

The Role of Foreign Partnership Strategy in Developing the Performance of the Economic Corporation: Empirical Evidence from the Manufacture of Spiral Tubes in Ghardaia

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ARTICLE INFO

Keywords:

Organization

Performance

Partnership

JEL Code:L1, L2, L6

ABSTRACT

Since the adoption of the market economy ideology, the Algerian institutions have had to comply with the imposed changes such as competitiveness, quality, flexibility and efficiency. From this perspective, the national institution has adopted long-term strategies and plans to adapt to the current situation. To achieve a competitive advantage and a good position in the global markets, we analyze the National Corporation for the manufacture of spiral pipes ALFAPIPE in the state of Ghardaia to clarify the effectiveness of foreign partnership in improving performance. This paper has been divided into:

First: Definition of the National Corporation for the manufacture of spiral pipes ALFAPIPE

Second: Types of foreign partnership in the institution

1. Introduction

The iron and steel industry represents the main pillar for the development and modernization of the national economy, as it provides manufactured or semi-manufactured products that are used in various economic sectors such as agriculture, transportation, construction, the mechanical and petroleum industries. In addition to this, it is involved in the valuation of natural resources and the provision of job opportunities. Among the most important institutions of this industry, we cite the Public Economic Corporation ALFAPIPE, which obtained the quality certificate represented by ISO 9001 and the API-Q1 Petroleum Products Quality Certificate. This institution is seeking to be recorded in the specifications of ISO 10441 for the health care and safety system. The paper depicts the institution by addressing the historical establishment of the institution and its definition, as well as the activity of the institution and its economic importance and objectives as well as the organizational hierarchy and the relationship of the institution with others.

2. The Historical Establishment and the Definition of the Institution:

ALFAPIPE is considered as one of the oldest Algerian economic public companies established in the field of iron and steel industry. This company started its activities after independence and began to expand, especially after the nationalization of the two units OTUABAL and ALTUMEL. The nationalization process after adding a five-year cooperation document from 1968 to 1972 with VOLLOVEC Foundation led to enhance the technical and the managerial assistance of the company. The National Iron and Steel Company (SNS) were divided within the framework of the national companies restructuring in 1982 into the following companies:

- the company - ANABIB, which is the National Company for Pipes and Converting Flat Products and Angles of Agricultural Pipes (PIVOT) and the various irrigation equipment as a result of the increase in internal and external demand for iron and steel in that period, especially in the petroleum sector.

- The company - SIDRE, which supervises the Al-Hadjar company in Annaba
- EMB company is interested in the manufacture of products for food packaging
- The company - ENIPL produces iron, and directed iron for construction and public works
- Company - ENGL is dedicated to the industrial gases industry destined for steel industries

In the context of economic reforms and after the issuance of Law No.01/88, the company was restructured to become called the Public Economic Corporation, PIPEB, which became independent with its own board of directors and with state capital, from which several units branched out:

- Gas piping unit TGT
- Open plate water tank unit - Oran- TON
- Small Foam Piping Unit – PTS
- Large foam piping unit - GTR
- Piping unit and fittings – Bordj Bouariridj TMIA
- Cold foamed gravity sections – RAF
- The spiral pipe unit in Ghardaia – TUSGH, which later became the Economic Public Corporation for Pipes
- Gas truck PIPE GAZ

Within the framework of the restructuring in 2000, these units were divided into directorates constituting the pipeline complex, which are:

- Directorate of Ghardaia PIPE GAZ
- Reghaia Directorate TUBE LONGITUDINAL and it includes the units GTR and PTS

As for the institution under study, it was established in Ghardaia in 1974 with a capital of 700.000.000 AD and the German company HOCH that has completed this project with all its structures in the industrial zone of Bunoura, which is 10 km away from the center of the state and sits on an area of 23000 m² and including an estimated number of 969workers.

On November 5th, 1983, the unit was restructured according to the decision issued by the Official Journal No. 46 of November 13th, 1983

- In 1986, the pitch packing workshop was established within the framework of expanding its activities.
- In 1989, it was divided into two units:
- The Tubing and Base Services Unit - TSI, which had about 390 workers
- The different services unit - IPD, which had about 350 workers

In 1991, the previous two units were joined after their failure and the spiral tube unit was restored as TUBE SPIRAL

- In the year 1992, a new workshop for outer coating of pipes with POLITHYLENE was established in order to improve the quality of products.

- On October 15th, 2000, after restructuring the group, the unit became a public economic corporation named PIE GAZ, financially and administratively independent of the GROUP ANABIB pipeline complex.

- On January 20th, 2001, the Piping Corporation obtained the international quality certificate - ISO 9001 and the American Petroleum Institute APIQ 1 certification

- On August 15th, 2003, this certificate was renewed by the competent authority after giving notes on what must be changed in the institution to maintain this certificate, and it monitored the accuracy of the institution in adhering to these notes after two years when renewing this certificate the second time.

- In 2006, the Corporation - PIPE GAZ is considered as a partnership project with the ALFA TUS Gas Pipeline Corporation to increase its capital.

In January 2007, the two establishments were merged and it became known as the Algerian Pipe Industry ALFAPIPE

3. The activity of the institution, its importance and economic objectives:

The corporation plays a big role in the development of the national economy as well as the development in the region thanks to its great support for the natural sector, water and all liquids under natural pressure. The production capacity of the corporation in the normal case reaches 100,000 tons per year where the corporation can produce pipes with a diameter between 406 mm and 1625 mm And it is the highest diameter, which distinguishes the institution from others in the complex, and its length ranges between 07 meters to 13 meters, and among the most important activities that the institution undertakes, we find the following:

- Manufacture of pipes for transporting oil, gas and water, as well as all high-pressure liquids.
- Selling pipe products such as tubes, iron tables and angles
- Selling iron derivatives to trade, individuals and contractors
- The raw materials used in the production of pipes are in the form of coils which are bought from SIDER stone factory or by import from abroad (Germany, Japan, France ...) and the weight of one coil in normal cases reaches 20 tons
- The Foundation uses other raw materials for packaging that are imported from abroad, such as: - EPOXY, *Grenalle*, *Polyéthylène*, and *Adhésive*, which are among the basic materials in the packaging
- The Algerian Foundation for Pipes Industry - ALFAPIPE is currently working with four production lines at a rate of 10 hours through three work teams per day. The establishment works continuously and without stopping even days, holidays and religious and national holidays.
- The Gas Pipeline Unit - ALFA PIPE is a production unit in the first place, in which production is according to orders, supplies and contracts. It also seeks to bring small investors to exploit the waste in order to dispose of it and provide liquidity

The production process is carried out by passing through the three workshops as follows:

- The first workshop: It is specialized in converting the raw material into spiral tubes by welding, and this process is done as follows:
 - First, a coiled iron band (*la bobin*) is inserted into the M3 that opens it is inserted into the M3 that opens it;
 - The flow profile from the machine end - M4 is received from the M3 machine, and then preforms the sides of the strip and then goes to welding;
 - The tube is cut to a length between 9 and 10 meters, and then cleaned by welding from the inside and outside by the machines - M17, M9, M10.
 - Visual monitoring inside and outside the tube and this monitoring is done with the naked eye just as manual machines are used to make sure that there is no defect inside the tube where the process is done by shining light inside the tube and turning it.
 - Radiographic monitoring by the machine - M23 (Radiography) where the tube is first monitored by X-rays for an observation under the chemical structure by connecting the radiator to a visible screen.
 - Resistance to pressure experiments by the water balance tester - M24
 - Tightening the end of the tubes on the end of the machine M25 (*Chaufrinage*)
 - Continuous ultrasound monitoring from the tip – NDT

- Radiographic monitoring by the machine - M29, the tube is shown to the X-ray, and the recording is made on a video tape, and the tube is displayed on the lighting device, where the whole tube is monitored
- After completing these stages, the tubes are sent to the two packaging workshops:
- The second workshop: It is the workshop concerned with external packaging, and before wrapping it, it must be cleaned and then dried, and the aim of the outer packaging of the tube is to protect it from the surrounding environment factors such as temperature and humidity, and this packaging contains one or two layers according to the customer's request by using one of the following methods:
- Wet hydrocarbon packaging (coal gas) in one or two layers of paint -
- Packaging with polyethylene through a rubber band on the tube after heating it to remove moisture, then using abrasive powders - externally to remove the oxide and echo scales and put a white plastic layer to prevent the heat, then pour the polyethylene, and put a layer of black plastic that protects from moisture, and at the end the cooling process takes place.
- It produces half of a factory and it is complete for pipelines intended for transporting petroleum.

Third Workshop:

The coating shall be with a gas coating if the pipes are directed to transport fuels and with water-based paint if it is directed to transport water.

3.1. The Corporation's Economic Importance:

The Algerian Corporation for the Industry of Spiral Pipes ALFAPIPE plays a major role in the development of the national economy through its great support for the hydrocarbon sector, which is one of the most important national economic sectors, because it covers about 94% of the national market needs of petroleum and gas pipelines and the needs of the water sector. The pipelines unit in Ghardaia is distinguished before the company from the rest of the other branches of the parent corporation, which is the good reputation it enjoys with national institutions, especially Sonatrach, as the main customer of the corporation. This fact comes according to the international quality of the product for ISO 9001 the implementation of standards for petroleum products. In addition to respecting the specific deadlines to the completion of the orders, and this is what helped it to accomplish the largest projects of Sonatrach.

Within the framework of local development, it is the largest production unit at the state level, as it includes a large number of job positions for the residents of the state, and the city of Ghardaia was chosen as a site for this institution due to its presence in the region close to the oil and gas fields, as well as its facilities for the transportation of fuel to the north.

At the local level, it contributes to the employment of about a large number of workers, which means absorbing part of the unemployment that exists at the level of the region, where employment includes all levels such as drivers, internal security men, managers, workers inside and outside the workshops and engineers.

The number of workers inside the organization from 2012 to 2015 is portrayed by the following table:

Table 1: Employee development within the organization (ALFAPIPE Unit per employee)

Years	2012	2013	2014	2015
Senior Managers	139	168	118	124
Control Agents	272	196	207	274
Execution Agents	470	132	219	318
Total	881	496	544	716
Growth Rate	-	43%	9%	31.61%

Source: The researchers based on data provided by Human Resources Department

It is noticeable from the above table that there is fluctuation in the development of workers in ALFAPIPE institution; and this is due to the projects that the Foundation undertakes. The more projects there are, the greater the number of workers, this fact is observed during the year 2012.

It also contributes to decoupling the isolation from the rest of the regions in general and Ghardaia city in particular, this fact increases the effectiveness of its strategic role, which is close to the most important areas of the petroleum fields, such as *Hassi Messaoud*, *Hassi Rmel*, *Ain Amenas*, with its contribution to increasing the state's revenue through taxes that it pays to tax authority.

On the international level, the Foundation played an effective role in spreading the good reputation at the level of the products of national institutions, after obtaining the ISO 9001 and API - Q1 certificates. It tends also to be registered in ISO 14001 certificate by working to achieve the requirements of the environmental management system and implement the welfare system HSE.

4. The Goals of the Company:

The foundation seeks to achieve many goals and this is to cover the national need, especially for Sonatrach, Sonelgaz, and the irrigation and construction sector. The most important goals can be summarized as follows:

- Contribute to cover national needs.
- Contact with foreign institutions to gain experience and new technology in the field of work.
- Work to develop an effective information system that provides information for effective decision-making.
- Striving to bring in talent to be able to sell its products at a competitive price that guarantees it a market share and thus achieving the required profitability rates.
- Debt reduction attempt.
- Gaining the ability to compete and withstand foreign products through the development of various systems, including the safety, health care and environment system, and work to register in international standards such as the specifications of the quality management system and the environmental management system.
- Providing foreign capital by selling products to foreign customers (hard currency)
- Contributing to the development of the region and working to absorb unemployment by creating new jobs.

4.1. Enterprise prospects:

The most important projects undertaken by ALFAPIPE are the result of the contracts between it and Sonatrach, and from the projects that the ALFAPIPE Foundation undertakes are:

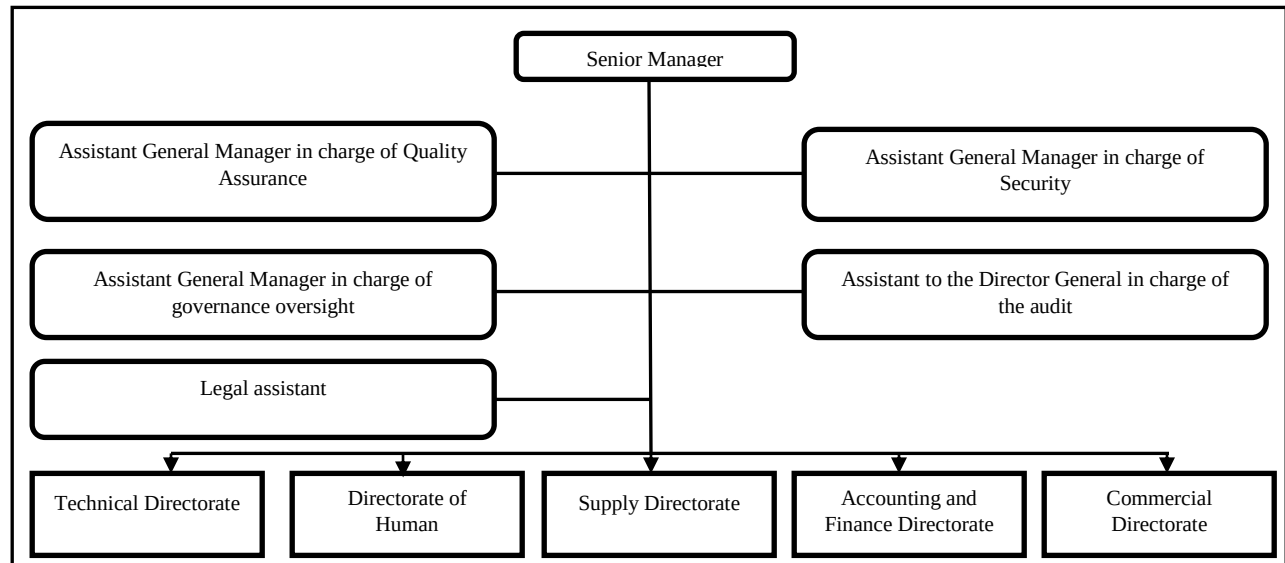
- Project - GR 4: It is the six-month project that is started at the beginning of the current year. The project includes the production of 100 km of pipes with a diameter of 42. Through the fierce competition that forces the company to produce pipes of 200 km, was established on the corporation and it was divided equally with the Annaba branch.
- Project - GR 4: It is a project that the Corporation begins immediately after the completion of the current project, and includes the production of 300 km of pipes with a diameter of 48 within two years.

4.2. The Organizational Hierarchy of the Company:

The institution is an integrated unit consisting of a group of coherent and complementary departments. The importance of the organizational structure of the institution is evident in determining the various responsibilities as well as the distribution of tasks; and this is in order to assist in the control and organization on the one hand, and the good management of various operations and activities on the other hand. In addition to this, different coordination between the various jobs to achieve the goals are established.

And through the study of the organizational structure, we can analyze the constituent departments of the Algerian Foundation for the Pipeline Industry (ALFAPIPE) as follows:

Figure 1: The Hierarchy of the Organization



Source: The Researchers based on the information provided by the company

5.1. Types of partnership in the enterprise:

ALFAPIPE is linked to a group of relationships and partnerships, whether with public or national economic institutions and foreign companies, so we find:

A- The institution's relationship with other national institutions:

The corporation carries out its daily dealings with a number of groups, with the aim of continuing its production and providing the best product, and among these categories are qualified suppliers, clients, middlemen, the government, etc.

First: The suppliers: They are the natural and legal persons with whom the corporation deals with and this is in the field of supplying raw materials for equipment and spare parts ... etc. of the corporation, and it selects the best suppliers through a comparison between them and this by studying a set of standards and conditions in the form of a book of conditions to be met. This is throughout the production period and these criteria are represented in the price, payment, quantity, size, length, etc. We also find for the corporation internal and external suppliers.

Incoming suppliers: When the procurement process is local, a number of internal suppliers are dealt with in order to acquire the raw material and some supplies, we mention the following:

- ALFASID Corporation, which specializes in selling raw materials in addition to steel coils (LABOBINES ACIERS)
- NAFTAL is specialized in selling oils and restraints.
- ENGI is interested in selling oxygen and nitrogen.
- ENTPL organization in Elma, Setif supplies the foundation with welding wire.
- ENAPCI is specialized in selling paints.
- RSI and RGC to purchase spare parts

Second: Customers: They are the people who buy the organization's product, and they are the permanent and temporary ones. Permanent customers are like Sonatrach through the production of pipelines to transport oil and Sonelgaz through the production of gas transportation and the irrigation directorates through the production of pipes for water transportation and the construction of dams, and for temporary clients such as building contracting.

Third: Social Security

The Foundation works to pay all expenses related to social insurance for workers, compensation for work accidents, sickness, and family grants, and thus all of its obligations towards the Social Security Authority.

Fourth: Banks: The external bank is “BNA”, which is the bank that the institution deals with and conducts all its financial operations through it, such as payments to suppliers, some customers’ dues, payment of workers’ wages, etc.

Fifth: Insurance companies: The insurance company “SAA” is the company that the corporation deals with in insuring imported goods either by sea or by air, where the marine insurance rate is 0.07% and the air insurance rate is 0.05%.

Sixth: The government is the first and last legislator of laws and legislations related to the corporation’s activities in the field of taxation and import and export laws.

Seventh: The Tax Authority: ALFA PIPE is the largest contributor to the tax revenues of the state of Ghardaia.

B- Corporation's relationship with foreign institutions:

The National Corporation for Spiral Pipes Industry, ALFA PIPE, has entered into a partnership with foreign institutions within the framework of the Euro-Algerian partnership as a partner with shares in the company, and we find that the corporation has a commercial partnership with some foreign institutions, whether it is buying or selling operations, so we find:

First: External suppliers:

When purchases are made through import, the organization deals with a number of external suppliers, among them we mention:

- Company - ATOFIN, a French company that produces polyethylene packaging materials.
- Institutions - RERMAX - INDUSTRIES U. Multinational London KLTD for steel.
- German SGGT, whose activity relates to the production of water spare parts.
- Foundation - HEELABRATOR ALLEVORD French produces GRENAILIES.
- Company - VALMECA SA, a French specialist in the mechanical spare parts sector.
- Foundation - STROWAG is a German specialist in spare parts for electricity.
- Company - GUY specializes in spare parts.
- Institution - ACELOR, a French specialist in iron and steel.
- Enterprise - NV. AGFA GEVAEVAERT in Belgium produces x-ray tapes and welding products.
- Establishment - CONTROL AB, France, specializing in the production of laboratory control devices

Second: Clients:

The corporation works hard to gain the satisfaction of its customers and this is to ensure the flow of its product and in order to achieve the desired goal. This is what made it obtain customers from outside the country, including the British company BP and the American company BECHTEL, which is installing the Ain Saleh ISG gas project, where it obtained the achievement privilege that was estimated at 115,000 meters.

5.2. Tools and analysis of performance indicators of the Spiral Pipe Corporation:

The corporation has followed several strategies that allow it to adapt to international variables and the international standards imposed on production and management. Therefore, we try to analyze performance indicators and measuring tools aiming at ensuring customer confidence, new clients and entering into new foreign companies:

A- Indicators used in evaluating performance:

The institution includes several tools to measure its performance and it appears through the question posed in the questionnaire and its results are as follows:

Table 03 contains the results of the statistical analysis of the answers to the sample items on the question related to the tools used in the performance evaluation:

Figure 1: Indicators used in evaluating performance/ Tools:

Tools	Frequency	percentage
Periodic reports	40	100%
Dashboard	31	77.5%
Productivity metrics	40	100%
Estimated budgets	34	85%
Financial Statements	40	100%

Source: Prepared by researchers based on the company's financial statements

Through the table, we note that ALFAPIPE relies on financial reports, productivity measures and financial statements in evaluating its performance permanently and at 100%. As for the dashboard, its use rate was 77.5% or the estimated budget was 85%. Conditions for the success of the performance evaluation process at ALFAPIPE. The following table shows the results of the statistical analysis of the sample answers on the extent of the ideas approval expressing the conditions for the success of the evaluation process.

Table 2: Employee development within the organization (ALFAPIPE Unit per employee)

Degree of approval Issues	totally do not agree		Not agree		neutral		Agree		I totally Agree		Mean	Median
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%		
A comprehensive performance appraisal system	-	-	-	-	-	-	5	10	35	90	4.95	0.22
The Evaluation Process Continuing	-	-	-	-	-	-	10	20	30	80	4.92	0.26
An integrated information system	-	-	-	-	-	-	5	12.5	35	87.5	4.87	0.33
An effective incentive system	-	-	-	-	-	-	6	15	34	85	4.85	0.36
Clear organizational Hierarchy	-	-	-	-	1	2.5	4	10	35	87	4.85	0.42
Rate	-	-	-	-	-	2.5	-	10	-	4.8	4.89	0.32

Source: Prepared by researchers

Through the table we note that:

According to the opinions of the respondent group, the existence of a comprehensive performance appraisal system is the first condition for the success of the performance appraisal process; next, it is the necessity of continuity in the performance evaluation process, as well as the existence of an effective and integrated information system.

- The mean values of answers about the conditions for the success of the whole institution's performance evaluation process exceeded the average value 3

- The percentage was fully expressive of agreeing the ideas indicating the conditions for the success of the performance evaluation process, as 89% of the respondents answered the questionnaire of the proposed ideas.

We also note that there is no dispersion of opinions about the standard deviations values; in general, they were confined between 0.22 and 0.43.

These results show a high tendency towards accepting ideas indicating the conditions for the success of the institution's performance evaluation process. This indicates the high level of the importance of these conditions in the success of the evaluation process.

Table 03 contains the results of the statistical analysis of the answers to the sample items on the question related to the tools used in the performance evaluation. These indicators are:

Production Indicator: The percentage of achieving the planned output because it is useful in knowing the rate of development and effectiveness in planning and implementing production plans. The higher the percentage, the more it indicates good planning and forecasting, which is one of the pillars of helping to create a partnership with foreign institutions that are keen on good production and highlight this Indicator through the following table for the years 2015-2016:

Table 3: Production Ratios

Issue	2012	2013	2014	2015
Planned production	111622	211211	122121	121111
Actual production	48.2%	37.21%	78.71%	35%

Source: From the Production and Programming Department

Through the table, we notice that the volume of production increases from year to year, and in return also the percentage of actual production achieved in permanent improvement through the efforts of continuous improvement in the institution and its dependence on imported raw materials.

- Financial index: This indicator is useful in knowing the financial balance of an institution and knowing the financial performance and its effectiveness, especially the direction of its obligations with the companies that supply raw materials, equipment, machinery and even employment. Given the time constraints, we were satisfied with studying the current liquidity ratio of the institution according to the following table:

Table 3: The current liquidity ratio

Ratio	Calculation method	2012	2013	2013	2014
Current liquidity ratio	Current Liabilities / Short Term Debt	1.15	0.87	0.15	0.09

Source: From the Financial and Accounting Department

Through the table we note that the institution is able to pay its debts.

6. Contribution of the foreign partnership to the competitiveness of the institution:

- Performance measurement The competitiveness of the organization must be analyzed because performance is not complete without competitiveness and based on the fact that the competitiveness of the organization is more embodied through the relationship with customers and the comparison with competitors, and among these measures we find the measure of profitability, productivity, cost, market share measure and quality index.

- Market share index: The corporation's products represent 94% of the national market for spiral tubes and we consider the client's involvement more for the corporation, in addition to water transport establishments and some contracting companies, since the corporation occupies space in the international market through commercial agreements with Sonatrach for the account of foreign institutions by selling according to orders In general. We can say that the institution enjoys a good competitive position, but it is threatened by the entry of foreign institutions into the local market, such as Chinese and Turkish companies.

- Quality indicator: Through this indicator, we can highlight the actual performance of production through the application of the principle of total quality in production processes by determining the amount of damage and the quality of the tubes and the following table shows the amount of damage to the tubes during the production process.

Table 4: The amount of damage in the production process and production

Production	2012	2013	2014	2015
Iron Inputs (Ton)	1127	1127	1127	1127
Pipe Outputs (Ton)	1099	1105	1109	1128
Damage (Ton)	28	22	18	10

Source: From the Production and Programming Department

Through the table it becomes clear that the amount of damage is decreasing that results from a fixed amount of iron inputs, and this is due to the fact that the corporation relies on advanced technology through its commercial partnership in acquiring modern machines from outside the country, especially as it enters into commercial agreements with Sonatrach in the production of pipes for the account Foreign institutions.

7. Conclusion

Despite some problems that ALFAPIPE recently suffered from in the state of Ghardaia at the management level, it is striving to adapt to the changes taking place at the international level through its adoption of several strategies such as the foreign partnership strategy and the comprehensive quality strategy that enabled the company to obtain ISO quality certification. In this context, this institution has the ability to enter global markets and gain a competitive advantage, which motivated ALFAPIPE to further develop its functional and financial performance by purchasing modern technologies and adopting training programs and courses. In addition to this, the employees' training tends to improve their performance in several national institutes and others with the help of foreign bodies such as IS in France to obtain UT2 certification.

Acknowledgment

The researchers address their warmth and heartfelt thanks to the Spatial and entrepreneurial development studies laboratory for the support to accomplish the work.

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