

## Marketing Strategies as a Key Factor in Improving Profitability Through Financial Indicators of Economic Institutions: A Case Study of Some Economic Institutions During the Period 2015-2023

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### Abstract:

This study examines the role of marketing strategies in enhancing profitability through financial indicators, focusing on seven economic companies from 2015 to 2023.

Using a panel data approach, it was found that effective marketing strategies significantly boosted financial performance. These strategies reduced the debt-to-equity ratio, leading to improved profitability. Furthermore, expanding operations and increasing assets through these strategies enhanced efficiency and profit generation. Additionally, better liquidity management and increased cash flow played a key role in improving profitability for the companies involved.

**Keywords:** Marketing strategies, profitability, financial indicators.

**Jel Classification Codes:** : M31, M41, G31.

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## 1. INTRODUCTION

Marketing strategies are fundamental elements for the success of any economic organization, serving as key tools to help them establish dominance in the market, especially in a world characterized by rapid changes. Therefore, it has become imperative for organizations to adopt flexible marketing approaches that align with the ever-evolving market demands, enabling them to adapt to the modern challenges facing the business environment. This is not solely aimed at attracting customers, but also at improving financial performance and profitability. Marketing strategies have evolved beyond mere product or service promotion, taking on a central role in enhancing financial efficiency by directly influencing financial performance indicators such as profit margins, sustainable growth, and cost reduction.

In this context, most economic institutions operating in Algeria strive to adopt innovative and effective marketing strategies that can address the rising competition and diverse economic challenges they face. Building on this, the following research problem can be formulated: **How can marketing strategies contribute to improving profitability for Algerian economic institutions through financial indicators between 2015 and 2023.**

### **Sub-Research Questions:**

- What is meant by marketing strategy, and what are its key components, significance, and objectives
- How have marketing strategies contributed to the improvement of profit margins
- How do marketing strategies influence the financial indicators of the economic institutions under study

### **Hypotheses:**

- The implementation of effective marketing approaches has a negative impact on the debt-to-equity ratio of businesses, thereby boosting their profitability.
- An increase in the application of marketing strategies leads to business expansion (growth in total assets), which, in turn, enhances profitability.

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-Marketing strategies contribute to better liquidity management, improving cash flow, and ultimately enhancing profitability in organizations.

**Significance of the Study:** This study focuses on understanding how marketing strategies influence the financial outcomes of economic institutions. These strategies are crucial in enhancing profitability and maximizing financial returns. In the context of rapid changes in both global and local markets, along with emerging economic challenges, the adoption of innovative and efficient marketing strategies is vital for ensuring sustainable growth and achieving consistent profitability.

**Objectives of the Study:** The study aims to analyze the impact of marketing strategies on the financial performance of economic institutions and identify the role these strategies play in enhancing profitability and maximizing financial returns. Additionally, the study seeks to explore the relationship between marketing and financial efficiency, providing insights to improve financial performance through the adoption of effective marketing strategies.

**Methodology:** This study utilizes a quantitative approach to examine the impact of marketing strategies on the financial performance of economic institutions. Data collected from these institutions between 2015 and 2023 were analyzed, applying statistical methods to assess the relationship between various variables, such as marketing strategies and financial indicators (e.g., profitability and financial returns)

## **2. Theoretical Framework: The Role of Marketing Strategies in Enhancing Profitability**

Marketing strategies are essential tools for driving business success and growth, particularly in competitive and rapidly changing markets. By understanding customer needs, analyzing market trends, and utilizing appropriate promotional methods, companies can optimize their operations and enhance their profitability.

### **1.1. Theoretical framework for marketing strategies**

#### **1.1.1 The Concept of Marketing Strategy**

A marketing strategy can be understood as a series of actions that a company implements to achieve its pre-established goals in terms of sales and profits (jouabi, chetoui, & ailane, 2021, p. 219), It is also understood as the process of optimizing the use of available resources to their maximum potential and addressing the marketing challenges the organization faces when making decisions related to the most suitable marketing mix for targeted customer segments. Additionally, it involves determining the right approach and timing for entering markets that can help achieve the organization's marketing objectives while aligning with its broader strategy, and analyzing the various factors that support this success (burkani & jabali, 2024, p. 61), It is also defined as a comprehensive plan designed to accomplish the organization's marketing goals and activities, such as advertising, promotions, and public relations. Moreover, it encompasses efforts that identify specific markets for targeting, understand the competitive landscape, and recognize opportunities that can be developed and invested in (ammiche, 2020, p. 74), In other words, it can be seen as the process of refining the organization's vision regarding the markets it focuses on, setting and evolving objectives, and designing marketing programs that both enhance the organization's position and respond to the customer value needs in the target market (mazouz & khulut, 2020, p. 32).

#### **1.1.2.The Importance of Marketing Strategy in an Organization**

A marketing strategy plays a crucial role in the development of organizations, which is why it holds significant importance. Its value becomes clear through the numerous benefits it offers to the organization, starting with (bouzidi, 2024, p. 321):

- Examining both the internal and external factors of an organization enables it to understand its position within the market.
- Analyzing both the internal and external environments helps identify competitors within the market and reveals the organization's distinctive traits.
- It aids in identifying and defining the characteristics of target markets that the organization seeks to dominate and capture market share within.

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-It enables the organization to discover new products that could be introduced to the market.

-It provides reports that help forecast potential challenges and threats to the organization's market presence.

- **1.1.4. Types of Marketing Strategies:** Both Keegen and Kotler agree that there are three general types of strategies, which are :

-**First:** Offensive Strategy: These strategies are employed by organizations aiming to gain a competitive edge, especially when they are not leaders in their industry. These organizations strive to boost profits by increasing their market share after setting objectives based on the type of competitor they are facing in the market (Bouaisi, 2024, p. 87).

-**Second:** Defensive Marketing Strategy: This strategy focuses on protecting the organization's market share by offering new products and services. The leading organization in the market typically adopts this approach (Omar & Al-Dulaimi, 2016, p. 55).

-**Strategy for defending the periphery:** This refers to the organization's efforts to defend the outer parts of the market.

-**Third: The Rational Strategy:** The need for this strategy arises due to the rapid changes occurring in both local and international markets, along with various economic fluctuations (Bouaisi, 2024, p. 88).

### **1.1.5. Formulation of the organization's marketing strategy.**

The organization develops a set of strategies that work in harmony to achieve the defined objectives, with the marketing strategy being one of the most crucial strategies formulated by the organization. Adopting this strategy requires the following (earabia, 2017, pp. 453-454):

-**First:** Diagnosing the Marketing Environment and Setting Objectives: The environmental diagnosis involves analyzing both the internal and external environments, followed by the setting of objectives as outlined below:

-**Internal Environment Analysis:** This includes assessing the current state of the organization, examining the quantitative and qualitative performance development of the institution.

-External Environment Analysis: This is done by analyzing the various components of the external environment individually. It includes studying the natural, economic, demographic, technological, political, and socio-cultural environments.

-Setting Objectives: After diagnosing the marketing environment, the organization establishes a set of marketing objectives and works towards achieving them.

-**Second:** Identifying Target Markets through Market Segmentation: The targeted market refers to determining who will be the buyers of our products and services. This market consists of potential customers who are motivated by various factors to purchase our offerings.

-**Third:** Defining Positioning and Crafting the Marketing Mix: After identifying the target markets, the organization positions itself in the minds of its customers and then develops an appropriate marketing mix. The ultimate goal of crafting a marketing strategy is to create a mix that aligns with the organization's capabilities, remains competitive in the target market, and meets the needs and expectations of consumers. Therefore, it is essential to determine the suitable product mix and the strategy accompanying it, whether it's a differentiation, modification, diversification, or contraction strategy. As a second element of the marketing mix, pricing strategies are adopted, relying on cost-based, demand-based, or competition-based pricing. Often, these approaches are combined to find the most appropriate price. Promotion is a critical tool for promoting the products and the benefits they offer to consumers. Finally, distribution, which serves as the bridge between the product and the consumer, must take into account the characteristics of both the product and the consumers.

-**The advantages achieved through the marketing strategy:** An organization can achieve a number of advantages by adopting a marketing strategy. These advantages are influenced by factors related to the organization as a whole or specifically to its marketing activities. These advantages are reflected in (Sherif, 2012, p. 175) :

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- The marketing strategy serves as a tool for organizational management to accurately determine its direction in dealing with external environmental variables it operates within.
- The marketing strategy reflects a long-term vision of what might happen in the business environment the organization works in, as well as its ability to respond to market needs and build its position among consumers.
- It effectively enables the organization's management to set objectives in alignment with the factors influencing its behavior and interactions with the market, with the consumer being the core of its work and its ultimate goal, and the market being the actual field for its operations.
- The marketing strategy also allows the organization's management to define and evaluate its internal environment and the degree of performance alignment across the various departments within the organization.
- The successful implementation of the marketing strategy provides a clear indication of the accuracy of the strategic planning used, as well as the correct direction of the organization's mission and its strategic guidance.

### **1.2. The General Framework of Profitability**

#### **1.2.1.The Concept of Profitability in an Economic Enterprise**

The change in the net value of an entity's assets over a specific period reflects its financial performance. From an accounting perspective, it is calculated as the difference between the revenues earned and the expenses incurred by the entity during that same period (guellil & fethallah, 2024, p. 25), This concept is also understood as the correlation between the earnings realized by the organization and the investments that played a role in generating those returns. (Mesjat Al-Jushami, 2022, p. 260). Put differently, it represents the efficiency of management in directing the organization's operations, as it measures the institution's capability to produce profits, serving as an indicator of the effectiveness of its investment, operational, and financial policies (Ben Slimane & Bouhali, 2022, p. 27).

**1.2.2. Profitability Indicators:** The profitability indicators are represented as follows (Basour, 2018, p. 116) :

**Operating Profitability Ratio:** Also referred to as the profit margin, gross profit ratio, or commercial profitability, this indicator represents the proportion of gross profit to total revenue. What distinguishes this ratio is its focus on gross operating profit rather than net profit, which allows for a clearer assessment of operational efficiency without the distortion caused by financial expenses, taxes, depreciation policies, or distributed profits (such as dividends or interest).

**-Return on Assets (ROA):** also known as economic profitability, reflects how efficiently a company utilizes its total assets—both fixed and current—to generate gross profit. Rather than focusing on the size or value of the assets themselves, this ratio emphasizes the return generated from each monetary unit invested in those assets. It does not take into account the source of financing, whether equity, long-term debt, or short-term liabilities. The purpose is to assess how productively the company's resources—such as equipment, land, buildings, and inventory—are used to produce earnings. The formula used to calculate this measure is:  $ROA = \text{Gross Profit} / \text{Total Assets}$ . A higher ROA indicates better utilization of assets and reflects the effectiveness of the company's operational strategies and managerial decisions.

**-Return on Equity (ROE):** also referred to as financial profitability, measures the organization's ability to generate returns from the capital that is permanently or long-term invested in the business. This ratio indicates how effectively the company uses its shareholders' equity to produce net income. For a more accurate and meaningful assessment, it's often recommended to include interest expenses on long-term debt in the calculation, as this reflects the full cost of financing over the long term. The formula is:  $ROE = \text{Net Income} / \text{Shareholders' Equity}$

### **1.3.The Link Between Marketing Strategy and Profitability in Economic Enterprises:**

The connection between marketing strategy and profitability in economic institutions lies in its ability to analyze and manage external factors, such as competitors and consumers, during the strategy formulation phase. This approach helps the company achieve long-term objectives

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rather than focusing on short-term or urgent issues, by allocating part of its profits for risk management. Furthermore, a well-designed marketing strategy enables large organizations to expand into global markets, track price fluctuations, and understand competition. It also allows companies to anticipate environmental changes and prepare for them effectively, making their actions proactive and enhancing overall profitability (Alouti & Khannouch, 2018, p. 13)

## **2. act of Marketing Strategies on the Profitability of Economic Institutions through Financial Indicators**

This section of the study aims to analyze the impact of marketing strategies on the profitability of economic institutions by examining financial indicators over the period from 2015 to 2023. The primary objective of this research is to explore the relationship between various marketing activities and company performance in terms of profits and returns, and to assess how these activities contribute to financial improvements achieved by the institutions. To accomplish this, a statistical model will be developed, utilizing a set of variables that represent different marketing strategies, with the goal of estimating the relationship between these strategies and institutional performance based on the financial indicators relevant to the study.

### **2.1.Study Sample**

The study sample includes seven economic institutions, described as follows: ECDE – Chlef Cement and Derivatives Company, NOVER – New Glass Company, Chlef, National Company for Rubber and Plastics, Chlef SOPREC SPA – Chlef, Naftal – Chlef Branch, ORSIM – Relizane, Batimetal Montage – Ain Defla

### **2.2 Defining the Study Variables**

In order to address the main research question of this study, it is necessary to conduct an empirical analysis. This requires first identifying and defining the key variables that will be used throughout the study, as outlined below.

**Table 1.** shows the variables

|   |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| y | Profitability                                | This variable is represented by the net result-to-total assets ratio, where an increase in this indicator reflects the management's effectiveness in optimizing the use of available resources. Such improvement can be attributed to the adoption of successful marketing strategies that have positively influenced the net outcome, thereby enhancing the institution's overall financial performance                                                                                                                                                                                                                                                            |
|   | Long-term debt to total assets               | This ratio represents the long-term debt-to-total assets indicator, where an increase in its value reflects a greater reliance on long-term external financing to support the company's assets and investments. Such an increase is often associated with a managerial orientation toward adopting expansionary marketing strategies aimed at strengthening market share and enhancing competitive capability. In this context, the firm tends to finance promotional campaigns, develop new products, and expand distribution channels using financial resources obtained through long-term borrowing.                                                             |
|   | Total assets growth                          | This ratio represents an indicator of total assets, with an increase in their value reflecting an improvement in the efficiency of the organization's use of financial resources. This increase can also be attributed to effective marketing strategies that have contributed to boosting sales, expanding market share, and improving return on assets by attracting new customers and retaining existing ones.                                                                                                                                                                                                                                                   |
|   | Treasury Assets to Total Current Liabilities | This metric represents the ratio between liquid assets and the company's short-term liabilities. An increase in this ratio demonstrates the organization's stronger ability to cover its immediate financial obligations through available liquid resources. A higher ratio indicates improved liquidity, which allows the company to manage urgent payments more comfortably without depending on outside financing. Such progress is often the result of proficient cash and current asset management, alongside effective marketing efforts that have driven up sales and enhanced cash inflows, thereby strengthening the company's overall liquidity position. |

**Source:** Prepared by the researcher

## 2.3 Statistical Examination of Variables in the Research

This section focuses on applying various statistical techniques to explore and describe the characteristics of the variables involved in the research. The process includes summarizing data through central tendency and dispersion measures, as well as employing relevant statistical tests to analyze relationships and validate the study hypotheses.

### A-Analysis of descriptive statistical measures.

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**Table 2.** Outputs of descriptive statistical measures for study variables

| xtsum y x1 x2 x3 |         | Mean     | Std. Dev. | Min       | Max      | Observations |    |
|------------------|---------|----------|-----------|-----------|----------|--------------|----|
| Variable         |         |          |           |           |          |              |    |
| y                | overall | .0102965 | .0678026  | -.1789882 | .2077249 | N =          | 63 |
|                  | between |          | .0617735  | -.0705156 | .135401  | n =          | 7  |
|                  | within  |          | .0356876  | -.0981761 | .210581  | T =          | 9  |
| x1               | overall | .2054938 | .1466735  | .0006392  | .5972165 | N =          | 63 |
|                  | between |          | .1344763  | .0054039  | .3529578 | n =          | 7  |
|                  | within  |          | .0759121  | -.0048445 | .4497524 | T =          | 9  |
| x2               | overall | 9.664225 | .5627506  | 8.665333  | 10.89962 | N =          | 63 |
|                  | between |          | .5901441  | 9.065129  | 10.85174 | n =          | 7  |
|                  | within  |          | .115569   | 9.264429  | 9.893623 | T =          | 9  |
| x3               | overall | .2225059 | .4544062  | .0015874  | 2.070891 | N =          | 63 |
|                  | between |          | .449707   | .0084578  | 1.239746 | n =          | 7  |
|                  | within  |          | .1741941  | -.5816062 | 1.053651 | T =          | 9  |

**Source:** Prepared by the researcher based on the Stata 15 program

The table presents descriptive statistics for a panel dataset examining profitability (Y) and several financial variables that may influence it. The overall mean of profitability is close to zero, indicating that company performance in terms of profit generation is relatively similar, with limited variation over time. The ratio of long-term debt to total assets (x1) shows greater variation across firms than within each firm, suggesting that some firms consistently rely more on long-term debt than others. In contrast, the growth of total assets (x2) fluctuates significantly within firms over time, reflecting dynamic changes in asset expansion from year to year. Meanwhile, treasury assets to total current liabilities (x3) vary more between firms than within them, revealing noticeable differences in liquidity levels among companies. Overall, the results suggest that cross-company differences are more evident in financing structure and liquidity, whereas temporal changes are more pronounced in asset growth.

## B–Correlation analysis of study variables

**Table 3..** Correlation matrix results

| corr y x1 x2 x3 |  | y       | x1      | x2     | x3     |
|-----------------|--|---------|---------|--------|--------|
|                 |  |         |         |        |        |
| y               |  | 1.0000  |         |        |        |
| x1              |  | -0.4278 | 1.0000  |        |        |
| x2              |  | 0.2165  | -0.3439 | 1.0000 |        |
| x3              |  | 0.0028  | -0.2838 | 0.8089 | 1.0000 |

**Source:** Prepared by the researcher based on the Stata 15 program.

table 3 Displays the outcomes of the correlation analysis among four variables: profitability (Y), the ratio of long-term debt to total assets (x1), total asset growth (x2), and treasury assets relative to total current liabilities (x3). The results indicate a moderate negative link between profitability and

long-term debt ( $-0.4278$ ), implying that firms relying heavily on long-term borrowing tend to achieve lower profit levels. This observation supports financial theories that associate higher leverage with increased financing costs and reduced earnings. A weak positive association between profitability and asset growth ( $0.2165$ ) suggests that asset expansion might slightly enhance profitability. On the other hand, the almost nonexistent relationship between profitability and treasury assets ( $0.0028$ ) shows that liquidity does not have a notable direct influence on profits. Additionally, there is a strong positive relationship ( $0.8089$ ) between asset growth (x2) and treasury assets (x3), meaning that firms experiencing faster growth often hold more liquid assets.

### C- Variance inflation factor (VIF) test.

**Table 4.** Variance inflation factor (VIF) test results.

| Variable | VIF  | 1/VIF    |
|----------|------|----------|
| x2       | 3.02 | 0.331464 |
| x3       | 2.89 | 0.345645 |
| x1       | 1.13 | 0.881621 |
| Mean VIF | 2.35 |          |

**Source:** Prepared by the researcher based on the Stata 15 program.

The test outcomes indicate that multicollinearity is not an issue within the model, since none of the independent variables have Variance Inflation Factor (VIF) values exceeding 10.

## 2.4 Presentation and analysis of results

**Table 5.** Model outputs

| Explanatory variables                  | Pooled effect model   | Fixed effects model  | Random effects model  |
|----------------------------------------|-----------------------|----------------------|-----------------------|
| X1                                     | -0.1867679<br>(0.001) | 0.2396016<br>(0.007) | -1.341007<br>(0.024)  |
| X2                                     | 0.0585515<br>(0.014)  | 0.1110822<br>(0.052) | 0.0431083<br>(0.079)  |
| X3                                     | -0.0753419<br>(0.010) | 0.0201613<br>(0.499) | -0.0490736<br>(0.084) |
| constant                               | -0.5004148<br>(0.028) | -1.11695<br>(0.049)  | -0.3678357<br>(0.119) |
| Number of views                        | 63                    | 63                   | 63                    |
| Determination coefficient              | 0.2766                | 0.7603               | -                     |
| Corrected coefficient of determination | 0.2398                | 0.7196               | -                     |
| Fisher's valu'                         | 0.0002                | 0.0517               | 0.0112                |
| probability                            |                       |                      |                       |

**Source:** Prepared by the researcher using Stata 15

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To select the most appropriate model among the three estimated ones, we rely on conducting a set of fundamental tests that serve as criteria for evaluating and identifying the best fit for our study. Below, we present these tests along with their results, which help determine the most suitable model.

-Breu and Pagan test:

**Table 6.** Breusch and Pagan test results.

|                |        |
|----------------|--------|
| chibar2(01)    | 17.53  |
| Prob > chibar2 | 0.0000 |

**Source:** Prepared by the researcher using Stata 15. See Appendix No. II

Based on the results of this test, it appears that the value of Prob > chibar2 is not statistically significant, as it exceeds the 5% significance level. This indicates that the random effects model is the most appropriate choice in this case.

-B.Hausmantest:

**Table 7.** Hausman test results.

|           |        |
|-----------|--------|
| chi2(3)   | 34.49  |
| Prob>chi2 | 0.0000 |

**Source: Prepared by the researcher using Stata 15 See Appendix No. III**

The value of Prob > chi2 presented in the table above shows that the test's p-value is statistically significant at the 5% level. This outcome suggests that the fixed effects model provides a better fit for the data compared to the random effects model.

-C. Fisher's restricted test:

**Table 8.** Results of Fisher's restricted test

|          |        |
|----------|--------|
| F(6, 53) | 17.82  |
| Prob> F  | 0.0000 |

**Source:** Prepared by the researcher using Stata 15, No. I

The outcomes of this test indicate that the calculated value  $F(6, 53) = 17.82$  is statistically significant at the 5% level, as  $\text{Prob} > F = 0.000 < 0.05$ . This finding implies that the fixed effects model provides a better representation of the data than the pooled (combined) model.

## 2.5. Study the validity of the optimal model

The results of the three comparison tests among the models (the pooled model, the fixed effects model, and the random effects model) demonstrate that the fixed effects model is the most suitable for describing the studied phenomenon. However, its results cannot be relied upon to test the previously formulated hypothesis unless it is first confirmed that the model is free from econometric issues such as autocorrelation of residuals and heteroskedasticity. The presence of these problems in econometric analysis can lead to biased and unreliable estimates.

### A. Wooldridge test:

```
xtserial y x1 x2 x3
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F( 1,      6) =      1.952
      Prob > F =      0.2119
```

Source: Prepared by the researcher using Stata 15.

According to the Wooldridge autocorrelation test results, the probability value is above the 5% threshold, suggesting that there is no evidence of serial correlation in the model's residuals.

### B. Modified Wald test:

```
xttest3
Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: sigma(i)^2 = sigma^2 for all i
chi2 (7) =      7131.61
Prob>chi2 =      0.0000
```

Source: Prepared by the researcher using Stata 15.

The results of the Modified Wald test indicated that the model suitable for this study, the pooled effects model, suffers from the issue of heteroscedasticity. This is because the p-value Prob > F is statistically significant and less than 5%, leading to the rejection of the null hypothesis

## 3. RESULTS AND DISCUSSION

The results from the previous tests, which identify econometric issues, show that the estimated model used to explain the studied phenomenon suffers from both autocorrelation of errors and heteroscedasticity. To address these issues, we apply the error correction method for panel time-series data, also known as the standard error correction technique xtpcse (Danie, 2007, p. 285), Therefore, the result was as follows:

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```

xtpcse y x1 x2 x3
Linear regression, correlated panels corrected standard errors (PCSEs)
Group variable:      ind                Number of obs      =          63
Time variable:      year                Number of groups   =           7
Panels:              correlated (balanced)  Obs per group:
Autocorrelation:    no autocorrelation      min =             9
                                                avg =             9
                                                max =             9

Estimated covariances      =          28      R-squared            =          0.2766
Estimated autocorrelations =           0      Wald chi2(3)         =          13.09
Estimated coefficients      =           4      Prob > chi2          =          0.0044

```

|       |   | Panel-corrected |           |       |       |                      |
|-------|---|-----------------|-----------|-------|-------|----------------------|
|       | y | Coef.           | Std. Err. | z     | P> z  | [95% Conf. Interval] |
| x1    |   | -.1867679       | .069578   | -2.68 | 0.007 | -.3231383 - .0503975 |
| x2    |   | .0585515        | .0201528  | 2.91  | 0.004 | .0190527 .0980504    |
| x3    |   | -.0753419       | .0306044  | -2.46 | 0.014 | -.1353254 -.0153585  |
| _cons |   | -.5004148       | .1840536  | -2.72 | 0.007 | -.8611533 -.1396763  |

**Source:** Prepared by the researcher using Stata 15.

Based on all the tests conducted to address the issue of heteroscedasticity, we can express the equation of the optimal model for this study in the following form :

$$y = -0.5004 - 0.186x_1 + 0.058x_2 - 0.0753x_3$$

-The results of the model equation allow the acceptance of the first hypothesis, which suggests that the implementation of effective marketing strategies has a negative impact on the debt-to-equity ratio of companies, consequently enhancing their profitability. Therefore, a decrease in the debt-to-equity ratio is associated with an increase in profitability, meaning that a one-unit reduction in the debt ratio leads to an increase in profitability by 0.18 units. This can be attributed to the fact that companies utilizing efficient marketing strategies can reduce their reliance on debt financing, thereby improving their financial stability and contributing to better profitability performance.

-The results of the regression equation support the acceptance of the second hypothesis, which states that an increase in the implementation of marketing strategies leads to business expansion (growth in total assets), thereby enhancing profitability. In other words, an increase in asset size by one unit results in a 0.058 unit increase in profitability. This can be

attributed to the fact that companies employing effective marketing strategies can expand their operations and grow their assets, which contributes to improving operational efficiency and boosting profit generation.

-The results from the regression equation support the acceptance of the third hypothesis, which states that marketing strategies contribute to improving liquidity management, enhancing cash flow, and ultimately increasing profitability within organizations. In other words, the more a company manages its liquidity by reducing the proportion of liquid assets, the higher the profitability. This is because effective liquidity management helps optimize resource allocation and improves financial efficiency.

#### **4. CONCLUSION**

Based on the theoretical and practical framework of the study titled "Marketing Strategies as a Central Factor in Enhancing Profitability through Financial Indicators of Economic Institutions – A Case Study of Some Economic Institutions from 2015 to 2023, the following key findings can be drawn:

-Effective marketing strategies contribute to reducing the debt-to-equity ratio, which positively impacts banking profitability.

-The implementation of marketing strategies aids in expanding business operations and increasing asset size, thereby enhancing profitability. This means that companies relying on robust marketing strategies can grow their assets, improve operational efficiency, and boost profit generation.

-Improved liquidity management and enhanced cash flow result in higher profitability for the companies under study.

Based on the previous findings and to enhance the profitability of companies through marketing strategies, the following recommendations can be made:

-Companies should enhance their marketing strategies to increase market share and customer satisfaction, which will reduce reliance on debt financing and strengthen profitability.

It is essential to expand business operations and increase asset size, which will contribute to improving operational efficiency and increasing profits.

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-Companies should optimize liquidity allocation and reduce excessive liquid assets, freeing up more resources to support growth and boost profitability.

-Adopting digital marketing tools to accurately analyze performance will help improve strategies and make informed decisions that enhance profitability

## 5. Bibliography List :

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## 6. Appendices

### Appendix 1: Estimate of the three panel models

Pooled Regression Model

reg y x1 x2 x3

| Source   | SS         | df | MS         | Number of obs | = | 63     |
|----------|------------|----|------------|---------------|---|--------|
| Model    | .078845594 | 3  | .026281865 | F(3, 59)      | = | 7.52   |
| Residual | .206180228 | 59 | .00349458  | Prob > F      | = | 0.0002 |
|          |            |    |            | R-squared     | = | 0.2766 |
|          |            |    |            | Adj R-squared | = | 0.2398 |
| Total    | .285025822 | 62 | .004597191 | Root MSE      | = | .05911 |

| y     | Coef.     | Std. Err. | t     | P> t  | [95% Conf. Interval] |
|-------|-----------|-----------|-------|-------|----------------------|
| x1    | -.1867679 | .0545141  | -3.43 | 0.001 | -.2958504 -.0776854  |
| x2    | .0585515  | .0231722  | 2.53  | 0.014 | .012184 .104919      |
| x3    | -.0753419 | .0281023  | -2.68 | 0.010 | -.1315746 -.0191093  |
| _cons | -.5004148 | .2217574  | -2.26 | 0.028 | -.9441502 -.0566793  |

# Marketing Strategies as a Key Factor in Improving Profitability Through Financial Indicators of Economic Institutions: A Case Study of Some Economic Institutions During the Period 2015-2023

## Fixed effects model

xtreg y x1 x2 x3 , fe

Fixed-effects (within) regression  
Group variable: ind

Number of obs = 63  
Number of groups = 7

R-sq:

within = 0.1348  
between = 0.0052  
overall = 0.0005

Obs per group:

min = 9  
avg = 9.0  
max = 9

corr(u\_i, Xb) = -0.7561

F(3,53) = 2.75  
Prob > F = 0.0517

| y       | Coef.     | Std. Err.                         | t     | P> t  | [95% Conf. Interval] |           |
|---------|-----------|-----------------------------------|-------|-------|----------------------|-----------|
| x1      | .2396016  | .084709                           | 2.83  | 0.007 | .0696969             | .4095063  |
| x2      | .1110822  | .0559742                          | 1.98  | 0.052 | -.0011878            | .2233523  |
| x3      | .0201613  | .0264515                          | 0.76  | 0.449 | -.0328937            | .0732163  |
| _cons   | -1.11695  | .5542496                          | -2.02 | 0.049 | -2.228634            | -.0052659 |
| sigma_u | .0967621  |                                   |       |       |                      |           |
| sigma_e | .03590421 |                                   |       |       |                      |           |
| rho     | .87897947 | (fraction of variance due to u_i) |       |       |                      |           |

F test that all u\_i=0: F(6, 53) = 17.82

Prob > F = 0.0000

Linear regression, absorbing indicators

Number of obs = 63  
F( 3, 53) = 2.75  
Prob > F = 0.0517  
R-squared = 0.7603  
Adj R-squared = 0.7196  
Root MSE = 0.0359

| y       | Coef.                                  | Std. Err. | t     | P> t  | [95% Conf. Interval] |           |
|---------|----------------------------------------|-----------|-------|-------|----------------------|-----------|
| x1      | .2396016                               | .084709   | 2.83  | 0.007 | .0696969             | .4095063  |
| x2      | .1110822                               | .0559742  | 1.98  | 0.052 | -.0011878            | .2233523  |
| x3      | .0201613                               | .0264515  | 0.76  | 0.449 | -.0328937            | .0732163  |
| _cons   | -1.11695                               | .5542496  | -2.02 | 0.049 | -2.228634            | -.0052659 |
| country | F(6, 53) = 17.823 0.000 (7 categories) |           |       |       |                      |           |

## Random effects model

xtreg y x1 x2 x3 , re

Random-effects GLS regression  
Group variable: ind

Number of obs = 63  
Number of groups = 7

R-sq:

within = 0.0366  
between = 0.8241  
overall = 0.2735

Obs per group:

min = 9  
avg = 9.0  
max = 9

corr(u\_i, X) = 0 (assumed)

Wald chi2(3) = 11.09  
Prob > chi2 = 0.0112

| y       | Coef.     | Std. Err.                         | z     | P> z  | [95% Conf. Interval] |           |
|---------|-----------|-----------------------------------|-------|-------|----------------------|-----------|
| x1      | -.1341007 | .0592782                          | -2.26 | 0.024 | -.2502837            | -.0179176 |
| x2      | .0431083  | .0245101                          | 1.76  | 0.079 | -.0049307            | .0911473  |
| x3      | -.0490736 | .0284138                          | -1.73 | 0.084 | -.1047636            | .0066164  |
| _cons   | -.3678357 | .2359454                          | -1.56 | 0.119 | -.8302801            | .0946088  |
| sigma_u | .00939316 |                                   |       |       |                      |           |
| sigma_e | .03590421 |                                   |       |       |                      |           |
| rho     | .06405907 | (fraction of variance due to u_i) |       |       |                      |           |

## Appendix 2: Comparison Test Between the Random Effects Model and the Aggregate Model

xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

$y[ind,t] = Xb + u[ind] + e[ind,t]$

Estimated results:

|   |  | Var      | sd = sqrt(Var) |
|---|--|----------|----------------|
|   |  |          |                |
| y |  | .0045972 | .0678026       |
| e |  | .0012891 | .0359042       |
| u |  | .0000882 | .0093932       |

Test: Var(u) = 0

chibar2(01) = 17.53  
Prob > chibar2 = 0.0000

### Appendix 3: Results of the Comparison Test Between the Fixed Effects Model and the Random Effects Model

hausman fe re

|    |  | ---- Coefficients ---- |           |            |                     |
|----|--|------------------------|-----------|------------|---------------------|
|    |  | (b)                    | (B)       | (b-B)      | sqrt(diag(V_b-V_B)) |
|    |  | fe                     | re        | Difference | S.E.                |
| x1 |  | .2396016               | -.1341007 | .3737023   | .0605121            |
| x2 |  | .1110822               | .0431083  | .067974    | .0503226            |
| x3 |  | .0201613               | -.0490736 | .0692349   | .                   |

b = consistent under Ho and Ha; obtained from xtreg  
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(3) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
= 26.09  
Prob>chi2 = 0.0000  
(V\_b-V\_B is not positive definite)

. hausman fe re, sigmamore

|    |  | ---- Coefficients ---- |           |            |                     |
|----|--|------------------------|-----------|------------|---------------------|
|    |  | (b)                    | (B)       | (b-B)      | sqrt(diag(V_b-V_B)) |
|    |  | fe                     | re        | Difference | S.E.                |
| x1 |  | .2396016               | -.1341007 | .3737023   | .1135072            |
| x2 |  | .1110822               | .0431083  | .067974    | .0809881            |
| x3 |  | .0201613               | -.0490736 | .0692349   | .028135             |

b = consistent under Ho and Ha; obtained from xtreg  
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(3) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
= 34.49  
Prob>chi2 = 0.0000