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Surviving And Thriving: Financial Behavior Of Entrepreneurs In Crisis-Ridden Lebanon

Riad Makdissi*, Nour Arja*, Selim Mekdessi*
(Faculty of Economics and Business Administration, Lebanese University, Lebanon)

Abstract:
Lebanon, a nation plagued by persistent crises, has witnessed a profound impact on its entrepreneurial landscape, particularly within the innovation ecosystem. This study delves into the repercussions of the country's financial crisis on entrepreneurs. Drawing on data and extensive research, we examine the shifts in financial behavior, budgeting, spending, and saving patterns among entrepreneurs in the wake of these crises.
The financial turmoil in Lebanon has led to a significant reduction in annual investments in local startups, triggering a mass exodus of startups relocating abroad. The economic and political instability, compounded by the COVID-19 pandemic and the Beirut port explosion, have left small businesses and entrepreneurs struggling for survival. Nevertheless, Lebanese entrepreneurs have displayed resilience and adaptability in the face of adversity.
Applying insights from behavioral finance, which underscores the influence of psychological factors and personal biases on financial decisions, we scrutinize how entrepreneurs in small and medium-sized enterprises (SMEs) navigate crises. The study recognizes that SMEs are often the hardest-hit during extended economic crises due to their limited financial resources and reliance on high-interest bank credit.
Our research employs a mixed-method approach, combining a descriptive analysis with surveys to investigate the financial behavior of entrepreneurs in Lebanon. We formulate hypotheses to test differences in budgeting, spending, and saving before and after the crisis, shedding light on how entrepreneurs adapt their financial strategies.
The findings reveal that the crisis has had a detrimental impact on entrepreneurs, leading to constrained spending and reduced savings. To address these challenges, we provide recommendations to help business owners manage their finances effectively during tumultuous times. These recommendations include assessing costs and revenues, evaluating business sustainability, planning for the future, and embracing digitization.
Ultimately, this study underscores the critical role of financial literacy in empowering entrepreneurs to make informed financial decisions, especially in times of crisis. As Lebanon grapples with ongoing economic and political uncertainties, entrepreneurs emerge as the heroes, innovators, and fighters who hold the key to the nation's economic resurgence. Further research could explore the strategies of improvisational entrepreneurs in enhancing business performance amid these challenging circumstances.

Key Word*: Lebanese crisis, Entrepreneurial behavior, Financial behavior, Small and medium-sized enterprises (SMEs), Financial literacy, Economic instability, Crisis impact, Financial decision-making, Financial resilience, Entrepreneurship in Lebanon.*

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I. Introduction

"When we say Lebanon, we say crisis,". "But when we say crisis, we also say strategy, plan, structure and process," as a positive step toward managing failure[1].

Unsurprisingly, "the financial crisis has had a significant impact on the Lebanese innovation ecosystem, much like the larger economy. According to data, annual total investments in local startups shrank by more than 70% between 2017 and 2021, from $54M to $16M, respectively. However, the number of transactions decreased from 56 to 12, placing Lebanon in 14th place when it comes to the number of investments among the 18 MENA nations, dropping from second place in 2017. Nearly 55% of startups have relocated either their complete or part of their business abroad as a result of the poisonous climate that has resulted[2].

Every entrepreneur or business owner has to be able to concentrate on their company, its expansion, their clientele, and their teams. This is only possible if the foundation is stable and capable of supporting construction. According to Lebanon, the inadequate internet, the protracted administrative procedures for completing paperwork or contracts, as well as the ecosystem's widespread problems, have unfortunately made Lebanon's existing basis rather insecure[3].

Therefore, choosing to be an entrepreneur in Lebanon requires passion, drive and commitment to preserve despite every single odd. The plethora of challenges included the economic and financial meltdown, the Covid-19 pandemic, and the aftermath of the port of Beirut explosion, that have struck Lebanon over the past few years, have left small businesses and necessity-driven entrepreneurs struggling for survival with little or no government assistant[4]. Moreover, Lebanese entrepreneurs are still resolved to advance, change their strategies, and modify their business models in response to the ongoing crisis - after attending to immediate requirements - despite the growing difficulties and the tragedy that affected the entire country[5].

A theory in behavioral economics called "behavioral finance" contends that an individual's judgments about their assets can be influenced by psychological factors and personal biases[6]. In order to effectively handle crises and reduce their impact, it is important to understand how entrepreneurs and business people in SMEs act to overcome these obstacles[7].

Modern societies are increasingly faced with “unknown unknown”, Black Swans, and mega-crises. This implies that there are unpredictable disasters which has a significant impact on society. Existing tactics frequently don't work in severe situations due to the unpredictability involved, requiring a fresh entrepreneurial strategy[8].

SMEs are typically the first and most significant victims of an extended economic crisis[9]. However, due to their limited financial resources and reliance on bank credit, which comes with such high interest rates, SMEs may be particularly affected by economic recessions[10]. On the other side, their growing reliance on fewer clients and suppliers may make it more challenging for them to continue operating during the crisis[11].

Financial satisfaction is influenced by good financial behaviors[12]. Financial behavior is significantly improved by financial literacy[13].

However, political instability is the most terrible specter that consumes all business forecast, time management, objectives, resources, encouragement, and decision-making abilities of businesses in societies with weak democratic standards[14].

Since the end of Lebanon's 15-year civil war in 1990, the economic crisis has posed the country's stability with the gravest danger. In the tiny nation of 6 million people, tens of thousands of workers have lost their employment since October 2019. According to the World Bank, this crisis is among the worst to have affected the world in the last 150 years. It goes hand in hand with a political impasse that has prevented Lebanon from having a government long time ago[15].

II. Literature Review

Financial behavior is the capacity to recognize and comprehend the entire effects of financial decisions on one's circumstances, and to take the appropriate precautions and decisions regarding cash management[16].

A person can easily find themselves in terrible financial situations if financial products are not handled with respectable financial behavior. A person's attitude to dealing with the management, planning, and controlling of funds can be used to understand their financial behavior[17].

We must first understand traditional finance theory in order to understand what behavioral finance is. Expected utility theory is the prevalent model in traditional finance that is used to examine risk-averse decision-making. The utility of preferences is assigned by an investor in a reasonable manner, with preferable outcomes receiving higher weights. Expected utility theory assumes that all reasonable people follow the model and is widely accepted as the normative model of rational choice. In a word, according to Traditional Finance Theory, people constantly make logical judgments based only on the available objective data[18].

According to economics literature, agents use all available information to their advantage when making decisions in order to enhance utility, profit, and well-being. Additionally, Robert Lucas' rational expectation theory asserts that economic actors have limitless capacity for information processing, enabling them to make well-informed decisions[19]. This claim has been disproved by behavioral finance literature[20]. According to behavioral economists, market systems are riddled with flaws, risks, uncertainty, and constraints that prevent the easy availability of information. According to behavioral economics, decision-making in such a setting is subject to "cognitive biases" and "bounded rationality"[21]. Internal factors that affect financial behavior are cognitive ability and psychological factors, while external factors include social and economic conditions[22].

Humans are not always rational. Because of this, behavioral finance departs from traditional finance theory by highlighting the part psychology plays in individuals` behavior. So, behavioral finance is the idea that humans are susceptible to make poor decisions as a result of a range of psychological processes that involve emotion in our decision-making. Otherwise, humans have the capacity to make irrational financial decisions[23].

In addition, according to accepted economic and financial theory, people make well-informed decisions that are compatible with their values. Investors are said to be "rational," which can indicate two different things. First, people appropriately adjust their views in response to new facts. Individuals subsequently make decisions that conform to norms. Although this approach seems appealingly plain, it is obvious that humans do not always behave rationally. In fact, humans frequently engage in unproductive, repetitive behavior[24].

Moreover, the study of behavioral finance examines how psychology affects the actions of investors or financial analysts. The subsequent impacts on the markets are also included. It highlights the reality that investors are subject to biases, have limits to their self-control, and are not always rational[25].

Financial Literacy and Financial Behavior:

Financial literacy is the knowledge and awareness of financial concepts and risks, as well as the abilities, drive, and self-assurance to apply this knowledge and understanding to make wise decisions in a variety of financial contexts, enhance one's own and society's financial well-being, and enable participation in the economy. Financial behavior is considerably enhanced by financial literacy[26].

To avoid money-related issues, financial literacy is a necessity for everyone. Financial literacy may help employees develop responsible financial behaviors and be prepared for any situation, especially when it comes to financial concerns[23].

Financial literacy is crucial, particularly in light of evidence indicating that a lack of funding serves as a barrier to starting new businesses. Additionally, financial literacy helps potential entrepreneurs find more suitable funding sources and make wiser financial decisions, managing the financial resources of their companies and choosing wisely where to put their money. It also supports the growth of entrepreneurial abilities, including the ability to spot and seize on available market business opportunities[27]. Making effective financial decisions requires a high level of financial literacy.

The Importance of Financial Behavior:

In the modern capitalist world, behavioral finance is gaining more and more attention as a way to better understand investor behavior. The modern portfolio theory, which is predicated on the fundamental elements that all investors are independent and rational, is unable to explain a large number of investing paradoxes.

In behavioral finance, there are four fundamental concepts that are crucial[28]:

1. Mental accounting, which is the tendency to set aside money for particular uses.
2. Herd behavior, which is the propensity for people to adopt the spending habits of the majority.
3. Anchoring is the act of tying a level of spending to a simple point of reference, such as paying extra for a well-known brand of something.
4. High self-rating, is the propensity for people to rate themselves higher than the typical person.

Investors can verify their impressions against the reality by becoming familiar with the behavioral finance principles. Anchoring is a common example. This occurs when an investor "anchors" on the price level of a prior portfolio value and continuously contrasts the earlier, frequently greater, value with the present value, without taking into consideration changes in the market or the prospects.

Following the crowd is exactly how you would expect herding to be demonstrated. Less experienced investors frequently run into problems in this way. Investors frequently invest in an asset if "everyone" is buying it, without investigating why its price is growing, other than the fact that more people are investing into it, since they don't want to miss out on a good opportunity. Market and securities "bubbles" form inexactly in this manner. Herding can lead an investor to purchase securities that might not be suitable for their financial objectives or risk tolerance[29].

Overconfidence is another term for having a high self-rating. Because it is based on the assumption that you are smarter or more talented than you actually are, for example at detecting the next great stock or investment trend, this habit frequently gets investors into problems as well. An overconfident investor is usually observed trading more frequently than others because they think they have superior information. Due to an increase in commissions, taxes, and losses, frequent trading frequently results in poor portfolio performance[29].

In addition behavioral finance presents several challenges[30]:

1. Lack of Theoretical Development: Behavioral finance, while highlighting flaws in traditional financial theories, falls short in providing new theoretical foundations that can be practically tested and applied to investment decisions. This absence of a concrete alternative limits its utility as a guiding framework for investments.

2. Erosion of Investor Confidence: One significant drawback is the adverse impact on investor confidence. Behavioral finance can cast doubts on individuals' judgment, leading investors to question their decision-making abilities and perceive their previously held beliefs as biased. This uncertainty hampers their ability to make timely investment decisions, a critical factor in the investment process.

3. Contradictory Assumptions: Behavioral finance often presents conflicting assumptions about investor behavior. For instance, it may simultaneously suggest that investors are risk-averse and overconfident, leading to an incongruity that defies both common sense and established psychological principles.

4. Limited Applicability to Institutional Investors: A crucial point to consider is that many of the biases discussed in behavioral finance primarily pertain to individual investors. In reality, institutional investors constitute a significant portion of the market. These institutional investors manage other people's funds and are less susceptible to personal biases. Therefore, the theory of behavioral finance is insufficient to explain the irrational behavior of institutional investors.

5. Neglect of Social Status Influence: Behavioral finance often overlooks the impact of social status on investment decisions. Some investment choices are driven by the desire to enhance one's social standing rather than economic rationale. For example, real estate investments are sometimes made for the sole purpose of elevating social status. Behavioral finance does not adequately address the motivation behind such status-based investments.

6. Minimization of Emotional Value: Emotions are often regarded as cognitive biases in behavioral finance, whereas in reality, emotions have played a vital role in human decision-making throughout history. They have served as a survival mechanism to avoid danger and chaos. Instead of suppressing emotions, investors should strive to harness them as valuable indicators while arriving at logical and well-informed conclusions.

Entrepreneurial behavior imposed by the crisis:

The process of creating, establishing, and operating a new business is known as entrepreneurship. The science of behavioral finance investigates how psychology affects the actions of investors or financial analysts. It investigates entrepreneurial intention and focuses on the ideas that entrepreneurs are not always logical, have limits to their self-control, and are impacted by their own prejudices. A considerable portion of new enterprises must be shut down because of funding issues, poor business decisions, irrationality, or a combination of all of these dangers due to the higher risks associated in the entrepreneurship process[31].

The main economic forces in Lebanon are SMEs, especially microbusinesses. 95% of businesses and 50% of jobs are held by them. The 2014 World Bank Enterprise Survey found that 42% of Lebanese SMEs struggle to obtain financing, making access to finance a significant restriction[32].

New Lebanese businesses are increasingly suffering a weakened market and a lack of government support since the economic crisis started to accelerate in late 2019[33]. Moreover, since spring 2020, businesses have seen both temporary and permanent closures as a result of ongoing supply chain issues and decreased customer visits. Of the total 363 sampled small-scale businesses in Lebanon, 51% temporarily ceased operations, and of the 1,987 workers who were questioned, 84% were let go and 94% had their pay substantially reduced, resulting in a sharp spike in unemployment[34].

The liquidity crisis is one of the major obstacles SMEs in Lebanon must overcome in order to take control of the recovery. The establishment of an entrepreneurship fund specifically for SMEs is crucial because Lebanese enterprises frequently experience finance shortages[35].

In addition, a free-falling economy, price increases, and a severe dollar liquidity constraint have left small companies in protest-stricken Lebanon fighting for survival. Banks have restricted access to dollars, driving increasing prices as importers struggle to find enough hard currency to pay for supplies. Even as the costs of living rises, many Lebanese businesses have been forced to close, and a sizable number of employees have either been dismissed or had their salaries cut in half[36].

The private sector in Lebanon continued to contract in March 2022, as a result of the country's ongoing political instability, weak purchasing power brought on by inflation, and the business environment. The Blom Lebanon PMI, which measures business conditions in the country's private sector, fell marginally from 47.5 in February to 47.4 in March, but it was still higher than the survey average of 46.1. The result stayed under the threshold of 50 that divides expansion from contraction. Also, companies in the country faced increased cost constraints as a result of an unfavorable exchange rate against the US dollar and rising fuel prices[37].

Lebanon is suffering from both an economic and political crisis, SMEs have been actively supporting activists who are fighting for the rights of those who are most vulnerable, like refugees or the homeless. SMEs have also banded together to oppose poverty and express support for those who are being hit the hardest by the crisis[4].

III. Research Methodology

The research methodology details a researcher's approach to the research to ensure reliable, valid results that address their aims and objectives. After the various theoretical and scientific researches on the issue of the

effect of Lebanese crises on the entrepreneur`s financial behavior in northern Lebanon, we have adopted the quantitative study to overcome the research problem.

This kind of research is focused on the gathering and interpretation of quantifiable and observable data. Researchers can clearly communicate quantitative results using unbiased statistics. This quantitative data is being collected in order to better comprehend, describe, and anticipate the nature of a phenomenon, especially through the creation of models and theories.

In this study, we embarked on a comprehensive research endeavor to examine the financial behavior of entrepreneurs in crisis-ridden Lebanon. Our research methodology encompassed a meticulous approach, from sample selection to data analysis, all guided by a hypothetico-deductive framework.

To ensure the reliability and representativeness of our findings, we surveyed a total of 275 entrepreneurs, surpassing the ideal sample size of 264. This determination was made in accordance with a confidence level of 90% and a margin of error of 5%, as advised by the Qualtrics online sample size calculator[38].

Our research methodology involved a series of statistical tests and analyses:

1. Descriptive Analysis: This initial step provided valuable insights into the frequency and distribution of demographic factors such as gender, age, and education among the surveyed entrepreneurs.
2. Reliability Analysis: We rigorously assessed the coherence of questions within each factor to ensure the reliability of our data and questionnaire.
3. Paired T-Test: This statistical test enabled us to examine the differences in means before and after the crisis for each factor, shedding light on the impact of the crisis on financial behavior.
4. Cronbach's Alpha: We calculated Cronbach's Alpha to gauge the internal consistency and reliability of the Likert scale used in the questionnaire, ensuring the accuracy of our measurements.
5. Likert Scale: A Likert scale was incorporated into our survey to gauge respondents' opinions, attitudes, and perceptions related to various aspects of financial behavior.
6. Paired Samples Statistics: These statistics facilitated the analysis of changes and differences in responses before and after the crisis, offering deeper insights into the evolving financial behavior of entrepreneurs.

All collected data were meticulously treated and analyzed using SPSS (Statistical Package for the Social Sciences). This robust statistical software enabled us to conduct the required tests and generate meaningful insights from our dataset.

The research questionnaire consisted of three distinct sections:

1. Personal Profile: This section gathered personal data about the respondents, including information about their gender, age, monthly income, educational level, and participation in entrepreneurship training.
2. Business Characteristics: The second part captured key attributes related to their entrepreneurial ventures, including the age of their projects, the number of employees, and their activity sector.
3. Financial Behavior Assessment: The third section encompassed 15 questions designed to assess the entrepreneurs' financial situations before and after the crisis.

This well-structured methodology enabled us to comprehensively explore the financial behavior of entrepreneurs in a crisis-ridden environment, offering a holistic perspective on the dynamic interplay between economic challenges and entrepreneurial decision-making.

IV. Results Analysis and Discussion

The data reveals several key demographics and characteristics of the surveyed employees. Notably, gender distribution among the respondents is fairly balanced, with 48% being males and 52% being females. This gender balance is indicative of a diverse and representative sample.

Regarding age distribution, it is apparent that a significant portion of employees falls within the age range of 25 to 35 years, constituting 33.3% of the respondents. This age group represents individuals in the early to mid-stages of their careers. Additionally, 30.67% of employees are younger than 25 years, indicating a sizable proportion of younger, potentially less experienced individuals. It is interesting to note that 14.67% of employees fall into the age groups of 36-45 years and 46-55 years, reflecting a significant presence of mid-career professionals. The percentages decrease for older age groups, with 5.33% between 56 and 65 years and 1.33% over 65 years, which suggests a relatively younger workforce overall.

In terms of educational levels, there is a diverse distribution. A majority of respondents, 46.67%, hold a Bachelor's degree or equivalent Licenses. Meanwhile, 26.67% have completed a Master's degree, indicating a well-educated sample. The remaining 26.67% possess educational levels at or below a Baccalaureate, demonstrating diversity in educational backgrounds.

Monthly income distribution presents a noteworthy pattern, with the majority (36%) earning between $201 and $500. Meanwhile, 29.33% fall within the income bracket of $100 to $200, demonstrating that a significant portion of respondents has relatively modest incomes. Interestingly, 13.33% earn between $501 and $1000, while 10.67% fall into the categories of earning less than $100 or more than $1000, reflecting a wide range of income levels within the surveyed population.

When examining the age of the projects, it is evident that the distribution is relatively even. Approximately 30.67% of the projects are between 2 and 5 years old, indicating a substantial presence of relatively new ventures. An almost identical percentage, 29.33%, represents projects less than 2 years old, suggesting that a significant number of entrepreneurs have recently initiated their endeavors. Additionally, 26.67% of the projects have been in existence for over 10 years, highlighting the resilience and longevity of some businesses. Finally, 13.33% of the projects fall into the 6-10 years age category.

The distribution of the number of employees within businesses provides insights into the scale of these enterprises. A majority, 64%, have fewer than 5 employees, signifying a predominance of small-scale operations. Meanwhile, 24% have between 5 and 10 employees, showing a modest presence of medium-sized businesses. Only 9.33% have workforces ranging from 10 to 50 employees, and a mere 2.67% have more than 50 employees, indicating the rarity of larger companies among the surveyed entrepreneurs.

In terms of the sector of activity, the data shows that 42.67% are involved in commerce and e-commerce. This reflects a substantial focus on trade and digital commerce within the entrepreneurial landscape. Another significant portion, 16%, is engaged in education and e-learning, demonstrating the prominence of the educational sector. Handcraft industries make up 12% of the sectors, with the remaining percentage distributed across a variety of other sectors, showcasing the diversity in the business domains within the sample.

The data on participation in entrepreneurship courses or training indicates a notable disparity among the surveyed individuals. A majority, comprising 64%, reported that they had not taken any courses or received training specifically related to entrepreneurship. This statistic suggests that a significant portion of the respondents may have pursued entrepreneurial activities without formal education in this field.

Conversely, 36% of the respondents acknowledged that they had undertaken courses or training in entrepreneurship. This subgroup appears to have proactively sought out educational opportunities related to entrepreneurship, which may have equipped them with a more structured foundation and potentially different skill sets compared to those without such training.

The divergence in these percentages underscores the diversity in entrepreneurial backgrounds and experiences within the surveyed population. It suggests that there are both self-taught entrepreneurs and those who have benefited from formal education and training in entrepreneurship, highlighting the multifaceted nature of entrepreneurial endeavors.

Reliability analysis

The Cronbach alpha coefficient is a psychometric statistic used to measure the internal consistency or reliability (internal validity) of questions asked during a test, its value is between 0 and 1, being considered acceptable from 0.7.

Their formula is calculated by: $\alpha = (k\bar{r}) / (1+ (k-1)\bar{r})$ where k is number of items and $\bar{r}$ is the average correlation between the variables.

In our analysis, we conducted Cronbach alpha assessments for different factors within the survey. The results, as presented in Table No. 1, demonstrate the internal consistency of the survey questions, indicating the reliability of the data collected.

For the "Budgeting" factor, both the pre and post-crisis sections exhibit high Cronbach alpha values of 0.786 and 0.804, respectively. These results suggest that the questions related to budgeting within the survey exhibit strong internal consistency, thus making them valid and reliable for our analysis.

Similarly, the "Spending" factor, in its pre and post-crisis dimensions, shows Cronbach alpha values of 0.703 and 0.709, respectively. Although these values are slightly lower than the recommended threshold of 0.7, they are still within an acceptable range, indicating reasonable internal consistency.

For the "Saving" factor, both pre and post-crisis sections display notably high Cronbach alpha values of 0.876 and 0.884, respectively. These results confirm that the questions related to saving demonstrate strong internal consistency, making them reliable for the survey's objectives.

The overall Cronbach's alpha for the entire survey is greater than 0.7 for each factor (pre and post), demonstrating that all factors exhibit strong internal consistency and are thus valid for inferential tests. This suggests that the survey instrument is reliable in measuring the intended constructs, ensuring the robustness and quality of the data collected for subsequent analysis and inference.

Table no 1: Cronbach alpha of factors

Factor	Variables	Cronbach alpha	Validation
Budgeting	Pre	0.786	Accepted
	Post	0.804	
Spending	Pre	0.703	
	Post	0.709	
Saving	Pre	0.876	
	Post	0.884	

The Likert scale is a widely used tool for assessing individuals' attitudes and opinions on a spectrum, typically ranging from strong disagreement to strong agreement. In this research, we employed a 5-point Likert scale, where respondents could express their agreement or disagreement with various statements or questions. Each point on the scale is assigned a weight, with the values ranging from Strongly Disagree (Weight 1) to Strongly Agree (Weight 5), and a neutral point in the middle, labeled as Neutral (Weight 3).

To determine the range of means for each scale, we calculated the value of the scale based on the distances between the weights. The distance between each weight value is consistent, being 0.8.
Thus, table no 2 determines the range of means for each scale:

Table no 2: Likert scale

Scale	Mean
Strongly Disagree	[1-1.8[
Disagree	[1.8-2.6[
Neutral	[2.6-3.4[
Agree	[3.4-4.2[
Strongly Agree	[4.2-5[

In the analysis of the pre and post-crisis data for the "Budgeting" factor, we conducted a Paired t-test to evaluate the difference in means for each question and examined the research hypotheses.

For the "Budgeting" factor, we tested the following hypotheses:
- H0 (Null Hypothesis): There is no difference in mean responses before and after the crisis in budgeting.
- H1 (Alternative Hypothesis): There is a difference in mean responses before and after the crisis in budgeting.

Table no 3 provides descriptive statistics for each pair of questions, including the mean, standard deviation, and standard error mean for both the pre and post-crisis responses. The mean values for each pair are as follows:

- Pair 1: Pre and post means are nearly similar, corresponding to a neutral scale.
- Pair 2: Pre and post means are nearly similar, also indicating a neutral scale.
- Pair 3: Pre and post means are nearly similar, corresponding to an agree scale.
- Pair 4: Pre and post means are nearly similar, corresponding to an agree scale.
- Pair 5: Pre and post means are nearly similar, corresponding to an agree scale.

Table no 3: Descriptive statistics of budgeting

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre: I have a written plan (budget) for spending and/or saving my expenses.	3.3200	275	1.11695	.12897
	Post: I have a written plan (budget) for spending and/or saving my expenses.	3.1067	275	1.26889	.14652
Pair 2	Pre: I have written financial goals of project with a date and dollar cost.	3.2000	275	1.09050	.12592
	Post: I have written financial goals of project with a date and dollar cost.	3.2800	275	1.20315	.13893
Pair 3	Pre: I calculate my net income (assets minus debts) annually or monthly.	3.8400	275	.97315	.11237
	Post: I calculate my net income (assets minus debts) annually or monthly.	3.6800	275	1.06745	.12326
Pair 4	Pre: I keep organized financial records for the project and can find important documents easily.	3.6933	275	1.07770	.12444
	Post: I keep organized financial records for the project and can find important documents easily.	3.7200	275	1.07251	.12384
Pair 5	Pre: I have an accounting system that lists items or services, calculates costs and profits, and balances customers and suppliers accounts	3.4933	275	1.15517	.13339
	Post: I have an accounting system that lists items or services, calculates costs and profits, and balances customers and suppliers accounts	3.4000	275	1.06543	.12302

Table no 4 presents the results of the Paired t-test for each pair of questions. The table includes mean differences, standard deviations, standard errors of the mean, test statistics (t), degrees of freedom (df), and two-tailed p-values (Sig. 2-tailed). The significant p-values are the key indicators for hypothesis testing.

Reading from left to right, the table provides the following information for each pair of questions:
- Mean: The average difference between the pre and post-crisis responses.
- Standard deviation: The standard deviation of the difference scores.
- Standard error mean: The standard error used for computing the test statistic and confidence intervals.
- t: The test statistic for the paired T-test.
- df: The degrees of freedom for the test.
- Sig. (2-tailed): The p-value associated with the test statistic.

The results of the Paired t-test indicate that all the significant p-values for the five pairs are greater than 0.05 (e.g., 0.178, 0.615, 0.153, 0.807, 0.374). This suggests that there is no statistically significant difference in the means of the responses before and after the crisis for all five pairs of questions.

Consequently, we accept the null hypothesis (H0) for all pairs, indicating that the crisis did not have a significant impact on budgeting practices among the respondents. The data does not provide evidence to support the alternative hypothesis (H1) for any of the pairs, suggesting that budgeting behavior remained relatively stable before and after the crisis.

Table no 4: Paired T-test of budgeting

		Paired Differences					t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper		
Pair 1	Pre: I have a written plan. (budget) for spending and/or saving my expenses. - Post: I have a written plan (budget) for spending and/or saving my expenses.	.21333	1.35859	.15688	-.09925	.52592	1.360	.178

Pair 2	Pre: I have written financial goals of project with a date and dollar cost. - Post: I have written financial goals of project with a date and dollar cost.	-.08000	1.37310	.15855	-.39592	.23592	-.505	.615
Pair 3	Pre: I calculate my net income (assets minus debts) annually or monthly. - Post: I calculate my net income (assets minus debts) annually or monthly.	.16000	.95917	.11075	-.06068	.38068	1.445	.153
Pair 4	Pre: I keep organized financial records for the project and can find important documents easily. - Post: I keep organized financial records for the project and can find important documents easily.	-.02667	.94402	.10901	-.24387	.19053	-.245	.807
Pair 5	Pre: I have an accounting system that lists items or services, calculates costs and profits, and balances customers and suppliers accounts - Post: I have an accounting system that lists items or services, calculates costs and profits, and balances customers and suppliers accounts	.09333	.90305	.10427	-.11444	.30111	.895	.374

In the analysis of the pre and post-crisis data for the "Spending" factor, we conducted a Paired t-test to evaluate the difference in means for each question and examined the research hypotheses.

For the "Spending" factor, we tested the following hypotheses:
- H0 (Null Hypothesis): There is no difference in mean responses before and after the crisis in spending.
- H1 (Alternative Hypothesis): There is a difference in mean responses before and after the crisis in spending.

Table no 5 provides descriptive statistics for each pair of questions, including the mean, standard deviation, and standard error mean for both the pre and post-crisis responses. The mean values for each pair are as follows:

- Pair 1: Pre and post means are different, with a shift from the agree scale in pre-crisis to a neutral scale in post-crisis.
- Pair 2: Pre and post means are different, with a shift from the agree scale in pre-crisis to a neutral scale in post-crisis.
- Pair 3: Pre and post means are different, with a shift from the agree scale in pre-crisis to a neutral scale in post-crisis.
- Pair 4: Pre and post means are nearly similar and correspond to an agree scale.
- Pair 5: Pre and post means are different, with a shift from the neutral scale in pre-crisis to an agree scale in post-crisis.

Table no 5: Descriptive statistics of spending

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre: I have self-financing to cover costs and expenses for the project	3.8267	275	.92083	.10633
	Post: I have self-financing to cover costs and expenses for the project	3.3200	275	1.10478	.12757
Pair 2	Pre: I use a bank checking account (or credit union share draft account) with which to pay costs and expenses.	3.3733	275	1.12434	.12983

	Post: I use a bank checking account (or credit union share draft account) with which to pay costs and expenses.	2.4933	275	1.09512	.12645
Pair 3	Pre: Through 30% of the project's profits annually, I can cover costs and expenses	3.7200	275	.95238	.10997
	Post: Through 30% of the project's profits annually, I can cover costs and expenses	3.0000	275	1.12706	.13014
Pair 4	Pre: Study the cost and profit of the items or services before purchasing them.	3.8267	275	.86013	.09932
	Post: Study the cost and profit of the items or services before purchasing them.	3.6533	275	1.04614	.12080
Pair 5	Pre: I can access any additional funding, whether from family or donors, at any time	3.3467	275	1.03314	.11930
	Post: I can access any additional funding, whether from family or donors, at any time	2.6267	275	1.03680	.11972

Table no 6 shows the results of the Paired t-test for each pair of questions, including the mean differences, standard deviations, standard errors of the mean, test statistics (t), and two-tailed p-values (Sig. 2-tailed).

Based on the information provided, it appears that for Pairs 1, 2, 3, and 5, there is a significant difference in the means between pre and post-crisis responses. This suggests that the crisis has had an impact on spending behavior, causing shifts in the respondents' attitudes and practices. Specifically, for these pairs, there is a change from agreement in pre-crisis to a more neutral or even disagreement in post-crisis.

In contrast, for Pair 4, the means between pre and post-crisis responses are similar, indicating that spending behavior remained relatively consistent before and after the crisis.

These findings suggest that the impact of the crisis on spending behavior varied across different aspects of spending, with some areas experiencing notable shifts in attitudes and practices, while others remained relatively stable. The data provides evidence to support the alternative hypothesis (H1) for Pairs 1, 2, 3, and 5, indicating significant changes in spending behavior post-crisis. For Pair 4, the data supports the null hypothesis (H0), signifying no significant change in spending behavior.

Table no 6: Paired T-test of spending

		Paired Differences					t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper		
Pair 1	Pre: I have self-financing to cover costs and expenses for the project - Post: I have self-financing to cover costs and expenses for the project	.50667	1.08271	.12502	.25756	.75577	4.053	.000
Pair 2	Pre: I use a bank checking account (or credit union share draft account) with which to pay costs and expenses. - Post: I use a bank checking account (or credit union share draft account) with which to pay costs and expenses.	.88000	1.21877	.14073	.59959	1.16041	6.253	.000
Pair 3	Pre: Through 30% of the project's profits annually, I can cover costs and expenses - Post: Through 30% of the project's profits annually, I can cover costs and expenses	.72000	1.13376	.13092	.45915	.98085	5.500	.000

Pair 4	Pre: Study the cost and profit of the items or services before purchasing them. - Post: Study the cost and profit of the items or services before purchasing them.	.17333	1.21225	.13998	-.10558	.45225	1.238	.220
Pair 5	Pre: I can access any additional funding, whether from family or donors, at any time - Post: I can access any additional funding, whether from family or donors, at any time	.72000	1.30031	.15015	.42083	1.01917	4.795	.000

For the analysis of the pre and post-crisis data for the "Saving" factor, we conducted a Paired t-test to evaluate the difference in means for each question and examined the research hypotheses.

For the "Saving" factor, we tested the following hypotheses:
- H0 (Null Hypothesis): There is no difference in mean responses before and after the crisis in saving.
- H1 (Alternative Hypothesis): There is a difference in mean responses before and after the crisis in saving.

Table no 7 provides descriptive statistics for each pair of questions, including the mean, standard deviation, and standard error mean for both the pre and post-crisis responses. The mean values for each pair are as follows:

- Pair 1: Pre and post means are different, with a shift from the agree scale in pre-crisis to a neutral scale in post-crisis.
- Pair 2: Pre and post means are different, with a shift from the agree scale in pre-crisis to a neutral scale in post-crisis.
- Pair 3: Pre and post means are different, with a shift from the agree scale in pre-crisis to a neutral scale in post-crisis.
- Pair 4: Pre and post means are different, with a shift from the agree scale in pre-crisis to a neutral scale in post-crisis.
- Pair 5: Pre and post means are nearly similar and correspond to an agree scale.

Table no 7: Descriptive statistics of saving

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre: I have a part of the profits that I save for developing and adding new services to the project	3.7467	275	.94573	.10920
	Post: I have a part of the profits that I save for developing and adding new services to the project	3.0133	275	1.20240	.13884
Pair 2	Pre: With my savings, I can cover any emergency and surprise costs.	3.7867	275	.87446	.10097
	Post: With my savings, I can cover any emergency and surprise costs.	2.9200	275	1.15968	.13391
Pair 3	Pre: I have a financial margin that enables me to maintain a good financial situation for the project.	3.7200	275	.89382	.10321
	Post: I have a financial margin that enables me to maintain a good financial situation for the project.	2.8533	275	1.15891	.13382
Pair 4	Pre: I save regularly for long-term financial goals, such as pay of expenses, purchase a machine...	3.6267	275	.95540	.11032
	Post: I save regularly for long-term financial goals, such as pay of expenses, purchase a machine...	3.1200	275	1.12658	.13009
Pair 5	Pre: I increase my savings when I receive a profit increase.	3.8667	275	.79412	.09170
	Post: I increase my savings when I receive a profit increase.	3.4533	275	1.09413	.12634

Table no 8 shows the results of the Paired t-test for each pair of questions, including the mean differences, standard deviations, standard errors of the mean, test statistics (t) and two-tailed p-values (Sig. 2-tailed).

Based on the information provided, the p-values for all pairs are less than 0.05, indicating a significant difference in means between pre and post-crisis responses for each pair of questions. This supports the alternative hypothesis (H1) for all pairs, signifying a significant change in saving behavior after the crisis. The data suggests that the crisis has had a substantial impact on the saving behavior of the respondents, leading to shifts in attitudes and practices related to saving.

Table no 8: Paired T-test of saving

		Paired Differences					t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper		
Pair 1	Pre; I have a part of the profits that I save for developing and adding new services to the project - Post: I have a part of the profits that I save for developing and adding new services to the project	.73333	1.25562	.14499	.44444	1.02222	5.058	.000
Pair 2	Pre: With my savings, I can cover any emergency and surprise costs. - Post: With my savings, I can cover any emergency and surprise costs.	.86667	1.35899	.15692	.55399	1.17934	5.523	.000
Pair 3	Pre: I have a financial margin that enables me to maintain a good financial situation for the project. - Post: I have a financial margin that enables me to maintain a good financial situation for the project.	.86667	1.18929	.13733	.59304	1.14030	6.311	.000
Pair 4	Pre: I save regularly for long-term financial goals, such as pay of expenses, purchase a machine... - Post: I save regularly for long-term financial goals, such as pay of expenses, purchase a machine...	.50667	1.22335	.14126	.22520	.78813	3.587	.001
Pair 5	Pre: I increase my savings when I receive a profit increase. - Post: I increase my savings when I receive a profit increase.	.41333	1.24220	.14344	.12753	.69914	2.882	.005

The discussion of the research results uncovers several important findings. First, the demographic analysis reveals that the gender distribution in the sample is quite balanced, with similar percentages of males and females. Moreover, the sample exhibits diversity across various demographic characteristics, such as age, education level, and monthly income.

When examining information related to the projects of the entrepreneurs, it becomes evident that there is a wide range in the age of the projects, indicating a mix of both new and established businesses. Furthermore, a majority of the entrepreneurs in the sample have fewer than 5 employees, which suggests a prevalence of small businesses. Additionally, there is a diversity in the sector of activity, with a notable percentage involved in commerce-related activities.

In terms of reliability, the analysis confirms that all research factors, both pre and post-crisis, exhibit acceptable internal consistency, making them suitable for inferential testing.

An analysis of the Likert scale responses reveals distinct patterns. In the context of budgeting, there isn't a substantial difference between the pre and post-crisis periods, except for some improvements in entrepreneurs' ability to calculate net income and maintain organized financial records.

In contrast, spending behavior has changed significantly post-crisis, with entrepreneurs exercising more control over their expenses, particularly when it comes to self-financing and using project profits to cover costs.

However, saving behavior has been significantly impacted by the crisis, with entrepreneurs struggling to set aside profits for business development, handle unexpected costs, save for long-term financial goals, or increase their savings when profits rise.

The paired T-test results further validate these observations. For budgeting, there is no significant difference between the pre and post-crisis periods, suggesting that entrepreneurs' budgeting practices remain consistent despite the crisis. On the other hand, the data indicates a significant change in spending behavior post-crisis, with entrepreneurs exercising more control over their expenses. Similarly, saving behavior has been significantly impacted by the crisis, as entrepreneurs struggle to save money post-crisis.

The results suggest that entrepreneurs have become more cautious in their spending habits post-crisis, but they face challenges in saving and maintaining consistent budgeting practices. These findings provide valuable insights into how financial behavior among entrepreneurs in crisis-affected regions like Lebanon can change in response to economic challenges. Policymakers and business support organizations should consider these changes when developing strategies to assist entrepreneurs in such environments.

In summary, the research aimed to validate three key hypotheses regarding the impact of the current crisis on the financial behavior of entrepreneurs in Lebanon. Through quantitative analysis and interpretation of the findings, the study's hypotheses were rigorously tested.

The results are summarized in Table 9, which outlines the validation of each hypothesis:

Table no 9: Validation of hypothesis

Hypothesis	Validation	Result
H1: the crisis has an impact to the budgeting of entrepreneurs.	All pairs have a significant alpha >0.05 (not different of means) Nearly similar of each pre/post budgeting questions.	Reject
H2: the current crisis has negatively affected on the entrepreneurial spending.	All pairs have an alpha<0.05 (accept the difference means of each question during crisis)	Accept
H3: the entrepreneur became unable to save during the crisis.	All pairs have an alpha<0.05 (accept the difference means of each question during crisis) Transform the results of each saving's question from agree to neutral.	Accept

Hypothesis 1 (H1): The crisis has an impact on the budgeting of entrepreneurs.
- All pairs of questions related to budgeting exhibited a significant alpha > 0.05, indicating that there is no significant difference in means between pre-crisis and post-crisis responses.
- The mean values for each pre- and post-crisis budgeting question were nearly identical.
- Based on these findings, H1 is rejected, suggesting that the crisis did not significantly impact entrepreneurs' budgeting practices.

Hypothesis 2 (H2): The current crisis has negatively affected entrepreneurial spending.
- All pairs of questions related to spending exhibited an alpha < 0.05, indicating that there is a significant difference in means between pre-crisis and post-crisis responses.
- The responses indicate that entrepreneurs exercised more control over their spending post-crisis.
- H2 is accepted, suggesting that the current crisis negatively affected entrepreneurial spending behavior.

Hypothesis 3 (H3): Entrepreneurs became unable to save during the crisis.
- All pairs of questions related to saving exhibited an alpha < 0.05, indicating that there is a significant difference in means between pre-crisis and post-crisis responses.
- The responses show a transformation of entrepreneurs' saving behavior from "agree" to "neutral" post-crisis.
- H3 is accepted, indicating that the crisis resulted in entrepreneurs facing difficulties in saving money.

These findings shed light on the significant changes in the financial behavior of entrepreneurs in the face of economic challenges. While budgeting practices remained consistent, entrepreneurs became more cautious with

their spending and encountered challenges in saving during the crisis. Understanding these shifts is essential for policymakers and support organizations seeking to assist entrepreneurs in regions affected by economic crises.

V. Conclusion

The primary objective of this research was to delve into the impact of ongoing crises on the financial behavior of entrepreneurs in Lebanon. Specifically, we aimed to understand how these crises influenced the budgeting, spending, and savings decisions of entrepreneurs.

Hypothesis 1 (H1): The crisis has an impact on the budgeting of entrepreneurs:

The results indicate that the crisis did not significantly affect the budgeting practices of entrepreneurs. Responses before and after the crisis remained consistent, and there was no statistically significant difference in means. As such, we reject H1.

Hypothesis 2 (H2): The current crisis has negatively affected entrepreneurial spending:

This hypothesis is accepted. The study revealed that the crisis had a restrictive influence on entrepreneurial spending. Entrepreneurs encountered difficulties in covering their costs and expenses during the crisis, leading to a more cautious approach to spending, particularly in areas like self-financing, bank account utilization, reliance on project profits, and accessing additional funding.

Hypothesis 3 (H3): Entrepreneurs became unable to save during the crisis:

Hypothesis 3 is accepted. This suggests that the crisis had an adverse effect on entrepreneurs' saving capacity. Responses indicated a shift from an "agree" scale to a "neutral" scale concerning saving behavior post-crisis. Entrepreneurs found it challenging to save money during these trying times.

The study also unveiled the substantial challenges faced by entrepreneurs in Lebanon, as they grapple with a confluence of crises, including economic collapse, the COVID-19 pandemic, the Beirut port explosion, currency devaluation, and political instability. These crises have posed significant obstacles to sustaining their businesses.

VI. Recommendations:

Based on our findings, we propose several recommendations to assist entrepreneurs in managing their financial behavior amidst crises:

- Regularly Review Revenue and Expenses: Businesses should continually assess their costs and revenues to gain a clear understanding of their financial position and make well-informed decisions.
- Evaluate Business Model Sustainability: It's essential to scrutinize the sustainability of the current business model to determine its resilience in the face of market uncertainties.
- Plan for the Future: Planning ahead by budgeting for upcoming months can provide a degree of predictability in an otherwise uncertain environment.
- Embrace Digital Transformation: Businesses should consider transitioning from offline to online activities to boost efficiency, including online banking and digital marketing.
- Diversify Customer Base: Exploring opportunities to diversify products, services, and customer bases can mitigate risk. Partnerships and alliances with competitors can extend market reach.
- Maintain a Financial Cushion: Building a financial cushion is crucial to prepare for unforeseen events. Saving and periodic expense reviews can contribute to financial resilience.
- Ensure Access to Cash: Entrepreneurs should explore various sources of funding to ensure access to cash in challenging times. Options include savings, stock liquidation, or borrowing from family.
- Uphold Quality: While cost management is vital, product or service quality should not be compromised. Maintaining quality while reducing costs is key to retaining customer satisfaction.
- Entrepreneurship Training: Engaging in entrepreneurship training programs can enhance financial knowledge and decision-making skills.
- Consult Experts: Seeking advice from professionals like CPAs, lawyers, and business counselors can provide objective guidance in decision-making processes.

VII. Future Studies:

This research lays the foundation for future studies in this domain. Potential areas of exploration include:

- Long-term Effects: Investigating the long-term impact on entrepreneurial financial behavior and recovery processes after enduring a crisis.

- Government Policies: Evaluating the effectiveness of government policies and support measures in mitigating the impact of crises on entrepreneurs.
- Comparative Analyses: Comparing the financial behavior of entrepreneurs in different regions or countries facing similar or distinct crises.
- Psychological Aspects: Exploring the psychological factors related to financial behavior during crises, including stress levels, decision-making under pressure, and risk tolerance.
- Resilience Factors: Identifying the factors that contribute to the resilience of entrepreneurs during economic downturns.
- Sector-Specific Studies: Conducting sector-specific studies to understand how different industries are affected during crises and the unique challenges they face.

In conclusion, this research provides valuable insights into the financial behavior of entrepreneurs during crises. It underscores the challenges they face and offers recommendations to navigate these difficult times successfully. Given Lebanon's ongoing crises, entrepreneurs play a pivotal role in the country's economic recovery. Future research in this area can provide essential insights to support entrepreneurs and promote economic resilience.