of financial, human, and technological resources, reduce the institution's overall profitability, and limit its capacity for innovation in a highly competitive banking environment [4], [1], [2].

From this perspective, the application of the BCG matrix appears as a relevant tool for analyzing the strategic positioning of different banking products, identifying investment priorities, and supporting management decision-making. It offers an analytical framework that allows for a better understanding of the strengths and weaknesses of the product portfolio, the optimization of strategic trade-offs, and the strengthening of the commercial and financial performance of banking institutions [11], [12], [10].

Thus, this study is part of a reflection on the strategic management of the product portfolio using the BCG matrix applied to the banking sector. It aims to highlight the value of this tool in the evaluation of financial products, the improvement of the quality of strategic decisions and the strengthening of the competitiveness of banks in a constantly evolving environment [1], [14].

1. Conceptual framework

1.1. Strategic Management

The concept of strategic management has undergone significant evolution in recent decades. Initially focused on long-term planning, it has gradually expanded to incorporate the competitive, organizational, technological, and institutional dimensions that characterize the contemporary business environment.

The first major works are attributed to Igor Ansoff, considered one of the pioneers of strategic management. According to Ansoff [6], strategic management is a systematic decision-making process that enables an organization to continually adapt to changes in its environment in order to ensure its growth and sustainability. This approach emphasizes anticipating market trends and the ongoing search for a balance between the company's internal resources and the opportunities offered by its environment.

From a competitive perspective, Porter [4] defines strategy as the set of choices enabling an organization to build a sustainable competitive advantage through distinctive positioning. For this author, performance depends primarily on the company's ability to control its costs, differentiate its offering, or focus on a particular market segment. Strategic management thus becomes a key tool for creating and maintaining a favorable competitive position.

This concept is expanded upon by Johnson, Scholes, Whittington, Angwin, and Regnér [5], who consider strategic management as the set of decisions and actions that define an organization's long-term direction, effectively mobilize its resources, and meet the expectations of various stakeholders. Their approach integrates not only the company's economic objectives but also the requirements of shareholders, customers, employees, partners, and public authorities.

According to Grant [10], strategic management is a continuous process of analyzing the external environment, evaluating internal resources and capabilities, formulating strategic choices, implementing them, and monitoring their implementation. The author emphasizes that strategy is no longer a static document, but a dynamic process that evolves in response to economic, technological, and competitive transformations.

In the same vein, David and David [12] define strategic management as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives. They distinguish three fundamental stages: strategy formulation, implementation, and evaluation, which form a continuous cycle of organizational performance improvement.

For their part, Wheelen, Hunger, Hoffman, and Bamford [7] consider strategic management as a set of managerial decisions and actions that determine the long-term performance of the organization. According to these authors, strategic success relies on a continuous analysis of the internal and external environment in order to continually adapt the company's direction to market changes.

The evolution of these different approaches reflects the gradual shift from a primarily planning-oriented vision to a much more dynamic, integrated approach focused on the sustainable creation of value. Today, strategic management is no longer solely about defining long-term objectives; it also involves the ability to innovate, learn, transform the organization, and quickly seize opportunities presented by a constantly changing environment. It is therefore a key driver of competitiveness, resilience, and sustainable organizational performance, particularly in the banking sector where technological, regulatory, and competitive transformations necessitate continuous strategic adaptation.

1.2. Product Portfolio

The product portfolio is a central concept in strategic management and strategic marketing. It reflects all the choices a company makes regarding the products and services it offers on the market in order to meet customer needs while ensuring growth and profitability. In an economic environment characterized by rapidly evolving markets, technologies, and consumer preferences, product portfolio management has become a key driver of value creation and sustainable competitiveness [1], [2]. Organizations must therefore constantly weigh the development of new products, the maintenance of existing products, their improvement, or their withdrawal, depending on their contribution to overall performance.

1.2.1. Definition and evolution of the product portfolio concept

The product portfolio concept originates from work on strategic diversification and resource allocation. It is based on the idea that a company should not consider each of its products in isolation, but rather as a coherent whole whose management must be optimized to maximize value creation.

According to Kotler and Keller [1], a product portfolio refers to all the product lines and individual products marketed by a company. The authors specify that this portfolio is characterized by four essential dimensions: breadth, which corresponds to the number of product lines; length, which represents the total number of products; depth, which refers to the number of variants offered for each product; and coherence, which measures the degree of complementarity between the different product lines. This approach highlights the role of product diversification as a factor in satisfying consumer needs and strengthening competitiveness.

For Henderson [3], founder of the Boston Consulting Group (BCG), a product portfolio is a set of activities exhibiting varying levels of market growth and relative market share. According to him, a company's overall performance depends less on the success of a particular product than on the balance of the entire portfolio. This perspective introduces a logic of strategic resource allocation based on the potential of each activity.

Similarly, Ansoff [4] views the product portfolio as the result of strategic diversification choices made by the company. According to this author, an organization must seek a balance between mature products, which ensure financial stability, and new products likely to support its future growth. The portfolio thus becomes a tool for managing risks associated with market fluctuations.

According to David and David [5], the product portfolio represents a coherent set of activities requiring ongoing evaluation to guide decisions regarding investment, development, maintenance, or discontinuation of certain products. The authors emphasize that this management constitutes a major strategic responsibility for managers, as it directly influences the organization's profitability and competitiveness.

According to Grant [2], the product portfolio reflects the company's strategic capabilities. Its composition depends not only on market opportunities, but also on available resources, distinctive competencies, mastered technologies, and the organization's objectives. Thus, a successful portfolio is one that ensures coherence between the company's internal capabilities and the demands of its competitive environment.

The evolution of these different approaches shows that the product portfolio has gone from a simple list of marketed products to a true strategic management tool enabling the optimization of investments, the reduction of risks and the strengthening of value creation.

1.2.2. Product Portfolio Dimensions

The product portfolio is characterized by several dimensions that allow us to appreciate its structure and its ability to meet the company's strategic objectives.

The first dimension is portfolio breadth, which corresponds to the number of product lines marketed. A company offering savings products, loans, bank cards, digital services and insurance has a broader portfolio than an institution specializing in a single product category [1].

The second dimension is length, which represents the total number of products or SKUs marketed within the different product lines. The greater this length, the more likely the company is to meet the needs of diverse customer segments.

The third dimension is depth, which refers to the number of variants offered for each product. In the banking sector, this depth can be illustrated by the existence of several categories of savings accounts, loans or bank cards adapted to different customer profiles [6].

Finally, the fourth dimension is portfolio coherence. This measures the degree of complementarity between the different products offered. A coherent portfolio facilitates cross-selling, improves the customer experience and allows for more efficient use of company resources [1].

1.2.3. Strategic Product Portfolio Management

Strategic portfolio management involves regularly analyzing the contribution of each product to the organization's overall performance in order to guide investment and resource allocation decisions.

According to Henderson [3], companies should prioritize investment in products with high growth potential while using revenues generated by mature products to finance new activities. This logic forms the basis of the BCG matrix.

For their part, David and David [5] believe that portfolio management rests on four fundamental decisions: developing promising products, maintaining profitable products, restructuring struggling products, and abandoning underperforming products. This approach improves the company's overall profitability while reducing the risks associated with poor resource allocation.

According to Grant [2], this strategic management must also take into account technological developments, consumer behavior, and competitive movements. Portfolio analysis thus becomes a dynamic process requiring continuous updating of strategic information.

1.3. Theoretical Foundations

Understanding strategic portfolio management relies on several theoretical frameworks that explain the mechanisms of value creation, resource allocation, and maintaining organizational competitiveness. In the banking sector, decisions regarding product development, maintenance, or withdrawal are not made in isolation; they are based on theoretical foundations that allow for the analysis of product performance, the bank's internal capabilities, its competitive environment, and market developments. From this perspective, this study draws on four complementary theories: portfolio theory, competitive advantage theory, resource-based view, and product life cycle theory. Together, these approaches form the conceptual basis justifying the use of the BCG matrix in the strategic management of banking product portfolios.

1.3.1. Portfolio Theory

Portfolio theory originates from the work of Harry Markowitz [1], who introduced the concept of optimal diversification into the field of finance. In his seminal article, Portfolio Selection, Markowitz demonstrates that an investor can reduce the overall risk of their portfolio without necessarily decreasing their expected return, provided they combine assets with different levels of risk.

According to Markowitz [1], the performance of a portfolio depends not only on the individual performance of each of its assets, but also on the relationships between them. This approach breaks with the traditional view of analyzing each investment separately.

Markowitz's work was subsequently adapted to strategic management by Bruce Henderson [2], founder of the Boston Consulting Group (BCG). Henderson transposed the principle of financial diversification to the management of business activities, considering that the various products constitute a strategic portfolio whose composition directly influences the overall performance of the organization.

This evolution marks an important step in the development of strategic management. While Markowitz focused on financial assets, Henderson applied the same principles to the company's products and activities, thus paving the way for the creation of the famous BCG matrix.

Portfolio theory is based on several essential principles.

The first principle is that of diversification. According to Markowitz [1], diversification allows risks to be spread across several assets with different characteristics. Applied to strategic management, this principle means that a company should not depend exclusively on a single product but should have a balanced portfolio capable of withstanding market fluctuations.

The second principle concerns the relationship between risk and return. The higher the potential return of an investment, the greater its level of risk [3]. In the banking context, some innovative products have strong growth potential but also require significant investments and involve greater uncertainty.

The third principle is that of optimal resource allocation. Since financial, human and technological resources are limited, they must be directed towards products likely to generate the greatest value creation [4], [5].

Finally, the theory emphasizes the importance of a balance between different product categories. A successful portfolio combines mature products that generate regular revenue with innovative products that can ensure future growth.

The BCG matrix is one of the main applications of portfolio theory to strategic management. According to Henderson [2], each product should be analyzed according to two fundamental criteria: the market growth rate and the relative market share. These two variables allow products to be classified into four categories:

- Stars, characterized by strong growth and a large market share;
- Cash Cows, generating significant financial flows despite limited growth;
- Question Marks, requiring significant investments to improve their competitive position;
- Dead weights (Dogs), exhibiting low growth potential and low profitability.

This classification facilitates decisions regarding investment, maintenance, or withdrawal of products.

In the banking sector, portfolio theory allows for the simultaneous analysis of several categories of financial products: current accounts, savings products, loans, bank cards, digital services, investment products, and electronic payment solutions.

According to Rose and Hudgins [6], a successful bank is one that manages to balance its portfolio between highly profitable products and innovative products capable of supporting its future growth.

The digitalization of financial services further reinforces the interest in this approach. Banks must now arbitrate between investments in physical branches and those allocated to digital services, mobile applications or digital platforms [7], [8].

This theory forms the main basis of this research. Indeed, the BCG matrix is directly based on the principles of diversification, equilibrium, and optimal resource allocation developed by portfolio theory. In the banking context, it allows for the identification of value-creating products, those requiring additional investment, and those whose withdrawal could improve the institution's overall performance.

1.3.2. Theory of Competitive Advantage

The theory of competitive advantage is primarily developed by Michael Porter in his book *Competitive Advantage* [9]. According to Porter, a company achieves superior performance when it develops an advantage that its competitors cannot easily imitate.

The author distinguishes two main sources of competitive advantage: cost leadership, which consists of producing at a lower cost than competitors, and differentiation, which relies on creating an offering perceived as unique by customers. A third strategy, known as focus, consists of concentrating efforts on a specific market segment.

In the banking sector, this theory explains why some banks stand out for their innovative products, the quality of their digital services, the speed of their operations or their proximity to customers [10], [6].

Applied to the BCG matrix, this theory shows that products classified as Stars or Cash Cows are generally those that provide a sustainable competitive advantage. Portfolio management decisions should therefore favor investments likely to strengthen this strategic position.

1.3.3. Resource-Based View

The Resource-Based View (RBV) originates from the work of Wernerfelt [11] and is developed by Barney [12].

According to this theory, a company's performance depends primarily on its internal resources and skills rather than solely on market conditions.

For Barney [12], a resource constitutes a source of competitive advantage when it is valuable, rare, difficult to imitate and non-substitutable, criteria known under the VRIN model.

Grant [4] complements this approach by emphasizing that organizational competences result from the combination of human, financial, technological and informational resources.

In the banking sector, these resources include, in particular, staff skills, information systems, digital platforms, the bank's reputation, customer trust, innovation capabilities, and the quality of governance.

RBV thus justifies the investments made in products most consistent with the bank's distinctive resources and explains why some institutions manage to develop a more efficient product portfolio than their competitors.

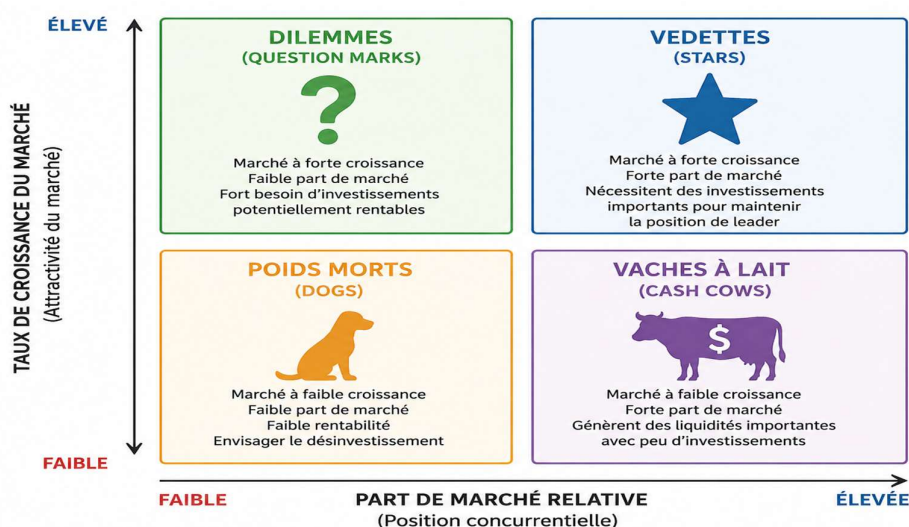
1.4. The BCG matrix

The Boston Consulting Group (BCG) matrix, developed by Bruce D. Henderson [1], is a major strategic management tool for analyzing and managing a company's product portfolio. It is based on two fundamental criteria: relative market share, which reflects a product's competitive position, and market growth rate, which measures the attractiveness of the sector. By combining these two

dimensions, the matrix classifies products into four categories: Stars, Cash Cows, Question Marks, and Dogs, each requiring a specific investment, maintenance, or divestment strategy [1], [2].

In the banking sector, this tool facilitates the identification of the most profitable products, those requiring additional investment, and activities whose contribution to performance is becoming limited. It thus promotes optimal resource allocation, improved profitability, and enhanced competitiveness of financial institutions [3], [4]. However, the BCG matrix has certain limitations, as it relies on only two variables and does not take into account factors such as innovation, organizational skills, technological developments, or customer expectations [5], [6]. For this reason, it should be used in conjunction with other strategic analysis tools to improve the quality of managerial decisions [2], [5].

Figure 1. BCG Matrix



Source: compiled by the author

2. Study Methodology

2.1. Research Methods

This study adopts a quantitative approach, preferred for objectively measuring the relationships between variables and testing the hypotheses formulated. According to Creswell and Creswell [14], the quantitative approach allows for the collection of numerical data, its processing using statistical tools, and the establishment of significant relationships between the variables studied.

This research adopts a descriptive and explanatory method. The descriptive method allows us to establish an overview of product portfolio management in banking institutions by identifying the characteristics of different products according to their growth level, market share, and contribution to the bank's performance [15]. It provides a comprehensive view of the product portfolio structure and facilitates their classification into the different categories of the BCG matrix.

The explanatory method aims to analyze the influence of strategic product portfolio management on the performance of banking institutions. It allows us to verify the research hypotheses by highlighting the relationships between the independent variables from the BCG matrix (market growth, relative market share, resource allocation and investment decisions) and the dependent variable represented by the bank's performance [16].

To test these relationships, the study uses multiple linear regression. This statistical method makes it possible to evaluate the simultaneous effect of several explanatory variables on a dependent variable and to identify those that significantly influence bank performance [15], [17].

The statistical analysis will be preceded by a verification of the conditions of application of the model, including the reliability of the measurement scales (Cronbach's alpha), factorial validity (exploratory factor analysis, KMO index and Bartlett's test), normality of residuals, absence of multicollinearity (VIF), homoscedasticity as well as the absence of autocorrelation of errors (Durbin-Watson), in accordance with the recommendations of Hair et al. [15] and Field [17].

2.2. Research Techniques

In order to achieve the objectives pursued, several data collection and analysis techniques will be used.

The first technique is documentary research, which involves using scientific works, articles published in specialized journals, reports from financial institutions, publications from the Central Bank of Congo, annual reports from banks, as well as documents relating to strategic management and the BCG matrix. This technique will allow us to construct the theoretical framework, the state of the art, and the conceptual model of the research.

The second technique is a questionnaire survey. A structured questionnaire will be administered to sales managers, marketing managers, product managers, strategic executives, and managers of banking institutions. Responses will be collected using a five-point Likert scale, ranging from 1 ("Strongly disagree") to 5 ("Strongly agree"), to measure perceptions related to product portfolio management, the use of the BCG matrix, and organizational performance.

Finally, statistical techniques will be used for data processing with specialized software such as Jamovi, SPSS or R. The analyses will include descriptive statistics (frequencies, means and standard deviations), reliability tests (Cronbach's alpha and McDonald's omega), exploratory factor analysis (KMO and Bartlett's test), correlation analysis, model diagnostics (VIF, Durbin-Watson, normality of residuals and homoscedasticity) as well as multiple linear regression intended to evaluate the influence of strategic product portfolio management on the performance of banking institutions [15], [17].

The combined use of these methods and techniques will ensure the scientific rigor of the research, the validity of the results obtained, and the empirical verification of the hypotheses formulated.

The chosen regression model is formulated as follows:

$$PB = \beta_0 + \beta_1 CM + \beta_2 PM + \beta_3 AR + \beta_4 DI + \varepsilon$$

PB : Performance des établissements bancaires (variable dépendante)

β_0 : Constante du modèle (ordonnée à l'origine)

β_1 : Coefficient de régression associé à la croissance du marché (**CM**)

β_2 : Coefficient de régression associé à la part de marché relative (**PM**)

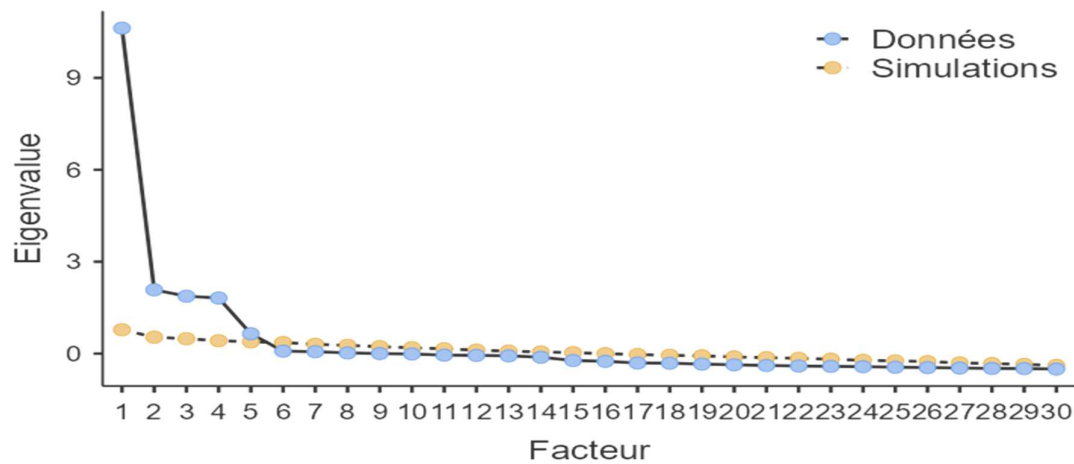
β_3 : Coefficient de régression associé à l'allocation des ressources (**AR**)

β_4 : Coefficient de régression associé aux décisions d'investissement stratégiques (**DI**)

ε : Terme d'erreur (résidus du modèle)

Before interpreting the model coefficients, it is essential to verify the main assumptions of multiple linear regression. These verifications include the absence of multicollinearity between independent variables, the normality of residuals, the homoscedasticity of errors, the absence of autocorrelation, and the overall quality of the model. Meeting these conditions guarantees the validity of the estimates and the reliability of the conclusions that will be drawn [15], [17].

Graph 1. Graph QQ



The analysis reveals that the parallel analysis identifies five factors, with the first five observed eigenvalues being higher than those from the simulated data. This result confirms the expected factor structure and validates the research's conceptual model, demonstrating that the five selected dimensions adequately represent the constructs under study.

1.2. Reliability testing of variables

Before examining the relationships between research variables, it is essential to verify the quality of the measurement instruments used in the questionnaire. This step involves evaluating the internal reliability of the different scales to ensure that items grouped under the same variable actually measure the same theoretical construct. A reliable scale produces consistent and stable results, which guarantees the validity of subsequent statistical analyses [15], [17].

In this study, the reliability of the variables is assessed primarily using Cronbach's alpha coefficient (α), widely used in quantitative research in management science. To strengthen this assessment, McDonald's omega (ω) is also calculated, this indicator being recognized for its robustness when items have different factor loadings [18].

Table 1. Reliability analysis of the variable "Market Growth"

	Average	Standard deviation	Cronbach's alpha	ω of McDonald's	
ladder	3.92	0.487	0.803	0.803	
	Average	Standard deviation	Object-remainder correlation	Cronbach's alpha	ω of McDonald's
CM1	3.90	0.655	0.571	0.770	0.771
CM2	3.95	0.657	0.618	0.755	0.756
CM3	3.94	0.644	0.568	0.771	0.771
CM4	3.91	0.640	0.609	0.758	0.759
CM5	3.89	0.660	0.566	0.772	0.772

The results confirm that the five items related to market growth exhibit excellent internal consistency and reliably measure the theoretical construct used in this research. No item needs to be removed or modified, allowing the entire scale to be retained for the factor analyses, correlations, and multiple linear regressions that will be performed in the following sections. These results thus attest to the psychometric quality of this first dimension of strategic product portfolio management.

Table 2. Reliability analysis of the variable "Relative market share"

	Average	Standard deviation	Cronbach's alpha	ω of McDonald's	
ladder	3.92	0.484	0.789	0.789	
	Average	Standard deviation	Object-remainder correlation	Cronbach's alpha	ω of McDonald's
PM1	3.92	0.659	0.567	0.749	0.750
PM2	3.93	0.671	0.604	0.736	0.738
PM3	3.92	0.658	0.566	0.749	0.750
PM4	3.93	0.657	0.558	0.752	0.752
PM5	3.90	0.645	0.535	0.759	0.759

The reliability test results confirm that the scale measuring relative market share exhibits good psychometric properties. The Cronbach's alpha and McDonald's omega coefficients obtained, combined with satisfactory object-remainder correlations, allow us to conclude that the five selected items consistently and reliably measure this dimension of strategic product portfolio management. Therefore, all items are retained for the factor analyses, correlation analyses, and multiple linear regression that will be performed in the following sections.

Table 3. Reliability analysis of the "Resource Allocation" variable

	Average	Standard deviation	Cronbach's alpha	ω of McDonald's	
ladder	3.91	0.505	0.814	0.814	
	Average	Standard deviation	Object-remainder correlation	Cronbach's alpha	ω of McDonald's
AR1	3.92	0.692	0.625	0.771	0.771
AR2	3.90	0.678	0.618	0.773	0.774
AR3	3.91	0.660	0.606	0.777	0.777
AR4	3.90	0.651	0.577	0.785	0.786
AR5	3.89	0.652	0.588	0.782	0.782

The reliability test results confirm that the resource allocation scale exhibits very good internal consistency. Cronbach's alpha and McDonald's omega coefficients, combined with satisfactory object-remainder correlations, demonstrate that the five selected items constitute a reliable instrument for measuring this dimension of strategic product portfolio management. Consequently, all items are retained for factor analyses, correlation analyses, and multiple linear regression, thus ensuring the methodological robustness of the subsequent empirical analyses.

Table 4. Reliability analysis of the variable "Strategic investment decisions"

	Average	Standard deviation	Cronbach's alpha	ω of McDonald's	
ladder	3.92	0.473	0.777	0.777	
	Average	Standard deviation	Object-remainder correlation	Cronbach's alpha	ω of McDonald's
DI1	3.93	0.630	0.550	0.736	0.736
DI2	3.96	0.659	0.548	0.736	0.737
DI3	3.88	0.642	0.580	0.726	0.726
DI4	3.93	0.643	0.504	0.751	0.752
DI5	3.88	0.678	0.568	0.730	0.731

The results obtained allow us to conclude that the scale measuring Strategic Investment Decisions exhibits good internal consistency and meets the reliability criteria generally accepted in management science. The Cronbach's Alpha and McDonald's Omega coefficients, combined with satisfactory object-remainder correlations, confirm that the five selected items consistently measure this dimension of strategic product portfolio management. Consequently, all items are retained for factor analyses, correlation analyses, and multiple linear regression, thus ensuring the robustness of the empirical analyses that will be conducted in the following sections.

Table 5. Reliability analysis of the variable "Performance of banking institutions"

	Average	Standard deviation	Cronbach's alpha	ω of McDonald's	
ladder	3.91	0.475	0.891	0.891	
	Average	Standard deviation	Object-remainder correlation	Cronbach's alpha	ω of McDonald's
PB1	3.91	0.686	0.668	0.878	0.878
PB2	3.95	0.674	0.612	0.882	0.882
PB3	3.91	0.674	0.645	0.880	0.880
PB4	3.87	0.660	0.654	0.879	0.879
PB5	3.88	0.653	0.586	0.884	0.884
PB6	3.92	0.676	0.608	0.882	0.882
PB7	3.92	0.677	0.630	0.881	0.881
PB8	3.93	0.696	0.676	0.877	0.878
PB9	3.91	0.627	0.591	0.883	0.883
PB10	3.87	0.656	0.630	0.881	0.881

The results obtained show that the scale measuring the performance of banking institutions exhibits very good internal consistency and fully meets the reliability criteria generally accepted in management science. The Cronbach's alpha coefficient ($\alpha = 0.891$) and McDonald's omega coefficient ($\omega = 0.891$), well above the recommended threshold of 0.70, demonstrate the stability and consistency of the ten items constituting this dimension. Furthermore, the object-remainder correlations, ranging from 0.586 to 0.676, confirm that each item contributes significantly to the measurement of the construct under study. Analysis of the alpha and omega coefficients after removing each item also shows that no removal would improve the overall reliability of the scale. Consequently, all ten items are retained for factor analyses, correlation analyses, and multiple linear regression. These results thus

confirm the excellent psychometric quality of this variable and guarantee the robustness of the empirical analyses that will be developed in the following sections.

1.3. Overall quality of the model

After verifying the main assumptions of the multiple linear regression, it is necessary to assess the overall quality of the model to evaluate its ability to explain the variations in the dependent variable. This evaluation relies primarily on the multiple correlation coefficient (R^2), the coefficient of determination (R^2), the adjusted coefficient of determination (adjusted R^2), and Fisher's overall test (ANOVA). These indicators allow us to measure the explanatory power of the model and to verify whether all the independent variables contribute significantly to explaining the performance of banking institutions (Hair et al., 2022; Field, 2024).

Table 6. Overall quality of the regression model

			General model test			
Model	R	R^2	F	ddl1	ddl2	P
1	0.806	0.649	175	4	379	<.001

The results of the table relating to the model adjustment measures show that the strategic management of the product portfolio, understood through market growth, relative market share, resource allocation and strategic investment decisions, significantly explains the performance of banking institutions.

The multiple correlation coefficient ($R = 0.806$) reflects a very strong and positive relationship between the independent variables and bank performance. This value, well above the threshold of 0.70 recommended by Hair et al. [15], indicates that the dimensions of strategic product portfolio management are closely associated with improved performance of banking institutions.

The coefficient of determination ($R^2 = 0.649$) indicates that 64.9% of the observed variations in banking institution performance are explained by the four independent variables included in the model: market growth, relative market share, resource allocation, and strategic investment decisions. The remaining 35.1% are attributable to other factors not considered in this research, such as the economic environment, governance quality, customer satisfaction, technological innovations, and regulatory policies.

Furthermore, Fisher's overall test yielded an F-value of 175, with 4 degrees of freedom in the numerator and 379 degrees of freedom in the denominator, for a probability less than 0.001 ($p < 0.001$). This result is highly significant and leads to the rejection of the null hypothesis that the regression coefficients would be simultaneously zero. It confirms that the regression model is globally significant and that the independent variables, taken together, have a statistically significant influence on the performance of banking institutions [15], [17].

Within the specific context of this study, these results demonstrate that strategic portfolio management based on the BCG matrix is a major determinant of banking institution performance. They show that improved market growth analysis, favorable product positioning, efficient resource allocation, and appropriate investment decisions contribute significantly to improving banks' profitability, competitiveness, and value creation.

The model's goodness of fit is considered very satisfactory. The high coefficient of determination ($R^2 = 64.9\%$) and the strong significance of Fisher's exact test ($p < 0.001$) confirm that the chosen conceptual model is relevant for explaining the performance of banking institutions [15], [17]. These results provide initial empirical support for the research's general hypothesis that strategic portfolio management, based on the BCG matrix, positively and significantly influences the performance of banking institutions. They thus justify a detailed analysis of the individual regression coefficients, which will allow us to identify the specific contribution of each of the dimensions studied.

Table 7. ANOVA test of the individual effects of independent variables

	Sum of squares	ddl	Average squares	F	p
CM_SCORE	28.9	1	28,862	95.4	<.001
PM_SCORE	19.5	1	19,492	64.4	<.001
AR_SCORE	38.2	1	38.221	126.3	<.001
DISCORE	24.5	1	24,480	80.9	<.001
Residues	114.7	379	0.303		

The results show that each of the independent variables has a statistically significant influence on the performance of banking institutions. Indeed, the probabilities associated with the four variables are all below the 5% significance level ($p < 0.001$), which leads to the rejection of the null hypothesis that these variables would have no effect on banking performance.

The Resource Allocation variable (AR_SCORE) has the highest F-value ($F = 126.3$; $p < 0.001$). This result indicates that it is the factor with the most significant contribution to explaining the performance of banking institutions. It highlights that the way banks allocate their financial, human, technological, and commercial resources among the different products in their portfolio plays a crucial role in improving their overall performance. This result is consistent with Barney's (1991) Resource-Based View, according to which efficient resource allocation is a key source of sustainable competitive advantage.

Market Growth (CM_SCORE) also showed a highly significant influence ($F = 95.4$; $p < 0.001$). This result demonstrates that banks operating in markets with high growth potential or that effectively identify development opportunities achieve better performance. This observation confirms the principles of Henderson's (1970) portfolio theory, which emphasizes the importance of investing in businesses with the best growth prospects.

Strategic Investment Decisions (DI_SCORE) also have a significant influence on bank performance ($F = 80.9$; $p < 0.001$). This result indicates that choices regarding the development, maintenance, repositioning, or withdrawal of banking products contribute significantly to improving the profitability and competitiveness of financial institutions. It highlights the importance of strategic management based on a rigorous analysis of the product portfolio.

Finally, Relative Market Share (PM_SCORE) also has a positive and significant influence ($F = 64.4$; $p < 0.001$). Although its effect is slightly smaller than that of the other variables, this dimension remains an important determinant of bank performance. Institutions with a better competitive position generally benefit from more loyal customers, higher business volume, and greater value creation, in line with Porter's (1985) work on competitive advantage.

Overall, the results show that the four dimensions of strategic product portfolio management contribute significantly to explaining the performance of banking institutions. However, resource allocation appears to be the most decisive factor, followed by market growth, strategic investment decisions, and relative market share.

1.4. Analysis of regression coefficients

After verifying the overall quality of the regression model, it is necessary to examine the individual regression coefficients to assess the specific contribution of each independent variable to explaining the performance of banking institutions. This analysis makes it possible to identify the factors that exert a statistically significant influence on the dependent variable, while also assessing the strength and direction of this influence. The results are interpreted using standardized coefficients (β), standard errors, t-statistics, and associated probabilities (p-values) (Hair et al., 2022; Field, 2024).

Standardized coefficients (β) allow for comparison of the relative importance of the different independent variables. A positive coefficient indicates that an increase in the explanatory variable leads to improved performance of banking institutions, while a negative coefficient reflects the opposite influence. A variable is considered statistically significant when its probability is less than the 5% threshold ($p < 0.05$).

Table 8. Regression coefficients of the model

Predictor	Estimate	Standard error	95% confidence interval		T	p	Standard estimate
			Terminal inf	Superior			
Originally ordered	-0.673	0.1637	-0.994	-0.351	-4.11	<.001	
CM_SCORE	0.308	0.0315	0.246	0.370	9.77	<.001	0.318
PM_SCORE	0.245	0.0306	0.185	0.305	8.03	<.001	0.257
AR_SCORE	0.347	0.0309	0.287	0.408	11.24	<.001	0.361
DISCORE	0.284	0.0316	0.222	0.346	8.99	<.001	0.292

The results in Table 3.X show that the four explanatory variables have a positive and statistically significant influence on the performance of banking institutions. Indeed, the probabilities associated with the regression coefficients are all less than 0.001, well below the 5% significance threshold ($p < 0.05$). These results allow us to reject the null hypothesis that the independent variables have no effect on banking performance.

The Resource Allocation variable (AR_SCORE) exhibits the highest standardized coefficient ($\beta = 0.361$; $t = 11.24$; $p < 0.001$). It thus appears to be the primary determinant of banking institution performance. Specifically, an improved allocation of financial, human, technological, and commercial resources among the various products in the portfolio leads to a significant increase in overall bank performance. This result confirms the postulates of the Resource-Based View (Barney, 1991), according to which efficient resource utilization is a key source of sustainable competitive advantage.

Market Growth (CM_SCORE) ranks second in terms of influence ($\beta = 0.318$; $t = 9.77$; $p < 0.001$). This result indicates that banks operating in expanding markets or able to quickly identify growth opportunities achieve superior performance. A one-unit increase in this variable leads to an average increase of 0.308 units in bank performance, all other things being equal. This observation is consistent with the principles of portfolio theory developed by Henderson (1970), according to which businesses operating in high-growth markets offer the best prospects for value creation.

Strategic Investment Decisions (DI_SCORE) also have a significant positive influence on bank performance ($\beta = 0.292$; $t = 8.99$; $p < 0.001$). The results show that banks making investment decisions based on a strategic analysis of their product portfolio significantly improve their profitability and competitiveness. A one-unit increase in strategic investment decisions leads to an average improvement of 0.284 units in bank performance.

Relative Market Share (PM_SCORE) also showed a positive and significant effect ($\beta = 0.257$; $t = 8.03$; $p < 0.001$). Although its influence was slightly weaker than that of the other variables, it remained a key determinant of banking performance. Banks with a more favorable competitive position generally experienced greater customer loyalty, increased revenue, and improved competitiveness. This finding aligns with Porter's (1985) work, which considers market share an important indicator of competitive advantage.

The model constant is negative ($B = -0.673$; $p < 0.001$). This value simply reflects the theoretical level of bank performance when all explanatory variables are equal to zero. In the context of this research, this constant has no particular managerial interpretation, as the variables are measured on a Likert scale, the values of which cannot be zero.

Comparative analysis of standardized coefficients (β) allows us to rank the relative importance of independent variables in explaining bank performance. The results show that resource allocation is the most influential factor ($\beta = 0.361$), followed by market growth ($\beta = 0.318$), strategic investment decisions ($\beta = 0.292$), and finally relative market share ($\beta = 0.257$).

Ultimately, these results demonstrate that the four dimensions of strategic product portfolio management positively and significantly influence the performance of banking institutions. They confirm that banks that optimize resource allocation, develop their products in promising markets, make relevant strategic investment decisions, and strengthen their competitive position achieve better

commercial, financial, and strategic performance. These results thus provide solid empirical support for the general hypothesis of this research and justify the use of the BCG matrix as a strategic product portfolio management tool in the banking sector.

4. Discussion of results

The empirical results obtained provide answers to the research questions and verify the hypotheses formulated at the beginning of this study. They highlight the crucial role of strategic product portfolio management in improving the performance of banking institutions. The resulting regression model demonstrates high explanatory power ($R^2 = 64.9\%$), indicating that the variables selected for this research explain a significant portion of the variations in bank performance. This observation confirms the relevance of the conceptual model developed from the theoretical foundations presented in Chapter 1.

4.1. Convergences with literature

The results of this research are largely consistent with the main works on strategic management and product portfolio management. They confirm that market growth, relative market share, resource allocation, and strategic investment decisions all have a positive and statistically significant influence on the performance of banking institutions ($p < 0.001$).

These results primarily corroborate the work of Bruce Henderson [3], founder of the Boston Consulting Group, who believes that an organization's performance depends on its ability to balance its product portfolio according to its growth potential and competitive position. According to Henderson, companies that direct their investments toward activities with the best growth prospects sustainably improve their profitability and competitiveness. The results obtained in this research fully confirm this logic in the banking context.

They also concur with the conclusions of Kotler and Keller [1], according to whom the BCG matrix is a strategic tool for optimizing resource allocation and guiding investment decisions. The authors emphasize that classifying products into Stars, Cash Cows, Question Marks, and Dogs facilitates investment prioritization and improves value creation. The results of this study indeed show that banks implementing strategic portfolio management achieve better performance.

The findings are also consistent with the work of David and David [5], which demonstrates that strategic portfolio management contributes to improved organizational profitability by directing resources toward the most promising activities. In the present study, the four dimensions considered explain nearly 65% of bank performance, confirming the strategic importance of these decisions.

Furthermore, the results obtained align with the perspectives of Grant [2] and Barney [11]. These authors believe that sustainable performance results from an effective combination of the organization's internal resources, market opportunities, and the quality of strategic decisions. The regression coefficients obtained clearly demonstrate that these various elements contribute significantly to the performance of banking institutions.

Finally, the results also align with the observations of Rose and Hudgins [6] and Mishkin and Eakins [19], who emphasize that successful banks are those that continually adapt their products to the evolving needs of their customers and that invest in the most value-creating activities.

4.2. Observed discrepancies

Despite this strong convergence with the literature, some divergences deserve to be highlighted.

The first concerns the hierarchy of explanatory factors. Contrary to several studies carried out in developed economies, which consider market share as the main determinant of organizational performance [9], [1], the results of this study show that resource allocation is the variable with the most significant effect on the performance of banking institutions ($\beta = 0.361$), ahead of market growth ($\beta = 0.318$), investment decisions ($\beta = 0.292$) and market share ($\beta = 0.257$).

This difference can be explained by the specific characteristics of the Congolese banking sector. In an environment marked by financial constraints, a shallow banking market, increasing competition, and limited resources, the way banks use their resources appears more decisive than their competitive position alone.

A second point of divergence concerns the role of digital transformation. Recent research by Deloitte [7] and McKinsey & Company [8] strongly emphasizes digital technologies as the primary driver of bank performance. The results of this study, however, show that digital technologies only have an impact when accompanied by efficient resource allocation and consistent investment decisions. In other words, it is not solely technological innovation that improves performance, but rather the bank's ability to integrate this innovation into a comprehensive product portfolio management strategy.

Finally, some international studies place particular emphasis on macroeconomic factors, such as interest rates, monetary stability, and the level of financial development. While these variables can influence bank performance, the results obtained show that internal strategic factors remain the primary determinants of performance in the context studied.

4.3. Theoretical contributions

This research makes several contributions to the scientific literature:

- First, it empirically confirms the relevance of the BCG matrix as a strategic management tool in a sector where its use remains relatively limited, particularly in African banking institutions [3], [1].
- Secondly, it enriches the work on strategic portfolio management by demonstrating that the four fundamental dimensions of the BCG matrix explain a significant proportion of bank performance ($R^2 = 64.9\%$). This contribution confirms that the BCG matrix remains a relevant analytical tool despite the numerous developments in strategic management [2], [5].
- Third, this research establishes a link between several theoretical frameworks, notably Henderson's portfolio theory [3], Porter's theory of competitive advantage [9], Barney's Resource-Based View [11], and product life cycle theory. The results show that these different approaches are complementary and together explain the performance of banking institutions.

This study also contributes to enriching scientific knowledge on the Congolese banking sector, which is still relatively poorly documented in terms of strategic product portfolio management.

4.4. Managerial Contributions

The results of this research also present several practical implications for the leaders of banking institutions.

First, they show that the efficient allocation of resources is the main lever for improving banking performance. Managers should therefore implement regular mechanisms for evaluating their products in order to focus financial, human, and technological resources on the most value-creating activities.

Furthermore, the results highlight the value of systematically integrating the BCG matrix into strategic planning processes [3], [1]. This tool helps distinguish between products requiring significant investment, those that generate cash flow, those with development potential, and those whose maintenance is no longer profitable.

Furthermore, marketing managers and product managers would benefit from developing strategic dashboards to regularly monitor the growth, profitability, and market share of each banking product. Such an approach would facilitate faster and more objective decision-making.

Finally, in a context marked by digital transformation and increasing competition from FinTech, banks should strengthen their innovation capabilities while ensuring that technology investments are aligned with the strategic priorities of the product portfolio [7], [8].

This research shows that the performance of banking institutions depends not only on the quality of the products offered, but above all on how these products are managed strategically. The application of the BCG matrix thus appears as a relevant decision-making tool enabling the sustainable improvement of profitability, competitiveness and value creation within banks [1], [3], [5].

Conclusion

This study aimed to analyze the influence of strategic product portfolio management, based on the BCG matrix, on the performance of banking institutions. The results show that market growth, relative market share, resource allocation, and strategic investment

decisions all have a positive and significant impact on banking performance. Among these dimensions, resource allocation emerges as the most decisive factor, confirming that efficient resource allocation is a key driver for improving profitability, competitiveness, and value creation.

The analyses conducted also validate the relevance of the conceptual model used and confirm the main theoretical foundations of portfolio theory, competitive advantage, and the Resource-Based View. They demonstrate that the BCG matrix remains a relevant strategic tool for guiding investment decisions, optimizing product portfolio management, and sustainably strengthening the performance of banking institutions.

From a practical standpoint, this research encourages bank executives to more fully integrate the principles of the BCG matrix into their strategic planning processes, to regularly assess the contribution of each product to overall performance, and to focus investments on the most value-creating activities. In a context marked by digital transformation and increased competition, rigorous strategic management of the product portfolio is therefore a key factor in the competitiveness and sustainability of banking institutions.

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