



RESEARCH ARTICLE

Eradication of Financial Literacy and Its Impact on Production Management: An Applied Study at the General Company for Automobiles and Equipment

Aymen Hadi Talib^{1*}, Laith Ali Zgair², Basim K. M. Nasrawi³, Ameer Jawad Al-Msary⁴

¹Ministry of Education, Iraq

^{2,3,4}Technical College Al-Mussib, Al-Furat Al-Awsat Technical University, Iraq

ARTICLE INFO

Received: Apr 11, 2024

Accepted: Jul 1, 2024

Keywords

Financial literacy

Productivity

Public Company for Mechanical Industries

***Corresponding Author:**

aymenhaditalib@gmail.com

ABSTRACT

The investigate aims to study the influence of financial literacy on the productivity of the Public Company for Mechanical Industries, as well as to appreciate the nature of the association between the independent variables (financial literacy) and (productivity). These variables have received significant attention in the business world and are important topics that have a major impact on companies and their future, due to the rapid and significant changes occurring in the world today. In order to clarify these relationships and links between these variables, the researcher formulated a set of objectives to reach the research results and provide statistics that serve the sample company, benefit future researchers and other companies. For this purpose, the researcher developed a research hypothesis to help found the correlation between financial literacy and productivity. To test the research hypothesis, the researcher conducted field research at the Public Company for Mechanical Industries, with the main research tool being a questionnaire specifically designed for this research to survey the opinions individual on the research variables. The research sample involved 114 participants, and a number of statistical approaches were utilized to deal with the data, involving tests for standard distribution, experimental factor analysis, confirmatory factor analysis, validity and reliability testing, mean, standard deviation, Pearson correlation coefficient, relative difference coefficient, linear regression and relative importance. The researcher utilized statistical software (AMOS V.25-SPSS V.28) to analyze the primary data. The main conclusion was that financial literacy significantly affects productivity.

INTRODUCTION

The Iraqi industrial sector has undergone significant transformations along with other challenges, especially after the year 2003. This sector represents a fundamental pillar for achieving a thriving economy as it contributes to the economic progress of countries. The importance of this research lies in the significance of the researched variables, as financial literacy plays a role in enhancing productivity, reducing deviations, minimizing damages, thereby improving these processes, and reducing production costs. The research presents important results that contribute to enhancing the productivity of the general company for mechanical manufacturing, the research sample, as well as enhancing the capacity of employees in institutions at a reasonable cost to meet their needs and those of the company. Therefore, the researcher seeks to comprehend the effect of financial literacy on

productivity. The research was applied in the General Company for Mechanical Industries, and the researcher used the questionnaire as a primary tool in the research, in addition to a set of statistical methods and statistical software packages (AMOS V.25- SPSS V.28). The statistical analysis discovered several results, the most projecting of which was the statistically significant impact of financial literacy on productivity. The researcher also recommended a set of recommendations to serve the research sample.

METHODOLOGY

1. Research Problem: The current research problem revolves around the low productivity of the General Company for Mechanical Industries. It can be formulated through the following questions: (Is there a role for financial literacy in improving the productivity of the General Company for Mechanical Industries)

This leads to the sub-questions listed below:

- ❖ Is there a role for financial literacy in enhancing the human capital of the General Company for Mechanical Industries?
- ❖ Is there a role for financial literacy in improving the physical capital of the General Company for Mechanical Industries?
- ❖ Is there a role for financial literacy in enhancing the production of the General Company for Mechanical Industries?

2. Research Objectives: The current research aims to achieve a set of primary objectives, including:

- ❖ Measuring research variables (financial literacy, productivity) before measuring the impact of other variables on each other.
- ❖ Diagnosing levels of financial literacy and productivity in the general company for mechanical industries.
- ❖ Evaluating the impact of financial literacy on productivity in the general company for mechanical industries.

3. Research Significance: The significance of the research stems from:

- ❖ Financial literacy being an important variable that contributes to organizing the work of companies and enhancing their efficiency.
- ❖ Productivity playing a crucial role in assisting companies in thriving and surviving in the competitive field, maintaining their position in the market, and sustaining growth.
- ❖ The significant importance of productivity, which prompted the researcher to delve into it and explore ways to increase it.
- ❖ The necessity for the General Company for Mechanical Industries to strive for adequate productivity that serves it in its work environment.

4. Research Model: To facilitate the achievement of research objectives and based on previous studies, the researcher constructed the hypothetical model of the research as illustrated below

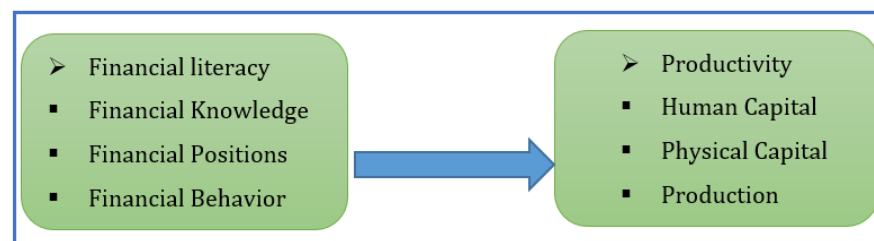


Figure 1: Hypothetical investigation model

Source: Performed by the researcher based on literature review

5. **Research Hypotheses:** To address the previous questions, the following hypotheses were formulated:
- ❖ Financial literacy significantly influences productivity with statistical significance.
 - ❖ The dimensions of financial literacy collectively have a significant effect on productivity with statistical significance.
6. **Research Population and Sample:** The industrial sector represents the research population within the Iraqi economy, while the research sample was represented by the General Company for Mechanical Industries.

THEORETICAL FRAMEWORK OF THE RESEARCH

1. Financial Literacy

A. Concept of Financial Literacy: Financial literacy denotes to a capability of individual to read and write. The standard determination developed by the National Adult Literacy Survey Committee in the United States (U.S.) and utilized by the National Adult Literacy Survey for adults uses written and printed information to function in society, accomplish personal goals, and develop knowledge and abilities. It covers three broad areas: literacy (prose), document literacy (tables/graphs), and quantitative literacy (mathematical and numerical information). Literacy encompasses understanding, which includes symbols, arithmetic operations and acquaintance of words, and the ability to write, read, and compute relevant materials for prose, documentation, and quantifiable information. The concept of literacy has been extended into skill sets, like computer literacy, statistical literacy, and health literacy. Educational testing services offer two sets of adult literacy tests. Each kind of literacy measures the capacity of a person to comprehend and utilize information (Huston, 2010:306).

Financial literacy is defined as individuals' inability to effectively manage their finances, ultimately leading to failure to achieve their financial goals. The description of financial illiteracy also applies to individuals who do not save enough for retirement, spend more than their budget, and provide financial decisions that make short-term satisfaction at the expense of long-term negative consequences (Arqoub, 2021:334). Financial literacy pertains to individuals' capacity to understand economic information and make informed choices concerning financial management, including planning for wealth, managing debts, and preparing for retirement benefits (Kishan & Alfan, 2018:12). The Organization for Economic Cooperation and Development (OECD) defines financial literacy as a combination of understanding, awareness, competencies, attitudes, and actions crucial for making prudent financial choices, ultimately achieving what is known as individual well-being (Atkinson & Messy, 2012:14). It has also been defined as the ability to manage money efficiently and effectively in financial decision-making processes (Bayrakdaroğlu & Şan, 2014:150).

B. The importance of Financial Literacy: the advancements in information technology, information systems management, and the impact of globalization have led to continuous progress of new financial products and services, with individuals having easier access to these new financial offerings, especially through online platforms. However, this easy access can lead to reckless and unwise financial decisions such as increased spending and borrowing, imposing a significant burden on individuals' wealth, which can result in real struggles in managing daily expenses (Saber, 2020:13). Previous research in behavioral finance reveal that numerous households fail to make optimal choices regarding saving and investing. It's also acknowledged that such decisions can result in subpar living standards and heightened economic stress (Lusardi & Mitchell, 2014:2). On the other hand, economic conditions have raised serious concerns about financial security, especially for those lacking the skills and resources necessary to withstand market fluctuations and benefit from

recovery. Individuals bear increasing responsibility for financial decisions, notably in financing, home buying, and retirement preparation, as these choices have become more complex. Financial crises have highlighted the consequences of making long-term decisions without appropriate tools, with the mortgage experience in the United States providing three cautionary lessons about the economic repercussions as a whole: first, unfortunate financial decision-making may be a common phenomenon; second, such problems may accumulate unnoticed for a long time before reaching crisis levels; third, systemic effects and the costs of maintaining stability can be significant, as evident from the disruptions in financial markets and subsequent interventions (Hung et al, 2009:3).

C. Dimensions of Financial Literacy: Financial Knowledge: Defined as the creative conception in the mind of the financial analyst resulting from accumulated intellectual and cognitive resources within the boundaries of their expertise, enabling them to assess events and facts without bearing significant risks (Abdulrahman, 2017:180).

- **Financial Attitudes:** Financial attitudes refer to the psychological disposition exhibited when assessing prescribed methods of financial management, indicating varying degrees of conformity or disagreement (Mien & Thao, 2015:4).
- **Financial Behavior:** Denotes to the utilize of best financial performs associated to crucial areas of financial planning like individual finance fundamentals, borrowing, saving, and investing (Hysmith, 2017:13).

2. Productivity

The desired goal for all organizations is to have their operational level better or at least equal to that of competitors by offering products that meet the aspirations and needs of their customers. Therefore, organizations must focus on improving their operations to reach the desired level.

A. Concept of Productivity: Productivity is one of the fundamental pillars of organizations across various specialties, playing a crucial role in achieving the economic stability and development of countries. Productivity is not a new concept; in fact, it has been present since the advent of industrial production, and it has been a continuous important discussion in the business world as societies transitioned from agriculture to industry. Making the workforce - whether human or mechanical - more efficient became a significant goal, as more efficient labor force means more profits. However, there have been numerous side problems arising from this increasing issue related to workforce productivity. Despite these challenges, labor productivity, or the economy, continued to evolve and improve during the industrial revolution, post-World War II, with significant technological advancements and economic globalization. Yet, productivity has also become more personal, sought after by every individual. With the technologies we use today, we have unlimited information and unlimited access to this information (Al-Tamimi, 2021:46). Productivity is associated with the goods and services produced concerning the resources used in their production. Broadly, it is the ratio of specific process outputs to the resource's inputs used. This can be expressed simply as (Kiran, 2020:30):

$$\text{Productivity} = \frac{\text{Outputs}}{\text{Inputs}}$$

Productivity can be defined as the ratio between the output (outputs) of a specific process and the resource inputs used, that is, it is in the process of harnessing and adapting the ability to increase outputs by using all resources used in production optimally (Kiran, 2020:55).

B. Importance of Productivity: Productivity has become crucial for countries as it represents the economy of those countries through the high and continuous production of their organizations flowing to other countries. Productivity is an extremely important indicator, as it measures the level of development and progress of countries and their national economies. The importance of

productivity lies in helping to increase organizational growth by using production elements without an increase, helping it to increase total output (Al-Maamouri, 2018:39).

C. Dimensions of Productivity: Human Capital: Human capital in organizations consists of a range of capabilities, experiences, and skills possessed by human resources, which vary and differ in their performance levels depending on the organization's employees and their current or future working conditions, or those disabled due to accidents and work injuries, leaves, or involuntary absences (Al-Tamimi, 2021:12). **Physical Capital:** Physical capital consists of tangible things made by humans themselves, whether bought or invested in, and then used for production of goods. It is one of the key factors in production (Al-Tamimi, 2021:202). **Production:** Production is a set of processes aimed at improving investment to obtain productive materials to meet needs and desires, meaning that production is the transformation of raw materials and their passage through several stages of work to obtain a product (www1.equiti.com).

PRACTICAL ASPECT

1. Statistical Description of the Financial Literacy Eradication Variable:

Table 1 illustrates the values of the arithmetic means, standard deviations, coefficient of variation, as well as the relative importance of the dimensions of the axis of financial literacy eradication. This axis achieved an arithmetic mean of (3.4), which is higher than the hypothetical arithmetic means of (3), placing it within the neutral agreement category. Meanwhile, the standard deviation was (0.67) with a coefficient of variation of (0.2). The relative importance reached (0.8), positioning this variable at the second level of importance among the research variables.

Table 1: Descriptive Statistics for Literacy Dimensions

Relative Importance	Coefficient of Variation	Standard Deviation	Mean	Dimensions of Financial Literacy	No.
0.80	0.20	0.67	3.42	Financial Knowledge	1
0.78	0.22	0.73	3.36	Financial Situations	2
0.82	0.18	0.61	3.42	Financial Behavior	3
0.8	0.2	0.67	3.4	Financial Values	4

Source: Outputs of SPSS v.25 software

In the previous table, there is a relative convergence between the values of the arithmetic means among the dimensions. It is evident that both the financial knowledge and financial behavior dimensions each obtained an arithmetic mean of (3.42), which is the highest arithmetic mean compared to the other dimensions of the financial literacy eradication variable. Meanwhile, the standard deviation for the financial knowledge dimension was (0.67) with a coefficient of variation of (0.20), indicating some consistency and convergence in the research sample responses, placing it as the second most important dimension with a relative importance of (0.80) compared to the other dimensions. On the other hand, the financial behavior dimension ranked first in terms of importance among the dimensions of financial literacy eradication, with a level of importance reaching (0.82), as indicated by the standard deviation of (0.61) and a coefficient of variation of (0.18), which are lower than those of the other dimensions. However, the financial attitudes dimension ranked last in terms of relative importance, with a value of (0.78), an arithmetic mean of (3.36), a standard deviation of

(0.73), and a coefficient of variation of (22%). These results indicate that senior management in the research company pays great attention to financial behavior and relies on it to correct paths and plans by employing it appropriately in continuous improvement processes to achieve the highest levels of efficiency and effectiveness. This positively reflects on the company's productivity. Additionally, the results indicate a lack of sufficient attention to financial attitudes, necessitating a reevaluation, especially those related to individual work, which can increase their experiences and knowledge, thus enabling them to excel over competitors and increase their market share.

2. Statistical Description of the Productivity Variable:

This axis relied on three dimensions: human capital, physical capital, and production. Table 2 illustrates the descriptive statistics represented by the arithmetic mean, standard deviation, coefficient of variation, relative importance of dimensions, and their sub-items. This axis achieved an arithmetic mean of (2.84), which is lower than the hypothetical mean and falls within the neutral agreement category. With a standard deviation of (0.51) and a coefficient of variation of (17%), this axis is of higher importance compared to financial literacy eradication among the research axes, with a value of importance of (0.82). This indicates that the research sample does not strongly believe that the company does not have a good level of productivity to cope with the challenges imposed by markets and the environment in which organizations operate, requiring the search for means and tools to enhance productivity.

Table 2: Descriptive Statistics for Productivity Dimensions

Relative Importance	Variation Coefficient	Standard Deviation	Mean	Productivity Dimensions	No
0.75	0.25	0.68	2.74	Human Capital	1
0.82	0.18	0.54	2.98	Financial Capital	2
0.74	0.25	0.72	2.79	Production	3
0.82	0.17	0.51	2.84	Total Value of Productivity Variable	

Source: The researcher prepared the data based on the outputs of SPSS software version 25

In the preceding Table 2, there is a relative convergence among the arithmetic means of the dimensions. It is evident that the dimension of financial capital attained the highest arithmetic mean, reaching 2.98 among the dimensions of productivity, while the standard deviation was 0.54, indicating consistency in the research sample's responses. The coefficient of variation was 0.29, with a significance level of 71%. As for the production dimension, its arithmetic mean was 2.79, with a standard deviation of 0.72 and a coefficient of variation of 32%, and its relative importance was 0.68, placing it third in importance among the dimensions of productivity. On the other hand, the dimension of human capital had the lowest arithmetic mean among the dimensions of productivity, at 2.74, with a standard deviation of 0.68 and a coefficient of variation of 25%, and its relative importance was 0.75, making it the most important dimension among the productivity variables

3. Hypothesis Testing Hypothesis:

Financial literacy has a statistically significant impact on productivity. The regression equation illustrates that the estimated regression results represent the value of the effect of financial literacy and its dimensions independently on productivity:

The relationship was analyzed according to a simple linear regression model as follows:

$$Y = a + \beta(X)$$

$$Y (\text{Productivity}) = 0.907 + 0.567 (\text{Financial literacy})$$

The regression model above reveals that the limit value of the constant was 0.907, while the β coefficient value was 0.567. The computed F-value indicating significance was 55.040, greater than the tabulated F-value of 3.93 at a significance level of 0.05. This indicates that financial literacy significantly affects productivity with a confidence level of 95%. Additionally, the computed t-value was 7.419, statistically significant with a significance level of 0.000, confirming the active and influential role of financial literacy on productivity overall. These results suggest that if senior management in the company is keen on enhancing productivity, they must invest in and utilize financial literacy to a greater extent. Furthermore, the interpretation coefficient value (R^2) was 0.32, indicating that financial literacy dimensions explain 32.2% of productivity variance, while the remaining 67.8% is attributable to other variables not included in the study. To further validate the above results, the researcher tested the relationship's impact using Structural Equation Modeling (SEM), a statistical tool capable of handling a large number of independent and dependent variables. Using the AMOS v24 software, the researcher tested the relationship between the impacts of financial literacy on productivity, with Table 3 displaying the obtained results representing the strength of the influence of those dimensions .

Table 3: Values of the Impact of Financial Literacy on Productivity

Dependent variable	Direction	Independent variable	SWR	Estimate	S.E.	C.R.	P
Productivity	<---	Financial literacy	.567	.585	.079	7.451	***

Source: Outputs of (Amos V24) Program

The table above shows that all values align with the results obtained through testing in the SPSS V25 software. Additionally, as Figure 2 illustrates, it presents the values of those effects and their directions.

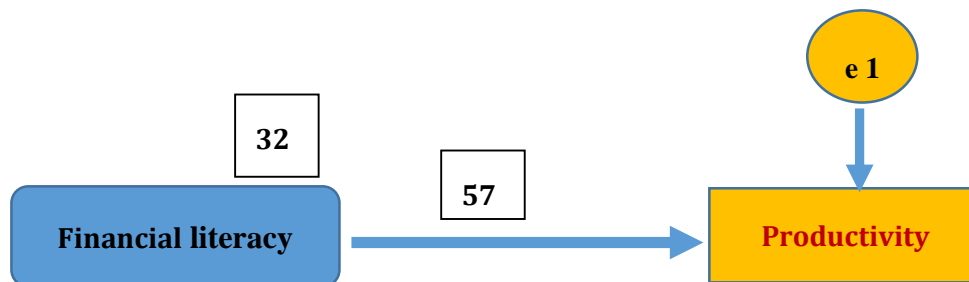


Figure 2: Model of the impact of financial literacy on productivity

Source: Outputs of (Amos V24) Program

Hypothesis Two: The second hypothesis posits that the combined dimensions of financial literacy have a statistically significant impact on productivity. The relationship between the combined

dimensions of financial literacy and productivity was tested, with Table 4 displaying the obtained results representing the strength of the influence of those dimensions.

Table 4: Values of the impact of the dimensions of financial literacy on overall productivity

Dependent variable	Direction	Dimensions of the Independent Variable	SRW	Estimate	S.E.	C.R.	P
Human Capital	<---	Financial Knowledge	.156	0.16	0.089	1.796	0.072
	<---	Financial Positions	.104	0.098	0.083	1.17	0.242
	<---	Financial Behavior	.589	0.661	0.133	4.982	***

The table above indicates that all values correspond the results obtained from the test in the SPSS V25 program

CONCLUSIONS AND RECOMMENDATIONS

Conclusions:

1. The research results indicate that financial literacy significantly affects productivity, leading to improved quality levels across various aspects of the organization's operations and production stages, thereby enhancing productivity levels.
2. Findings reveal that senior management in the sampled company relies on clear standards to measure the quality of production processes and products, emphasizing continuous development of information systems through the adoption of information exchange systems among its various departments.
3. Results show a high level of commitment to continuous improvement, driven by senior management's pursuit of competitive advantage, performance enhancement, and significant results through the use of technology and modern work methods aimed at reducing errors and increasing production pace.
4. It is found that senior management in the sampled company pays considerable attention to financial behavior, utilizing it in all stages of the production process to correct paths and plans effectively, thereby achieving higher levels of efficiency and effectiveness.
5. Research results suggest that senior management in the sampled company does not prioritize financial positions significantly compared to other dimensions.

Recommendations:

1. There is a essential to focus on enhancing financial literacy to develop production quality significantly, reduce deviations, defects, and associated correction costs, leading to positive impacts on raising productivity levels across various organizational facets.

2. Clear steps and standards for measuring the quality of production processes and products should be adopted continuously to reduce deviations and improve production operations by consistently adjusting workflows to meet established specifications.
3. Senior management in the sampled company should conduct regular inspection and review processes according to fixed schedules to prevent or minimize deviations in production process quality.
4. Enhancing collaboration with investment institutions is essential for increasing production by investing in modern production technology, reducing reliance on external sources for development and enhancing production levels.
5. Senior management in the sampled company should prioritize financial positions, introducing modern work methods through intensive courses in modern production systems and methods to reduce high costs and maintain workflow continuity.

REFERENCES

1. Nashash, F., Marmouri, A., & El Bashir, M. (2020). The role of training in improving employee performance (Doctoral dissertation). Ahmed Draya University-Adrar.
2. Araqoub, K. (2021). Contribution of financial culture to the success of entrepreneurs: A case study of real entrepreneurs in the Financial Management Program for Entrepreneurs. *Journal of Strategy and Development*, 11(3), 330-348.
3. Altamimi, M. A. S. (2021). Strategic orientation and its role in increasing productivity: A field study in Maysan Oil Company (Master's thesis, Department of Business Administration, College of Management and Economics, University of Baghdad, Baghdad, Iraq).
4. Al-Maamouri, H. K. K. (2015). The role of Six Sigma in improving quality and reducing the costs of poor quality: An applied study in the Kufa Cement Plant. *Al-Qadisiyah Journal for Administrative and Economic Sciences*, 17(3), 251-269.
5. Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, 44(2), 296-316.
6. Kishan, K., & Alfani, E. (2018). Financial statement literacy of individual investors in China. *International Journal of China Studies*, 9(1), 3-28.
7. Atkinson, A., & Messy, F. A. (2012). Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study.
8. Bayrakdaroglu, A., & Şan, F. B. (2014). Financial literacy training as a strategic management tool among small-medium sized businesses operating in Turkey. *Procedia-Social and Behavioral Sciences*, 150, 148-155.
9. Saber, A. (2020). "The Impact of Financial Literacy on Household Wealth in the Kingdom of Saudi Arabia" Doctoral dissertation, Victoria University.
10. Lusardi, A., & Mitchell, O. S. (2014). "The economic importance of financial literacy: Theory and evidence" *Journal of economic literature*, 52(1), 5-44. 111. Malysenko, V.
11. Hung, A., Parker, A. M., & Yoong, J. (2009). "Defining and measuring financial literacy". RAND Working Paper Series WR-708, Available at SSRN: <https://ssrn.com/abstract=1498674>
12. Abdulrahman, A. T. (2017). "The role of the dimensions of financial knowledge in achieving banking leadership An exploratory study of the opinions of the managers of a sample of private
13. Mien, N. T. N., & Thao, T. P. (2015, July). "Factors affecting personal financial management behaviors: Evidence from Vietnam. In Proceedings of the Second Asia-Pacific Conference on Global Business, Economics" Finance and Social Sciences, AP15Vietnam Conference, (Vol. 10, No. 5, pp. 1-16).
14. Hysmith, R. T. (2017). "Impact of Student-Managed Investment Fund Participation on Financial Knowledge, Financial Satisfaction and Financial Behavior", Doctoral dissertation, Northcentral University.

15. Kiran, D. R. (2020). Work organization and methods engineering for productivity. Butterworth-Heinemann
16. www1.equiti.com