Human Resource Motivation and Its Impact on Entrepreneurial Performance - Case Study of the General Directorate of the Algerian Electricity Production Company - Sonelgaz / Production Hub - East – Annaba

تحفيز الموارد البشرية وأثره على الأداء الريادي– دراسة حالة المديرية العامة للشركة الجزائرية لإنتاج الكهرباء –سونلغاز/قطب الإنتاج-شرق–عنابة

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***Abstract*:** The research explores the impact of material and moral incentives on entrepreneurial performance at Sonelgaz, focusing on the General Directorate at the Production Hub East - Annaba. A survey involving 72 employees was analyzed using SPSS software. The results revealed a strong positive impact of incentives, with material incentives showing a greater effect than moral ones. The study emphasized the need for a comprehensive incentive system to enhance employee satisfaction and trust, supporting the institution's entrepreneurial objectives.

Keywords: Human resource management; Material incentives; Moral incentives; Entrepreneurial performance.
JEL classification code : M12, L26

ملخص: تتناول الدراسة تأثير الحوافز المادية والمعنوية على الأداء الريادي في شركة سونلغاز، مع التركيز على المديرية العامة بمجمع الإنتاج شرق – عنابة كدراسة حالة. وتهدف إلى تحليل العلاقة بين هذه الحوافز والأداء الريادي. تم إجراء استبيان شمل 72 موظفاً، وتم تحليل البيانات باستخدام برنامج SPSS. أظهرت النتائج تأثيراً إيجابياً قوياً للحوافز، حيث كانت الحوافز المادية أكثر تأثيراً من المعنوية. وأوصت الدراسة بوضع نظام حوافز شامل لتعزيز رضا الموظفين وثقتهم بما يتماشى مع الأهداف الريادية للمؤسسة

الكلمات المفتاحية: إدارة الموارد البشرية؛ الحوافز المادية؛ الحوافز المعنوية؛ الأداء الريادي.
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1. Introduction

Most organizations strive for progress and growth by enhancing their capabilities to achieve their set objectives, using their human resources and material assets optimally and rationally. While an organization can often control its material assets, managing human resources is different; despite their availability, human resources are challenging to manage because their behaviors can change over time.

Human resources are among the most important assets, serving as a primary driver of organizational growth and development. Organizations rely heavily on effectively utilizing and guiding human resources to align their behavior with the company's entrepreneurial goals. Incentives are fundamental influences that play a critical role in shaping individuals' behavior by creating a desire to improve entrepreneurial performance. Thus, an organization's incentive system balances collaboration to achieve employees' personal goals while advancing its objectives, fostering workers' confidence in the institution. Incentives stimulate motivation, encouraging employees to work harder and find satisfaction in their work, which ultimately boosts morale and improves entrepreneurial performance.

Entrepreneurial performance is the focal point of organizational efforts, as it is a core objective and creates a competitive advantage in the market. The modern view of analyzing organizational performance, regardless of an organization's nature, rests on a simple idea: performance is driven and shaped by employee behavior within the organization.

On the other hand, the absence of incentives or their ineffectiveness negatively impacts employees' mental and social well-being. Such drawbacks are reflected in reduced productivity, delays in workflow, and increased absenteeism, which harm the institution's efficiency and productivity. Therefore, the effectiveness of an incentive system in achieving entrepreneurial objectives depends on employees' perception of the fairness of incentives. This leads us to the following research question: **To what extent can incentives be considered a tool that the organization relies on to enhance entrepreneurial performance?**

Study Hypotheses

To answer this research problem, our study is divided into two research questions:

To what extent do material incentives enhance entrepreneurial performance at Sonelgaz ?

H01: There is no statistically significant impact relationship between material incentives and entrepreneurial performance in the organization.

Ha1: There is a statistically significant impact relationship between material incentives and entrepreneurial performance in the organization.

To what extent do moral incentives enhance entrepreneurial performance at Sonelgaz ?

H02: There is no statistically significant impact relationship between moral incentives and entrepreneurial performance in the organization.

Ha2: There is a statistically significant impact relationship between moral incentives and entrepreneurial performance in the organization.

Research model

Based on an examination of previous studies, we proposed a hypothesis suggesting that there is a relationship and link between material incentives, moral incentives, and entrepreneurial performance.

Fig.1: Research model



***source**: Prepared by us*

Study objectives

The study aims to analyze the role of material and moral incentives as tools to motivate employees and enhance their productivity, while examining the relationship between these incentives and entrepreneurial performance within the organization. It also seeks to identify the impact of improving incentive systems on achieving entrepreneurial objectives. Furthermore, the study provides practical recommendations, such as establishing a comprehensive incentive system to boost employee satisfaction and trust, ultimately contributing to enhanced entrepreneurial performance**.**

2. The concept of human resource management

Human resource management (HRM) includes the process of acquiring, training, assessing, and compensating employees, while taking into account work relationships, health, safety, and issues of justice. HRM policies and practices determine the human aspects in management positions, including recruitment, screening, training, rewards, and evaluation. HRM practices relate to all aspects of managing individuals within organizations, including HR strategy, social responsibility, knowledge management, organizational development, performance management, learning and development, reward management, employee relations, employee well-being, health, and safety. Additionally, HR competencies encompass personal development, professionalism, technological proficiency, relevant educational background for tasks, and expertise for solving problems effectively. ***(Juniarta, 2023, p. 423)*** HRM practices such as motivation, development, and providing opportunities can contribute to fostering a culture of proactivity, innovation, and initiative-taking. In other words, HRM practices help enhance corporate entrepreneurship and increase its performance impact. ***(Naqi, 2024, p. 3)***

3. The nature of human resource motivation

3.1. The concept of Incentives

Incentives are a management system aimed at motivating individuals to put in extra effort to improve productivity. An incentive acts as an external factor that encourages individuals to achieve specific goals and fulfills their desires; it may even create new needs or aspirations. The incentive represents a reward that an individual receives upon exhibiting acceptable behavior, and it relies on the available resources in the surrounding environment to encourage individuals towards specific behaviors and activities that meet their needs and aspirations ***(Al-Hariri, 2017, p. 123)***. Motivation can therefore be defined as: "an internal feeling within an individual that generates a desire to engage in a specific activity or behavior aimed at achieving certain goals ***(Aiwi, 2015, p. 156)***. It can also be defined as: a set of forces exerted on a person that drive them to act in a specific way directed toward a purpose; motivation is thus a driving force behind human behavior ***(Zwi Segal, 2015, p. 40)***. Employees are more focused on satisfaction from achieving goals than on rewards for performance. It could be

because their performance is entrepreneurial, meaning they find motivation and satisfaction in achieving goals themselves, rather than relying on external rewards. Entrepreneurial performance is often linked to individuals desire to create a tangible impact and achieve accomplishments that enhance their self-worth and sense of achievement ***(Hardianto, 2020, p. 3)***. From the above, we observe that the definitions provided by scholars and researchers regarding incentives are relatively similar in meaning, all pointing to the idea that incentives consist of a set of external factors and influences prepared by management to impact employee behavior in order to enhance their efficiency and productivity. Motivation and incentives are fundamentally aimed at facilitating behavioral change. They are forces that enable individuals to move towards achieving specific goals ***(Basu, 2023, p. 3)***. According to this concept, we must distinguish between "incentive" and "motive." An incentive is external, while a motive is internal, arising from within the individual. The general understanding of motivation is the need that encourages movement towards a specific goal ***(Siregar, 2021, p. 3928)***. However, incentives can stimulate and awaken motives ***(Khayat, 2019, p. 4)***.

3.2. Types of incentives

There are several classifications of incentives, which can be divided based on their impact and effectiveness into positive and negative incentives. In terms of scope, they can be categorized into collective and individual incentives. Finally, in terms of nature, they are distinguished between material and moral incentives, which this study will focus on ***(Toum & all, 2021, p. 649)***.

Material Incentives: These are incentives aimed at satisfying individuals' material needs, provided in the form of cash or tangible benefits. They include wages, annual bonuses, and profit-sharing. They can be divided into direct incentives, such as wages, and indirect incentives, such as additional benefits (housing, free transportation, meals). Frederick Taylor was one of the first to focus on this type of incentive ***(Deb, 2016, p. 53)***.

Moral Incentives: These are incentives aimed at satisfying individuals' personal and social needs, and they enhance employees' cohesion and sense of responsibility towards their work. They include

awarding medals, certificates, titles, honoring outstanding individuals, granting additional leave, or offering scholarships for further studies ***(Sadefi & all, 2020, p. 511)***.

4. The concept of entrepreneurial performance

Most researchers interested in the topic of entrepreneurship view entrepreneurial performance as the process through which thousands of individuals or groups seek opportunities to create value. In order for an entrepreneur to capitalize on these opportunities, they must undertake a series of actions or behaviors to ensure the establishment of the new entrepreneurial venture, which is referred to as entrepreneurial performance. At the institutional level, these actions or behaviors typically reflect the entrepreneurial performance of those institutions regarding the new project they intend to establish and how they contribute to its success ***(Hamid, 2019, p. 5)***. We can define entrepreneurial performance as the achievements made by individuals who manage their own enterprises in measuring the development of personal wealth ***(Muindi & all, 2022, p. 12)***. Entrepreneurial performance can be defined as the ability to achieve value-added objectives that reflect innovation and organizational efficiency within a competitive and strategic framework. This requires possessing highly skilled human capacities. This performance involves leveraging competitive and strategic intelligence to gain a competitive advantage, in addition to continuous improvement of organizational performance by seizing opportunities and mitigating threats within the work environment ***(Dawood, 2016, p. 222)***. Van Vuuren indicated that entrepreneurial performance is the ability to achieve specific entrepreneurial goals. He also shows that performance, as a skill, relies on exploiting available business opportunities to increase efforts. Performance is related to achieving business objectives by leveraging available opportunities. These conditions involve measurable risks that an entrepreneur must analyze and anticipate ***(Sariwulan, 2020, p. 273)***.

5. Study Methodology

5.1. Presentation about Sonelgaz

Sonelgaz is an Algerian public company specializing in the production, transmission, and distribution of electricity and gas. It has achieved a pioneering performance in the energy sector. Recently, its responsibilities expanded to include activities such as the marketing of electricity and gas abroad. Sonelgaz has played a major role in

Algeria's economic and social development through programs like rural electrification and public gas distribution, achieving an electricity coverage rate of over 97% and a gas penetration rate exceeding 37%. Sonelgaz was transformed into a joint-stock company by Presidential Decree No. 195-02 of 2002, granting it greater autonomy, opportunities for openness and competition, and the ability to engage in private partnerships. Due to its entrepreneurial performance, Sonelgaz is able to participate in the hydrocarbons sector and carry out projects outside Algeria, constantly striving to enhance its competitiveness. The company aims to become one of the top five operators in the energy sector in the Mediterranean region ***(Sonelgaz)***.

5.2. Methodological Approach

This study was prepared through the analysis of secondary sources, such as scientific articles and papers extracted from specialized databases, in addition to collecting primary data from the results of a quantitative survey conducted with a sample of employees at Sonelgaz. To complete the empirical analysis, we used a self-administered questionnaire to randomly select participants. To measure the impact between the study variables, the SPSS software was utilized. This mixed methodological approach combines primary and secondary data, allowing us to obtain a comprehensive view based on the existing scientific literature, as well as to conduct a precise and detailed analysis based on the primary data collected from a group of employees.

5.3. Measurement scales

In our study, we relied on a questionnaire as the main tool to provide us with the necessary information about the study population. The questionnaire was designed by the researcher based on relevant books, references, and previous studies, and it included three parts:

Part one: Contains personal data related to the study participants, such as gender, age, educational level, administrative level, work experience, and the nature of the employment contract.

Part two: Includes questions related to the extent to which material and moral incentives meet the needs of employees.

Part three: Contains questions related to the level of entrepreneurial efficiency and proactivity of the organization in entrepreneurial performance.

The five-point Likert scales have been adopted to measure the items, as illustrated in Table. 1.

Table 1: The Five-Point Likert Scale

Strongly disagree	disagree	Neutral	agree	Strongly agree
1	2	3	4	5

Source: *Prepared by us*

The Likert scale is a tool used to measure and evaluate the level of agreement or disagreement among members of the studied population with the given statements. This scale is commonly used in the fields of psychology and social sciences to assess various attitudes, opinions, and perceptions ***(Pornel, 2013, p. 13)***. The length of the five-point Likert scale cells (lower and upper limits) was determined, where the range was calculated (5 – 1 = 4), and then divided by the highest value in the scale to obtain the cell length ; that is, (4 / 5 = 0.8). This value was then added to the beginning of the scale, which is 1, to determine the upper limit of this cell. The results were also divided into five categories representing different levels of significance : the first range [1 – 1.8 [represents "Strongly Disagree" with "Very Low Importance," the second range [1.8 – 2.6[represents "Disagree" with "Low Importance," while [2.6 – 3.4[represents "Neutral" with "Medium Importance," the fourth range [3.4 – 4.2[represents "Agree" with "High Importance," and finally [4.2 - 5] represents "Strongly Agree" with "Very High Importance." After collecting the survey data, the average scores for each item are calculated and distributed into the appropriate range based on the computed value, helping to understand how individuals evaluate the different items. This is illustrated in Table. 2

Table. 2: The Average Ranges of the Five-Point Likert Scale

Range of the Average	[1 – 1.8[	[1.8 – 2.6[	[2.6 – 3.4[	[3.4 -4.2[	[4.2 - 5]
Importance	Strongly Disagree	disagree	Neutral	agree	Strongly agree
Significance	Very Low	Low	Medium	High	Very High

source*: Prepared by us*

The form was presented to a group of professors, totaling 10 professors. Based on their feedback, some items were modified. The

scale was also subjected to Cronbach's alpha analysis, which measures the reliability of the scale and the internal consistency of the items. This is shown in Table. 3.

Table. 3: Cronbach's Alpha for measuring the reliability of the questionnaire

Dimension	Material and Non-material Incentives	Entrepreneurial performance	Total Questionnaire
Reliability Coefficient	0,83	0,69	0,86
%	83	69	86

source: *Prepared by us*

We observe from the previous table that the value of Cronbach's alpha coefficient is high for each dimension of the questionnaire. Additionally, the coefficient value for all items of the questionnaire was 89%, which is a high and statistically acceptable percentage. This generally means that the questionnaire demonstrated a high degree of validity and reliability, and these percentages allow for the use of the form and provide relative confidence in the results obtained. It is statistically known that Cronbach's alpha coefficient can be accepted if its value is 60% or higher. Given that this condition was met for all the scales collected through the measurement tool (questionnaire form), it was used in the statistical analysis.

5.4. The sample

The study was conducted at the Algerian Electricity Production Company, specifically at the General Directorate of the Production Pole - East - Annaba. The total number of workers at the directorate was estimated at 119 employees. The questionnaire was distributed to all members of the community, but only 72 questionnaires were retrieved, representing a response rate of 60.50%. This was due to some individuals being on vacation, others in training, and some on missions both domestically and internationally. Additionally, some workers, such as drivers and maintenance staff, were working outside the directorate, making it difficult to obtain their responses despite our efforts.

6.1. Preliminary Statistical Analysis

6.1.1. The profile of the studied population

We will present and analyze the results related to the personal data of the study sample in terms of variables such as gender, age, education level, administrative level, work experience, and type of employment contract. The aim is to provide context for the subsequent analysis of the study data.

Table. 4: Demographic Characteristics of the Sample

Demographic variable	Headcount	Pourcentage
Gender		
Man	48	67%
Woman	24	33%
Age		
Under 35 years	14	20%
35 to 44 years	44	61%
45 to 54 years	13	18%
55 years and over	1	1%
Seniority		
Under 5 years	15	21%
5 to 10 years	19	26%
More than 10 years	38	53%
Education level		
License	27	37%
Master	22	31%
Doctorat	7	10%
Autre	16	16%
Socio-professional category		
Managerial staff	49	68%
Supervisory agent	14	19%
Executive agent	9	13%
Work experience		
Less than 5 years	15	21%
5 to 10 years	19	26%
More than 10 years	38	53%
Nature of employment contract		
Permanent	68	95%
Contractual	4	5%

***source**: Prepared by us using SPSS software*

From Table.4, the demographic results indicate that the majority of participants are men (67%) compared to women (33%). This is attributed to the nature of the work, which demands significant effort

both within the directorate and in the field to manage six electricity production units across eastern Algeria, making these tasks more challenging for women than for men. In terms of age, the 35-44 age group represents the active demographic with the strongest performance, especially if they are satisfied with their work. This is followed by the younger age group, under 35, from whom the company should harness talent and creativity by providing targeted incentives. Regarding experience, a substantial proportion of the sample, exceeding half of the individuals (52.78%), has over 10 years of professional experience. This reflects the company's commitment to retaining these individuals to leverage their expertise and familiarity with job requirements. The next group, with 5-10 years of experience, and those with less than 5 years, represent 26.39% and 20.83%, respectively, indicating the company's interest in recruiting young talent as leaders for production units. In terms of educational level, a significant percentage of participants hold a bachelor's degree (37%), followed by those with a master's degree (31%), and a doctorate (10%). This demonstrates the company's commitment to encouraging degree holders and providing positions for individuals with secondary education or lower. In terms of job roles, 68% of the participants belong to the administrative staff, while the rest are split between supervisory and executive agents. As for contract type, 95% of the participants hold permanent contracts, indicating a relative stability in employment within the organization.

6.1.2. Descriptive analysis of the research

The objective of this section is to provide a descriptive analysis of the collected data.

Table. 5 presents an analysis of six statements related to material incentives, showing the distribution of frequencies and the percentages of respondents across different levels of agreement. The mean scores for the items range from 2.11 to 3.32, indicating evaluations that range from "low" to "medium." The standard deviation varies between 1.13 and 1.40, suggesting a moderate variability in participants' responses. Overall, the general average (2.80) indicates that the level of material incentives is classified as "medium", meaning that participants moderately agree that material incentives play a role in improving their performance.

Table. 5: Responses of the sample members to the items in the material incentive's part

Items		Strongly agree	agree	Neutral	disagree	Strongly disagree	Arithmetic mean $\bar{X}$	Standard deviation σ\ s	significance
P1I1	Frequency	7	3	5	33	24	2,11	1,20	Low
	%	9,72	4,17	6,94	45,83	33,33			
P1I2	Frequency	8	31	6	10	17	3,04	1,40	Medium
	%	11,11	43,06	8,33	13,89	23,61			
P1I3	Frequency	3	21	5	33	10	2,64	1,16	Medium
	%	4,17	29,17	6,94	45,83	13,89			
P1I4	Frequency	13	28	10	11	10	3,32	1,31	Medium
	%	18,06	38,89	13,89	15,28	13,89			
P1I5	Frequency	6	10	22	24	10	2,69	1,13	Medium
	%	8,33	13,89	30,56	33,33	13,89			
P1I6	Frequency	12	18	11	22	9	3,03	1,31	Medium
	%	16,67	25	15, 28	30,56	12,50			
Arithmetic mean and Standard deviation for the part of material incentives							2,80	1,25	Medium

source: *Prepared by us using SPSS software*

Table. 6 presents an analysis of six statements related to moral incentives. The results indicate that the mean scores for the items range from 2.25 to 2.51, suggesting that participants' responses were generally low regarding the impact of moral incentives on their performance. The standard deviation for the items ranges from 0.73 to 0.87, reflecting slight to moderate variability in participants' responses. The overall mean for moral incentives is 2.41, indicating a low evaluation of moral incentives as a factor in performance improvement. These findings suggest that participants do not view moral incentives as a strong factor in enhancing performance.

Table. 6: Responses of the sample members to the items in the moral incentives part

Items		Strongly agree	agree	Neutral	disagree	Strongly disagree	Arithmetic mean $\bar{X}$	Standard deviation σ\ s	significance
P2I1	Frequency	4	10	17	20	21	2,38	0,80	Low
	%	5,56	13,89	23,61	27,78	29,17			
P2I2	Frequency	2	8	15	30	17	2,51	0,73	Low
	%	2,78	11,11	20,83	41,67	23,61			
P2I3	Frequency	2	10	13	29	18	2,49	0,77	Low
	%	2,78	13,89	18,06	40,28	25			
P2I4	Frequency	5	15	14	20	18	2,25	0,87	Low
	%	6,94	20,83	19,44	27,58	25			
P2I5	Frequency	6	10	17	20	29	2,32	0,82	Low
	%	8,33	13,89	23,61	27,78	26,39			
P2I6	Frequency	2	10	12	20	28	**2,50**	**0,77**	Low
	%	2,78	13,89	16,67	27,78	38,89			
Arithmetic mean and Standard deviation for the part of Moral incentives							**2,41**	**0,79**	**Low**

source: *Prepared by us using SPSS software*

Table. 7 presents an analysis of six statements related to entrepreneurial performance. The results show that the mean scores range from 2.75 to 4.18, indicating that participants' responses varied from moderate to high regarding their evaluation of entrepreneurial performance. The standard deviation ranges from 0.79 to 1.18, reflecting variability in participants' responses. The overall mean for entrepreneurial performance is 3.68, suggesting a positive and high evaluation of entrepreneurial performance. These findings indicate that participants generally consider the entrepreneurial performance within the organization to be good, with strong responses on items related to entrepreneurial efficiency.

Table .7: Responses of the sample members to the items in the entrepreneurial performance part

Items		Strongly agree	agree	Neutral	disagree	Strongly disagree	Arithmetic mean $\bar{X}$	Standard deviation σ\ s	significance
P3I1	Frequency	25	39	5	2	1	4,18	0,79	High
	%	34,72	54,17	6,94	2,78	1,39			
P3I2	Frequency	21	32	13	4	2	3,92	0,97	High
	%	29,17	44,44	18,06	5,56	2,78			
P3I3	Frequency	29	22	14	5	2	3,99	1,06	High
	%	40,28	30,56	19,44	6,94	2,78			
P3I4	Frequency	7	10	19	30	6	2,75	1,10	Medium
	%	9,72	13,89	26,39	41,67	8,33			
P3I5	Frequency	6	19	40	5	2	3,31	0,83	Medium
	%	8,33	26,39	55,56	6,94	2,78			
P3I6	Frequency	32	18	13	5	4	3,96	1,18	High
	%	44,44	25	18,06	6,94	5,56			
Arithmetic mean and Standard deviation for the part of Entrepreneurial performance							**3,68**	**0,99**	**High**

***source**: Prepared by us using SPSS software*

6.2. Normality test

We present and interpret below the results of these tests for each of the studied variables (P1, P2, P3).

Table. 8: Normality test

	Kolmogorov-Smirnova		Shapiro-Wilk	
	Statistic	Sig	Statistic	sig
P1	0,0656	0,896	0,981	0,331
P2	0, 0746	0,790	0,986	0,613
P3	0,0640	0,911	0,989	0,809

***source**: Prepared by us using SPSS software*

Since all statistical significance (Sig) values are greater than 0.05, it can be concluded that the data related to the three variables material

incentives (P1), moral incentives (P2), and entrepreneurial performance (P3) follow a normal distribution according to the results of the Kolmogorov-Smirnov and Shapiro-Wilk tests.

6.3. Hypothesis Tests

The following section is dedicated to hypothesis testing aimed at examining and clarifying this link. Two main hypotheses will be tested using rigorous statistical methods. The first hypothesis (H01 and Ha1) will explore the relationship between material incentives and entrepreneurial performance. The second hypothesis (H02 and Ha2) focuses on the relationship between moral incentives and entrepreneurial performance.

Table. 9: Results of Correlation and Regression Tests for Analyzing the Relationship Between Material Incentives and Entrepreneurial Performance

variable	*Correlation coefficient R*	*Coefficient of determination R²*	*Calculated T*	*Calculated F*	*Degrees of freedom df*	*Critical value of T (df=42)*	*Critical value of F (df1=1, df2=42)*	*Significance level α*
Material incentives	*0,758*	*0,561*	*7,822*	*18,042*	*1* *42*	*2,021*	*4,13*	*0,000*

***source**: Prepared by us using SPSS software*

The results in the table show a strong positive relationship between material incentives and entrepreneurial performance, with a correlation coefficient of 0.758, indicating that an increase in material incentives is associated with improved performance. The coefficient of determination (R^2) is 0.561, meaning that approximately 56.1% of the variations in entrepreneurial performance can be explained by material incentives. The calculated T value (7.822) and the calculated F value (18.042) indicate a statistically significant effect, as both exceed the critical values (2.021 for T and 4.13 for F), supporting the hypothesis of a statistically significant relationship between material incentives and entrepreneurial performance.

Table.10: Results of Correlation and Regression Tests for Analyzing the Relationship Between Moral Incentives and Entrepreneurial Performance

variable	Correlation coefficient R	Coefficient of determination R^2	Calculated T	Calculated F	Degrees of freedom df	Critical value of T (df=42)	Critical value of F (df1=1, df2=42)	Significance level α
Moral incentives	0,624	0,439	5,372	28,811	1 42	2,021	4,13	0,000

***source**: Prepared by us using SPSS software*

The results indicate a strong positive relationship between moral incentives and entrepreneurial performance, with a correlation coefficient of (0.624) reflecting a statistically significant association between increased moral incentives and improved performance. Additionally, the coefficient of determination (0.439) shows that 43.9% of the variations in entrepreneurial performance can be explained by moral incentives. Since the calculated values for both T (5.372) and F (28.811) exceed the critical values, the relationship is statistically significant at a significance level of 0.000. This supports the hypothesis of a statistically significant causal relationship between moral incentives and entrepreneurial performance, albeit with a lesser effect compared to material incentives.

To create a linear equation that links the three variables: material incentives, moral incentives, and entrepreneurial performance, we use the Multiple Linear Regression model, which expresses the relationship between a dependent variable (entrepreneurial performance) and two independent variables (material and moral incentives).

- **The general equation for multiple linear regression**

$$y = a + b_1 x_1 + b_2 x_2,$$

where

$\boldsymbol{y}$: represents entrepreneurial performance (the dependent variable).
$\boldsymbol{x_1}$: represents material incentives (the first independent variable).
$\boldsymbol{x_2}$: represents moral incentives (the second independent variable).
$\boldsymbol{a}$: the constant (intercept).
$\boldsymbol{b_1}$: the coefficient for material incentives.
$\boldsymbol{b_2}$: the coefficient for moral incentives.

We assume that the effect of material incentives is represented by the coefficient $\boldsymbol{b_1}$= 0,758 and the effect of moral incentives is represented by the coefficient $\boldsymbol{b_2}$= 0,624.

Thus, we can start with the following equation:

$$y = a + 0{,}758x_1 + 0{,}624x_2.$$

To calculate the constant, we use the means of the variable:

$$\bar{y} = a + b_1\bar{x}_1 + b_2\bar{x}_2,$$

where

$\bar{\boldsymbol{y}}$ = 3,68 (mean of entrepreneurial performance)

$\bar{\boldsymbol{x}}_{\boldsymbol{1}}$ = 2,80 (mean of material incentives)

$\bar{\boldsymbol{x}}_{\boldsymbol{2}}$ = 2,41 (mean of moral incentives)

To calculate the constant :

$$3{,}68 = a + 0{,}758(2{,}80) + 0{,}624(2{,}41)$$
$$3{,}68 = a + 2{,}1224 + 1{,}504$$
$$3{,}68 = a + 3{,}6264$$
$$a = 0{,}0536$$

- **The final linear equation**

$$\boldsymbol{y = 0{,}0536 + 0{,}758x_1 + 0{,}624x_2}$$

- **Interpretation of the equation**

0.0536: is the constant, which is the estimated value of entrepreneurial performance when both material and moral incentives are zero

0.758: This means that every one-unit increase in material incentives leads to an increase in entrepreneurial performance by 0.758 units.

0.624: This means that every one-unit increase in moral incentives leads to an increase in entrepreneurial performance by 0.624 units.

This equation illustrates how both material and moral incentives positively affect entrepreneurial performance. The equation reflects that material incentives have a slightly greater impact than moral incentives on improving entrepreneurial performance. This equation can be used to analyze the importance of each type of incentive in enhancing performance within the organization.

6. Conclusion

This study aimed to explore the impact of material and moral incentives on the entrepreneurial performance of employees at the General Directorate of Sonelgaz. The research sought to clarify the effectiveness of incentives as a tool for motivating employees and enhancing their productivity. The results indicated that both types of

incentives, material and moral, play a positive role in improving entrepreneurial performance, although material incentives proved to have a stronger impact. This highlights the importance of establishing an effective incentive system that enhances employee satisfaction and trust, thereby contributing to the achievement of the institution's entrepreneurial goals.

Among **the recommendations** of the study is the development of an incentive system that encompasses both financial and moral aspects, with a focus on transparency and the allocation of incentives based on individual performance and employee needs. This study opens up avenues for future research to investigate the impact of other factors, such as work environment and administrative support, and to expand research to include diverse samples and methodologies to increase the generalizability of results and apply them in various contexts.

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