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Factors Affecting the Small and Medium Enterprises Sector that are Related to Industrial Development: A Study on a Sample of Small and Medium Enterprises

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Abstract
This study aims to examine the determinants of the SME sector and their relationship with industrial development, focusing on a sample of SMEs. At the beginning of the study, the importance of the role of the sector in promoting economic and industrial development was highlighted by addressing the question of how the various determinants affect the ability of SMEs to achieve industrial development. The objectives of the research were to analyze these determinants and assess their impact on industrial development.
A questionnaire was distributed to the selected sample of SMEs and the data was analyzed using SPSS software. Then we analyzed the data using SPSS software to get accurate results.
Finally, the study showed that these determinants affect the growth of SMEs which has a positive impact on achieving industrial development. The study concluded with recommendations that include increasing financial support, vocational training, and improving infrastructure to support SMEs to enhance their growth.

Keywords: Small and Medium Enterprises, Industrial Development, Development

1. Introduction

Small and medium-sized enterprises play an important role in the economic development of countries due to their characteristics, especially high flexibility and their ability to eliminate unemployment through their effective contribution to providing jobs, meeting society's needs for goods and services, revitalizing industrial processing, and diversifying exports. Countries have increased interest in small and medium-sized enterprises for their economic effectiveness despite the economic transformations that the world has gone through. Successful experiences have proven the effectiveness of SMEs in industrial sector growth, which directly contributes to economic and social development and growth and the realization of comprehensive development goals. We try through this research paper that relying on the SME sector to develop the financial industry in particular and achieve comprehensive development goals must pass through the industrial sector. To clarify this, we have addressed in this study four basic axes, which are the concept of development and the relationship of development to industrialization, its importance, goals, and strategies

in achieving development, and we addressed in the fourth axis the factors that do not directly affect the SME sector and its relationship with industrial development, while the fourth axis was devoted to the field study of what came in the theoretical aspect.

1.1 Problem of the study

Industrial development is considered one of the mechanisms for achieving comprehensive development because of its effective role in achieving the set development goals. However, since it is impossible to develop societies without a specialized structure for the economy, economic growth can only be achieved with a political will capable of implementing targeted strategies. Industrial growth is considered one of the main pillars of any transformation and structural change of any economy, as the industrial sector is at the heart of the economic development process. Industrialization remains a major development challenge in many countries, as industrial growth leads to an increase in the volume of goods and services. Thus higher rates of Industrial growth are influenced by several direct and indirect economic factors that increase its rates. (SMEs) are also considered one of the keys to industrial growth that countries can rely on because of the advantages that make them achieve the desired goals of industrial development based on all of the above, prompting us to ask the following question:

Do the factors influencing the small and medium enterprises sector have a relationship with industrial development?

The question posed is subdivided into sub-questions as follows:

- Do training and education have an impact on industrial development?
- Do financing and tax incentives have an impact on industrial development?
- Does the geographical location of SMEs have an impact on industrial development?
- Does the presence of SMEs in industrial clusters have an impact on industrial development?

1.2 Study hypotheses:

The research is based on the hypothesis that the economic variables represented by the determinants affecting the SME sector, namely training and education, financing and tax incentives, geographical location of the enterprise, and industrial clusters, have a differential impact on industrial development.

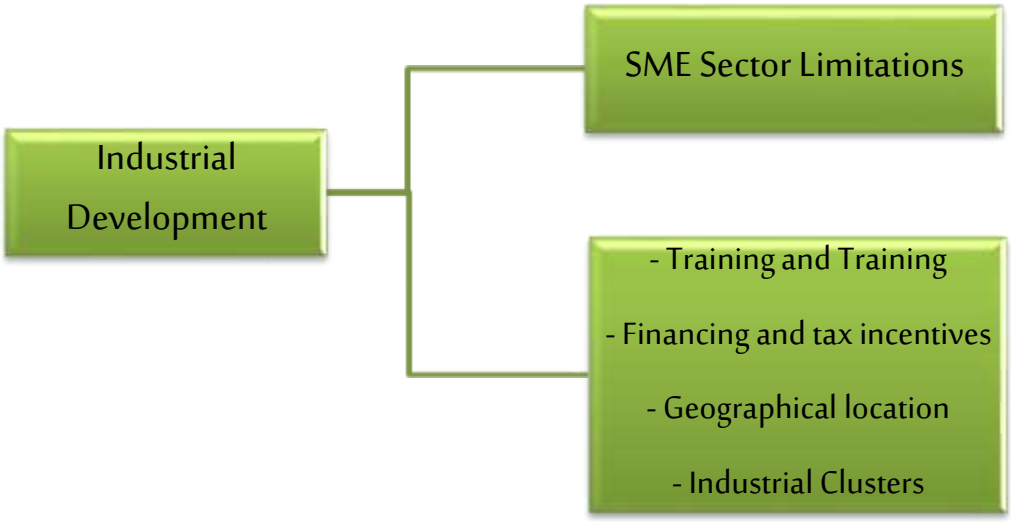
To investigate the question posed and test the hypotheses, we conducted a field study at the level of the governorate of Bordj Bou Arreridj, targeting small and medium-sized enterprises operating at the regional level.

1.3 Objectives of the Study:

This study aims to achieve many objectives, including the following:

- Identify the theoretical framework of the concept of development;
- The relationship between industrialization and development;
- The objectives of industrial development;
- Identify some of the factors affecting small and medium enterprises (SMEs);
- Recognize the determinants of the SME sector;
- The impact of SME determinants on industrial development.

1.4 Study Template:



2. Theoretical Framework of the study:

2.1 The contemporary concept of development:

The definition of development has been associated with the narrow concept of economic growth since its emergence at the end of the Second World War, as it focused on increasing average income from GDP by increasing production through a combination of investment, savings, and aid. However, with the global debt crisis of the 1980s, interest in social issues declined and research was limited to financial and monetary stability and economic growth. At the beginning of the new millennium, several papers and reviews led to the inclusion of economic and social aspects in the concept of development and its expansion to include environmental aspects. The United Nations launched its new development plan, known as the Millennium Development Goals (MDGs).

Where the center of its goals was how to eradicate poverty by 2015, with the commitment of all countries of the world to implement the development agenda after 2015 and until 2030, and the field of development expanded to 17 areas that take into account the benefits of people, planet, well-being, peace, and partnership, known as the Sustainable Development Goals (SDGs). (Development Planning Guide, 2022, p. 11)

Economic development and industrial development are complementary and serve each other. Economic development encompasses all sectors of the economy and all parts of the country. Industrial development expresses the search for strategies to effectively utilize economic resources, especially in the industrial sector, by achieving the maximum value added at the lowest economic and social cost. As such, it is considered the main engine of the overall economic development.

2.2 Industrialization and Industrial Development:

In the 1940s, classical economists agreed on the importance of industrialization, especially manufacturing, for development. The pioneers of the neoclassical approach believe that industry is the fastest-growing sector because of its high productivity and its contribution to raising incomes, providing goods, and increasing exports. The structuralist school has another view that development is a structural transformation in which the manufacturing sector plays a key role, with government intervention to ensure the necessary

structural transitions and protect emerging industries, taking into account the complementarity between sectors and not focusing too much on the industry at the expense of the agricultural sector, but adopting a balance in directing investment towards the investment that achieves the highest expected returns. It also adopted a policy of import substitution. Based on all of the above, most development analyses have emphasized the importance of industrialization. (Abdellatif Mustafi, Abdulrahman Sania, 2023)

Industrialization refers to the increase in the share of the industrial sector in GDP, the employment of the population, and the development of economic activity in production units, which leads to the large use of machinery and capital assets with the division of labor and industrialization, and contributes to the expansion of industrial sector activity through diversification, in addition to the generation of energy and the growth of communication networks, in addition to the creation of jobs, wealth and poverty alleviation. (Iwuagwu, p. 3)

A country's industrial policy is the dynamic mechanism that lays out the detailed blueprint for the goals to be achieved through this strategy. Industrial development strategies are generally divided into two types: The strategy of industrial development through the introduction of foreign capital and the strategy of utilizing domestic resources. The former relies mainly on inviting companies to set up factories in industrial zones with basic infrastructure such as land, transportation system, water supply, and electricity. The second strategy is based on the production of high-value-added products and the promotion of industry by optimizing the use of local resources such as mineral, agricultural, and marine resources, technology and traditional culture, and human resources. (The Study on the Integrated Regional Development Plan for the Northeastern Border Region in the Kingdom of Thailand, p. 1)

2.3 Industrial development goals

Industrial development plays an effective role in economic growth as it aims to achieve the following: (Mohammed Delf Ahmed Al-Dulaimi, 2022)

- Raise the standard of living of the population by increasing local production of consumer, intermediate, and capital goods, thereby expanding income, markets, technology, and the environment. This requires first assessing resources, potentials, and constraints to formulate strategies.
- Drawing industrial master plans to guide investment in productive accompaniment and support services, including training.
- Diversify the productive structure and minimize the risks that can accompany poor diversification if the industrial sector is not developed, especially since the two sectors that are relied upon in many developing country economies are agriculture and extractive industries that are affected by adverse natural conditions for agriculture or market conditions for extractive agriculture.
- Improving the country's import capacity, so that what cannot be produced domestically can be sourced from abroad in fair trade (Fujio, 2012, p. 134)
- Supporting the economic independence of countries, and thus political independence, as a means of pressure for developed countries to control developing countries due to their need for industrial production.
- Solving the problem of unemployment, as the industrial sector can absorb large numbers of workers.
- Providing hard currency by providing export-oriented industrial goods that meet the needs of developing countries.
- To increase the volume of optimal investment of the natural resources of the environment through the industrialization of raw materials and commodities, thus obtaining the added value generated by the production process, thus contributing to the achievement of comprehensive development.

- Providing the means of production for the agricultural sector, including equipment, machinery, and techniques, and stimulating practical and technological development.
- To develop the skills and abilities of the labor force through the use of new technologies and modern means and methods of production. (Mohammed Delf Ahmed Al-Dulaimi, 2022)

2.4 The determinants of industrial development

The determinants of industrial development are the factors that can affect the country's ability to develop the industrial sector by increasing its productivity and competitiveness. These determinants can be classified as internal and external.

- Internal factors: These are the amount of investment in infrastructure, industrial policy, government expenditure, human resources and human capital, and natural resources.
- External factors: The external environment includes openness to foreign markets and competition, cooperation with other sectors, and global challenges and opportunities that determine the position of the local sector relative to the global one.

2.5 Industrial growth strategies

There are several industrial development strategies, the most important of which will be discussed below**:**

2.5.1 Import Substitution Strategy

Industrialization is a development strategy for developing countries promoted from the 1930s to the 1970s Economic theorists saw industry as a way out of underdevelopment. It consisted of moving away from dependence on imports of manufactured goods by producing them within countries. Attempts to industrialize according to this doctrine were made in Brazil (1930-1964), Argentina (1950-1975), India (after 1947), and even in distant French provinces**.** (Jean-Benoît Bouron, , 2022)

2.5.2 Free Zone Strategy

Customs zones are defined areas where industrial and service activities are subject to customs laws and regulations and laws related to the control of foreign trade. These zones are established to encourage foreign investment, stimulate local employment, and promote economic development. They provide benefits to businesses such as tax exemptions, simplified procedures, and a skilled workforce. Free zones attract many national and international companies, contributing to the economic growth of the country. (Mansouri Marwane, 2024)

2.5.3 Industrial Zone Strategy

An industrial zone is a specific area created by the government to offer advanced industrial spaces for industrial activity. They are characterized by low prices and are aimed at small and medium enterprises. They are planned and established areas with their administrative system to facilitate the growth of industries. They have become increasingly important in industrial and innovation policies around the world due to the benefits of clustering, which is essential for increasing the competitiveness of companies and countries**.** (Briefs and notes, 2018 , p. 42)

3. Factors influencing SMEs

3.1 The role of SMEs in economic development

SMEs occupy an important place in contemporary economies as they are one of the keys to industrial development due to their essential role in revitalizing the economy, achieving structural development, fostering technological innovations, and fighting unemployment: (Kemi, 2014, p. 76)

- **Capacity building**: SMEs provide a platform to train local entrepreneurs, contributing to wealth creation SMEs have been proven to be incubators of entrepreneurship where creativity and innovation are born and grow.
- **Promote growth**: The participation of SMEs in economic activity that relies heavily on local resources is an important factor in realizing high value-added and thus plays a key role in the growth and development of the economy.
- **Industrial diffusion**: The flexibility of SMEs allows them to survive on rudimentary industrial infrastructure. They are easily located in rural areas and thus act as facilitators of industrial diffusion and rural development.
- **Backward and forward linkages**: SMEs often produce goods for large enterprises. They thus create mutual industrial linkages between local producers of raw materials and large industrial firms.
- **Technological/industrial development**: SMEs have a short maturity period and a high potential for a quick return on investment because the technology used is less complex. They offer an alternative for countries seeking rapid industrial development.
- **Technology Acquisition**: Small-scale industries provide opportunities for local skills development and technology acquisition through adaptation, providing a strong impetus for rapid economic development.

3.2 The contribution of SMEs in attracting and mobilizing savings:

It is considered one of the means of attracting savings since one of its advantages is its reliance on limited capital, which makes it an element to attract small savers and transform their savings into investments in various sectors, among its most important contributions are the following: (Mohamed El-Amin Karouche, Aisha Ammari, 2016, p. 09)

- **Contribution of SMEs to export development**: SMEs play an effective role in export development due to the advantages that the products they offer have, such as the nature of manual labor, which is popular in foreign markets, and the flexibility of SMEs in changing the activity or product line allows them to access new markets due to the low volume of their production.
- **The contribution of SMEs to industrial integration**: Large industrial organizations with wide activity need small and medium enterprises given the competition prevailing in the markets, and an integration relationship arises between them through the provision of intermediate goods to cover part of the local and national market. Large enterprises predominate in capital-intensive activities, while small enterprises predominate in sectors where the nature of the product or production process does not allow for economies of scale, or where the total market for the product is small.
- **The role of SMEs in job creation**: SMEs contribute to job creation as they are one of the economic sectors that create new jobs due to their characteristics.
- **The role of SMEs in meeting the needs of the population**: Small and medium enterprises provide goods and services of wide consumption and supply local markets, while large enterprises are unable to achieve such as maintenance, installation, and finishing services ... Also, the use of modern electronic technologies in the production process enabled these small businesses to work efficiently We can look at the role played by this type of institutions in meeting the needs of consumers as follows: Meeting the demand for consumer goods: SMEs have proven their worth in this area, as the sector works to produce and provide consumer goods and minimize imports.

3.3 Factors affecting the SME sector

- **Financing mechanisms and tax incentives to promote SMEs**

SMEs play a major role in the development of the global economy and job creation, especially in developing countries. Worldwide, they account for about 90% of enterprises and more than 50% of the workforce. Formal SMEs contribute up to 40% of GDP in emerging economies. These figures are even higher when the informal sector is included. 600 million jobs will be needed by 2030 to accommodate the growing global workforce, making SME development a priority for many governments around the world. In emerging markets, 07 to 10 jobs are created by formal SMEs.

- **Financing**

Access to finance is the second most common obstacle to the growth and development of SMEs in emerging markets and developing countries. SMEs are less likely to have access to bank loans than larger companies; they rely on internal funds or loans from friends and family. The International Finance Corporation (IFC) estimates that 65 million businesses, or 40% of formal SMEs in developing countries, face an annual unmet financing need of $5.2 trillion, which is 1.4 times the current level of global SME financing. Statistics show that about half of formal SMEs have no access to formal credit. The financing gap is even larger when very small and informal enterprises are taken into account. (World Bank, 2019)

- **Fiscal incentives**

Tax incentives can be divided into several categories: Tax exemptions, investment grants, tax credits, timing differences, reduced tax rates, and free trade zones. (David Holland ; Richard J. Vann, 1998, p. 4). Tax incentives are the loss of government budget revenue as a result of concessions in tax laws. To encourage certain types of behavior, such as education and training, or to benefit specific categories of companies, such as small and medium-sized enterprises (SMEs). Tax incentives reduce either the tax base (i.e. tax exemption) or the tax due (i.e. tax credit). (cedefop, europa, 2024)

To sustain the rapid growth of newly established SMEs, tax incentives become an important tool in the government's investment promotion strategy. Fiscal incentives can play an important role in attracting and encouraging businesses to expand their offerings by incentivizing their investment power. Some of the tax incentives available to the Nigerian government to encourage SMEs include:

- The most commonly used incentive by the government is tax exemption, but this exempts firms from other tax obligations and also deprives some firms of certain tax deductions during the tax exemption period, such as depreciation and interest expense, which tend to at least partially offset investment incentives. However, tax incentives are mistakenly perceived as simple incentives with a relatively low compliance burden, e.g. no need to withhold income tax during the holiday period. This perception makes tax incentives more attractive to stimulate SME growth and expansion. (Feyitimi, 2016, p. 2)
- **Training and coaching**: Investing in employee training and development programs increases the efficiency, effectiveness, and productivity of organizations by reducing labor-related costs, improving employee morale and initiative, achieving long-term success, and increasing job satisfaction. It bridges the skills gap and prepares employees for future roles and responsibilities. Organizations that invest in the training and development of their employees gain the ability to adapt to a business environment characterized by constant change. (360training, 2023)
- **Industrial cluster strategy**

SMEs face some obstacles related to their size that prevent them from competing and accessing global markets due to their low productivity, which poses a challenge to these companies. SMEs face two important challenges. Firstly, the process of moving towards global markets and increasing competitiveness, and secondly, size constraints to enjoy the benefits of synergy effects resulting from cooperation with other organizations (Bijan Safavi ; Aslan Bagheri, 2014, p. 2) One of the strategies to overcome these

obstacles may be to organize these organizations in the form of industrial clusters, taking advantage of the benefits offered by clusters and enabling them to achieve competitive advantage through cost reduction, knowledge diffusion and access to labor. According to the results of various researchers to clarify and determine the effectiveness and geographical concentration of organizations with a common industrial orientation on the use of external and economic benefits of clustering, industrial clusters create some advantages for SMEs and the presence of global markets, the cluster concept has a close relationship with competitiveness, increased innovation, social capital, and entrepreneurial environment and can enable them to gain a competitive advantage. (Bijan Safavi ; Aslan Bagheri, 2014, p. 5)

- **Industrial Real Estate**

An industrial zone is a pre-planned cluster of industrial enterprises that offer subdivided and developed land or factory sheds placed on demand to facilitate services for companies seeking to industrialize and accelerate growth. Designed as a mechanism to balance regional development, they can be found in urban, semi-urban, and rural areas and can be small, medium, or large, established by the government, cooperatives, or private agencies. SMEs can benefit from the advantages offered by these zones, such as economies of scale and agglomeration, characterized by low investment and less risk, these zones provide an environment for the incubation of entrepreneurs, saving effort and time, and the proximity factor promotes the spirit of exchange between companies in the same industrial zone. (P.G. PADMA GOWRI, 2024)

4. Field study

The field study consisted of data sources, the research sample, and the study population represented by SMEs at the Bordj Bou Arréridj Governorate level.

4.1. Approach to the study

In this study, the researchers relied on the descriptive method, which is used to describe phenomena in a scientific manner, through which concepts about development, industrialization, and its strategies and factors affecting SMEs were presented, based on the literature and available sources, and described quantitatively, and the main tool used to collect information was the questionnaire, which was designed to obtain quantitative data and then unpacked and processed to analyze a set of indicators to reveal the extent of the contribution of the SME sector through four determinants in the industrial development process statistically and test hypotheses with the software spss.

4.2. General introduction of the studied sample

To carry out a specialized study, it is necessary to develop a scientific methodology appropriate to the nature of the research, and within this methodology, the sample is defined as the basis of the study, since the choice of the sample is important since the validity of the results depends on the correctness of the selection of the sample. The study dealt with a random sample of SMEs operating in the industrial sector in the State of Bordj Bou Arréridj territory. We used the criterion of the number of employees to determine the size of the institution, where the number of permanent employees in these institutions is not less than 10 employees and not more than 250 employees. The study included a sample of 30 institutions with industrial activity the study took place during March and April, and we used the electronic questionnaire designed by Google Forme in addition to the paper questionnaire according to the responses of the institutions.

4.3. Design of the study instrument:

The research tool designed by the researchers, is a questionnaire addressed to the owners and employees of SMEs, based on what was discussed in the theoretical aspect, and the axes of the questionnaire were

identified as follows:

- **The first axis**: Determinants of the SME sector, which is divided into four dimensions.
  - **The first dimension**: It includes the following factors: Labour, training and education;
  - **The second dimension**: This axis includes the factors of financing and tax incentives ;
  - **The third dimension**: This axis is dedicated to the factor of the location of the organization;
  - **Fourth dimension**: This axis includes the factor of industrial clusters.
- **The second axis**: This axis deals with the industrial development axis.

4.4. Psychometric properties of the study instrument Before embarking on the data analysis process, the reliability and stability of the questionnaire were measured and then the conditions of normal distribution were tested using the skewness and kurtosis coefficients.

5. Results of the application to the study population

5.1. Reliability and stability of the study instrument

- **Internal consistency validity:** This was done by measuring the degree of correlation between the paragraphs and the total scores of the dimensions, and measuring the correlation between each dimension and the total scores of the axes by calculating the **Pearson** correlation coefficient. The results showed that there was a statistically significant correlation between the paragraphs and the dimensions and between the dimensions and the axes.
- **Subjective validity:** By calculating the square root of Cronbach's alpha reliability coefficient of 0.923.
- **Stability of the questionnaire:** To ensure that the answers do not change when the questionnaire is repeated on the same people, the Cronbach's alpha coefficient was calculated for each axis and the results were as follows:

Table 1: Results of the stability test of the study instrument using Cronbach's alpha coefficient.

The Axis	Number of paragraphs	Cronbach's alpha value
Training, Employment and Apprenticeships	4 Paragraphs	0.761
Financing and tax incentives	4 paragraphs	0.693
Geographical location	4 paragraphs	0.804
Industrial clusters	4 paragraphs	0.717
Industrial development	16 paragraphs	0.897

Source: Prepared by the researchers based on the outputs of the spss program V52

The results of the above table show the results according to Cronbach's Alpha values for each statement of each axis of the questionnaire to know the extent to which each statement of each axis has a degree of stability in the results where we notice that the values of the Cronbach's Alpha coefficient are statistically acceptable as they exceed the threshold value (0.6) while the Cronbach's alpha value for the questionnaire as a whole reached (0.949). Based on all of the above, the obtained Cronbach's alpha coefficient values indicate the stability of the study tool and the reliability of the questionnaire data in measuring the study variables and ensuring the validity and validity of the data to analyze the results and answer the study's questions and test its hypothesis.

Table 2 : Arithmetic mean and standard deviation of the axes and dimensions of the study.

The Axis	Arithmetic mean	Standard Deviation	Trend
Training, Employment and Apprenticeships	3.6821	0.70669	High
Financing and tax incentives	3.8723	0.80553	High
Geographical location	3.8741	0.82002	High
Industrial clusters	3.8795	0.82989	High
Industrial development	3.6821	0.70669	High

Source: Prepared by the researchers based on the outputs of the spss program V52

5.2. The attitudes of the sample members about the study variables

We used descriptive statistics to extract the arithmetic mean and standard deviation of the study questions to present and interpret them. To analyze and discuss the opinions of the respondents in the extent of their agreement and disagreement with the content of the questionnaire, the agreement index was prepared using the range, arithmetic mean, and standard deviation according to the financial table, and through the results, it is clear that the average responses of the study sample members were high for all axes of the study.

5.2.1. Conditions for adopting regression in hypothesis testing

Before starting to study and analyze the hypotheses using multiple regression, we study the tests for the regression conditions, which are as follows:

- **Linear relationship between the independent variables and the dependent variable**

The linear relationship between the independent variables and the dependent variable is examined by Spearman's coefficient.

Table 3: Spearman's correlation coefficient.

The Axis	Spearman's correlation coefficient	Significance level
Training, Employment and Apprenticeships	0.645	0.000
Financing and tax incentives	0.648	0.000
Geographical location	0.682	0.000
Industrial clusters	0.765	0.000

Source: Prepared by the researchers based on the outputs of the spss program V52

From the table above, we can see that the correlation coefficients between the fixed variable and the independent variables range between 0.645 and 0.765, which is greater than 0.30, which explains the existence of a linear relationship between the independent variables and the dependent variable.

- **Normal distribution of independent and dependent variables**

To recognize the shape of the data distribution, the flattening and torsion test was used, from 3 to -3, Since the flattening of the curve is less than 7, it can be said to be from a normal distribution.

Table 4 : Normal distribution test.

The Axis	Skewness metrics	Kurtosis metrics
Training, Employment and Apprenticeships	0.489	- 0.782
Financing and tax incentives	0.512	- 0.709
Geographical location	1.334	- 1.099
Industrial clusters	0.170	- 0.467
Industrial development	0.300	-0.569

Source: Prepared by the researchers based on the outputs of the spss program V52

It is clear from the above table that the values of the twist coefficients are between 1.3334 and 0.3, which are confined between the acceptable range of 3 and (-3), while the values of the kurtosis coefficient are between (-1.099) and (-0.467), and these values are less than 7, from which we conclude that the study data is close to a normal distribution, which allows us to use the parametric tests and start the regression test.

- **Variance inflation factor and tolerable variance**

To know whether the independent variables are correlated or not, both the VIF test and the tolerance test are used, and the results obtained are shown in the following table

Table 5 : Variance inflation factor and allowable variance.

The Axis	Variance inflation factor VIF	allowable variance
Training, Employment and Apprenticeships	2.589	0.386
Financing and tax incentives	2.529	0.395
Geographical location	3.123	0.320
Industrial clusters	2.182	0.458

Source: Prepared by the researchers based on the outputs of the spss program V52

From the above table, it can be seen that the variance inflation coefficients are smaller than 5 and the allowable variance values are greater than 0.1, so there is no correlation between the independent variables.

- **Normal distribution of residuals** The table that will be shown is the one that examines the normal distribution of the residuals.

Table 6 : Mahalanobis and Cook's test.

	Mahalanobis Test Value	Cook's test value
The value of residuals	17,703	0.194

Source: Prepared by the researchers based on the outputs of the spss program V52

From the above table, the value of Mahalanobis which is compared with the tabulated value of $kh2$ at 0.01 level of significance and degree of freedom 4 (17.703) is less than the tabulated value 48,18. The Cook's value (0.194) is less than 1. Therefore, it can be said that there is a normal distribution of the residuals and there are no outliers that affect the study model.

Therefore, there are no issues when analyzing and testing the hypotheses. From this test, the study can proceed and use parametric tests to analyze the data and test the hypotheses of the study.

5.2.2. Hypothesis testing:

Table 7 : Multiple linear regression of the determinants of SMEs and industrial development in Bordj Bou Arréridj.

	Model summary				
The model	**Multiple Correlation Coefficient**	**The coefficient of determination**	**Corrected Determination Coefficient**	**Standard Error of Estimate**	
	0.849	0.720	0.712	0.37928	
			Table AVOVA		
The model	**The sum of Least Squares**	**Degrees of freedom**	**Average squares**	**F**	**Morale level**
Regression	49,641	4	12,410	86,271	0,000[b]
The rest	19,276	134	0,144		
Total	68,918	138			
	Transactions				
The model	**Parameter B value**	**Original Transactions**	**Normative coefficients**	**T**	**Morale level**
Fixed	0.176	0.516		2,933	0.004
Training and Employment	0.064	0.159	0.181	2,460	0.015
Financing and tax incentives	0.063	0.115	0133.	1,830	0.069
Geographical location	0.069	0.249	0.292	3,616	0.000
Industrial clusters	0.059	0.311	0.357	5,284	0.000

Source: Prepared by the researchers based on the outputs of the spss program V52

The table shows the results of the statistical analysis of the multiple linear regression test between industrial development and the determinants of SMEs, namely: (training, training, and employment), (financing and tax incentives), (geographical location), and (industrial clusters). The value of R=0.849 explains the strength of the relationship between industrial development as the dependent variable and the independent variables, and the coefficient of determination R^2 shows that 72% of the change in industrial growth is due to the change in (training, training, and employment), (financing and tax incentives), (geographical location) and (industrial clusters) in the independent variables. The rest is due to other factors not included in the model.

The second part of the table shows the value of the statistical test Fisher's F = 86,271 which is statistically significant as it came with a probability value of 0.000 which is below the significance level of 0.05 and confirms the quality of the relationship model and thus the validity of relying on the results of the model in representing the linear relationship between the variables of the study.

- **Testing the first hypothesis** The value of the coefficient of the independent variable of the training, apprenticeship, and employment dimension is 0.064 with a positive sign, which is an indicator of the direct relationship between industrial development and training, apprenticeship and employment, the calculated T value is less than the level of significance adopted in the study, so the B coefficient is statistically and economically significant**.**
- **Testing the second hypothesis** The results showed that 0.063, which is the value of the coefficient of the independent variable of financing and tax incentives, expresses the direct relationship between industrial development and the dimension of financing and tax incentives, the calculated T value of 1.830 is less than the level of significance adopted in the study, so the variable is statistically significant.
- **Testing the third hypothesis** The value of the coefficient of the independent variable B for the dimension of 0.064 geographical location has a positive sign, which is an indicator of a positive effect between industrial development and geographical location composition, and the calculated T-value of 3.616 is less than the level of significance adopted in the study, and therefore the geographical location variable is statistically significant.
- **Testing the fourth hypothesis** The value of the coefficient of the variable Industrial Clusters is 0.059 positive and therefore there is a positive effect between industrial development and industrial clusters, and the calculated T-value of 5.284 is less than the level of significance adopted in the study, and therefore the industrial clusters are statistically significant.

Thus, it is clear that the determinants of SMEs under study (training, apprenticeship, labor), (financing and tax incentives), (geographical location) and (industrial clusters) positively affect industrial development, as the change is according to the following model:

y= 0.176 +0.064 X1+ 0.063X2+ 0.069X3 +0.059X4+u

Where: y Dependent variable Industrial development

X1: The first independent variable (training, apprenticeship, and employment).

X2: Second independent variable (financing and tax incentives).

X3: Third independent variable (geographical location)

X4: Fourth independent variable (industrial clusters)

u: Other factors

Based on the above, we conclude that the hypothesis "There is a positive statistical relationship between industrial development and the independent variables (training, apprenticeship, and employment), (financing and tax incentives), (geographical location) and (industrial clusters).

5.2.3. Verified hypotheses

- There is a statistically significant effect of training, apprenticeship, and labor in achieving industrial development.
- There is a statistically significant effect of financing and tax incentives in achieving industrial development.
- There is a statistically significant effect of geographical location in achieving industrial development.
- There is a statistically significant effect of industrial clusters in achieving industrial development.

5.2.4. Discuss the results in light of the hypotheses

The determinants of the SME sector, namely the dimensions of training, labor, and apprenticeship, the second dimension of financing and tax incentives, the third dimension of the geographical location of the enterprise, and the fourth dimension of industrial clusters affect industrial development.

- The study proved that training, apprenticeship, and labor have an impact on the development of the industrial sector, such as (Amira Mohammed Amara, 2020); (Samuel Kwame Ansah, Casey Ernst) that the main objective of vocational and technical education and training is vocational and technical training to meet the needs of the labor market contributes to industrial development, and it does not create direct job opportunities, but it achieves realistic goals, and it contributes to facing future obstacles.
- The study proved that financing and tax incentives have an impact on the development of the industrial sector (Guihuan Yan, Wei Chen 2023) (Ilgar Sevolaev, Rukhsara Seifullahalli).
- Geographical location and industrial clusters such as (Yaman Salem, 2024) Unified and integrated industrial zones provide an attractive business environment by integrating different industries and utilizing innovative technology and research. Increasing the competitiveness of companies can be achieved through the development of industrial zones.

6. Conclusion:

Through this study, we tried to determine the impact of some determinants of the SME sector on industrial development by collecting primary data from SMEs by distributing questionnaires and we found that the determinants under study, namely training and apprenticeship, (financing and tax incentives), location of the enterprise and industrial clusters have a differential impact on industrial development, where each one-value change in industrial development is due to 0.064 of the effect of training and apprenticeship, 0.063 of the effect of financing and tax incentives, 0.069 of the effect of the location of the enterprise and 0.059 due to the effect of industrial clusters, the study highlights that the SME sector has a role in the process of industrial development. 0.063 from the effect of financing and tax incentives, 0.069 from the effect of the location of the enterprise, and 0.059 due to the effect of industrial zones, the study highlights that the SME sector has a role in the process of developing the industrial sector.

6.1. Recommendations

To achieve economic development in the region and achieve it by targeting the industrial sector, government agencies should give importance to the SME sector through the following:

- Providing training according to the needs of the labor market to meet the demands of enterprises.
- Providing special tax incentives for small enterprises to help them gain access to markets in the face of competition from large companies.
- Providing the necessary funding to incentivize SMEs to innovate and expand.
- Provide the necessary and appropriate real estate for SMEs and open investment in infrastructure to create new and specialized industrial zones according to the needs of SMEs.

6.2. Limitations of the study

This study has highlighted some of the determinants of the SME sector that were mentioned earlier, while many aspects that affect the SME sector remain, such as the legislative aspect, industrial clusters, technology, and e-marketing.

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