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## GRADUATION DISSERTATION

To obtain an Academic Master degree in Management of Organizations

### Financial literacy's impact on decision-making process:

An exploratory study in Algeria

**Elaborated by:**

Fella Abdi

**Supervised by:**

Dr. Mehdi BOUCHETARA

**Presented before the jury composed of:**

BELAIDI Ali	MCA	President
BOUCHETARA Mehdi	MCA	Supervisor
GAHLAM Nadia	MAB	Examiner

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## Abstract

This study aims to identify the impact of financial literacy on the decision-making process among individuals in Algeria. Quantitative data from 295 participants were collected through an online survey using the snowball-sampling method. Simple linear regression was used to analyze the data and assess the correlation between the key variables: financial education, financial behavior, financial attitude, and decision-making. The results indicate that financial knowledge alone does not significantly affect the decision-making process, but financial attitudes and behaviors were found to have a positive influence. These findings emphasize the importance of considering attitudes and behaviors alongside financial knowledge to improve decision-making abilities.

**Keywords:** Financial literacy, decision-making, financial knowledge, financial attitudes, financial behaviors.

## Résumé

Cette étude vise à identifier l'impact de l'éducation financière sur le processus de prise de décision chez les individus en Algérie. Des données quantitatives ont été collectées auprès de 295 participants via un questionnaire en ligne utilisant la méthode d'échantillonnage boule de neige. Une régression linéaire simple a été utilisée pour analyser les données et évaluer la corrélation entre les variables clés : éducation financière, comportement financier, attitude financière et prise de décision. Les résultats indiquent que la connaissance financière seule n'affecte pas de manière significative la prise de décision, mais les attitudes et comportements financiers ont une influence positive. Ces résultats soulignent l'importance de considérer les attitudes et les comportements parallèlement aux connaissances financières pour améliorer les capacités de prise de décision.

**Mots-clés :** l'éducation financière, prise de décision, connaissances financières, attitudes financières, comportements financiers.

## الملخص

الهدف من هذا العمل هو دراسة أثر التربية المالية على عملية اتخاذ القرار. حيث اعتمدت الدراسة على استبيان لجمع البيانات الكمية لـ 295 فرد بواسطة تقنية العينات الثلجية، كما تم إجراء معالجة للبيانات باستخدام طريقة الارتباط بين المتغيرات الأساسية للدراسة نذكر منها المعرفة المالية، السلوك المالي، التوجهات المالية وعملية اتخاذ القرار. أظهرت النتائج أن المعرفة المالية بدون السلوك والتوجهات المالية لا تؤثر بشكل كبير على عملية اتخاذ القرار. كما، تم العثور على تأثير واضح للتوجهات والسلوكيات المالية على عملية اتخاذ القرار.

**الكلمات المفتاحية:** التربية المالية، اتخاذ القرار، المعرفة المالية، التوجهات المالية، السلوكيات المالية.

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

ANZ Bank: Australia and New Zealand Banking Group

APR: Annual Percentage Rate

ASIC: Australian Securities and Investments Commission

EU: European Union

FDIC: Federal Deposit Insurance Corporation

FFFL: Financial Fitness for Life

GED: General Education Development test

HK: Hong Kong

NFEC: National Financial Educators Council

OECD: Organization for Economic Cooperation and Development

UK: United Kingdom

USAID: United States Agency for International Development

USD: United States dollar

US: United States

# **INTRODUCTION**

## 1. Context & theme interest

Financial literacy is a vital component of personal financial management in the modern economic system (OECD, 2020). It encompasses the ability to comprehend and manage one's financial situation and make informed decisions related to risk management, investments, and financial planning. Extensive research has consistently demonstrated the numerous benefits of financial literacy for individuals, the financial system, the economy, and the community. Tennyson and Nguyen (2018) found a positive correlation between financial literacy and effective debt management, highlighting the importance of understanding debt obligations and making informed borrowing and repayment decisions. Similarly, studies by Kristanto and Gusaptono (2020) and Baihaqqy et al. (2020) emphasize the impact of financial literacy on investment decision-making, regardless of the market context. By prioritizing the enhancement of financial literacy, individuals can effectively manage debt, improve financial outcomes, and make informed investment choices, contributing to their overall financial well-being.

In the context of Africa, financial education has the potential to alleviate the detrimental effects of low financial literacy and enhance welfare programs (Engel Brecht, 2011). By equipping individuals with the necessary knowledge and skills, financial education can effectively address barriers to financial inclusion, thereby empowering consumers to effectively manage their financial resources. A notable example of this can be observed in Algeria, where an examination of financial inclusion trends was conducted using the comprehensive and multidimensional data provided by the Global Findex database 2017 (Asli demirgüç kunt, 2017, pp. 01-10). This database serves as a valuable resource in assessing the current state and progress achieved in expanding universal access to financial services.

According to the Global Findex Database 2017, Algeria experienced a decline in financial account ownership, with a decrease from 50% in 2014 to 43% in 2017. The reasons cited by individuals for not having an account were primarily insufficient funds (36% of respondents), a family member already having an account (21%), and a lack of trust in financial institutions (15%). These findings highlight the crucial role of financial literacy in addressing the barriers to financial inclusion. By improving financial literacy, individuals can enhance their financial management skills, overcome

financial constraints, and develop trust in financial institutions. This, in turn, leads to greater access and utilization of formal financial services.

Moreover, the survey revealed that 29% of adults in Algeria borrowed money. Among the main sources of borrowing, 19% borrowed from family or friends, 5% utilized financial institutions or credit cards, and 3% exclusively borrowed from financial institutions. In contrast, on a global scale, 47% of adults reported borrowing money, with a significant number opting to use credit cards. These findings further emphasize the connection between financial literacy and borrowing behavior. By promoting financial education, individuals can make informed borrowing decisions, effectively manage their debt, and contribute to financial inclusion and economic development.

Despite African countries' policy interest in financial literacy education (Allen & Clarke, 2018), several challenges exist in measuring this construct due to the lack of standardized measurement tools and varying ways of defining financial literacy (Lusardi & Mitchell, 2014). Furthermore, the low school enrollment ratio, the prevalence of informal financial services, and the informal labor market make it difficult to promote financial literacy effectively (Nanziri & Luwangula, 2020). Therefore, policymakers and financial institutions should prioritize financial literacy education, tailored to the African population's needs, using culturally appropriate methods and delivered in local languages (Kizito & Khasakhala, 2020). By addressing these challenges, it is possible to enhance financial literacy and improve financial inclusion in Africa.

To address this issue, researchers from around the world, including Zhu and Chou (2020), have developed and validated measurement tools for financial literacy to address the research gap. One such tool is the Financial Fitness for Life (FFFL) Test, designed specifically for Hong Kong Chinese adolescents. This comprehensive assessment covers various financial literacy domains, including financial concepts, money management, investment, insurance, and credit. The FFFL Test consists of 48 multiple-choice items and takes around 50 minutes to complete. It has been shown to be reliable and valid when administered to a sample of 573 Hong Kong Chinese adolescents, effectively evaluating their financial literacy levels. The development of targeted measurement tools like the FFFL Test can enhance the effectiveness of financial education programs by providing more precise assessments of financial literacy across different demographics. This helps identify areas where individuals may need additional support to improve their financial knowledge and decision-making abilities.

To sum up, the fundamental purpose of this dissertation is to contribute to the literature regarding financial literacy and decision-making by investigating the impact of financial literacy on individuals' decision-making processes in Algeria. The study aims to explore the influence of financial knowledge, behavior, and attitude on the decision-making process, examine the factors that affect financial literacy, and analyze the mediating and moderating effects of various factors on the relationship between financial literacy and decision-making.

## 2. The objective

Our study seeks to identify the impact of financial literacy on the decision-making process. The specific objectives of our research draw upon the findings of [Fisch et al. \(2019\)](#) and [Wang & Hanna \(2021\)](#).

- Examine the correlation between financial knowledge, financial behavior, and decision-making, as well as the relationship between financial attitudes and decision-making.
- Identify the impact of financial literacy on individuals decision-making in relation to personal finances, such as budgeting, saving, and investing.

## 3. Research question:

[Wang](#) and [Hanna \(2021\)](#) conducted a research and reported that financial literacy has a positive effect on financial actions such as budgeting, saving, and investing. These outcomes indicate that financial literacy is a crucial element in making well-informed financial decisions. Previous studies have also established a significant causal connection between financial literacy and the decision-making process.

- To address our objectives and the context presented, we have formulated the following research question:

**What is the impact of financial literacy on the decision-making process?**

## 4. Hypothesis

Based on the literature review, the following hypotheses were formulated to examine the impact of financial literacy on the decision-making process.

### ***The Impact of Financial Knowledge on Decision-Making Process within the Context of Financial Literacy***

Financial knowledge is essential for an individual's financial literacy and decision-making skills ([Robb & Wood yard, 2011](#)). [Van Rooij, Lusardi, and Alessie \(2011\)](#) found a positive correlation between financial knowledge and retirement planning. Individuals with financial knowledge are better prepared for their retirement periods. This connection emphasizes the importance of financial education for improved financial decision-making abilities. Promoting financial knowledge and education can have a significant impact on an individual's financial well-being, as

financially knowledgeable individuals can make informed decisions, plan better, and achieve financial stability.

**H1:** Financial knowledge has a significant positive impact on the decision-making process.

***The Impact of Financial Attitude on Decision-Making Process within the Context of Financial Literacy***

Research suggests that a positive attitude toward finance and money can significantly affect an individual's financial literacy, especially among youth (Shim, Xiao, Barber, & Lyons, 2009; Sohn, Joo, Grable, Lee, & Kim, 2012). A student's attitude towards money can affect their behavior, leading to increased financial knowledge and better financial decision-making. Conversely, a negative attitude towards money can weaken an individual's financial decision-making abilities. Therefore, promoting a positive attitude towards finance and money among youth can contribute to their financial well-being and long-term financial stability.

**H2:** Financial attitude has a significant positive impact on the decision-making process.

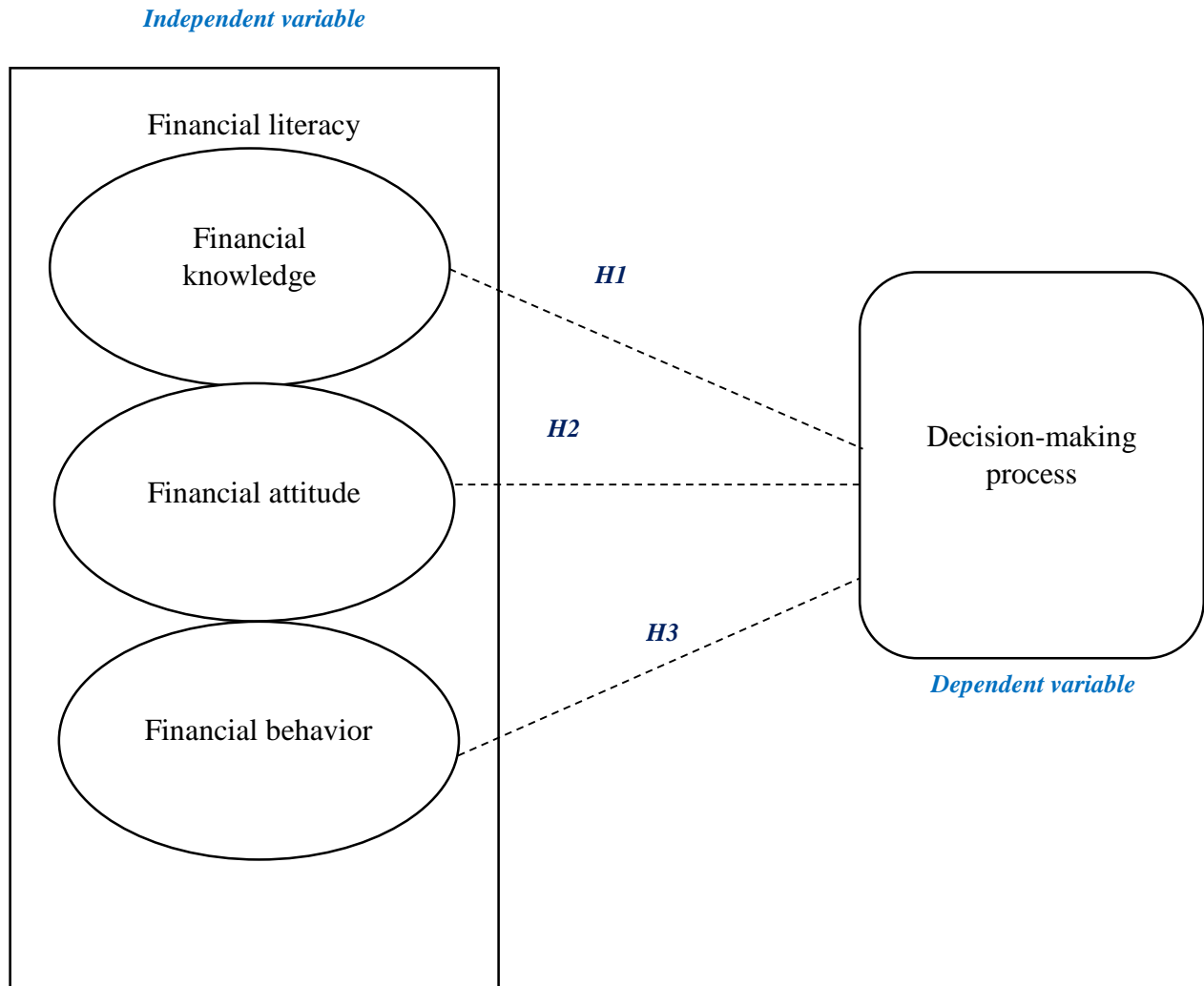
***The Impact of Financial Behavior on Decision-Making Process within the Context of Financial Literacy***

Capuano and Ramsay (2011), Cole and Fernando (2008), Dvorak and Hanley (2010), Jappelli and Padula (2018), and Van Rooij et al. (2011), among others. These studies shows how financial literacy, financial behavior, and decision-making are interconnected. They consistently show that a significant number of individuals lack positive financial behaviors, which often result in unfavorable financial decisions and outcomes.

**H3:** Financial behavior has a significant positive impact on the decision-making process.

- The research model is summarized in **Figure 1**.

**Figure 1: Research model**



Source: Self-developed based on (Kumari, D.A.T 2019)

## 5. Method

This dissertation adopts a post-positivist epistemological posture and employs a hypothetico-deductive reasoning approach. To investigate the research question and test the hypotheses, the study employs a quantitative methodology.

- The tools that can be used in order to investigate the research question are:

Utilizing both documentary research and a survey.

## **6. Research interest:**

The critical role of financial literacy in reaching wise decision outcomes is highlighted in the study that makes a significant contribution to the scientific literature. Financial literacy emphasizes the necessity for individuals to have the required knowledge, attitude, and behavior in financial management and decision-making in order to make decisions that are in line with their goals and objectives.

## **7. Plan announcement**

The structure of this paper is organized as follows:

The Introduction section provides an overview of the research topic, contextualizing its significance, and highlighting the research problem and objectives. Additionally, the Introduction section introduces the research model developed through a review of relevant literature, outlining its primary concepts and components. Moreover, it formulates hypotheses based on the research model that is subsequently tested through an appropriate research methodology.

➤ Subsequently, the paper includes three chapters:

*Chapter I* is comprised of two sections: a Literature Review, which provides an overview of previous research and studies or documentation, and a Conceptual Framework that defines and explains the key elements of each concept examined. Such as "financial literacy," " decision-making, "and "financial planning."

*Chapter II* provides an overview of the methodological framework employed in this study, encompassing a detailed explanation of the selected research methodology, including the chosen methodological approach and the tools employed for data collection.

*Chapter III* provides the outcomes of the empirical investigation, which are subsequently analyzed in connection with the discoveries from the literature review.

The conclusion summarizes the dissertation contents, including the main results and theoretical and managerial contributions of the research, and identifies the limitations of the study and potential areas for future research.

# **CHAPTER 1: THEORETICAL FRAMEWORK**

The first chapter of this paper is divided into two sections. The first section focuses on the literature review, while the second section aims to identify and define all the concepts used in this research.

### **Section 1: Literature review**

Making investment decisions is a crucial process that demands meticulous attention to detail and thoughtful evaluation of various factors before committing to financial resources. It involves a comprehensive analysis of the possible risks and rewards associated with each available option, as well as a deep understanding of the external environment where the investment will operate. Successful investors must have the ability to gather all pertinent information concerning their investments, including economic conditions, market trends, and industry developments to make informed decisions. Therefore, having strong financial literacy level is vital as it equips investors with the tools necessary to understand these factors and make informed choices.

When making investment decisions, investors encounter several challenges that include ambiguity and choice overload. These challenges pose significant risks that financial professionals and private households must manage carefully to prevent potential losses. Thus, financial literacy is an essential skill that encompasses various elements required for individuals to make informed economic decisions and achieve financial well-being. According to [Dewi et al. \(2020\)](#), financial literacy is defined as a process that involves acquiring financial knowledge, awareness, and experience to make informed financial decisions, improve skills, and achieve financial freedom. In contrast, Financial literacy is a combination of knowledge, awareness, skills, attitudes, and behaviors necessary for individuals to make informed financial decisions and achieve financial well-being, which is crucial in this regard ([OECD, 2018](#)).

At a conceptual level, the definition of financial literacy has been a topic of substantial debate, with researchers seeking to develop a comprehensive understanding of the construct. Despite efforts to define financial literacy, there remains a gap in the literature due to its incomplete conceptualization. [Warmath and Zimmerman \(2019\)](#) characterized financial literacy as consisting of financial skill, knowledge, and self-efficacy, and utilized a formative scale development approach to measure the combination of these three indicators in determining an individual's financial literacy. While their study did not establish causality between financial literacy and the aforementioned indicators, their findings did reveal a significant relationship between the level of each indicator and an individual's capacity to make sound financial decisions.

## **1. Financial Literacy: as combination of Knowledge, Attitude, and Behavior**

[Hung and colleagues \(2009\)](#) conducted a review of early studies on financial literacy, examining the measurement methods and topics covered in each study. They discovered that these studies focused solely on financial knowledge questions, which covered topics such as inflation, interest rates, savings and borrowing, risk diversification, insurance, and investments. To address this limitation, [Hung et al. \(2009\)](#) developed a financial literacy model that incorporated financial knowledge, financial skills, perceived knowledge, and financial behavior. The interplay between these variables was identified as financial literacy. This model provided a more comprehensive approach to measuring financial literacy than the previous studies.

According to other research, financial literacy pertains to an individual's knowledge of fundamental mathematical concepts, such as simple and compound interest, risk and return, savings, and diversification, which assists in making informed decisions about financial products and ensuring financial well-being ([Lusardi & Mitchell, 2014](#)). For instance, investors who lack financial literacy are more prone to display unsound investing behavior, such as naive diversification, failure to identify inferior funds, and paying higher fees ([Fisch et al., 2019](#)). According to [the Central bank of Brazil \(2017\)](#), possessing basic financial knowledge can aid consumers in comparing and selecting the most suitable financial products and services for their needs. Furthermore, when combined with arithmetic skills, financial literacy is inclined to enable individuals to independently respond to events that influence their financial well-being.

Financial attitude refers to an individual's predisposition towards financial matters or their ability to plan and maintain a savings account ([Rai, Dua, & Yadav, 2019](#)). Even if an individual possesses sufficient knowledge and ability to act in a certain way, their attitude will influence the decision to act or not ([OECD, 2016](#)). [The central bank of Brazil \(2017\)](#) suggests that financial attitude also encompasses an individual's motivation, confidence in applying financial knowledge, and feeling or intention concerning a financial decision. [Haque and Zulfiqar \(2016\)](#) consider financial attitude as the ability to manage finances, the desire to increase financial knowledge, spending and saving behaviors, and risk-taking attitudes when investing.

Financial behavior refers to an individual's financial application behavior ([Susilowati, Kardiyem, & Latifah, 2020](#)), or the financial-related conduct that can affect an individual's well-being ([Dewi](#)

et al., 2020). Akben-selcuk (2015) identifies an individual's financial behavior aspects as their bill payment punctuality, personal budgeting, and savings for the future.

To sum up, financial literacy encompasses a combination of financial knowledge, attitudes, and behavior that helps individuals make informed financial decisions in their daily life. For students, this entails comprehending straightforward yet complex economic concepts such as interest rates on student loans, the benefits of rebates and splitting payments, and the long-term gains of saving. Financial literacy also encompasses the ability to apply acquired knowledge to real-life financial situations, as it entails a grasp of financial concepts such as compound interest, financial planning, negotiation skills, and optimal financial decision-making (Lusardi & Mitchell, 2014, p. 34).

### **1.1.Determinants of financial literacy among individuals**

According to recent studies by various researchers, financial literacy among individuals is influenced by several determinants. Alzahrani and Alhamed (2021) found that age, education, income, and financial knowledge were significant predictors of financial literacy. Similarly, Azizi, Shateri, and Arizi (2021) identified age, education level, gender, and marital status as significant determinants of financial literacy. Additionally, Kumari and Yadav (2021) found that financial literacy was significantly influenced by age, gender, education, income, and occupation. These findings suggest that financial literacy programs and interventions should target specific demographic groups and take into account these determinants in their design and implementation.

#### **Age**

Lusardi and Mitchell (2007) conducted a study on retirement planning among individuals aged 51-56, using data from the Health and Retirement Study. The study revealed that a considerable proportion of the respondents had not given much thought to retirement planning, and only a small fraction had developed a savings strategy. Subsequent research by Lusardi and Mitchell (2011a, b) highlighted that a significant number of older adults lacked knowledge about their potential Social Security and pension payments, which could impede their retirement wealth. Moreover, Lusardi et al. (2020b, c) found that an increasing number of elderly Americans were carrying debt close to retirement, including high-interest debt, which could affect their ability to plan for retirement.

The evidence suggests that financial illiteracy is prevalent among specific age groups, genders, income levels, and educational levels and even younger individuals are exhibiting signs of inadequate financial knowledge (Lusardi and Mitchell, 2007b, 2008). The consequences of financial illiteracy are substantial, as it can prevent individuals from creating a retirement plan, leading to lower retirement savings, and prevent them from investing in stocks (Vaan Rooij et al., 2007; Kimball and Shumway, 2006; Yoong, 2007). As a result, individuals with limited financial knowledge may be more likely to borrow money at higher interest rates (Lusardi and Tufano, 2009).

On the other hand, the role of age in financial literacy is a topic of varying results. A study by Kharchenko (2011) on the causes of financial literacy in Ukraine and its effects on saving habits found that age did not appear to be a significant factor in explaining the level of financial literacy and awareness in Ukraine. An analysis of data from the National Survey of Financial Literacy and Awareness conducted by USAID in 2010 revealed that individuals aged 20 to 25, 25 to 35, or 45 to 60 had the same likelihood of being financially literate as those aged 35 to 45. This finding contradicts the results of Ansong and Gyensare (2012) and Altintas (2011), which suggested that age is a positive predictor of financial literacy in Ghana and the United States, respectively, and is consistent with the study by Oseifuah et al. (2018) on financial literacy in Ghana. Age and job experience are better indicators of financial literacy among university working students at the University of Cape Coast, Ghana, according to Ansong and Gyensare's (2012) investigation of the factors influencing respondents' financial literacy.

### **Gender**

Recent research has examined the gender gap in financial literacy, which has raised concerns in recent years due to women's increased vulnerability to economic challenges caused by factors such as longer lifespans and less extensive job histories (Xu and Zia, 2012). Chen and Volpe (2002) found that women tend to have lower levels of personal financial knowledge than men, which could potentially harm their financial security and stability. Ansong and Gyensare's (2012) study further revealed that working male students tend to have higher levels of financial literacy than working female students.

More research conducted in Europe and the United States has consistently shown that women tend to have lower levels of financial literacy and confidence compared to men. This disparity could

potentially disadvantage women, especially those who are single or widowed, as they may face greater challenges in making informed financial decisions. A study by [Bucher-Koenen, Lusardi, Alessie, and Van Rooij in 2017](#) found that this gender gap in financial literacy persisted even when socioeconomic status and cultural and institutional factors were taken into account. In addition, the [National Financial Educators Council's 2018](#) report highlights that women worldwide tend to have lower levels of financial literacy than men do. This gap in financial literacy can have negative consequences, such as hindering women's ability to make important financial decisions such as saving for retirement or buying a home. It can also prevent women from being fully involved in financial matters within relationships or effectively managing their finances. Addressing the gaps in financial literacy is crucial to ensuring that vulnerable populations have access to essential information and can make informed financial decisions.

### **Educational background**

According to a study conducted by [Chen and Volpe in 1998](#), individuals who have taken business-related courses have a greater likelihood of being financially knowledgeable. The study evaluated the personal financial literacy of 924 students across 14 American colleges through a questionnaire covering relevant financial literacy topics. Results showed that business majors had a higher level of financial knowledge, with correctly answering 60.72% of the survey questions, while non-business majors only correctly answered 49.94%.

Several studies have demonstrated that business majors tend to have higher levels of financial literacy than those who did not pursue business-related majors. For instance, research conducted by [Ameer and Khan \(2020\)](#), [Karaa and Kuu \(2016\)](#), [Migliavacca \(2019\)](#), [Nikonova et al. \(2018\)](#), [SARIGÜL \(2014\)](#), and [Yew et al. \(2017\)](#), have all found that business majors tend to have higher levels of financial literacy. Similarly, investigations by [Beal, Delpachitra in 2003](#), [Ansong](#), and [Gyensare in 2012](#) also support this conclusion.

Furthermore, those with higher levels of financial knowledge are more willing to invest in stocks, according to studies conducted by [Van Rooij et al. \(2011\)](#), [Bucher-Koenen et al. \(2017\)](#), and [Sabri \(2016\)](#). Moreover, higher financial understanding is associated with more accurate investment decisions, as demonstrated in research by [Kalsum et al. \(2018\)](#). Financial literacy also influences the quality of life by shaping individuals' understanding of budgeting, savings, debt, and investing, according to [Frazier \(2019\)](#). Conversely, a lack of financial literacy can result in poor decision-

making and increase the risk of falling victim to investment fraud, as indicated by [Gui et al. \(2020\)](#), [Aung and Mon \(2020\)](#), and [Venkataraman and Venkatesan \(2018\)](#). Therefore, the level of financial literacy is significantly influenced by one's educational background, with courses in business, economics, finance, and accounting identified as solid starting points.

### **Islamic teaching and financial literacy**

Islamic financial literacy, as defined by [Falevy et al. \(2022\)](#), refers to the skills and knowledge necessary to manage financial resources based on Islamic Sharia principles. [Soderlund and Eriksson \(2020\)](#), suggest that knowledge plays a vital role in encouraging savings, and [Lusardi \(2008\)](#), who notes that a lack of financial knowledge can affect loans and investments, highlights the importance of financial literacy. [Lusardi \(2014\)](#) further emphasizes the importance of financial literacy in decision-making, particularly in consumption decisions. Studies by [Munardi et al. \(2020\)](#), [Falevy et al. \(2022\)](#), [Thohari and Hakim \(2021\)](#), [Anindya and Hakim \(2021\)](#), [Fauzi and Murniawaty \(2020\)](#), and [Candera et al. \(2020\)](#) show that Islamic financial literacy has a positive impact on financial decision-making, including the use of Islamic banking services and interest in saving in Islamic banking.

### **Income**

Recent studies by [Lee and Hanna \(2021\)](#) highlighted the positive impact of financial education on financial literacy and the role of income in determining financial knowledge and decision-making. Higher-income individuals can access greater financial resources, providing them with more opportunities to invest and save for retirement, thereby contributing to higher levels of financial literacy. This finding underscores the importance of promoting financial literacy to individuals across all income levels, especially those with limited financial resources. As a result, income disparities have a significant impact on financial knowledge, as low-income individuals often have poor financial literacy skills, which can lead to negative financial outcomes.

Consistent with previous research, Individuals with lower incomes are not as likely to possess adequate financial knowledge, which may lower their ability to save money, as per research conducted by [Mauldin et al. \(2016\)](#). Additionally, according to [Birkenmaier \(2012\)](#), low-income individuals are less likely to have bank accounts or participate in retirement savings plans, and they may be more vulnerable to borrowing from high-cost lenders, which could lead to poor

borrowing practices and excessive indebtedness (Davies et al., 2019). Therefore, improving the financial literacy of low-income adults could have a beneficial impact on the overall economy, as stated by Neuberger et al. (2006), Schaffer and Mohs (2016).

### **Geographic location**

Various studies have identified geographic location as a crucial factor in determining financial literacy. Clark (2014) asserts that financial literacy is affected by where individuals live. For example, Peng et al. (2018) found that southern regions in Italy tend to have lower levels of financial knowledge than their northern counterparts. Similarly, eastern and southern US states have lower levels of financial literacy compared to the northern states. Rural and urban areas in Russia also show disparities in financial literacy, with urban dwellers acquiring financial knowledge through peer interaction.

Klapper & Panos (2011) and Bottazzi & Lusardi (2021) discovered that individuals from rural areas or small towns face challenges accessing financial education and resources due to a lack of financial institutions and educational programs. However, rural areas often have unique financial challenges, such as income fluctuations from seasonal or agricultural work, which require specialized financial knowledge. To overcome these challenges, it is necessary to increase financial education and resources in rural areas to enable individuals to make informed financial decisions and improve their financial wellness.

In addition, Cole and Shastry (2019) propose mobile banking as an effective tool for improving financial literacy and inclusion in rural areas. By providing access to basic financial services through mobile devices, individuals in rural areas can enhance their financial knowledge and skills. Chen and Volpe (2018) also found that financial education programs specifically designed for rural populations could improve financial literacy. These programs may involve workshops, online resources, and one-on-one counseling to help individuals better understand financial concepts and make informed financial decisions.

### **Parent's level of education**

Further research supports the notion that parental education level plays a crucial role in determining a child's financial literacy. For instance, a study by von Gaudecker et al. (2021) found that individuals whose parents had higher levels of education were more likely to have better

financial literacy skills. The study also suggested that the effects of parental education on financial literacy were transmitted through a variety of mechanisms, including increased access to financial resources and opportunities.

Another study by [van Rooij et al. \(2020\)](#) showed that parents' education level was associated with children's financial literacy, even after controlling for household income and other factors. The study found that parents with higher education levels were more likely to engage in financial discussions with their children, which led to better financial literacy outcomes for their children. Furthermore, a study by [Behrman et al. \(2020\)](#) indicated that the educational attainment of parents was a key determinant of financial literacy among young adults in low- and middle-income countries. The study found that individuals whose parents had higher levels of education were more likely to have better financial literacy skills, even after controlling for income and other factors. These findings emphasize the importance of providing financial education and resources to individuals and families from all socioeconomic backgrounds. By increasing access to financial education and resources, individuals and families can build their financial knowledge and skills, leading to improved financial outcomes and a more secure financial future, regardless of their parent's education level.

### **Financial Experience**

Financial experience is considered a crucial determinant of financial literacy, as demonstrated by research conducted by [Sohn et al. \(2012\)](#) and [Teeni-Harari \(2016\)](#). Individuals who demonstrate financial prudence are more likely to gain financial knowledge. For instance, those with a bank account or those receiving an allowance, regardless of their age, tend to be more financially literate. By accessing financial services, products, and policies through real financial experiences, they develop cognitive skills and enhance their financial knowledge.

[Sohn et al. \(2012\)](#) argue that young people who actively participate in financial activities, such as managing their pocket money or opening a bank account, are more likely to develop saving habits in adulthood. Childhood experiences, such as family financial incidents, also play a critical role in shaping financial literacy and behavior in adulthood ([Grohmann, Kouwenberg, & Menkhoff, 2015](#)). Moreover, [Cameron et al. \(2014\)](#) found that possessing an ATM card and a bank account during school years could enhance financial literacy, whereas owning a credit card as a student may decrease financial literacy. [Skagerlund et al. \(2018\)](#) suggest that decision-making

performance in finance is influenced by factors such as numeracy, confidence or self-efficacy, and deliberation.

## **1.2. Financial literacy in Africa**

According to recent studies, financial literacy in Africa continues to be a significant challenge, as there is a lack of basic financial knowledge among the population leading to low financial inclusion rates, limited access to financial services, and increased vulnerability to financial risks (Demirguc-Kunt et al., 2018; Dabla-Norris et al., 2015). In Sub-Saharan Africa, only 34% of adults have a formal financial institution account, and only 7% have borrowed from such an institution in the past year. The majority of the population relies on informal financial services, which often have high costs, limited transparency, and greater financial risks.

To tackle these challenges, many African countries have expressed interest in promoting financial literacy education at the national policy level. Financial education, defined by the OECD as the process by which financial consumers/investors improve their understanding of financial products and concepts, can help people develop the skills and confidence to become more aware of financial risks and opportunities, make informed choices, and take effective actions to improve their financial well-being (OECD, 2005). Financial education has the potential to reduce the repercussions of low financial literacy, improve other welfare improvement programs (Engelbrecht, 2011; Messy and Monticone, 2012), reduce demand-side barriers to financial inclusion, empower consumers to better manage their resources, and is relevant for small-scale entrepreneurial activities that often constitute an important source of revenues for poor households. Improved financial literacy can also potentially strengthen the efficiency of financial markets.

Various stakeholders can play a role in promoting financial literacy education in Africa. The government has a leading role in setting financial literacy policy and strategy, organizing and coordinating other stakeholders for efficient and effective financial education at the national level (Mandelson, 2012/13). Similarly, the Ministry of Education and Schools, The Media, Information and Communication Technology sector can also play a vital role in promoting financial education in developing countries.

Recent research, including survey-based and experimental studies, shows evidence supporting the growing interest in promoting financial education. The case of India and South Africa is frequently

cited in literature, and the analysis of these cases can serve as a lesson for other developing countries in Africa (Xu and Zia, 2012).

South Africa is a leading country in promoting financial literacy education in Africa. The country's National Treasury and Reserve Bank have recognized the importance of financial education and implemented policies and strategies to promote it (Wickramasekara, 2014). In 2011, the National Treasury launched a National Strategy for Financial Literacy, which aims to empower South Africans with the necessary skills and knowledge to make informed financial decisions. The strategy includes initiatives such as the Financial Literacy Awareness Campaign, which aims to increase awareness about financial literacy among South Africans, and the Financial Literacy Train-the-Trainer Program, which equips trainers with the skills and knowledge to teach financial literacy in their communities (National Treasury, 2011).

Furthermore, the South African Reserve Bank has established the Centre for Financial Regulation and Inclusion, which focuses on promoting financial inclusion and education in the country. The center has developed a Financial Literacy Framework for South Africa, which provides guidance on the development and implementation of financial literacy programs (South African Reserve Bank, n.d.).

### **1.3.The Impact of Global Benchmarks on financial literacy Systems Worldwide**

The previous research on financial literacy across countries and groups of individuals has been mainly descriptive, with few studies attempting to explain the variations in financial literacy levels across countries. Descriptive studies have shown that there are substantial differences in financial literacy across the world and in European countries. Only a handful of studies have attempted to provide explanations for these differences, such as Jappelli's (2010) study which analyzes the relationship between macroeconomic contextual variables and economic literacy, Ahunov and Van hove's (2020) work which identifies national culture as a determinant of financial literacy at the country level. However, Jappelli's study is criticized for using the economic literacy of interviewed business leaders as a proxy for the level of economic literacy of the particular country, which could result in a biased picture. Therefore, Governments employ benchmarks to develop financial literacy as a means of establishing clear, measurable objectives for their financial education initiatives. These benchmarks provide a standard against which progress can be monitored, evaluated, and adjusted as necessary.

Since 2005, the Australian Government has been taking steps to improve financial literacy, with the Australian Securities and Investments Commission (ASIC) assuming responsibility in 2008. The most recent financial literacy strategy was updated in 2020 to focus on "financial capability," helping consumers manage money, make informed decisions, and plan. The ASIC runs two websites, Money Smart, and Money Smart Teaching, while financial literacy is also integrated into the curriculum. Australian banks are heavily involved in financial literacy programs, and there are programs combining adult education with microfinance loans or savings programs. Financial literacy surveys are conducted by ANZ Bank and the Commonwealth Bank, although criticism has been raised regarding their simplicity and limited questioning.

The UK has a national financial literacy strategy focused on building individuals' financial skills, knowledge, attitudes, and motivation, with a particular emphasis on children and working-age populations. The strategy does not set specific target measures for success but plans to measure success via the National Financial Capability Survey over time. The Money Advice Service will serve as a "What Works Centre" to help increase evidence regarding successful interventions. Financial education is part of the curriculum in secondary schools, but only about a third of 15- to 18-year-olds reported having received financial education over the past year in school. The strategy has some interesting ideas for embedding financial education into the County Court system for those in financial crisis. Partner organizations include government institutions, regulators, research institutions, nonprofits, trade associations, and financial firms.

Overall, Canada has made efforts to improve financial literacy through the creation of a Task Force, inclusion in provincial curricula, and the establishment of a National Strategy for Financial Literacy. However, there are criticisms that the focus is on personal responsibility to the exclusion of discussing structural issues that may contribute to financial inequities. Libraries are not specifically mentioned in the strategy, but the government has taken steps to enhance consumer protection and simplify disclosures for financial products. Demographically, there is a growing immigrant population with great financial literacy needs and relatively low levels of literacy, and Aboriginal populations may face unique financial exclusion issues. Statistics Canada runs a nationally representative survey to help discuss financial literacy rates among different demographics.

It notes that there is no direct translation of "financial literacy" in German and that personal financial education is not part of the curricula in schools. Economics education is either infused with other subjects or taught as a stand-alone topic, and many teachers who teach economics did not train in this area. The German pension system has faced challenges, and German households have traditionally relied heavily on savings deposits rather than equity investments for asset accumulation. Former East Germans have been found to be less financially literate than former West Germans, possibly due to a lack of experience with financial tools or a preference for cash savings due to distrust in banks. The German government has focused more on regulating the retail financial markets than on traditional financial education initiatives. Banks are required to ask clients about their investment experience before advising on risky products, and financial advisors are required to assess the risk propensity of their clients before giving advice.

#### **1.4. Financial literacy and decision-making process**

Financial literacy is essential in making informed investment decisions. Studies have shown that financial education is a key factor in financial decision-making, providing individuals with the knowledge and skills needed to manage their investments effectively (Hikmah et al., 2020). The ability to make sound financial choices is closely linked to the level of financial literacy, and a lack of financial knowledge can result in poor investment outcomes. Investors who lack financial literacy may struggle to identify the best investment options, resulting in potential losses. As such, promoting financial education and increasing access to financial resources can help individuals make informed investment decisions and improve their overall financial well-being.

Several studies have explored the association between financial literacy and household financial decision-making, specifically regarding budgeting, saving, borrowing, and investing. These studies aimed to determine whether higher levels of financial literacy lead to better financial decisions at the household level. For example, a U.S.-based study by Chen and Volpe (1998) among college students revealed that respondents with less knowledge of financial matters tend to hold incorrect opinions and make erroneous decisions regarding savings, borrowing, and investments. Similarly, Bernasek and Bajtelsmit's (2002) found that women's participation in household financial decisions increased with their share of household income and formal financial education. In a study by Bernheim and Garrett (2003), the impact of employer-based financial

education on personal savings was investigated in the United States, and it was found that such education stimulated savings both for retirement and general purposes.

[Mandell and Hanson's \(2009\)](#) research suggests that high school and college courses on money management can improve financial behavior in areas such as credit card payment, debt management, bill payment, and savings. [Abreu and Mendes \(2010\)](#) conducted a survey of Portuguese investors and found that their level of education, financial knowledge, and sources of information about financial products had a significant impact on their investment portfolios. [Lusardi and Mitchell \(2011\)](#) found that individuals with higher levels of financial literacy were more likely to plan for retirement, increasing their preparedness for old age. [Fornero and Monticone's \(2011\)](#) study in Italy found that financial literacy increased the likelihood of participating in a pension fund, even after controlling for potential indigeneity. [Sekita \(2011\)](#) found in Japan that financial literacy increased the likelihood of having a retirement savings plan. However, [Crossan et al. \(2011\)](#) found that in New Zealand, where there is a universal public pension system, financial literacy was not significantly associated with retirement planning.

The decision-making process for investments is influenced by cognitive, psychological, social, and behavioral factors, according to [Kristanto and Gusaptono \(2020\)](#). They found that financial behavior, awareness, knowledge, and attitudes all have a favorable impact on investing decisions in their study of Indonesian Sharia Bank customers. [Baihaqqy et al. \(2020\)](#), who discovered that financial literacy influences investment choices both in developed and emerging market nations, including Indonesia, made similar findings. Regardless of the market environment, these findings emphasize the value of financial literacy in making wise investing decisions.

studies conducted by [Klapper and Panos \(2011\)](#), [Almenberg and Säve-Söderbergh \(2011\)](#), [Bucher-Koenen and Lusardi \(2011\)](#), [Arrondel et al. \(2013\)](#), [Agnew et al. \(2012\)](#), [Thilakam \(2012\)](#), [Behrman et al. \(2012\)](#), [Van Rooij et al. \(2012\)](#), and [Beckmann \(2013\)](#) have shown that financial literacy is significantly related to these aspects of personal finance. Furthermore, research conducted by [Tennyson and Nguyen \(2018\)](#), [Kristanto and Gusaptono \(2020\)](#), [Baihaqqy et al. \(2020\)](#), and others has demonstrated the importance of financial literacy in managing debt, making informed investment decisions, and improving financial outcomes.

The evidence strongly suggests that individuals with higher levels of financial literacy tend to make better financial decisions, have greater success with their investments, manage their debt more effectively, plan better for retirement, and make more informed decisions about financial products. Conversely, those with lower levels of financial literacy tend to be more cautious when selecting investments, may struggle with managing their debts effectively, could experience financial distress and adverse outcomes such as defaults, bankruptcy, and reduced access to credit.

Promoting financial education and literacy programs is therefore crucial in enhancing the financial well-being of individuals and reducing the negative impact of financial illiteracy on their lives. These programs should be accessible to people from all socio-economic backgrounds, including children, young adults, and adults, to ensure everyone has the opportunity to develop and improve their financial literacy skills.

## Section 2: Conceptual Framework

In this section, the central concepts mobilized in this research will be presented.

### 1. Financial Literacy Notion

Financial literacy refers to the understanding of money, as defined by the National Financial Educators Council, and represents only one aspect of overall financial well-being. However, making a meaningful difference in people's lives regarding finances involves more than just financial literacy. It requires attention to one's behaviors, systems, emotions, and the ability to make regular adjustments based on results.

In 2020, the [OECD](#) provided a more concise definition of financial literacy, which differed from those provided in 2005 and 2014. According to one definition, financial literacy is the set of awareness, information, skills, attitudes, and behaviors required to make wise financial decisions and achieve personal financial well-being. **Table 01** presents data regarding the importance and evolution of this definition over the years.

**Table 1:** Financial literacy evolution.

<i>1787-1990</i>	<b>Money management, Initial research with college and high school students..</b>
	Financial education = Financial knowledge
<i>2000- Crisis 2008</i>	Financial education = Mathematical ability
	Boom in behavioral economics, Financial education = Knowledge + Financial Behavior
<i>Crisis 2008- 2013</i>	<ul style="list-style-type: none"> <li>• Studies reflect that the term is ill defined.</li> <li>• Difficulties in finding indicators to measure financial education.</li> <li>• Adding fresh variables to the definition:               <ol style="list-style-type: none"> <li>1. Experience and competence</li> <li>2. Financial wellness</li> <li>3. Conscience and attitude</li> <li>4. Subjective dimension</li> </ol> </li> </ul>
<i>2014-2021</i>	Financial education is studied as a disciplinary competence.

Source: (Muñoz-céspedes, E., Ibar-Alonso, R., & de Lorenzo ro, S 2021)

- The earlier definitions emphasize the significance of finance and the results that stem from being financially literate:

**Financial inclusion:** refers to the effort to provide access to financial services and products, such as credit, savings, insurance, and payment services, to individuals and communities who have been excluded from the formal financial sector. This is done to promote inclusive economic growth, reduce poverty, and increase income distribution and financial system stability (Collard, 2010; Pearce, 2011; Sharma, 2016; Bank Indonesia, 2014).

**Financial Resilience:** refers to the ability of individuals or households to cope with unexpected financial shocks or disruptions, such as job loss, illness, or natural disasters (Daly & Helge son, 2018; Lusardi, Michaud, Mitchell, & van Rooij, 2017).

**Financial well-being:** refers to a state where an individual can adequately meet their current and future financial obligations, feel confident about their financial future, enjoy their life without undue financial stress, and have the ability to cope with unforeseen financial expenses (Prendergast et al., 2018).

**Financial skills:** These refer to the ability to apply financial knowledge in practical situations. This encompasses a range of competencies, such as numerical proficiency, developing financial plans for individuals and households, and effectively managing personal financial risks. The mastery of this skill involves being knowledgeable about personal income and expenses and making decisions that optimize personal well-being. It is closely linked to financial literacy, which involves a broader understanding of financial concepts and principles.

### **1.1. Difference between financial literacy, education, and financial capability**

#### **▪ Financial education**

The OECD defines financial education as a method through which financial consumers and investors can enhance their comprehension of financial concepts and products. This process involves providing them with information, guidance, and unbiased advice, to cultivate their skills and boost their confidence, so that they can be more conscious of financial risks and opportunities. This education also enables them to make informed decisions, identify appropriate sources of assistance, and undertake effective measures to improve their financial well-being.

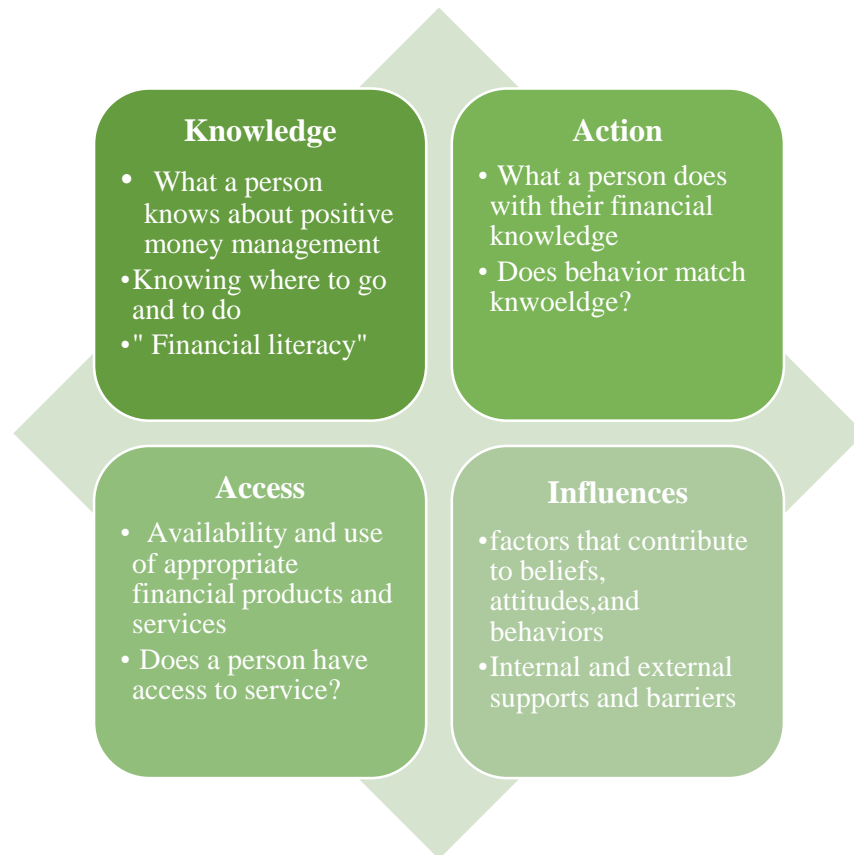
- **Financial literacy**

This refers to the degree of proficiency in comprehending and managing personal finances. It typically involves being informed and knowledgeable about important financial principles needed for effectively managing one's finances and is generally considered a more specific concept than financial capability.

- **Financial capability**

The World Bank defines it as the individual's ability to act in their best financial interest, taking into account the prevailing socioeconomic and environmental conditions. Financial capability includes consumers' knowledge (financial literacy), attitudes, skills, and behaviors related to comprehending, selecting, and utilizing financial services, and the capacity to access services that meet their requirements.

**Figure 2:** Financial Capability diagram



Source: (Muñoz-céspedes, E., Ibar-Alonso, R., & de Lorenzo ro, S 2021)

## **1.2.Components of Financial literacy**

The Financial Literacy and Education Commission outlines five essential components of financial literacy, which include earning, spending, saving and investing, borrowing, and safeguarding.

- ***Earn***

The process of obtaining income in exchange for performing work or providing a service. This can involve a variety of activities, such as working for an employer, running a business, freelancing, or investing in stocks or other financial assets. In general, earning money is a key aspect of achieving financial stability and independence, as it allows individuals to support themselves and their families, save for the future, and pursue their goals and aspirations.

- ***Spend***

The act of using money to purchase goods or services.

- ***Save & Invest***

Saving refers to the act of setting aside money for future use, while investing involves putting money into financial vehicles with the goal of generating a return or increasing wealth over time. Both saving and investing are important skills for achieving financial stability and long-term goals such as retirement.

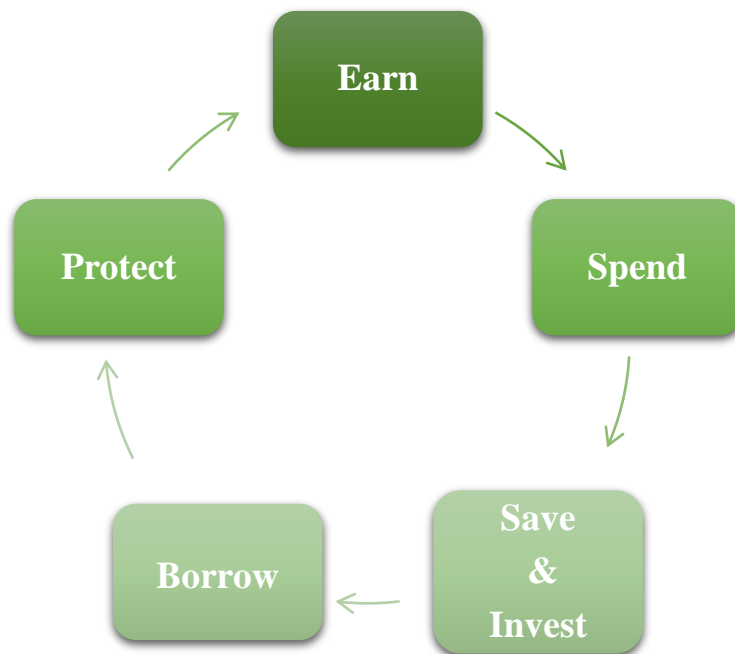
- ***Borrow***

It refers to obtaining funds from a lender with the promise of paying it back in the future, usually with interest. It is a key component of personal finance and can be used to finance large purchases or investments that would be difficult to make with available funds. Effective borrowing involves understanding the terms and conditions of the loan, including interest rates, fees, repayment periods, and consequences of default. It is important to borrow responsibly and only when necessary to avoid overextending oneself financially.

- ***Protect***

The act of safeguarding one's financial resources and minimizing the risk of financial loss.

**Figure 3:** the Five Key Components of Financial Literacy



Source: (<https://www.mymoney.gov> )

### **1.3.Barriers and Strategies for Improving Financial Literacy**

In its 2022 report on the evaluation of national strategies for financial literacy, the Organization for Economic Co-operation and Development (OECD) delineated the obstacles that impede financial literacy and presented approaches to enhance financial literacy.

#### ➤ **Obstacles**

- Limited availability of cross-country evidence.
- Relatively uncommon explicit mandates with earmarked resources to conduct financial education policies.
- Only a few national financial education strategies have been evaluated.
- Lack of access to financial education.
- Complexity of financial information.
- Limited financial resources.
- Cultural and language barriers.

➤ **Strategies to enhance financial literacy**

- Conduct measurement and mapping exercises to gather additional evidence and identify valuable resources and programs.
- Establish clear mandates and governance structures to design and implement sustainable national strategies that can achieve behavioral changes.
- Set and achieve objectives, evaluate progress, and fund the national strategy with a combination of public and private resources.
- Develop evidence-based national strategies using a variety of sources, including financial literacy measurement results, academic research, and input from stakeholders.
- Assess and monitor national strategies using a variety of quantitative and qualitative data.

**2. Decision-making notion**

"The word 'decides' refers to making a decision or resolution regarding what one is supposed to do at a later time. It is a solution chosen after examining several alternatives because the decider anticipates that the course of action he selects will do more than the others to further his goals and will be accompanied by the fewest possible objectionable consequences.

Decision-making is the cognitive process of selecting a solution among the available alternatives to solve a problem or seize an opportunity, as defined by [Chuck Williams](#). It involves identifying and analyzing existing problems and opportunities, and then making a choice based on rational criteria to achieve the best possible outcome, according to [L. R. Gomez-Mejia](#) and [D. B. Balkin](#). [D. Verma](#) emphasizes that decision-making is an intellectual process that requires evaluating and comparing multiple options to determine the most effective course of action. [A. M. Shahsavarani](#) and [E. A. M. Abadi](#) describe decision making as a problem-solving process that can be influenced by both logical reasoning and emotional factors, and it concludes when a satisfactory solution is reached based on implicit or explicit assumptions.

**2.1.Purpose of Decision Making**

To make effective decisions, it is important to have clear goals in mind. According to [M.T. Ahmed](#) and [H. Omotunde](#), there are four main purposes of decision-making:

**Creating optimal results:** This involves choosing the best option among several alternatives, taking into account factors such as the importance of the problem, time constraints, available resources, and the decision maker's state of mind.

**Creating satisfactory results:** This strategy involves selecting the first option that is satisfactory, rather than seeking the best possible outcome.

**Maximizing the best outcome:** This approach involves selecting the option that maximizes the best possible result, such as choosing the alternative that yields the maximum profit.

**Minimizing the worst outcome:** This approach involves considering the worst possible outcome of each alternative and choosing the one with the highest minimum result, which is useful in situations where failure is intolerable.

## **2.2.The decision-making process's influencing factors**

When making decisions, various factors can have an impact. [J. Nightingale](#) identified four main categories of these factors.

- ✓ **Rational factors:** These are quantitative considerations like price, time, and forecasts.
- ✓ **Psychological factors:** This includes abilities, experiences, perceptions, values, goals, and roles.
- ✓ **Social factors:** The agreement of influential individuals can help reduce resistance to a decision.
- ✓ **Cultural factors:** Regional, state, natural, and organizational cultures can all affect socially acceptable values, trends, and beliefs.

## **2.3.Techniques or Tools Used In Making Good Decisions**

[M.T. Ahmed](#) and [H. Omotunde](#) propose that there are ways to make good decisions, as well as bad ones. To increase the probability of a favorable outcome, they suggest using specific techniques and tools. Such as:

- ✓ **Decision tree:** It is a valuable tool for making decisions because it is visually easy to understand. Each decision node within the tree presents an alternative, and the evaluation process takes place at each node.
- ✓ **PMI technique:** The PMI technique is an advancement on the traditional pros and cons approach, and it evaluates options by creating a table with three columns. The first column

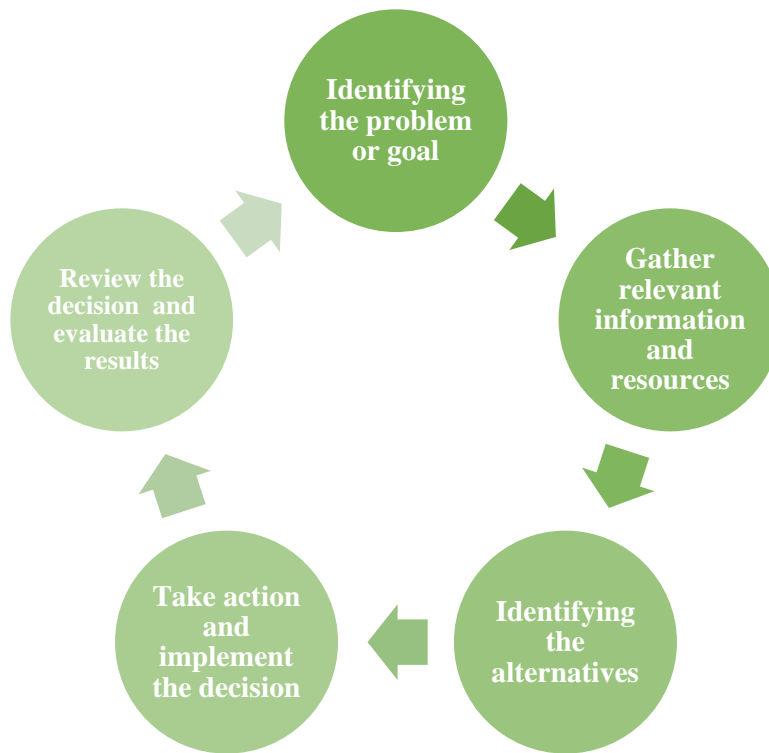
assesses the positive effects of alternatives, while the second and third columns evaluate negative effects and other potential events, respectively. These effects can be evaluated subjectively, similar to a SWOT analysis.

- ✓ **Consultation:** It is a frequently used method for evaluation. It involves seeking advice and input from appropriate individuals and asking relevant questions.
- ✓ **Experience:** It can be a valuable tool in making decisions, as past events and experiences can inform our evaluation. However, it is important to analyze the current situation carefully, as changes in circumstances can lead to different outcomes.
- ✓ **Cost-Benefit Analysis:** It involves a structured approach to determine the monetary value of the benefits and costs of a project. However, a drawback of this method is that it tends to prioritize the monetary value over other potential risks or benefits associated with the project.
- ✓ **Simulation:** It is not limited to decision-making as it serves a broader purpose such as improving performance, ensuring safety, testing and educating. This scientific technique involves mimicking real-world processes. Simulation is crucial as it allows for testing in situations where previous knowledge and experience is unavailable. However, the disadvantage is that it demands experts and users may depend too heavily on the results because they seem authentic.
- ✓ **Linear Programming:** A versatile technique finds application in multiple areas of study. While it is predominantly used in business and economics, it can also be used to solve certain engineering problems. This mathematical tool is primarily used to identify the best outcome that results in either maximum profit or minimum cost.

#### **2.4. Decision-making process**

The decision-making process is consistent in its general framework, even though there are various approaches and phases described in the literature. [Katarzyna Koziol-Nadolna](#) and [Karolina Beyer](#) defined a model of the decision-making process based on the literature, which involves a series of steps.

**Figure 4:** A framework for the process of making decisions.



Source: (Katarzyna koziol-nadolna and Karolina Beyer 2021)

- **Step 01:** it is crucial to identify the problem or goal that requires a decision to be made.
- **Step 02:** Once the problem is identified, the next step is to gather all the relevant information and resources required to make an informed decision. This includes assessing any constraints or limitations that may affect the decision-making process.
- **Step 03:** various alternatives or solutions to the identified problem are evaluated, considering the potential consequences of each option.
- **Step 04:** After evaluating the alternatives, the chosen solution is implemented and put into action.
- **Step 05:** the results of the decision are reviewed and evaluated to determine if the initial problem has been resolved. If not, it may be necessary to repeat certain steps of the process to arrive at a new decision.

## **2.5.The Influence of different alternatives on Decision Making**

### **✓ *Environmental Effects on Decision-Making***

Experience can affect decision-making, with the various dimensions or indicators of the environment - such as group level, promotion, and devotion - affecting decision-making indicators, as noted by [Salmida \(2018\)](#). Additionally, the work environment can influence career planning and motivation, with better work environments correlating to improved employee performance, according to [Ismail \(2021\)](#). The environment also influences decision-making among Indonesian people, who tend to enjoy gathering with friends for various events. To enhance competition and cultivate a positive community image, companies may benefit from organizing activities that directly interact with the local district to attract attention to their products. Several previous studies, including those by [Hasanah \(2014\)](#), [Dudi \(2021\)](#), and [Sudaryana \(2021\)](#), have explored the connection between the environment and decision-making.

### **✓ *The Effect of Experience on Decision Making***

[Linda \(2021\)](#) suggests that experience can affect decision-making and can be measured by indicators such as length of service, level of knowledge, possessed skills, and mastery of work or equipment. To gain work experience, individuals can participate in education, task execution, information media, seminars, upgrading, association, and observation. Having work experience can enhance confidence in job performance and increase authority to influence others to work according to their wishes. Previous studies conducted by [Njongu \(2017\)](#), [Aristanti \(2018\)](#), and [Linda \(2021\)](#) also support the idea that experience plays a role in decision-making.

### **✓ *Effect of Skill on Decision Making***

According to [Ismail \(2021\)](#), [Bernadine](#) and [Russell](#) suggest that knowledge, abilities, and skills are crucial criteria that must be considered when placing employees. [Linda \(2021\)](#) identifies five dimensions of skills that individuals must possess in detail, which are task skills, task management skills, contingency management skills, job role environment skills, and transfer skills. [Spencer \(2021\)](#) states that five indicators form skills: motives, traits, self-concept, knowledge, and abilities. As [Linda \(2021\)](#) and [Ismail \(2021\)](#) note, skills play a significant role in decision-making, which is consistent with previous research.

## **CHAPTER 2: METHOD AND DATA**

In this chapter, we present the methodology employed in this study in the first section, followed by a comprehensive explanation of the data and tools utilized for conducting the research in the second half.

## **Section 1: Method**

The objective of this section is to provide a detailed overview of the research methodology adopted in order to accomplish the study's objectives.

### **1. Epistemological posture**

Epistemology is a philosophical field that focuses on the examination of knowledge, belief, and justification. It investigates inquiries such as the definition of knowledge, how it is gained, and whether it is feasible for humans to acquire knowledge of the world. Moreover, Epistemology tackles topics related to skepticism, truth, validation, and the constraints of knowledge. Its main objective is to establish the basis of science and scrutinize the qualities, range, and credibility of assertions about knowledge.

However, another way to conceive of epistemology is a branch of philosophy that seeks to establish the fundamental principles of scientific inquiry (Thietart, 2014). Piaget (1967, p. 6 as cited in Thietart, 2014) defined it as the examination of the creation of legitimate knowledge. An epistemological paradigm is a set of assumptions about the subject matter of epistemology, such as what constitutes knowledge, what knowledge is, and how it is formed (Gavard-Perret, Gotteland, Haon, & Jolibert, 2008). There are two primary epistemological paradigms: positivist/post-positivist and constructivist (Gavard-Perret et al., 2008).

Gavard-Perret et al. (2008) identified two types of epistemological paradigms: positivist/post-positivist and constructivist. In this particular study, the researcher has adopted a post-positivist epistemological paradigm due to their stance towards the research object.

According to Phillips and Burbules (2000), the post-positivist paradigm challenges the idea of absolute truth in knowledge and recognizes that claims about human behavior and actions cannot be completely certain. Post positivists hold a deterministic philosophy where causes determine outcomes, and thus, they focus on identifying and assessing the causes that influence outcomes, particularly in experimental settings (Guba & Lincoln, 1994; Creswell, 2009). The roots of the

post-positivist tradition lie in the works of 19th-century writers like Comte, Mill, Durkheim, Newton, and Locke, as well as more recent authors like Phillips and Burbules (Smith, 1983).

To investigate the behavior and create knowledge based on thorough observation and measurement of the objective reality that exists in the world, post-positivists utilize numerical measures of observations. To test hypotheses and research questions, post-positivists must condense complex ideas into a limited, discrete set of variables. Finally yet importantly, post-positivists hold that laws or theories, which must be put to the test, confirmed, and improved to have a greater understanding of the universe, govern the world. As a result, post-positivist researchers employ the scientific method, beginning with a hypothesis, gathering evidence to support or contradict it, and then modifying their theories as needed through additional study (Guba & Lincoln, 1994; Creswell, 2009).

### **1.1. Research reasoning**

Post-positivists employ the hypothetical-deductive reasoning approach and recognize the possibility of error in research. They consider research outcomes and conclusions to be tentative until they are contradicted. Bouyzem and Al Meriouh (2017), who cite Riccucci's work in 2010, support this perspective.

The hypothetical-deductive approach is a research methodology that involves testing an existing theory or knowledge by developing hypotheses and subjecting them to specific scenarios. According to Gavard-Perret et al. (2008), this approach focuses on validating hypotheses and assessing current knowledge. The researcher develops a question and hypothesis and then proceeds to test it through an empirical or experimental study, analyzing the outcomes and concluding. If the hypothesis is confirmed, the research concludes, and the findings can be communicated.

Due to its meticulous and exacting framework, the hypothetical-deductive technique is frequently utilized in science, the social sciences, and business. By employing this strategy, researchers can examine the veracity of their hypotheses and information, gaining important insights into how our world operates from the inside out.

### **1.2. Methodological approach**

In the context of this particular study, it has been determined that utilizing a quantitative research methodology would be the most suitable approach to effectively test the proposed hypotheses. The

decision to choose a quantitative approach is based on the study's objectives and the nature of the research questions being asked.

In their work, [Burns and Grove \(2005\)](#) define quantitative research as a formal, rigorous, and objective approach that uses systematic strategies to generate and refine knowledge for problem solving. According to [Rahman \(2017\)](#), quantitative research designs can be either experimental or non-experimental, and they strive to achieve precise and dependable measurements. [Best \(1981\)](#) explains that this research entails the systematic observation and description of object or event characteristics to identify relationships between independent and dependent variables within a population. [White and Millar \(2014\)](#) add that "quantitative" refers to the collection of numeric or quantified information, which is then analyzed with statistical software such as Excel, Access, SPSS, Python, SAS, JMP, R, or Stata. The research collects detailed numerical data that are analyzed mathematically, particularly using statistical methods that seek to answer specific questions such as who, what, when, where, how much, how many, and how. According to [Creswell \(2011\)](#), this research is original and involves the researcher deciding what to study, asking specific and narrow questions, collecting quantifiable data from participants, analyzing the collected numbers statistically, and conducting the inquiry in an unbiased and objective manner. The research considers interpersonal relationships, personal values, meanings, beliefs, thoughts, and feelings of human beings, and it manipulates variables and controls natural phenomena, as described by [Rarner \(1989\)](#).

The decision to use quantitative research methodology in this study is justified by its congruence with the research question, which centers on exploring how financial literacy affects decision-making. As per [Creswell & Creswell's \(2018\)](#) perspective, the assumptions of post-positivism, which are more commonly aligned with quantitative research, have been the traditional foundation of research. This implies that the underlying assumptions of quantitative research are appropriate for the objectives of this study. Hence, the utilization of quantitative research methodology is essential for a comprehensive investigation of the research question.

## **Section 2: Data**

### **1. Data collection instruments**

The collection of accurate data is a critical component of successful research, as it ensures the reliability and validity of the study results. N'DA (2015) notes that this involves a systematic approach to gathering information using selected instruments. However, the importance of data collection goes beyond the initial stage of the study, as Kabir (2016) warns that inaccurate or incomplete data can compromise the accuracy of the results. To avoid such errors, it is essential to invest sufficient time and effort in designing the study and collecting high-quality data. Nevertheless, Olsen (2012) points out that while proper data collection is crucial for the success of the research, it is not a guarantee of overall success in all cases.

#### **1.1. Documentary and study**

Documentary research is a crucial method for social research that requires a reflective approach to analyzing existing data. According to Atkinson and Coffey, this involves analyzing documents within a theoretical framework to fully comprehend their contents and recognizing the moral and ethical principles guiding social inquiry. Scholarly research has identified various types of documents that can be used for this purpose, such as institutional memoranda, census publications, diaries, and other written and visual sources. By using this approach, researchers can go beyond mere factual recording and gain a deep understanding of the phenomena they are investigating. In particular, government publications and official statistics are valuable resources for social research. N'DA (2015) highlights the importance of this approach, as it enables researchers to access the information they need to explain or understand the research topic comprehensively. Therefore, documentary research is an essential method for any researcher seeking a thoughtful and ethical approach to analyzing existing data.

By utilizing a variety of sources such as books, articles, official reports, and international standards, we were able to gather extensive information on financial literacy, financial knowledge, attitudes, behaviors, and decision-making. This tool proved instrumental in enabling us to collect as much data as possible on the subject matter.

To gather comprehensive information, we utilized a tool that drew upon multiple sources of information. This included articles, books, official reports, and international standards. Our literature review began by extensively consulting scientific articles in various online libraries such

as Google Scholar, SNDL, Connected Papers, and Research Gate. To expand our research paper and further develop our conceptual framework, we expanded our search to various books available on different digital platforms such as Z Library and PDF Drive. This approach enabled us to gain a more profound understanding of the topic, including relevant theories, concepts, and best practices, which could be used to enhance our research outcomes. The combination of various sources allowed us to draw upon diverse perspectives and insights that enriched our research and analysis, ultimately resulting in a more comprehensive and robust study.

## **1.2. Survey**

Surveys are a common tools used in research to gather data from a specific population. They provide a structured format consisting of pre-defined questions and answers that respondents complete to provide relevant information for the study. As noted by [Pandey \(2015\)](#), surveys enable researchers to obtain primary data that is typically unavailable through secondary resources. These surveys can gather both qualitative and quantitative data, making them particularly effective for large sample sizes. Furthermore, [Thietart \(2014\)](#) highlights that surveys are the most suitable primary data collection tool for conducting researches and obtaining both qualitative and quantitative information. This approach allows researchers to collect a significant amount of data from a large sample of respondents while recording responses that have been defined beforehand.

Data for this research study were collected through an electronic survey administered from **31/03/2023** to **25/04/2023**. The survey utilized a self-administered approach, employing a Google Forms document, which was distributed to participants via their professional email addresses and Facebook accounts. Participants were provided with the opportunity to directly respond to the survey questions within the document. Additionally, participants were asked to utilize the snowball sampling technique to facilitate the recruitment of additional participants for the study.

The survey used in our study was developed based on the OECD methodology ([OECD, 2020](#)) to explore different aspects of financial literacy, including financial knowledge, financial behavior, and financial attitude. Furthermore, other findings from multiple studies, such as [Kumari D.A.T \(2019\)](#), [Kamini Rai et al. \(2019\)](#), [Miklesh Yadav et al. \(2019\)](#), and [Taiwo Kolade, Samuel Orekoya, and Oluwatosin Adeniyi \(2022\)](#) were used to inform the elaboration of the questions.

The survey, as outlined in **Appendix A**, consists of four distinct sections: survey eligibility, financial knowledge, financial behavior, and financial attitudes. Each section is comprehensively explained in the subsequent sections

**Eligibility and identification:** The initial segment of the questionnaire is designed to screen and filter respondents based on their eligibility and characteristics [Q1-Q12]. It includes descriptive questions about the respondents' demographic information, such as gender, age, family situation, employment status, educational level, and field of study. This section aims to collect essential data about the participants and ensure that only those who meet the study's criteria are selected for further analysis.

**Financial knowledge:** The second section of the questionnaire [Q13-Q29] encompasses of 16 questions that are specifically formulated to evaluate an individual's grasp of diverse financial concepts. These concepts include budgeting, saving, investing, and borrowing, among others, and can span a wide range of topics from basic financial literacy to more advanced areas of personal finance and economics. The main objective of this section is to gauge the respondents' level of understanding and knowledge of financial matters.

**Financial behavior:** The third part of the questionnaire consists of 5 question [Q30-Q34] aiming to measure individual's financial behavior according to 5 items with a 5 points Likert scale that are designed to collect data on an individual's attitudes, habits, and decision-making processes regarding the management of their finances. The questions may cover a broad range of topics, including spending and saving behaviors, as well as debt management. This section aims to gain insight into the respondents' financial behavior and decision-making tendencies.

**Financial attitude:** This section consists of 6 questions [Q35-Q40] aiming to measure individual's financial behavior according to 5 items with a 5 points Likert scale that assess a person's financial beliefs, emotions, and perceptions. The questions may cover a range of subjects, including attitudes toward spending and saving as well as conceptions of wealth and financial stability.

## **2. Population and Sample**

The phrase "population" refers to a collection of fundamental components (a person, a group, a city, a country) or a group of people who share characteristics based on a predetermined set of

criteria. Furthermore, it is not always feasible or necessary to look at the complete population in order to fully comprehend a population. We can collect relevant data on a sample of the entire population in order to generalize (N'DA, 2015).

The study's population included individuals who had access to the survey and the opportunity to respond, including Facebook friends, LinkedIn professionals, and students from various locations in Algeria. To select the sample, a non-probabilistic judgment-based sampling method was employed, which involves selecting individuals without an equal chance of being selected, potentially leading to biased results. However, the method was justified by the absence of a comprehensive database that includes all relevant information on the population. Despite the non-random selection, the sampling method was intended to be representative by targeting individuals who were most likely to provide pertinent information about the problem being investigated.

To increase the sample size, a snowball sampling method was employed. Initially, 70 college friends were directly contacted, and then an additional 120 contacts were obtained through LinkedIn. These LinkedIn contacts were approached through direct messaging and asked to refer others who could participate. In total, 190 individuals were contacted, and 295 responses were received.

### **3. Data treatment and analysis**

**Software programs:** The survey data was analyzed using two software programs, namely SPSS version 28.0 and Excel 2016, known for their proficiency in statistical processing.

**Data conversion:** Prior to analysis, the data was converted using Excel to ensure compatibility before importing it into SPSS.

**Descriptive and frequency analysis:** The initial analysis involved conducting descriptive and frequency analyses to provide an overview and summary of the data.

**Preliminary analysis:** A preliminary analysis was performed to identify missing or extreme values within the dataset. Additionally, normality tests were conducted to assess the distributional characteristics of the variables.

**Simple regression analysis:** A simple regression analysis was carried out to test the formulated hypotheses and assess the relationships between variables. This analysis explored linear associations and the predictive capabilities of the independent variables on the dependent variable.

# **CHAPTER 3: RESULTS AND DISCUSSION**

In this chapter, results of the data collection are presented, followed by a discussion of the finding of this research.

## Section 1: Results

### 1. Description of the sample

The study analyzed 295 responses, with approximately half of the respondents (49.5%) identifying as men and the remaining as women, hailing from various regions across Algeria. Notably, the majority of the respondents (93.9%) reported having either graduated or currently enrolled in a university, which was a crucial inclusion criterion for their responses to be considered in the study.

These findings are summarized in **Table 02**, which provides descriptive and frequency statistics regarding the respondents' characteristics.

**Table 2:** Socio-demographic characteristics of respondents

Variable	Specification	Frequency	Percentage%
<b>Q1:</b> Gender	Female	149	50,5%
	Male	146	49,5%
<b>Q2:</b> Age	18-25	141	47,8%
	26- 35	104	35,3%
	36-45	32	10,8%
	46-55	13	4,4%
	56-65	4	1,4%
	66 and more	1	0,3%
<b>Q3:</b> Family situation	Single	231	78,3%
	Married	60	20,3%
	Widow	1	0,3%
	Divorced	4	1,0%
<b>Q4:</b> Do you have children?	Yes	48	16,3%
	No	247	83,7%
<b>Q5:</b> Number of children	1	10	3,4%
	2	20	6,8%
	3	10	3,4%
	4	5	1,7%
	5	3	1,0%
<b>Q6:</b> Do you have an income?	Yes	167	56,6%
	No	128	43,4%
<b>Q7:</b> Average income per month	More than 600 000 DA / Month	15	5,1%
	Between 300 000 and 600 000 per Month	21	7,1%

	Between 100 000 and 300 000 per Month	29	9,8%
	Between 30 000 and 100 000	65	22,0%
	Less than 30 000 Month	37	12,5%
<b>Q8: Education Level</b>	Middle school	1	0,3%
	Secondary school	4	1,4%
	University	277	93,9%
	Professional training	9	3,1%
	Mosque	1	0,3%
	Other	3	1,0%
<b>Q9: Employment status</b>	Permanent part-time job	17	5,8%
	Permanent full-time job	103	34,9%
	Self-employed	22	7,5%
	Student/ Unemployed/ Retired	153	51,9%
<b>Q10: Field of study</b>	Business and Management	177	60,0%
	Engineering and Technology	16	5,4%
	Computer Science & Information Tech	8	2,7%
	Social Sciences	27	9,2%
	Education	12	4,1%
	Health and Medicine	11	3,7%
	Law and Legal Studies	17	5,8%
	Arts and Humanities	5	1,7%
	Natural Sciences	9	3,1%
	Mathematics and Statistics	3	1,0%
	Environmental Science & Sustainability	2	0,7%
	Agriculture and Forestry	2	0,7%
	Communication and Media Studies	6	2,0%
<b>Q11: Place of living (Province)</b>	01 Adrar	13	4,4%
	02 Chlef	15	5,1%
	04 Oum El Bouaghi	8	2,70%
	05 Batna	6	2,0%
	09 Blida	20	6,8%
	13 Tlemcen	22	7,5%
	16 Algiers	75	25,4%
	31 Oran	12	4,1%
	42 Tipaza	13	4,4%
<b>Q12: Types of technology used to manage finances</b>	Mobile apps	105	35,6%
	Online banking platforms	30	10,2%
	Personal finance software	8	2,7%
	None of this applications	152	51,5%

Source: self-developed based on SPSS results

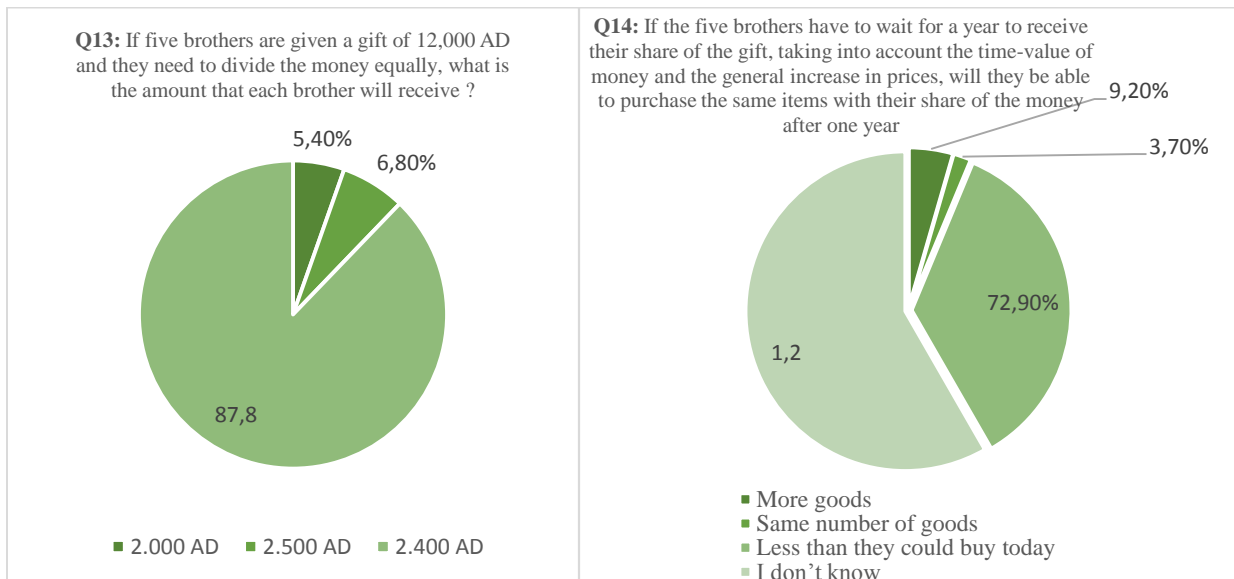
The table above shows that the sample split between males and females, with most of them falling in the 18-25 and 26-35 age ranges. Most of respondents reported being single and not having children, while just over 56, 6% reported having an income. Of those who reported having an income, the majority fell in the lower income ranges. The sample was largely educated, with most of them having attended university 93, 9 %. Employment status varied, with just over half of respondents reporting being students, unemployed, or retired. The sample was diverse in terms of fields of study, with the majority having studied business and management. The sample was also diverse in terms of place of residence, with respondents living in a range of provinces across Algeria.

## 2. Univariate descriptive analysis

In this stage, a univariate descriptive analysis of the survey questions is conducted. This involves using descriptive statistics like frequency tables and percentage distributions to summarize the responses for each question.

### 2.1. Financial knowledge

**Figure 5: Financial calculations**

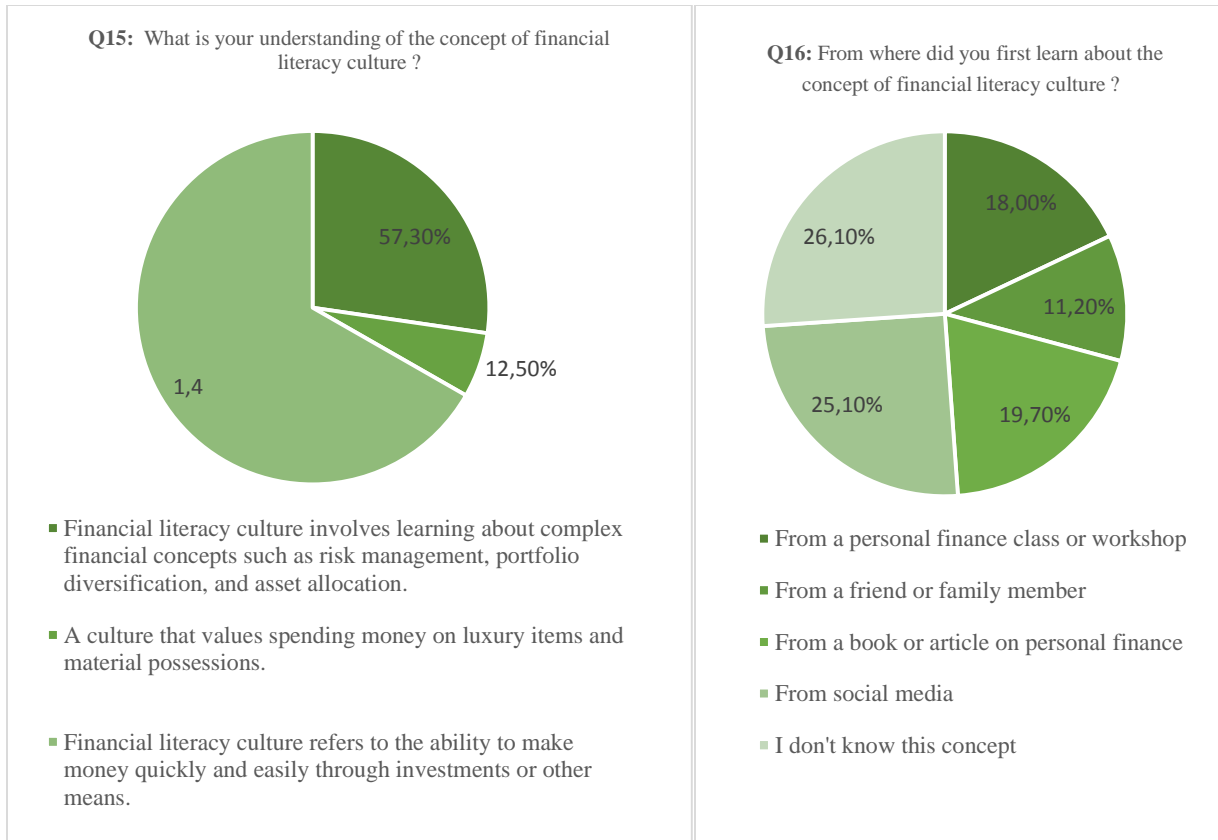


Source: Source: self-developed based on SPSS results

The analysis of **Figure 5** and survey question **Q13** reveals that most respondents (87.8%) correctly understood how to divide a sum of money equally among a specific number of people. Additionally, **Q14** shows that a significant majority (72.9%) of the participants understood the

impact of the time-value of money and general price inflation on purchasing power. However, a notable proportion (14.2%) of respondents chose "I don't know" as their response, suggesting a need for further financial literacy education and awareness raising.

**Figure 6: Financial literacy culture**

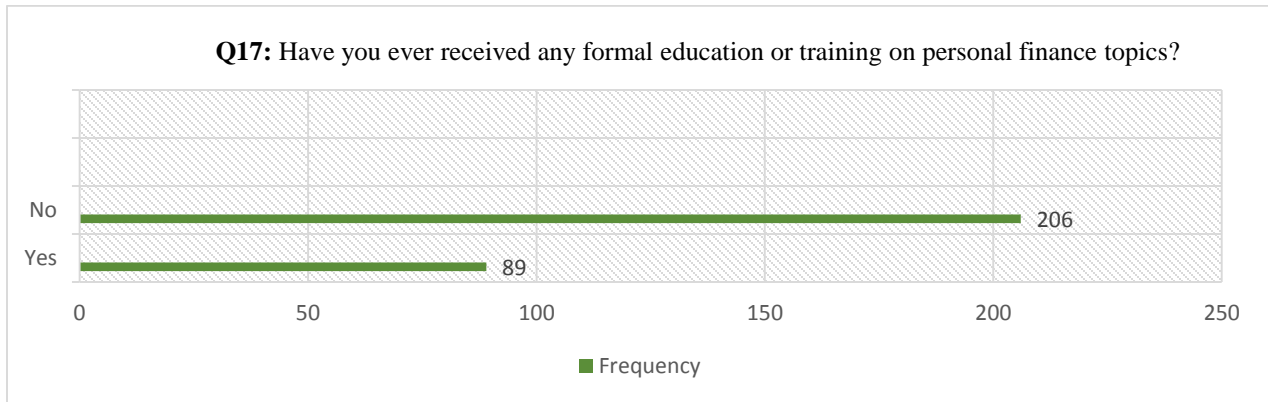


Source: self-developed based on SPSS results

The analysis of **Figure 6** and survey question **Q15** suggest that most respondents (57.3%) view financial literacy culture as involving the learning of complex financial concepts.

Additionally, **Q16** indicates that social media was the most commonly reported source (25.10%) for respondents to first encounter financial literacy culture. Other sources of learning included personal finance classes or workshops, books or articles on personal finance, and friends or family members. Notably, a significant proportion of respondents (26.10%) reported being unfamiliar with the concept of financial literacy culture., it can be concluded that there is a general understanding among respondents that financial literacy culture involves the acquisition of knowledge on complex financial concepts.

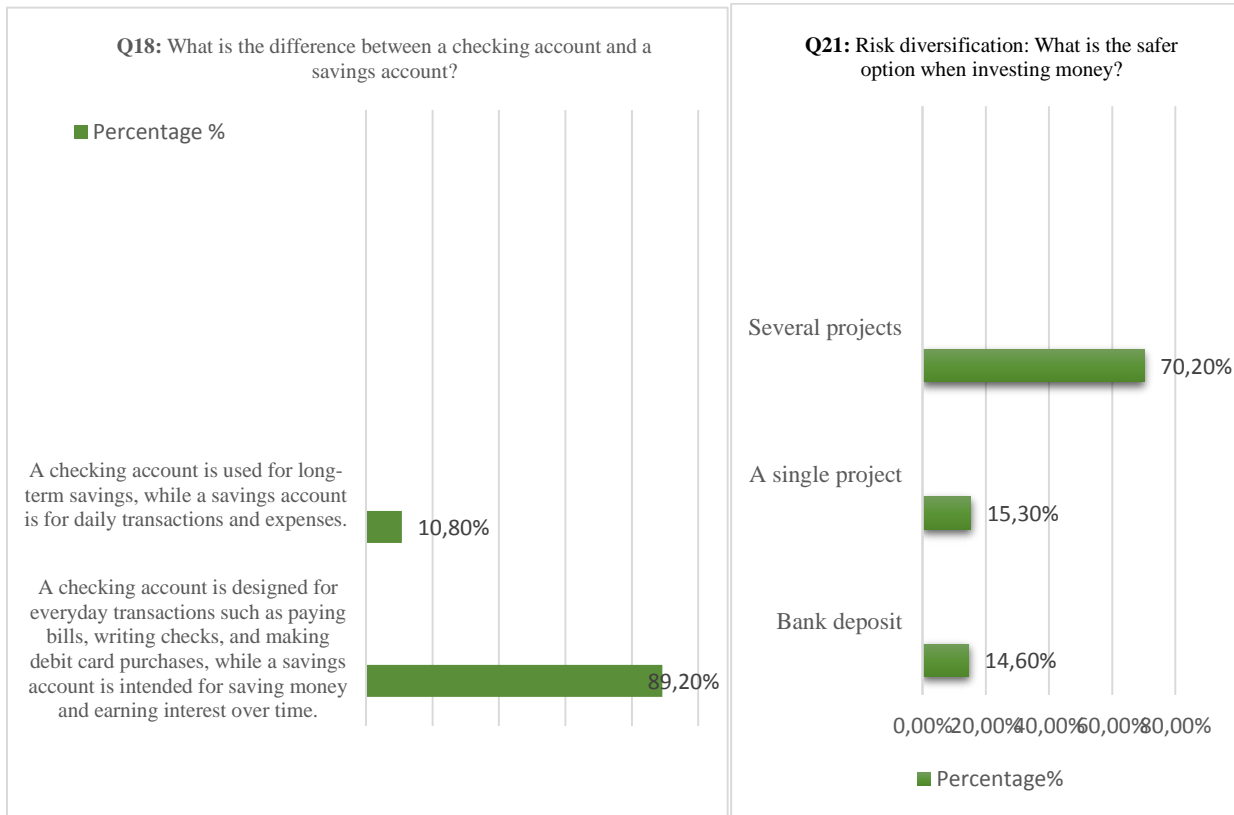
**Figure 7: Level of expertise in financial matters**



Source: self-developed based on SPSS results

The analysis of **Figure 7** and question **Q17**, 206 (69.8%) answered "No," while 89 (30.2%) answered "Yes." This suggests that most of the sample has not received formal education or training on personal finance topics, highlighting a potential need for greater financial literacy education.

**Figure 8: Fundamental Concepts in Personal Finance: Risk Diversification and Banking Basics**



Source: Self-developed based on SPSS results.

The analysis of **Figure 8** and **Q21** demonstrates that most of the sample population (70, 2%) believes that investing in several projects is a safer option than investing in a single project or relying solely on bank deposits for risk diversification.

In addition, **Q18** suggests that most of the sample population (89, 2%) understands the basic differences between checking and savings accounts. They recognize that a checking account is intended for daily transactions and expenses, while a savings account is designed for saving money and earning interest over time.

**Table 2:** Familiarity of respondents to different areas of personal finance

Statements	Frequency					Mean	Level of familiarity
	Not at all familiar	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar		
<b>Q19:</b> Retirement planning and the steps needed to ensure a comfortable retirement	61	90	95	37	12	2,49	Slightly familiar
<b>Q22:</b> Financial technology (FinTech) and its applications in personal finance	146	66	38	34	11	1,98	Slightly familiar
Mean: [1-1,8[ Not at all familiar   [1,8-2,60[ Slightly familiar   [2,60-3,40[ Moderately familiar   [3,40-4,20[ Very familiar   [4,20-5] extremely familiar							

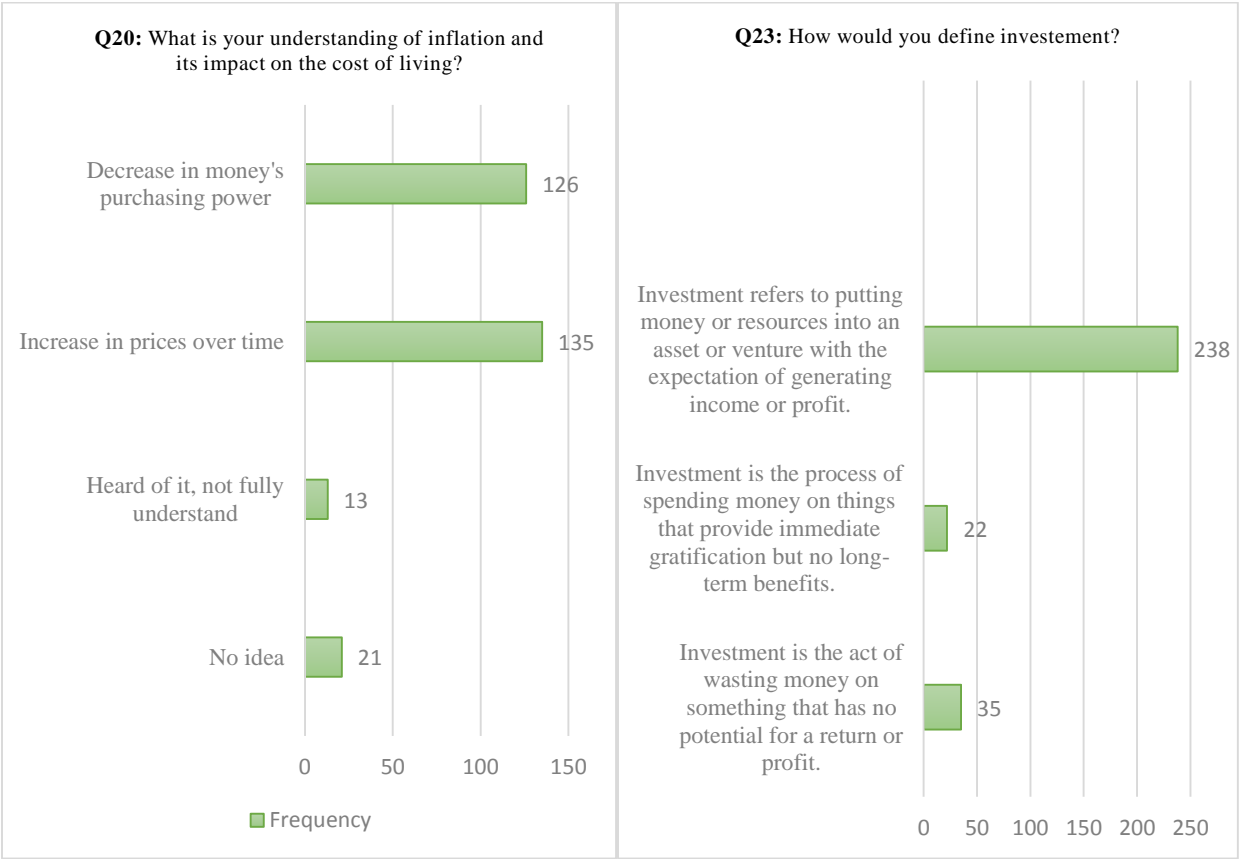
Source: Self-developed based on SPSS results

The analysis of **Table 3** and **Q19** indicates that most of the sample have some level of familiarity with retirement planning. However, a significant minority 61 (20.7%) claimed to have no familiarity with it.

In addition, **Q22** shows that almost half of the sample 146 (49.5%) have no familiarity with FinTech and its applications in personal finance. Most of the remaining respondents are only slightly or moderately familiar with FinTech, while a small proportion claim to be very or extremely familiar.

The calculation of mean scores for both **Q19** and **Q22** indicates that respondents exhibit only a Slight level of familiarity with different aspects of personal finance. This is because the mean scores for both questions fall within the range of 1.8 to 2.6, which is categorized as "slightly familiar" based on the scale provided.

**Figure 9:** Level of awareness and understanding of investments and inflation

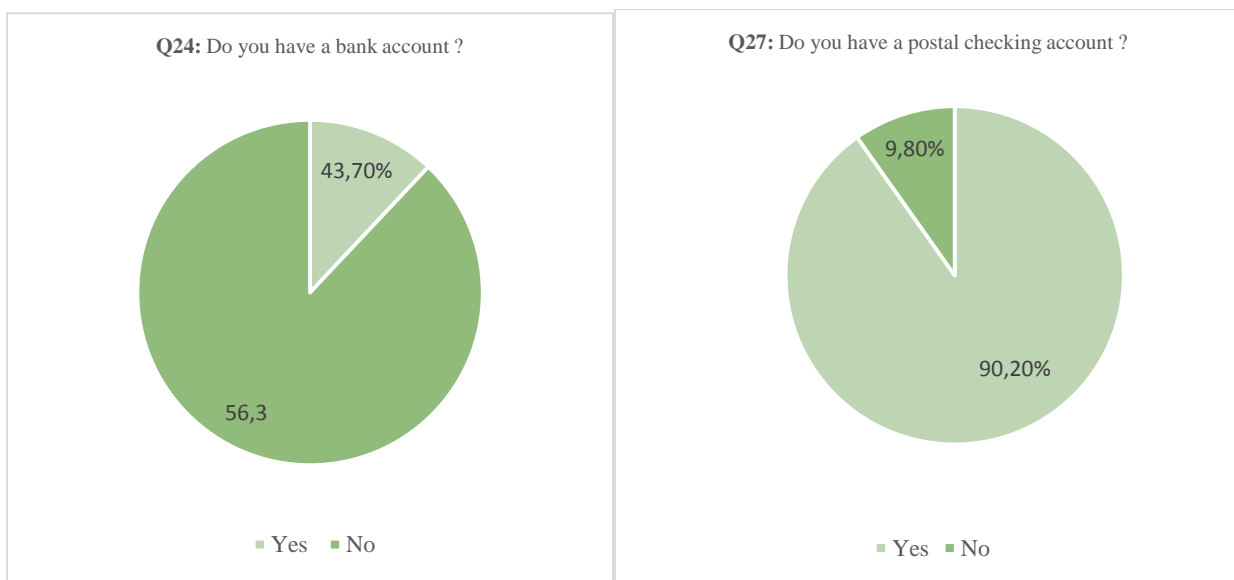


Source: Self-developed based on SPSS results

The analysis of **Figure 9** and **Q20**, indicates that most of the sample 126 (42, 7%) understand inflation as a decrease in the purchasing power of money, which leads to an increase in the cost of living. (135) 45, 8% associate inflation with an increase in prices over time, further contributing to the increase in the cost of living. However, 21 (7, 1%) of respondents either have no idea or only a limited understanding of inflation.

In addition, **Q23** shows that most of the sample 238 (80.7%) correctly define investment as putting money into an asset or venture with the expectation of generating income or profit. However, 22 (7.5%) of respondents believe that investment involves spending money on things that provide immediate gratification but no long-term benefits, indicating a potential misunderstanding of the concept.

**Figure 10:** The Utilization of Bank Accounts and Postal Checking Accounts



Source: Self-developed based on SPSS results

Based on the findings from examining **Figure 10** and **Q24**, it can be concluded that most of the sample, **56.3%**, do not possess a bank account, while 43.7% do have a bank account. Furthermore, the analysis of **Q27** reveals that a significant majority of respondents, 90.2%, have a postal checking account, whereas only a minority of 9.8% do not have a checking account.

**Table 3:** Understanding the Interest Rates provided by Banks.

**Q25:** How do banks determine the interest rates they offer on loans and savings accounts?

	Frequency	Percentage
Valid Banks determine the interest rates on loans and savings accounts based on a variety of factors, including market interest rates, the level of competition in the market, and the creditworthiness of the borrower.	203	68,8
The interest rates offered by banks are the same for all customers, regardless of their financial situation or creditworthiness.	65	9,2
Banks do not consider market interest rates or competition when setting interest rates.	27	22,0
Total	295	100,0

Source: Self-developed based on SPSS results

The results from both **Table 4** and **Q25** indicate that a majority of respondents (68.58%) correctly understood that interest rates for loans and savings accounts are determined by various factors such as market interest rates, competition, and borrower creditworthiness. However, 65 respondents (9.12%) wrongly assumed that banks offer the same interest rates to all customers, and 27 respondents (22.3%) mistakenly believed that market interest rates and competition were not taken into account when setting interest rates.

**Table 4:** Strategies for Informed Decision-Making

**Q29:** How can entrepreneurs effectively balance financial risks and rewards through informed decision-making?

	Frequency	Percentage
Valid Entrepreneurs can balance financial risks and rewards by analyzing data and making informed decisions based on financial information.	240	81,4
Avoiding all financial risks is the best way for entrepreneurs to achieve financial success.	44	14,9

Financial decision-making is not important for entrepreneurs and they can just rely on their intuition when making business decisions.	11	3,7
Total	295	100,0

Source: Self-developed based on SPSS results

The results from both **Table 5** and **Q29** indicate the 240 respondents (81.4%) believe that entrepreneurs can balance financial risks and rewards by analyzing data and making informed decisions based on financial information. On the other hand, 44 respondents (14.9%) thought that avoiding all financial risks is the best way for entrepreneurs to achieve financial success, while 11 respondents (3.7%) believed that financial decision-making is not important for entrepreneurs and they can just rely on their intuition when making business decisions.

## 2.2. Financial behavior

**Table 5:** Survey Respondents' Behaviors and Patterns in Making Financial Decisions

Statements	Frequency					Mean
	Never	Rarely	Sometimes	Most of time	Always	
<b>Q30:</b> Evaluation of having enough money to purchase something before making a buying decision	13	25	52	116	89	3,82
<b>Q31:</b> Sticking to budget	19	39	98	99	40	3,35
<b>Q32:</b> Setting financial goals	23	36	85	92	59	3,43
<b>Q33:</b> Seeking financial advice from a professional, such as a financial planner or accountant	139	63	56	29	9	2,01
<b>Q34:</b> Use of technology to manage personal finances (e.g., mobile banking apps, budgeting software, etc.	133	41	50	43	28	2,29

Source: Self-developed based on SPSS results

Based on the results in **Table 6**, it can be seen that most of the respondents demonstrated varying degrees of financial awareness, goal-setting and planning skills, and inclination to seek professional financial advice, and comfort and familiarity with using technology for financial management. The frequency of responses to each question ranged from 2.01 to 3.82.

### 2.3. Financial attitude

**Table 6:** Financial Decision-Making Attitude among Survey Respondents

Statements	Frequency					Mean
	Never	Rarely	Sometimes	Most of time	Always	
<b>Q35:</b> Worrying about financial future	34	32	84	93	52	3,33
<b>Q36:</b> Feeling guilty about spending money on non-essential items	30	45	106	78	36	3,15
<b>Q37:</b> Seeking out information or resources to improve your financial knowledge and skills	23	36	88	84	64	3,44
<b>Q38:</b> Thinking about saving for retirement	81	56	65	60	33	2,69
<b>Q39:</b> Feeling motivated to make changes in your financial habits	50	37	63	88	57	3,22
<b>Q40:</b> Believing that technology can help you make better financial decisions	25	34	82	96	58	3,43

Source: Self-developed based on SPSS results

According to the findings in **Table 7**, the survey participants had different levels of concern about their financial future, guilt about spending on non-essential items, seeking financial information, thinking about retirement savings, motivation to change financial habits, and belief in technology to make better financial decisions. The frequency of responses ranged from never to always, with the mean frequency for each question ranging from 2.69 to 3.44.

### 3. Preliminary analyses of data suitability

#### 3.1. Missing and extreme values or outliers

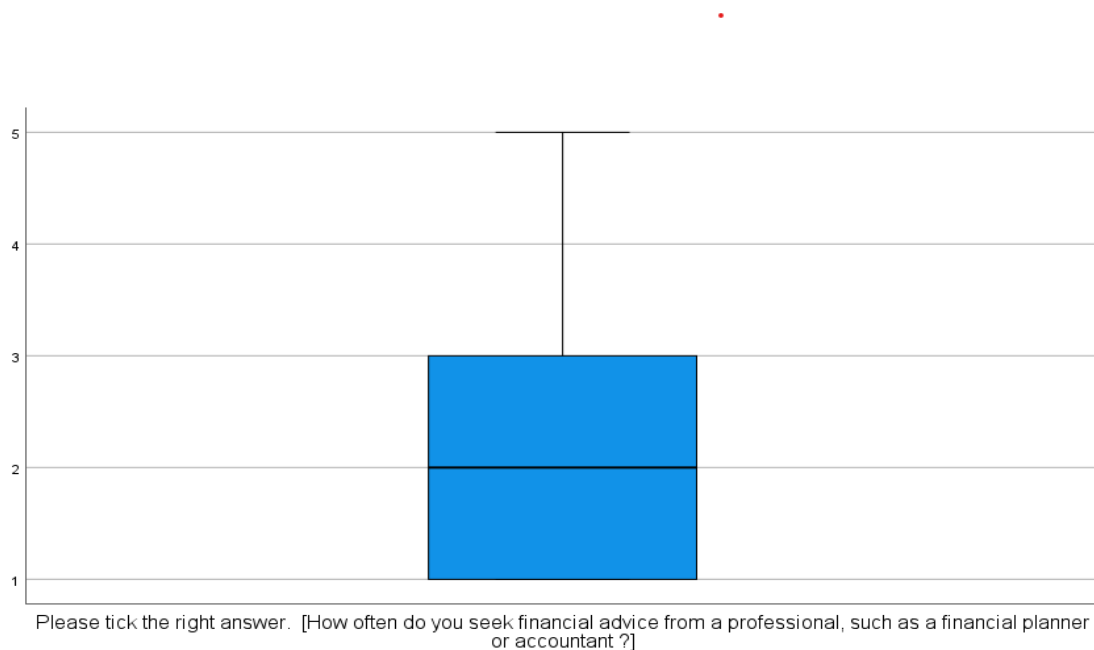
Various techniques are employed to address the issue of missing values. For the current study, full questionnaires were obtained thanks to Google Forms' mandatory response feature and the online distribution of the survey. This delivery method ensured the collection of complete responses.

#### 3.2. Extreme values or outliers

The study utilized a statistical methodology named "The Boxplot" developed by John Tukey to detect extreme values or outliers in the quantitative variables. These outliers, defined as data points that deviate considerably from the rest of the distribution, can potentially exert a considerable influence on the statistical analyses and conclusions drawn from the data. Boxplots are an effective graphical tool to identify outliers, as they are usually marked by asterisks (\*) on the plot.

The absence of asterisks (\*) at the whisker endpoints depicted in the boxplot graph presented in **Figure 11** provides compelling evidence that there are no outliers or extreme values present in the data. This observation serves to confirm the consistency of all the boxplots for the quantitative variables analyzed in this study.

**Figure 11:** Graphical representation of the Boxplot



Source: self-developed from SPSS analysis results

### 3.3. Normality and quasi-normality of data

#### ✓ Normality of data

The Kolmogorov-Smirnov and Shapiro-Wilk tests were utilized to evaluate the normality of the data. These tests are highly effective and reliable in assessing the normality of the data. The obtained results indicate that the significance level (P-Value) is lower than 0.05 leading to the rejection of the hypothesis of data normality. Please refer to **Appendix B** for the normality table.

#### ✓ Quasi-normality of data

It is common to encounter non-normal data when conducting multivariate analyses. In order to address this issue, the data was evaluated for quasi-normality by examining the Skewness and kurtosis coefficients, which should fall within the ranges of [-1, +1] and [-1.5, +1.5], respectively. The results indicate that the data exhibits acceptable quasi-normality when analyzed on a univariate level. Please refer to **Appendix B** for the quasi-normality table.

### 4. Hypothesis testing

The process of hypothesis testing involved using simple regression analyses to test the research hypotheses. The characteristics of the variables in the theoretical model made this type of analysis possible. In order to determine the validity of the model, the recommended threshold from the literature was used, which requires that the ANOVA significance level be below 0.05 and the adjusted R<sup>2</sup> exceed 10%.

#### 4.1. The impact of Financial knowledge on decision-making process

A basic regression analysis was done to see if there was a connection between financial knowledge and decision-making. However, the findings in **Table 8** show that financial knowledge did not have a significant effect on decision-making. The results indicate that the R-squared value was only 0.001, which is lower than the accepted threshold of 0.10. The beta coefficient ( $\beta$ ) was -0.031, and the significance level (Sig) was 0.597, which means that financial knowledge had no impact on decision-making. Therefore, the research hypothesis **H1** is *rejected*.

**Table 7:** linear regression results 1

Independent variable	Dependent variable	R2	R2 adjusted	F	$\beta$	t	Sig
Financial Knowledge	Decision-making (ability to budget and forecast for their business )	,001	-,002	,280	-,031	-,529	,597

Self-developed based on simple regression results

#### 4.2. The impact of Financial Attitude on decision-making process

To investigate the correlation between the independent variable financial attitude and the dependent variable decision-making, a basic regression analysis was conducted.

**Table 9** shows that there is a significant link between financial attitude and decision-making. The analysis reveals that financial attitude has a positive and substantial effect ( $\beta = .393$  Sig = 0.001) on individuals' attitude towards retirement planning and investment, with an R-squared value of 0.154, which is higher than the accepted threshold of 0.10. This means that an increase in financial attitude can significantly enhance individuals' decision-making. Thus, the hypothesis **H2** is **accepted** by these research findings.

**Table 8:** Simple linear regression 2

Independent variable	Dependent variable	R2	R2 adjusted	F	$\beta$	t	Sig
Financial attitude	Decision-making( saving for retirement)	,154	,151	53,385	,393	7,306	,001

Self-developed based on simple regression results

#### 4.3. The impact of Financial Behavior on decision-making process

A basic regression analysis was conducted to investigate the relationship between the independent variable of financial behavior and the dependent variable of decision-making. **Table 10** shows that there is a significant association between financial behavior and decision-making. The analysis indicates that financial behavior has a positive and substantial impact ( $\beta = .327$  Sig = 0.001) on individuals' behavior when it comes to financial matters, with an R-squared value of 0.107, which exceeds the accepted threshold of 0.10. This suggests that improving financial behavior can

significantly increase individuals' tendency to evaluate options before a decision-making. As a result, these research findings support hypothesis **H3**.

**Table 9:** Simple linear regression 3

Independent variable	Dependent variable	R2	R2 adjusted	F	$\beta$	t	Sig
Financial behavior	Decision-making(purchase)	,107	,104	35,172	,327	5,931	,001

Self-developed based on simple regression results

✓ *Summary of Hypothesis Testing*

**Table 10:** Summary of hypothesis testing

<i>Hypothesis</i>	<i>Confirmation</i>	
<b>H1:</b> Financial knowledge have a significant positive impact on decision-making process.	No	Rejected
<b>H2:</b> Financial attitude have a significant positive impact on decision-making process.	Yes	Accepted
<b>H3:</b> Financial behavior have a significant positive impact on decision-making process.	Yes	Accepted

Self-developed based on simple regression results

## Section 2: Discussion

The study aimed to identify the impact of financial knowledge, attitude, and behavior on decision-making. Through a hypothesis-testing process, it examined how these variables affect the decision-making process. The findings of the study provided valuable insights, contributing to a deeper understanding of the relationship between financial knowledge, attitude, behavior, and decision-making.

Based on the empirical findings, financial knowledge (**H1**) was found to have no positive significant impact on decision-making. This implies that possessing financial knowledge, which is considered an important skill, is not a guarantee that an individual will make better financial decisions. This means that other factors such as attitudes and behaviors could be equally or more important in influencing financial decision-making. This contradicts the findings that financial education is a key factor in financial decision-making, providing individuals with the knowledge and skills needed to manage their investments effectively ([Hikmah et al., 2020](#)).

Furthermore, the study findings indicate that individuals with a favorable attitude toward retirement planning and those who conduct thorough evaluations of available options before making purchasing decisions are more likely to make sound financial decisions. These results confirm (**H2**) and align with previous research. Even if an individual possesses sufficient knowledge and ability to act in a certain way, their attitude will influence the decision to act or not ([OECD, 2020](#)).

Moreover, the study findings indicated a positive correlation between financial behavior and decision-making, specifically in assessing options before making purchasing decisions. The outcomes suggest that enhancing financial behavior could significantly enhance individuals' inclination to evaluate options before making purchases. As a result, the study's findings support (**H3**), which argues that improving financial behavior can have a beneficial impact on decision-making. This conclusion is consistent with prior research conducted by ([Susilowati, Kardiyem, & Latifah, 2020](#)).

In conclusion, this research highlights the significance of promoting financial education and cultivating a positive attitude towards financial matters, particularly among young people. The study also demonstrates that there is a positive correlation between financial behavior and decision-making, suggesting that improving financial behavior can greatly influence individuals'

inclination to assess options before making financial decisions. Furthermore, these results have implications for efforts to enhance financial decision-making and underscore the importance of promoting positive financial behaviors and financial literacy for long-term financial stability and well-being. However, the study's ability to draw firm conclusions about the level of financial literacy in Algeria was limited by its small sample size. While the findings provide valuable insight into the relationship between financial knowledge, attitude, and behavior on decision-making, the results should be cautiously interpreted. Further research with a larger and more diverse sample is necessary to validate the study's findings and enhance our understanding of financial literacy in Algeria.

# **CONSLUSION**

## **1. Main obtained results**

The primary aim of this study was to assess how financial knowledge, attitude, and behavior influence the decision-making process. To achieve this objective, a quantitative research approach was adopted, and an online survey was conducted among participants.

This study aimed to identify the characteristics of a sample of 295 individuals by starting with a univariate analysis. The results showed that the sample consisted of both male and female participants, with most of the sample falling within the 18-25 and 26-35 age ranges. Most respondents reported being single and not having children, while just over 56.6% reported having an income, mostly in the lower income ranges. Most of the sample had attended university, with a high percentage of 93.9%. The employment status of respondents varied, with just over half reporting being students, unemployed, or retired. The sample was diverse in terms of fields of study, with most having studied business and management. Finally, respondents were from various provinces across Algeria, indicating diversity in the place of residence.

The results allowed us to validate the assumptions that financial attitude and financial behavior have a positive and significant impact on decision-making process.

We reject the hypotheses that dictate financial knowledge have a significant positive impact on decision-making process.

Therefore, it is important to prioritize not only financial knowledge but also positive financial attitudes and behaviors in promoting financial literacy and improving individuals' long-term financial well-being.

## **2. Limits**

While this study did yield results, it is important to acknowledge its limitations, which include:

- The study may have been constrained by the small sample size that was used, which may not have been sufficient to provide solid results.
- Time restrictions: The study may have been time-limited, which may have precluded from gathering additional data or performing analysis that is more thorough.
- The short period spent on conducting the questionnaire and the lack of collaboration by the concerned population.

- Response bias: The study may have been limited by response bias, such as participants providing socially desirable responses or not being truthful in their answers.

### **3. Possible extensions of the research**

- Conducting a similar study with a larger sample size to increase the robustness of the results and to enhance the generalizability of the findings to other populations.
- Exploring additional variables or factors that may affect the phenomena under investigation, such as demographic or contextual factors, to gain a more comprehensive understanding of the topic.
- Using different research methods or data collection techniques, such as qualitative or mixed-methods approaches, to gain a more nuanced understanding of the topic and to triangulate the findings.
- Conducting a longitudinal study to investigate the phenomena over time, which would enable the researchers to explore how the factors under investigation may change or develop over a longer period.

# **BIBLIOGRAPHY**

- Azlina Binti Ahmad, N., Mohd Zahid, E. S., Abdul Halim, 'I. B., Ab Lateh, A. T., & Ghutai, G. (2022). Financial Literacy among Investors. *International Journal of Academic Research in Business and Social Sciences*, 12(4), 16-31.
- Bouyzem, M., & Al Meriouh, Y. (2019). La recherche en sciences de gestion: étapes, paradigmes épistémologiques et justification de la connaissance. *Revue Marocaine de Recherche en Management et Marketing*, 1(1), 1-19.
- Creswell, J., & Creswell, J. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications, Inc.
- Cupák, A., Fessler, P., Silgoner, M., & Ulbrich, E. (2021). Exploring differences in financial literacy across countries: The role of individual characteristics and institutions. *Social Indicators Research*.
- Djazuli, A., Ab Aziz, M. R., Candra, M., & Yanti, D. (2023). Determinants of Financial Decisions of Millennial Generation in Islamic Banking: Does Islamic Branding Matter? *Journal of Accounting and Investment*, 24(1).
- Elshandidy, T., Hassanein, A., & Salem, A. (2021). Data collection methods and tools for research: A step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management (IJARM)*, 10(1), 10-38.
- Faulkner, A. (2022). Financial Literacy around the World: What We Can Learn from the National Strategies and Contexts of the Top Ten Most Financially Literate Nations. *The Reference Librarian*, 63(1-2), 1-28.
- Gavard-Perret, M.-L., Gotteland, D., Haon, C., & Jolibert, A. (2008). *Méthodologie de la recherche: Réussir son mémoire ou sa thèse en sciences de gestion*. Pearson Education.
- Iramania, R., & Lutfia, L. (2021). An integrated model of financial well-being: The role of financial behavior. *Accounting*, 7, 691-700.

- Jalali, Z. (2023). Financial literacy and financial resilience. *Journal of Financial Education and Research*, 1(1), 1-10.
- Kasman, P. S. P., & Ali, H. (2022). Literature review factors affecting decision making and career planning: Environment, experience and skill. *Diniyah Journal of Islamic Business and Management*, 3(2), 219-229
- Kolade, T., Orekoya, S., & Adeniyi, O. (2022). Determinants of Financial Literacy and Its Effects on the Financial Behaviour of Undergraduates in a Nigerian University. *Ife Social Sciences Review*, 30(1), 11-26.
- Kozioł-Nadolna, K. & Beyer, K. (2021). Determinants of the decision-making process in organizations. Paper presented at the 25th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems.
- Kumari, D.A.T. (2020). The impact of financial literacy on investment decisions: with special reference to undergraduates in Western Province, Sri Lanka. *Asian Journal of Contemporary Education*, 4(2), 110-126.
- Loh, A.M., Peong, K.K., & Peong, K.P. (2019). Determinants of Personal Financial Literacy among Young Adults in Malaysian Accounting Firms. *Global Journal of Business and Social Science Review*, 7(1), 08-19.
- Mohajan, H. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of Scientific Achievements*, 4(1), 18-27.
- Mulyono, H., Purba, N., Hadian, A., Syamsuri, A. R., & Hasibuan, M. Z. (2020). Decision-making culture in organizations. *International Journal of Innovation, Creativity and Change*, 13(3), 1119-1133.
- Muñoz-Céspedes, E., Ibar-Alonso, R., & de Lorenzo Ros, S. (2021). Financial literacy and sustainable consumer behavior. *Sustainability*, 13(16), 9145.
- N'DA, P. (2015). *Recherche et méthodologie en sciences sociales et humaines*. Paris: L'Harmattan.
- OECD. (2022). *Evaluation of National Strategies for Financial Literacy*.
- OECD/INFE. (2015). *National Strategies for Financial Education Policy Handbook*.

- OECD/INFE. (2020). Launch of the OECD/INFE 2020 International Survey of Adult Financial Literacy.
- Park, Y. S., Konge, L., & Artino Jr, A. R. (2021). The positivism paradigm of research. *Journal of Graduate Medical Education*, 13(2), 131-133.
- Phan, H. T., Nguyen, T. T., Tran, T. T., Nguyen, T. T. H., & Hoang, T. H. (2022). Financial literacy and its determinants: Evidence from Vietnam. *Heliyon*, 8, e09638.
- Preston, A., & Wright, R. E. (2022). Financial Literacy Amongst Young People: When Does the Gender Gap Begin? IZA DP No. 15287.
- Rai, K., Dua, S., & Yadav, M. (2019). Association of financial attitude, financial behaviour and financial knowledge towards financial literacy: A structural equation modeling approach. *FIIB Business Review*, 8(1), 51-60.
- Rai, K., Dua, S., & Yadav, M. (2019). Association of financial attitude, financial behaviour and financial knowledge towards financial literacy: A structural equation modeling approach. *Journal of Advances in Management Research*, 16(4), 414-433.
- Rakhrour, Y., & Daham, S. R. (2021). Financial Inclusion in Algeria: Reality and Outlook. *Strategy and Development Review*, 11(4), 478-493.
- Ratnawati, K. (2020). The impact of financial inclusion on economic growth, poverty, income inequality, and financial stability in Asia. *Journal of Asian Finance, Economics and Business*, 7(10), 73-85.
- Thietart, R.-A. (2014). *Méthodes de recherche en management*. DUNOD.
- Towo, T., & Jonasi, K. (2022). Determinants of Financial Literacy Gender Gap in Zimbabwe. *International Journal of Research and Innovation in Social Science (IJRISS)*, 6(12), 441. ISSN 2454-6186.
- Utami, N. M. M. A., & Wedasuari, P. R. (2023). The Effect of Financial Literacy and Risk Tolerance on Investment Decisions. *Jurnal Penelitian Ekonomi dan Akuntansi (JPENSI)*, 8(1), 59.

YAHIAOUI, N. E. H. (2022). Analysing Financial Literacy Differences among Algerian Young Students Using Financial Knowledge, Behaviour and Attitude. Forum for Economic Studies and Research Journal.

# **APPENDIX**

# **APPENDIX A: THE QUESTIONNAIRE**

**Description:**

This survey seeks to examine the influence of financial literacy on decision-making. It will take around 10 to 15 minutes to complete, and all responses will be kept confidential for academic purposes. Participants will be asked to share their level of financial literacy, including their comprehension of financial terms and concepts. Additionally, they will respond to questions about decision-making, such as their investment preferences.

Please note that participation is voluntary and you have the option to withdraw at any time.

If you have any further inquiries, feel free to contact me at [fellaabdi5@gmail.com](mailto:fellaabdi5@gmail.com)

*Thank you for your cooperation and assistance.*

<i>Section 01</i>	
<b>Q1:</b> Gender (One possible answer)	Female Male
<b>Q2:</b> Age (One possible answer)	18-25 26- 35 36-45 46-55 56-65 66 and more
<b>Q3:</b> Family situation (One possible answer)	Single Married Widow Divorced
<b>Q4:</b> You have children (One possible answer)	Yes No
<b>Q5:</b> Number of children (One possible answer)	1 2 3 4 5

	6 or more
<b>Q6:</b> You have an income (One possible answer)	Yes No
<b>Q7:</b> Average monthly income (One possible answer)	More than 600 000 DA / Month Between 300 000 and 600 000 Months Between 100 000 and 300 000 Months Between 30 000 and 100 000 Less than 30 000 Months
<b>Q8:</b> Education Level (One possible answer)	Primary level Middle school Secondary school University Professional training Mosque Other
<b>Q9:</b> Employment status (One possible answer)	Permanent part-time job Permanent full-time job Self-employed Student/ Unemployed/ Retired
<b>Q10:</b> Field of study (One possible answer)	Business and Management Engineering and Technology Computer Science & Information Technology Social Sciences Education Health and Medicine Law and Legal Studies Arts and Humanities Natural Sciences Mathematics and Statistics Environmental Science & Sustainability

	Agriculture and Forestry Communication and Media Studies
<b>Q11:</b> Place of living (One possible answer)	01 Adrar 02 Chlef 03 Laghouat 04 Oum El Bouaghi 05 Batna 06 Béjaïa 07 Biskra 08 Béchar 09 Blida 10 Bouira 11 Tamanrasset 12 Tébessa 13 Tlemcen 14 Tiaret 15 Tizi Ouzou 16 Algiers 17 Djelfa 18 Jijel 19 Sétif 20 Saïda 21 Skikda 22 Sidi Bel Abbès 23 Annaba 24 Guelma 25 Constantine 26 Médéa 27 Mostaganem 28 M'Sila 29 Mascara

	<p>30 Ouargla</p> <p>31 Oran</p> <p>32 El Bayadh</p> <p>33 Illizi</p> <p>34 Bordj Bou Arreridj</p> <p>35 Boumerdès</p> <p>36 El Tarf</p> <p>37 Tindouf</p> <p>38 Tissemsilt</p> <p>39 El Oued</p> <p>40 Khenchela</p> <p>41 Souk Ahras</p> <p>42 Tipaza</p> <p>43 Mila</p> <p>44 Aïn Defla</p> <p>45 Naâma</p> <p>46 Aïn Témouchent</p> <p>47 Ghardaïa</p> <p>48 Relizane</p> <p>49 Timimoun</p> <p>50 Bordj Badji Mokhtar</p> <p>51 Ouled Djellal</p> <p>52 Béni Abbès</p> <p>53 Ain Salah</p> <p>54 Ain Guezzam</p> <p>55 Touggourt</p> <p>56 Djanet</p> <p>57 El M'Ghair</p> <p>58 El Meniaa</p>
<p><b>Q12:</b> Types of technology do you use to manage your finances</p>	<p>Mobile apps</p> <p>Online banking platforms</p>

(One possible answer)	Personal finance software None of this applications
<b>Section 02: Financial knowledge</b>	
<b>Q13:</b> Five brothers are given a gift of 12,000 AD and they need to divide the money equally (One possible answer)	2.000 AD 2.500 AD 2.400 AD
<b>Q14:</b> Five brothers have to wait for a year to receive their share of the gift, taking into account the time-value of money and the general increase in prices; will they be able to purchase the same items with their share of the money after one year? (One possible answer)	More goods Same number of goods Less than they could buy today I don't know
<b>Q15:</b> Understanding the concept of financial literacy culture (Roy & Jane, 2018) (One possible answer)	Financial literacy culture involves learning about complex financial concepts such as risk management, portfolio diversification, and asset allocation. A culture that values spending money on luxury items and material possessions. Financial literacy culture refers to the ability to make money quickly and easily through investments or other means.
<b>Q16:</b> The source of knowledge regarding the concept of financial literacy culture (Amagiret al,2018) (One possible answer)	From a personal finance class or workshop From a friend or family member From a book or article on personal finance From social media I don't know this concept
<b>Q17:</b> You received any formal education or training on personal finance topics (Amagiret al,2018) (One possible answer)	Yes No

<p><b>Q18:</b> Difference between a checking account and a savings account (One possible answer)</p>	<p>A checking account is designed for everyday transactions such as paying bills, writing checks, and making debit card purchases, while a savings account is intended for saving money and earning interest over time.</p> <p>A checking account is used for long-term savings, while a savings account is for daily transactions and expenses.</p>
<p><b>Q19:</b> Familiarity with retirement planning and the steps needed to ensure a comfortable retirement (One possible answer)</p>	<p>Not at all familiar Slightly familiar Moderately familiar Very familiar Extremely familiar</p>
<p><b>Q20:</b> Understanding inflation and its impact on the cost of living (Multiple possible answers)</p>	<p>No idea Heard of it, not fully understand Increase in prices over time Decrease in money's purchasing power</p>
<p><b>Q21:</b> Risk diversification: the safer option when investing money (Maassen van den Brink, and Wilschut,2018) (One possible answer)</p>	<p>Bank deposit A single project Several projects</p>
<p><b>Q22:</b> Familiarity with financial technology (FinTech) and its applications in personal finance (One possible answer)</p>	<p>Not at all familiar Slightly familiar Moderately familiar Very familiar Extremely familiar</p>
<p><b>Q23:</b> Defining investment (One possible answer)</p>	<p>Investment is the act of wasting money on something that has no potential for a return or profit.</p>

	<p>Investment is the process of spending money on things that provide immediate gratification but no long-term benefits.</p> <p>Investment refers to putting money or resources into an asset or venture with the expectation of generating income or profit.</p>
<p><b>Q24:</b> You have a bank account (One possible answer)</p>	<p>Yes</p> <p>No</p>
<p><b>Q25:</b> How banks determine the interest rates they offer on loans and savings accounts (One possible answer)</p>	<p>Banks determine the interest rates on loans and savings accounts based on a variety of factors, including market interest rates, the level of competition in the market, and the creditworthiness of the borrower.</p> <p>The interest rates offered by banks are the same for all customers, regardless of their financial situation or creditworthiness.</p> <p>Banks do not consider market interest rates or competition when setting interest rates.</p>
<p><b>Q26:</b> How consumers and businesses compare the interest rates provided by various banks to identify the one that provides the most suitable rates for their financial requirements (One possible answer)</p>	<p>Consumers and businesses can compare the interest rates offered by different banks by researching online or visiting bank branches to review rate information and account terms and conditions.</p> <p>Consumers and businesses should rely on advertisements or promotions to determine which bank offers the best interest rates</p> <p>All banks offer the same interest rates for their savings and loan products, so there is no need to compare rates.</p>
<p><b>Q27:</b> You have a postal checking account (One possible answer)</p>	<p>Yes</p> <p>No</p>

<p><b>Q28:</b> The potential effects of inadequate financial literacy on an entrepreneur's capability to budget and predict financial outcomes for their enterprise (Deuflhard et al., 2019)</p> <p>(One possible answer)</p>	<p>A lack of financial literacy has no impact on an entrepreneur's ability to budget and forecast for their business.</p> <p>A lack of financial literacy may lead to errors in financial planning, which can negatively impact the overall success of the business.</p> <p>Financial literacy is only important for large corporations and has no relevance for small business owners.</p>
<p><b>Q29:</b> The approach that entrepreneurs can adopt to achieve a proper equilibrium between financial risks and rewards by making well-informed decisions</p> <p>(One possible answer)</p>	<p>Entrepreneurs can balance financial risks and rewards by analyzing data and making informed decisions based on financial information.</p> <p>Avoiding all financial risks is the best way for entrepreneurs to achieve financial success.</p> <p>Financial decision-making is not important for entrepreneurs and they can just rely on their intuition when making business decisions.</p>

<p align="center"><b>Section 03: Financial Behavior</b></p>	
<p><b>Q30:</b> Evaluation if you have enough money to purchase something before making a buying decision (Binti &amp; WanAhmad, 2020, p. 6)</p> <p>(One possible answer)</p>	<p>Never</p> <p>Rarely</p> <p>Sometimes</p> <p>Most of time</p> <p>Always</p>
<p><b>Q31:</b> You stick to your budget</p> <p>(One possible answer)</p>	<p>Never</p> <p>Rarely</p> <p>Sometimes</p> <p>Most of time</p> <p>Always</p>

<p><b>Q32:</b> Do you set a financial goal for yourself (Johan, et al., 2020, p. 3) (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>
<p><b>Q33:</b> Do you seek financial advice from a professional, such as a financial planner or accountant (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>
<p><b>Q34:</b> Do you use technology to manage your personal finances (e.g., mobile banking apps, budgeting software, etc.) (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>

<b>Section 04: Financial Attitude</b>	
<p><b>Q35:</b> Do you worry about your financial future (Binti and Wan Ahmad, 2020, p. 12) (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>
<p><b>Q36:</b> Do you feel guilty about spending money on non-essential items (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>

<p><b>Q37:</b> Do you seek out information or resources to improve your financial knowledge and skills (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>
<p><b>Q38:</b> Do you think about saving for retirement (Donny Agung Harvida, 2020) (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>
<p><b>Q39:</b> Do you feel motivated to make changes in your financial habits (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>
<p><b>Q40:</b> Do you believe that technology can help you make better financial decisions (One possible answer)</p>	<p>Never Rarely Sometimes Most of time Always</p>

# **APPENDIX B: TABLES OF PRELEMINIARY TESTS**

Tests of Normality						
Statements	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
How often do you believe that technology can help you make better financial decisions?	,207	295	,001	,895	295	,001
How often do you feel motivated to make changes in your financial habits?	,209	295	,001	,884	295	,001
How often do you think about saving for retirement?	,167	295	,001	,884	295	,001
How often do you seek out information or resources to improve your financial knowledge and skills?	,184	295	,001	,898	295	,001
How often do you feel guilty about spending money on non-essential items?	,192	295	,001	,910	295	,001
How often do you worry about your financial future?	,201	295	,001	,894	295	,001
How frequently do you use technology to manage your personal finances (e.g., mobile banking apps, budgeting software, etc.?)	,272	295	,001	,812	295	,001
How often do you set a financial goal for yourself?	,198	295	,001	,898	295	,001
Do you stick to your budget?	,200	295	,001	,903	295	,001
How often you evaluate if you have enough money to purchase something before making a buying decision.	,259	295	,001	,849	295	,001
How often do you seek financial advice from a professional, such as a financial planner or accountant?	,277	295	,001	,806	295	,001
Risk diversification: What is the safer option when investing money?	,429	295	,001	,615	295	,001
How familiar are you with retirement planning and the steps needed to ensure a comfortable retirement?	,187	295	,001	,900	295	,001
How familiar are you with financial technology (FinTech) and its applications in personal finance?	,288	295	,001	,781	295	,001

Quasi-normality tests for quantitative variables				
Statements	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
How often do you believe that technology can help you make better financial decisions?	-,479	,142	-,520	,283
How often do you feel motivated to make changes in your financial habits?	-,348	,142	-1,064	,283
How often do you think about saving for retirement?	,187	,142	-1,210	,283
How often do you seek out information or resources to improve your financial knowledge and skills?	-,399	,142	-,610	,283
How often do you feel guilty about spending money on non-essential items?	-,219	,142	-,574	,283
How often do you worry about your financial future?	-,447	,142	-,635	,283
How frequently do you use technology to manage your personal finances (e.g., mobile banking apps, budgeting software, etc.?)	,610	,142	-1,034	,283
How often do you set a financial goal for yourself?	-,434	,142	-,549	,283
Do you stick to your budget?	-,375	,142	-,357	,283
How often you evaluate if you have enough money to purchase something before making a buying decision.	-,869	,142	,169	,283
How often do you seek financial advice from a professional, such as a financial planner or accountant?	,851	,142	-,339	,283
Risk diversification: What is the safer option when investing money?	-1,307	,142	,114	,283
How familiar are you with retirement planning and the steps needed to ensure a comfortable retirement?	,326	,142	-,508	,283
How familiar are you with financial technology (FinTech) and its applications in personal finance?	,989	,142	-,184	,283

# **APPENDIX D: REGRESSION TABLES**

<i>Correlation</i>			
		Financial knowledge	Decision-making
Pearson Correlation	Financial knowledge	1,000	-,031
	Decision-making	-,031	,597
Sig. (1-tailed)	Financial knowledge	.	1,000
	Decision-making	,597	.
N	Financial knowledge	295	295
	Decision-making	295	295

**Model Summary <sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square	F Change	Df1	Df2	Sig. F Change
1	,031 <sup>a</sup>	,001	-,002	,397	,044	,280	1	295	,597

a. Predictors: (Constant), Financial Knowledge

b. Dependent Variable: Decision-making process.

**ANOVA <sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,044	1	,044	,280	,597 <sup>b</sup>
	Residual	46,193	293	,158		
	Total	46,237	294			

a. Dependent Variable: Decision-making process.

b. Predictors: (Constant), Financial knowledge

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,072	,047		44,547	0,001
	Financial knowledge	-,011	,020	-,031	-,529	,597

<i>Correlation</i>			
		Financial attitude	Decision-making
Pearson Correlation	Financial attitude	1,000	,393
	Decision-making	,393	,001
Sig. (1-tailed)	Financial Attitude	.	1,000
	Decision-making	,001	.
N	Financial attitude	295	295
	Decision-making	295	295

<b>Model Summary <sup>b</sup></b>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	Df1	Df2	Sig. F Change
1	,393 <sup>a</sup>	,154	,151	1,252	,063	53,385	1	295	,001

a. Predictors: (Constant), Financial Attitude

b. Dependent Variable: Decision-making process.

<b>ANOVA <sup>a</sup></b>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83,735	1	83,735	53,385	,001 <sup>b</sup>
	Residual	459,574	293	1,569		
	Total	543,308	294			

a. Dependent Variable: Decision-making process.

b. Predictors: (Constant), Financial Attitude

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,758	,147		11,981	0,001
	Financial Attitude	,463	,063	,393	7,306	0,001

<i>Correlation</i>			
		Financial behavior	Decision-making
Pearson Correlation	Financial behavior	1,000	,327
	Decision-making	,327	,001
Sig. (1-tailed)	Financial behavior	.	1,000
	Decision-making	,001	.
N	Financial behavior	295	295
	Decision-making	295	295

**Model Summary <sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square	F Change	Df1	Df2	Sig. F Change
1	,327 <sup>a</sup>	,107	,104	1,119	,060	35,172	1	295	,001

a. Predictors: (Constant), Financial behavior

b. Dependent Variable: Decision-making process.

**ANOVA <sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44,018	1	44,018	35,172	,001 <sup>b</sup>
	Residual	366,694	293	1,252		
	Total	410,712	294			

a. Dependent Variable: Decision-making process.

b. Predictors: (Constant), Financial behavior

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,082	,238		8,745	0,001
	Financial behavior	,355	,060	,327	5,931	0,001

