

Blueprint for Success: An Empirical Study on the Relationship Between Business Planning and Start-Up Success

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ARTICLE INFO	ABSTRACT
Received: 17 Dec 2024 Revised: 21 Feb 2025 Accepted: 28 Feb 2025	<p>This study aims to enhance the success of start-ups in the business sector by emphasizing the role of an effective business plan as a foundational element. Importance/Value: Start-ups often face numerous risks and challenges, especially during their formative stages. Developing a robust business plan is critical, as it enables founders to assess the feasibility and potential of their ventures by clearly outlining human, financial, and technical resources. However, many entrepreneurs lack the experience or knowledge to craft even a basic business plan, putting their ventures at higher risk of early failure. Methodology/Approach: This research investigates the factors contributing to start-up failure during the early stages of development. The study is based on a survey conducted with the owners of 40 start-ups, analyzing their success rates in relation to the presence and quality of their business plans. Findings: The results reveal a strong positive correlation between the application of an effective business plan and the overall performance of start-ups in meeting their goals. The study demonstrates that a well-structured business plan significantly contributes to start-up success, reducing the likelihood of failure during the initial stages. Regression analysis further confirms the statistically significant impact of comprehensive planning on goal achievement. Conclusion: The research concludes that an effective business plan plays a vital role in determining the success or failure of a start-up. Proper planning not only facilitates goal achievement but also serves as a protective factor during the critical early stages of a business's life cycle. Recommendations: Training programs designed to enhance business planning capabilities should be customized based on the educational backgrounds of participants to maximize their effectiveness.</p> <p>Keywords: Business Model, Business Plan, Entrepreneurship, Project Description, Scheduling, Start-up.</p>

INTRODUCTION

Background of the Study:

Start-ups have increasingly emerged as a central pillar in driving economic development across numerous countries. Recognized as vital contributors to both economic and social progress, these enterprises play a critical role in enhancing key economic indicators such as investment rates and capital mobilization. Despite their potential and positive contributions, start-ups often encounter substantial challenges and risks that may hinder their success. Therefore, ensuring their sustainability necessitates a comprehensive analysis of internal and external factors and the development of a strategic framework to exploit available opportunities and mitigate potential risks.

A core element of such a strategic framework is the **business plan**, which serves as a roadmap for guiding start-ups through their early stages of development. It enables founders to evaluate the feasibility of their ventures and align

resources—human, financial, and technical—with defined objectives. However, many entrepreneurs, particularly those with limited experience, often struggle to create even a basic business plan, which can compromise the long-term viability of their projects.

Research questions: This research seeks to address the central question: “**What is the role of the business plan in enhancing the effectiveness of emerging enterprises in achieving their strategic goals?**”

Sub-questions: To explore this question further, the study is guided by the following sub-questions:

1. How does the presence of a structured business plan influence the decision-making process in emerging enterprises?
2. What specific elements of a business plan contribute most significantly to strategic goal alignment in start-ups?
3. To what extent do start-ups with business plans outperform those without in terms of achieving long-term sustainability and growth?
4. What challenges do new entrepreneurs face when developing a business plan, and how do these affect business performance?
5. How does a business plan help in the identification and management of internal and external risks in early-stage enterprises?
6. In what ways does a business plan facilitate resource allocation (financial, human, and technical) in alignment with strategic objectives?
7. What role does the business plan play in attracting investors or securing funding for start-ups?
8. How frequently should a start-up update its business plan to remain strategically relevant in a dynamic market?

Research Hypotheses: Based on the research questions, the study proposes, the following hypotheses have been formulated:

1. **Hypothesis 1:** There is a statistically significant relationship between the application of a business plan and the effectiveness of emerging enterprises
2. **Hypothesis 2:** There is a statistically significant impact of the business plan on the ability of start-ups to achieve their objectives
3. **Hypothesis 3:** The level of education has a statistically significant effect on the application of the business model.

Research Objectives: The selection of this research topic is motivated by several key considerations:

1. **The Growing Significance of Emerging Enterprises:** Start-ups have become increasingly influential in fostering economic development across various countries, making their study highly relevant.
2. **Identification of Challenges:** The study aims to diagnose the main barriers and difficulties faced by young entrepreneurs during the establishment and operational phases of their start-up ventures.
3. **To examine the goals and significance of a well-structured business plan** The study aims to understand how a structured business plan acts as a guiding tool for emerging enterprises and its importance in the strategic orientation of start-ups.
4. **To assess the extent to which a business plan can be a reliable tool for start-up development and success:** This includes evaluating how effectively business plans contribute to goal achievement, sustainability, and long-term growth of start-ups.
5. **To explore the concept of the interactive business model and how it can be effectively utilized:** The research intends to investigate how dynamic and adaptable business models can support start-ups in a rapidly changing business environment.

6. **To analyze the key factors contributing to the success or failure of start-up projects:** This objective focuses on identifying both internal and external variables—including planning, resource allocation, and risk management—that influence start-up outcomes.

Scop of the study: This study aims to identify the key challenges faced by start-ups during their foundational phase. It explores the role of an effective business plan structured around critical pillars that anticipate potential risks, promote efficient resource management, and address internal weaknesses. Emphasis is placed on the strategic mobilization of human efforts and thorough planning to strengthen areas of vulnerability. To achieve these objectives, the study employs a set of analytical factors designed to systematically examine the issues relevant to early-stage start-up development.

1. **Focus on Start-Ups and Emerging Enterprises:** The study is centered around start-ups, particularly those in their early development stages, and examines the strategic tools they use to achieve sustainability and growth.
2. **Role of Business Plans:** A major focus lies in analyzing how structured business plans contribute to decision-making, strategic alignment, resource allocation, risk management, and performance enhancement in start-ups.
3. **Assessment of Entrepreneurial Challenges:** The research investigates the obstacles faced by new entrepreneurs—especially those with limited experience—in creating and executing effective business plans.
4. **Comparative Analysis:** It involves comparing start-ups that utilize business plans with those that do not, in order to determine differences in outcomes such as sustainability, growth, and investor attraction.
5. **Interactive Business Models:** The study explores the idea of interactive or dynamic business models as a modern approach to planning in fast-changing markets.
6. **Geographic and Economic Relevance:** While not limited to a specific country, the scope considers global trends by addressing the increasing economic importance of start-ups in diverse economies.
7. **Strategic and Practical Insights:** The study is both theoretical and practical, offering insights useful to entrepreneurs, investors, and policymakers interested in improving start-up survival rates and strategic planning effectiveness.

Significance of the Study: This study holds substantial significance in advancing both academic understanding and practical application related to start-up development. As emerging enterprises increasingly become vital engines of economic growth and innovation, understanding the strategic mechanisms that support their success is critical.

By focusing on the **role of structured business plans**, the study addresses a crucial gap in ensuring the **long-term sustainability, strategic alignment, and growth potential** of start-ups. **Impact on the Economy**, The success or failure of start-ups has direct implications on economic stability and growth, The importance can be underlined as follows :

Strategic Value of the Business Plan: Understanding the business plan's role in enhancing sustainability and managing risk in start-ups is crucial for both practitioners and policymakers.

Emergence of the Interactive Business Model: This research contributes to academic discourse by highlighting the interactive business agenda as an innovative and adaptive approach to planning in start-up ecosystems.

Research Methodology: This research employs a **descriptive analytical approach** aimed at addressing the main research problem and sub-questions. Data relevant to the topic were collected and systematically analyzed to derive meaningful insights and conclusions. This methodology facilitates an in-depth understanding of the current practices, challenges, and opportunities associated with business planning in emerging enterprises (Alsaawi, 2014).

CONCEPTUAL FRAMEWORK

It is the correct methodology for making investment decisions and is based on a set of methods, tools and scientific bases that rely on accurate knowledge of the likelihood of success or failure of a particular project, and testing the project's ability to achieve specific objectives, centred on reaching the highest return and benefit to the investor over its life expectancy (Dvouletý, A note on the effects of start-up competitions: experience from the Czech Business Plan Contest "Idea of the Year", 2023).

1. Definition of the business plan: A business plan serves as a comprehensive work plan, encapsulating all internal and external factors along with strategies to address potential risks (Dvouletý, 2023). It encompasses various aspects such as marketing, finance, production, and human resources, and aims to answer critical questions (Heagane, 2011, p. 123):

Where are we now ?

Where are we going ?

How do we get to that point ?

The business plan is essential for contractors seeking external financing (Léo-Paul Dana¹, 2023) , as it provides a structured approach to evaluating the performance of the business (Performance, 2023).

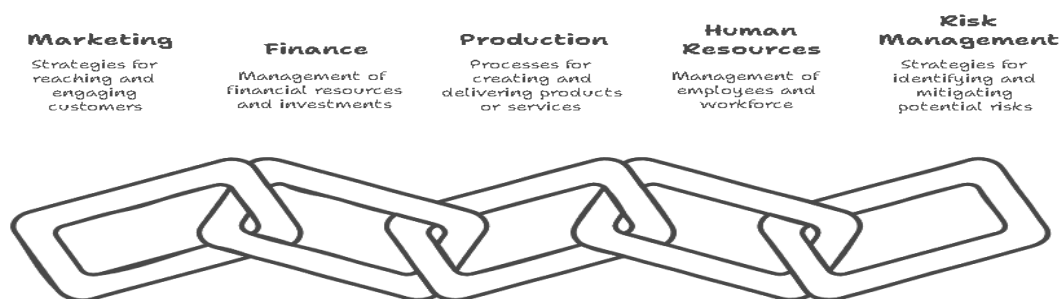


Figure 1. Business plan axes

- The Business Scheme is an official document that is prepared and developed to describe the work for which it is prepared and used to examine the feasibility aspects of the business idea and (Barbini, 2021) to obtain appropriate funding and a road map for future operations (Matthias Menter, 2023).
- The Business Scheme is a written document with two objectives:
 1. Overseeing and guiding the Foundation's operations, while actively engaging and persuading potential contributors to join the initiative (Siheem Mallek - Daclin*, 2023).
 2. either alongside the founders during its evaluation phase or throughout the establishment process (Da Luz L. M., 2018).

2. Objectives of applying the business plan in projects life cycle: It plays a crucial role in the project management lifecycle for the following reasons:

- To help the investor ensure the project's functionality and assess its financial feasibility (Darek M. Haftor¹, 2025).
- To provide a practical document outlining the project's economic, technical, and financial aspects (Van Kleef, 2005).

- To assist the investor in effectively presenting the project to potential partners and funding institutions (Haftor, 2023).
- To gain valuable time for thoughtfully preparing the business plan (Vahid Hajipour a, 2023).
- To offer guidance in developing a compelling and actionable strategic plan (W. Zhang, 2023).
- To contribute to the successful establishment of a viable investment project.

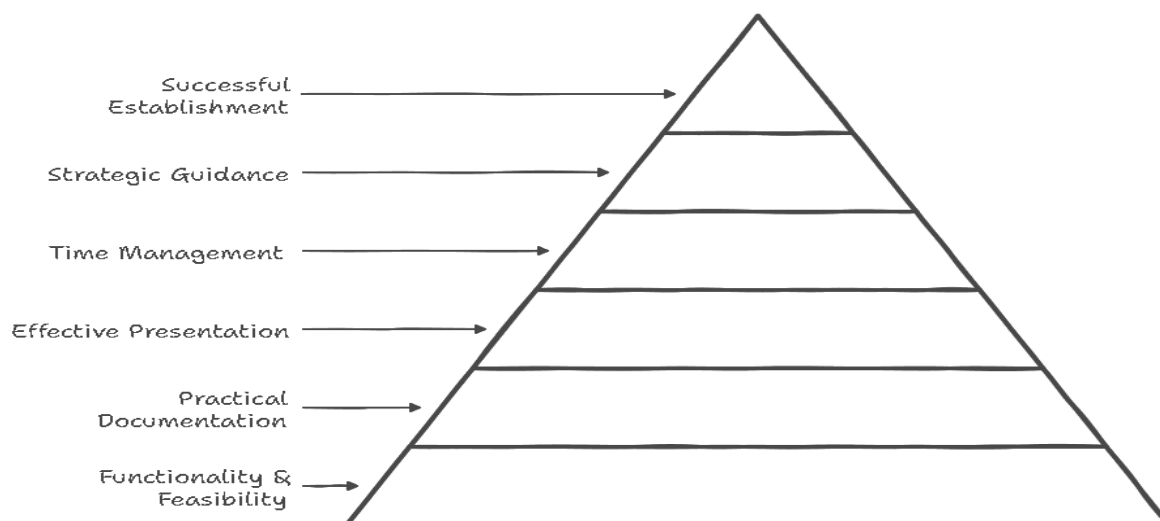


Figure 2. Business Plan Success Pyramid

3. Importance of success business plan: The importance of the business plan is to provide the necessary enterprise information, for the benefit of lenders, investors and suppliers (Vahid Hajipour a b. S., 2023), clarifying the credibility and feasibility of the project, and there are several important reasons why it is necessary and even inevitable:

- The planning process supports the preparation process, as the main thrusts of the planning lead to many questions and problems, which can be overcome when the project is achieved. The planning process thus helps to believe more in the viability and success of the project (Henry Chesbrough, 2006).
- The Business Scheme is a communication tool that helps the Bank to be convinced of the viability of the project and its potential for expansion.
- The business scheme helps to identify some of the features that you can use.
- Convincing potential investors: those who use the business scheme to assess the potential risk of investing in the enterprise, want to know about the ability of the enterprise to develop its enterprise, its willingness as a facilitator and owner, its ideas, the market in which it will be signed, and its competitors.
- Performance measurement (success): assessment of opportunities for success and development (Atuahene-Gima, 2005).

4. Steps and functions of the business plan: The next table shows the stages of the preparation of the business plan for small and medium-sized enterprises:

Table 1: Stages of preparing a business plan

The first stage: project description:

The first stage: project description:

- Project objectives, advantages, and target market.
- The project's financial, human, technical, and technical needs and their nature

The third stage: product or service:

- Describe the product or service in detail, how to use it and its advantages. (Yunzhu Yu, 2023)
- Description of the targeted technology, competencies and frameworks that provide it.
- Giving an overview of the future prospects of the product.
- Study the market to find out what can distinguish it from

The fifth stage: Marketing:

- Determine a pricing and distribution policy.
- Determine a customer service policy.
- Determine the product's position in the market.
- Advertising and promotion. (Viktorija Kulikovskaja, 2023)

Seventh stage: production:

- Determine the location and details about the area.
- Production volume and capacity. (Nadine Bachmann, 2023)
- Compliance with environmental standards.
- Sources of financing.

The ninth stage: financial needs:

- Determine the needs for raw materials, the time necessary to obtain the goods, and the expected level of reproduction.

Stage Eleven: Financial Plan:

- Profit or loss, determining contribution and return, determining revenues, budget analysis.

- Project objectives, advantages, and target market (Richard B. Nyuur, 2023).
- The project's financial, human, technical, and technical needs and their nature

Fourth stage: Market:

- Choose products that fit social and economic trends. (Gomaa Agag, 2024)
- Customers you want to deal with, information about competitors, strengths and weaknesses of competitors, competitive advantages.
- Market size and development. (Leonardo Augusto de Vasconcelos Gomes, 2023)

Sixth stage: development plan:

- Identifying risks and difficulties.
- Opportunities for future success and expected levels of growth.

The eighth stage: management:

- Experience and reports of managers.
- Individuals and formation.
- Advisors.

The tenth stage: The basic points of the financial plan and the level of risk:

- Determine the basic points of the financial plan.
- Risk and ways to determine it.
- Risk management, identifying risks that could lead to bankruptcy. (Linus Thomson, 2023)

The twelfth stage: important leaps:

- Technical data of the product or service.
- Reports of experts or consultants.

PLANNING FUNCTIONS

The internal functions of the enterprise (strategic means): During the extended work done to prepare the business plan, the contractor focuses on its project and completion requirements and is shown in the following form (Nadine Bachmann, *Iterative business model innovation: A conceptual process model and tools for incumbents*, 2023):

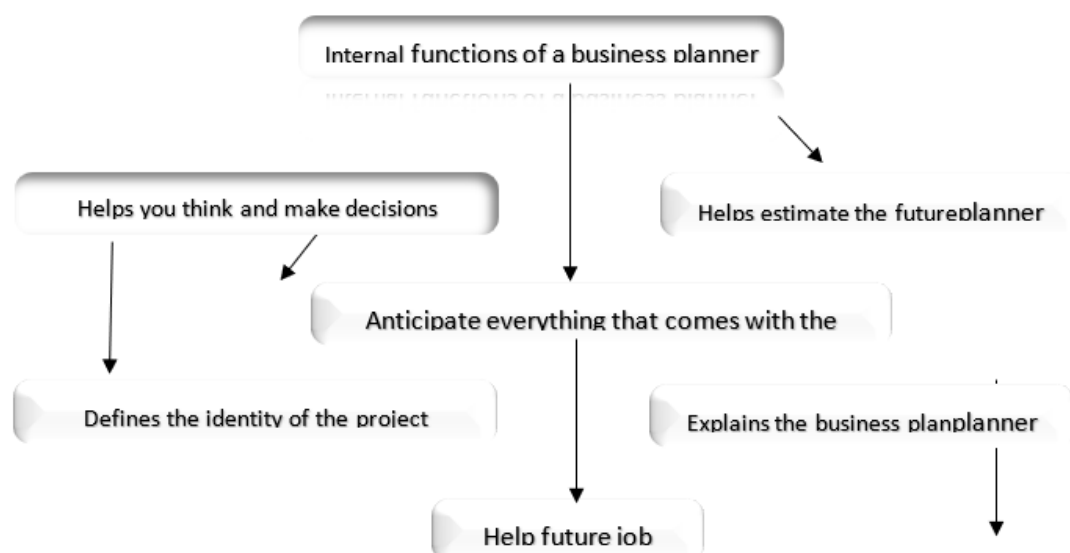


Figure 3. Key Internal Functions and Benefits of a Business Planner

- The benefits provided to the contractor through the preparation of the business plan are of various relevance (Mani, 2013)
- Helping to think and decide: develop an analytical approach, thus helping it to identify and to achieve the overall coherence of the project. (Moehler, 2023)
- It helps him predict the future: he seeks expectations, to develop his project and to define the actions needed for development and development. (Linus Thomson David Sjödin, 2023)
- It helps to work in the future: the development of the plan allows the contractor to anticipate some risks and better prepare for the concrete implementation of its project.)Stöckel(2023 ‘

The external functions of the business enterprise (communications and resource search assistant): In this perspective, the business planner’s function is more serious, as it is able to signal the risks in the ocean and the time of their occurrence, to stimulate energies and bring resources to deal with them, and the following figure illustrates this:

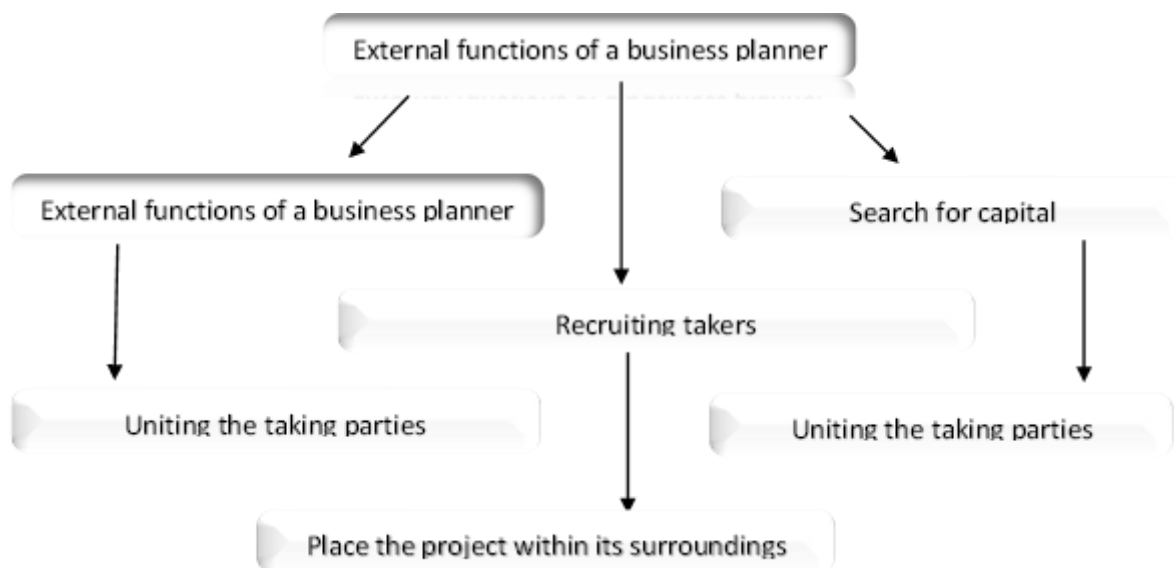


Figure 4. Key External Functions and Benefits of a Business Planner

The diagram effectively illustrates the external functions of a business planner, highlighting a structured process that begins with identifying needs like capital acquisition and recruiting project stakeholders (takers). It emphasizes the importance of uniting the involved parties, which suggests a need for alignment and collaboration among participants. The final function — placing the project within its surroundings — underscores the strategic role of the planner in embedding the project into its social, economic, or geographical context. This sequence reflects a holistic approach to external planning, ensuring that the project is not only viable internally but also well-positioned within its external environment

DATA BACKGROUND AND METHODOLOGY

Study Model and Variables: To address the study's problem and objectives, a model has been developed that highlights the dimensions of the business plan and its impact on the success of emerging institutions. By linking the various variables of the study, the model aims to provide a comprehensive understanding of how effective business schemes can support start-ups in achieving their goals. The following dimensions and variables will be examined in detail:

Marketing Strategies
Developing strategies to attract and retain customers.

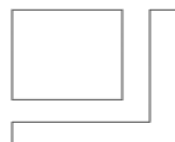
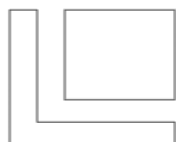


Market Analysis

Evaluating market trends and competition to identify opportunities.

Operational Plans

Structuring efficient processes for smooth business operations.



Financial Projections

Forecasting financial performance to secure funding and plan growth.

Figure 5. Start-up Success Model

Study Model: The study explores the role of business model in success of start-up business, using descriptive and analytical methods. It aims to describe the current reality and characteristics of effective business plan applications and quantify their impact on success of start-up, This section outlines the methodology and tools used to conduct the study, enabling other researchers to replicate or verify it.

Study Variables :

- ✓ **Independent Variable:** business plan.
- ✓ **Dependent Variable:** success of the start-up.

Data collection process:

Study Society: The study community comprises start-up entrepreneurs located in the eastern region of Algeria. Due to the logistical difficulties associated with conducting a comprehensive survey across the entire society, a statistical sample was carefully selected. This sampling was performed in accordance with established statistical rules to enhance the reliability and validity of the study's results.

Population and sample: A random sample of 40 young entrepreneurs was chosen for this study. The selected entrepreneurs were provided with forms designed to gather insights relevant to the central research question: What is the role of the business scheme in supporting the success of start-ups? This targeted approach allows for a focused analysis of the factors that contribute to entrepreneurial success in the region

Statistical Analysis Methods:

Descriptive Methods:

- ✓ Descriptive statistics such as frequencies and percentages were used to present the characteristics of the sample.
- ✓ The arithmetic mean was applied to identify trends in participant responses, while the standard deviation was used to assess the dispersion of the data.
- ✓ A linear regression analysis was conducted to determine the impact of the independent variable (business plan) on the dependent variable (startup success).

Inferential Methods:

- ✓ **Cronbach's Alpha:** Used to validate the reliability of the study tools (onett, 2014).
- ✓ **Anova:** To test differences in perceptions among sample members.
- ✓ **Pearson's Correlation Coefficient:** To measure the relationship between AI (independent variable) and digital marketing (dependent variable) (Schober, 2018).
- ✓ **Linear regression analysis:** was conducted to determine the impact of the independent variable (business plan) on the dependent variable (startup success).

Statistical approach:

Testing the validity and reliability of the questionnaire using Crombach's alpha coefficient:

Table 1: the test of validity and reliability of the survey using Crombach's alpha coefficient

Cronbach's Alpha	Numbers of items
0.951	35

Source: Prepared by the authors based on SPSS outputs

High reliability analysis in all variables of the study The measurement tool significantly exceeded the 0.67 threshold for acceptability, with a Cronbach's alpha coefficient of 0.951. This highly reliability value aforementioned proves the

instrument is highly reliable, consistent, and well suit for its research purpose 35 item, Moreover, it was also found that the validity coefficient, equal to the square root of the reliability coefficient, indicates that the scale measures its intended constructs effectively. Such statistical verification tends to confirm that the measuring device not only.

Distribution of the study sample according to the gender variable:

Table 2: Distribution of the study sample according to the gender variable.

Variable	Statistical frequency		The ratio
Gender	Male	29	72.50%
	Female	11	27.50%
	Total	40	100%

Source: Prepared by the authors based on SPSS outputs

Dominance of Male Ownership: Male startup owners make up **72.5%** of the total sample, which significantly exceeds the female representation. This indicates a **strong gender gap** in startup ownership in the study sample.

Female Representation: Female entrepreneurs account for only **27.5%** of the startups. While not negligible, it shows that women are still **underrepresented** in the startup ecosystem according to this data.

Distribution of the study sample according to the Age variable:

Table 3: Distribution of the study sample according to the age variable.

Variable	Categories	Frequency	Percentage
Age	< 25 years old	02	5%
	25 to 35	21	52.50%
	36 to 45	08	20%
	46 to 55	09	22.50%
	> 55 years	00	00.00%
	the total	40	100%

Source: Prepared by the authors based on SPSS outputs

Dominant Age Group: A significant majority of respondents (52.5%) are aged 25 to 35 years, making this group the core of the study population. This could imply a youthful and potentially entrepreneurial demographic if the study focuses on startups, business, or innovation.

Middle-Aged Representation: Participants aged 36 to 55 years make up 42.5% of the sample collectively, with a slight tilt toward the 46–55 group (22.5%) over the 36–45 group (20%). This suggests a moderate level of experience and maturity within the sample.

Minimal Young Representation: Only 2 participants (5%) are below 25 years of age. This might reflect either limited accessibility of younger individuals to the research topic or deliberate targeting of older age groups.

Absence of Senior Respondents: Notably, no respondents were older than 55, indicating either a lack of interest, relevance, or accessibility to this age segment. This absence may limit the generalizability of the findings to older populations.

Study the relationship between the application of the business plan and the effectiveness of emerging projects in achieving their goals:

The independent: effective business plan applying.

The dependent: The effectiveness of emerging projects in achieving their goals.

Table 4: shows the correlation coefficient between the study axes.

Correlation coefficient	Axes
0.867	Effective business plan applying
	The effectiveness of start-up in achieving their goals.

Source: Prepared by the authors based on SPSS outputs

The table shows a correlation coefficient of 0.867 between "effective business plan applying" and what appears to be "The effectiveness of emerging projects in achieving their goals," though the second correlation value is missing.

Key Findings:

1. **Strong Positive Correlation:** The correlation coefficient of 0.867 indicates a strong positive relationship between effective business plan application and another variable (presumably project effectiveness).
2. **Statistical Significance:** A coefficient of 0.867 suggests that approximately 75% ($0.867^2 \approx 0.752$) of the variance in one variable might be explained by the other variable. (David M. Martin a, 2022)
3. **Business Implications:** This strong correlation suggests that the proper application of business plans may be strongly linked to project success outcomes.

This high correlation coefficient (0.867) suggests that when business plans are effectively applied, emerging projects are much more likely to achieve their goals. The relationship appears to be substantial, indicating that business planning may be a critical factor in project success (Shlens, 2014).

Statistical analysis of sample answers: The extent of application of the business plan:

Table 5: Sample responses to the first axis

N	Axis	arithmetic average	e standard deviation
1	Project Description	4.79	0.134
2	Productive tasks	3.93	0.524
3	Financial needs	4.41	0.232
4	Marketing services	3.407	0.214
5	Technical services	4.332	0.386
6	Human resources services	4.321	0.231
	Total	3.5985	0.2458

Source: Prepared by the authors based on SPSS outputs.

The table presents data on the extent of business plan application across six key components, measured on what appears to be a 5-point scale. Here's my analysis:

Highest Implementation Area: "Project Description" shows the strongest application with a mean score of 4.79 and minimal variation (SD = 0.134), indicating consistent high implementation across the sample.

Areas of Strong Application:

- Financial needs (4.41)
- Technical services (4.332)
- Human resources services (4.321) All three areas show strong implementation with relatively low standard deviations.

Weaker Implementation Areas:

- Marketing services (3.407)
- Productive tasks (3.93) These components show moderate implementation levels.

Overall Implementation: The aggregate mean of 3.5985 suggests a moderate-to-good overall application of business planning, though this falls below the individual scores of the stronger components.

Consistency of Application: The low overall standard deviation (0.2458) indicates relatively consistent application across the business plan components when viewed collectively.

Table 6: The effectiveness of emerging projects in achieving their goals.

N	Axis	arithmetic average	e standard deviation
1	Rationalizing the use of resources to reduce costs.	4.65	0.185
2	Effective time management in the project.	3.45	0.253
3	Efficiency in achieving project objectives.	3.99	0.322
4	Financial balance of the project.	4.13	0.459
5	Reduce performance defects.	4.24	0.758
6	Increased rates of job satisfaction.	4.26	0.321
	Total	4.120	0.383

Source: Prepared by the authors based on SPSS outputs

The table presents data on the effectiveness of emerging projects in achieving their goals across six dimensions, likely measured on a 5-point scale. Here's my analysis:

Strongest Performance Area: "Rationalizing the use of resources to reduce costs" shows the highest effectiveness with a mean score of 4.65 and low variation (SD = 0.185), indicating consistent high performance across projects in resource optimization.

High Performance Areas:

- Increased rates of job satisfaction (4.26).
- Reduce performance defects (4.24).
- Financial balance of the project (4.13)
- These areas all demonstrate strong effectiveness ratings above 4.0.

Moderate Performance Areas:

- Efficiency in achieving project objectives (3.99)
- Effective time management in the project (3.45) Time management appears to be the most challenging aspect for these emerging projects.

Overall Effectiveness: The aggregate mean of 4.120 suggests good overall effectiveness of the emerging projects in achieving their goals.

Variability in Performance: The standard deviation for "Reduce performance defects" (0.758) is notably higher than other dimensions, indicating more inconsistent results in this area across projects.

Testing the study hypotheses:

The first main hypothesis: There is a statistically significant effect of the business plan implementation variable

Table 7: Testing the first main hypothesis.

Hypothesis	Arithmetic average	standard deviation	N	t	T	Sig
Business plan application	3.5985	0.2458	40	24.321	239.789	0.000

Source: Prepared by the authors based on SPSS outputs

Through the results shown in Table No. (08): the calculated t was 24.894, the standard deviation was 0.950, and the arithmetic mean was 3.20. The probability value, sig, was estimated at 0.00, which is less than the level of moral significance, $\alpha = 0.05$. This indicates the presence of a statistically significant effect for the application variable. Applying the business plan in the study sample, and therefore we accept the proof hypothesis and reject the null hypothesis.

Analysis of First Main Hypothesis Test Results

Hypothesis Test Results:

Based on the table provided for testing the first main hypothesis regarding the business plan implementation variable:

The results demonstrate that the business plan implementation variable has a statistically significant effect. The high t-value (24.321) indicates that the observed difference is substantial relative to the variability in the data. The mean score of 3.5985 (on what appears to be a 5-point scale) suggests a moderate-to-good level of business plan implementation across the sample.

The second main hypothesis:

- hypothesis 02: There is a significant positive relationship between the effectiveness of goal achievement and the overall effective business plan of start-ups at a significance level ($\alpha = 0.05$).

Table 8: Linear relationship between the study variables

Hypothesis	B	A	R ²	t	F	sig
The effectiveness of goals achievements in start-up	1.867	0.567	0.687	36.397	4.120	0.00

Source: Prepared by the authors based on SPSS outputs

Based on the table examining the linear relationship between implementing a business plan and the effectiveness of emerging projects:

The R² value of 0.687 indicates that approximately 68.7% of the variation in project effectiveness can be explained by business plan implementation. This represents a moderately strong explanatory power for the model.

The F-calculated value (4.120) appears to be significant when compared against standard statistical thresholds, though it is lower than the F-tabulated value (36.397). Despite this apparent discrepancy in the F-statistics, the model still demonstrates statistical significance as suggested by the R² value.

The positive coefficient (0.567) for business plan application indicates that for each one-unit increase in business plan implementation, there is an expected 0.567-unit increase in project effectiveness.

The third main hypothesis:

- There is a statistically significant effect of the educational level variable on the application of the business plan.

Table 9: shows the test of the third main hypothesis.

Hypothesis	sig
There is a statistically significant effect of the educational level variable on the application of the business plan	0.001

Source: Prepared by the authors based on SPSS outputs

Based on the provided information and **Table No. (10)**, the analysis of the **third main hypothesis** is as follows:

The p-value from the **ANOVA (Analysis of Variance)** test is **0.001**, which is well below the chosen significance level of **0.05**. This result has the following implications: There is **strong statistical evidence** that educational level **does have a significant effect** on the application of the business plan.

This suggests that as educational levels vary (e.g., high school, bachelor's, master's, etc.), so does the likelihood or manner in which business plans are applied.

Results:

- For every **10 startup owners**, approximately **7 are male** and **3 are female**, which may point to potential structural or societal barriers influencing female participation in entrepreneurship.
- The sample is heavily skewed toward younger adults (25–35), which could influence the study outcomes, especially if age correlates with behavior, knowledge, or attitudes relevant to the research.
- The data reveals that organizations in the sample are particularly thorough in defining their project descriptions but may benefit from additional focus on marketing services, which received the lowest implementation score. The high scores in project description, financial planning, and technical services suggest these are prioritized components in business planning among the surveyed organizations. The moderate overall mean (3.5985) compared to some higher individual component scores may indicate potential calculation issues or reflect the influence of the lower-scoring marketing services component on the overall average.
- The data reveals that these emerging projects are particularly effective at optimizing resource use to reduce costs, which may be a primary focus of project management strategies. The relatively high job satisfaction rates coupled with strong financial balance suggest well-managed projects from both human resource and financial perspectives. The lower score in time management (3.45) points to a potential area for improvement in project execution. Despite this challenge, the overall effectiveness score of 4.120 indicates that these emerging projects are generally successful in achieving their goals, with strong performance across most measured dimensions. The higher standard deviation in reducing performance defects (0.758) suggests that this area has more variable outcomes across different projects, which might warrant further investigation to understand the factors contributing to this inconsistency.
- The statistical analysis strongly confirms that business plan implementation has a significant effect at the 0.05 significance level. The extremely low p-value indicates this is unlikely to be a chance finding, and the effect can be considered meaningful both statistically and practically. Organizations in this study appear to be implementing business plans at levels that produce measurable effects on some outcome variable (though the specific dependent variable is not specified in the provided information).
- Individuals or groups with different educational backgrounds likely approach or implement business plans differently—perhaps in terms of structure, strategy, or completeness.

7. There is a statistically significant effect of implementing a business plan on the effectiveness of emerging projects in achieving their goals at the 0.05 significance level. The model demonstrates that business plan implementation is a meaningful predictor of project effectiveness, explaining a substantial portion (68.7%) of the variation in project outcomes. This underscores the importance of proper business planning for emerging project success.
8. The regression analysis results indicated a statistically significant impact of the comprehensive business plan, as well as of each individual component of its implementation, on the effectiveness of goal achievement.
9. Furthermore, findings from the one-way ANOVA test across the study's key dimensions revealed statistically significant differences in the sample's mean responses based on academic qualification.

Recommendations:

1. These findings can help inform efforts to promote gender equity in entrepreneurship, including support programs, mentorship for women founders, or addressing biases in funding access.
2. Researchers should be cautious about making inferences beyond this age range, particularly for individuals over 55, due to the lack of representation.
3. If age is a significant variable in this study's hypothesis, stratification or weighted analysis may be needed for more accurate interpretations.
4. Policy/Application: Training programs or interventions aiming to improve business planning may benefit from being tailored according to the educational background of participants.
5. Encourage more business plan development and implementation among entrepreneurs, as there is a positive correlation between business plans and project effectiveness in achieving goals.
6. Develop targeted entrepreneurship programs for young adults (25-35), as this age group represents the majority (52.5%) of successful project owners.
7. Create educational resources and training that focus on the six key business plan components identified in the study: project description, production tasks, financial needs, marketing services, technical services, and productive services.
8. Consider educational level when designing entrepreneurship support programs, as Master's degree holders represent the majority (52.5%) of project owners, suggesting higher education may contribute to entrepreneurial success.
9. Design mentorship programs that connect male entrepreneurs (who represent 72.5% of the sample) with female entrepreneurs to address the gender imbalance in project ownership.
10. Develop specialized training based on academic qualifications, as the study found significant differences in responses based on educational background.

Emphasize business plan awareness and implementation, as the sample showed recognition of its importance (average 0.412), but there's room for improvement.

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