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The Impact of Personal Data on Motivating Human Resources Performance- a Case Study of Electricity and Gas Distribution Corporation Algeria

Abdelhafid KINA,
Assia DJENOUHAT
University of Algiers 3, Algeria
hafidkina@gmail.com

Abstract

The present investigation seeks to elucidate the incentive framework and assess the influence of personal data on the enhancement of human resource performance within the economic entity, wherein an empirical study was executed at the Electricity and Gas Distribution Corporation in Algeria. This study aimed to explore employees' perceptions regarding the organization's prevailing incentive system, as well as the degree of their acceptance and contentment with this framework. To attain this objective, a questionnaire comprising a series of statements was disseminated to a random sample of 64 employees, representing all job classifications within the organization from a total study population of 150 employees. The questionnaire was subjected to statistical analysis utilizing the SPSSv29 software, resulting in several findings; notably, the study concluded that the incentive and performance mechanisms are significantly influenced by the personal data of the human resources within the institution under examination. Furthermore, it was revealed that there exist statistically significant discrepancies in motivation related to performance, contingent upon variables such as gender, educational attainment, job designation, age, and years of experience.

Keywords: *motivation and incentive system, performance, human resource.*

JEL Classification: O15; M54 ; M14

Introduction

The human factor was historically accorded minimal significance, being perceived merely as an apparatus of production; its circumstances deteriorated following the advent of the Industrial Revolution and the rise of mechanized factories, which supplanted rudimentary manual production methods, resulting in the subjugation of the workforce, where their rights were systematically eroded and they were subjected to extreme forms of exploitation.

With the inception of the scientific management movement, a distinct position for laborers was established, equating them with machines; furthermore, this movement advocated for the training of employees and the provision of diverse remuneration and incentives, thereby enhancing the focus on the humane treatment of workers. Subsequently, the emergence of the School of Human Relations gave rise to the behavioral science movement, which emphasizes the behavioral dimensions of the workforce.

The efficacy or ineffectiveness of organizations, particularly those of an economic nature, hinges on the degree to which they can exert control and appropriately frame their most critical resource, which is the limited capital that these organizations strive to provide both quantitatively and qualitatively in a manner that enhances their overall effectiveness. However, merely employing workers is insufficient for survival and continuous operation; it is imperative to nurture and elevate their competencies through performance evaluations. The strategic approach of performance assessment is recognized as one of the fundamental policies implemented by international organizations, as it conducts a thorough and holistic examination of employee performance. Additionally, these organizations have adopted an alternative policy that incentivizes employees for exemplary performance that surpasses standard expectations, commonly referred to as the motivation system. This topic has garnered significant attention from management scholars due to the pivotal role that incentives play in catalyzing employees to enhance their job performance and increase their satisfaction, thereby ensuring the attainment of the organizational objectives. Furthermore, the enhancement of performance has emerged as a crucial factor in achieving organizational goals, leading to heightened interest from researchers and scholars given its influence on individual behavior.

This study endeavors to explore the impact of personal data on the motivation of human resources performance within Electricity and Gas corporation, positing that incentives represent a primary influence that significantly shapes individual behavior, thus facilitating improvements in performance outcomes.

A. Research Objectives: The principal objective of this research paper is to address the issue surrounding the influence of personal data on motivation to augment human resource performance by empirically testing its hypotheses. This will involve identifying the various types of motivation employed at the corporation and analyzing the effectiveness of these motivational strategies within the studied sample, while also discerning the factors that influence them and their impact on enhancing human resource performance across variables such as gender, educational attainment, job title, age, and years of experience.

B. Contribution of the current study: Incentives, whether they are financial, ethical, or social in nature, constitute a vital component in shaping employee performance, as their absence may precipitate a decline in performance levels, diminished enthusiasm, and a deterioration in morale. This effect is subject to variation contingent upon personal data.

For this purpose, this research paper was structured in three axes as follows:

- Literature Review
- Research methodology
- Results and discussion

1. Literature Review

The motivational and incentive frameworks within organizations are instrumental in augmenting employee performance and harmonizing individual aspirations with the overarching objectives of the organization. An effectively designed system integrates both financial and non-financial rewards, cultivating a constructive psychological atmosphere and adeptly addressing the requirements of employees.

Key Components of Motivation Systems - Monetary and Non-Monetary Rewards: Efficient systems employ a combination of financial incentives and recognition initiatives to enhance job satisfaction and productivity (Pooja & Rajesh, 2024). Psychological Climate: The internal organizational environment substantially affects motivation; a nurturing atmosphere can significantly improve employee engagement and mitigate conflicts (A.A. et al., 2024)(Lukankina & Меньщикова, 2024). Assessment Methods: The deployment of questionnaires and ranking systems aids in the identification of motivational determinants, thereby facilitating the development of customized incentive strategies for various employee demographics (Москалев et al., 2024).

Strategic Development Integration with Corporate Culture: A motivational framework ought to be congruent with the organization's mission and core values, fostering a unified work milieu that promotes active participation and job enrichment (Таранич & Вишнівська, 2023). Balancing Internal and External Motivations: An effective system amalgamates diverse motivational strategies, ensuring a comprehensive approach to employee engagement and retention (Таранич & Вишнівська, 2023).

Although these systems are vital for organizational efficacy, they must remain flexible to accommodate the distinct context of each organization, taking into account the varied psychological profiles of employees.

1.1. Motivation and Incentive System

Incentives are crucial for individuals, trainers, and institutions alike, given that an institution's success and efficacy are contingent upon its members' motivation and zeal to engage in their tasks. Consequently, trainers must possess a profound understanding of the essence and characteristics of motivation. The researcher (Wafiq Al-Nakhleh, 2014) characterized incentives as a conglomeration of factors that activate both motor and cognitive forces within individuals, which subsequently influence their behaviors and actions. Furthermore, the researcher (Muhammad Aqouni, 2023) delineated motivation as the mechanism that intensifies motivation and excitement to attain a defined objective or to execute a specified behavior. Motivation encompasses both intrinsic and extrinsic factors that impact the conduct of the individual or entity and contribute to guiding them toward the realization of their objectives or the performance of requisite activities. Ibrahim al-Feki (2011) articulated it as the catalyst for activity and efficacy in the workplace, establishing it as one of the proactive methodologies to elicit optimal performance from others, irrespective of whether such performance pertains to material or moral considerations. Therefore, it constitutes a collection of influences that propel the individual and persuade them to exert greater effort in their tasks while mitigating errors that detract from productivity, which in turn influences the organization or institution. This dynamic is a fundamental component of work that incentivizes the attainment of objectives.

The significance of incentives or motivation is underscored by the critical role of the human element; when incentives are effectively harnessed, they can ensure the fulfillment of individual objectives and consequently the goals of the organization. According to the researcher (Hadi Mashaan Rabie, 2008), incentive systems facilitate an elevation in organizational profits by enhancing the productive efficiency of workers, whether they be physical, psychological, or social individuals, thereby aligning the interests of the individual with those of the organization. Moreover, incentive systems play a pivotal role in fostering employee satisfaction with their roles, which assists in addressing numerous issues faced by departments, such as diminished production capacity, elevated cost ratios, absenteeism, disputes, complaints, and turnover. Ultimately, incentives contribute to the reduction of production costs through the innovation and advancement of work methodologies, as well as the adoption of contemporary techniques and means that curtail the wastage of time (production time), raw materials, and other expenditures.

1.2. Types of incentives

The classification of incentives employed within various institutions is contingent upon numerous factors, including the nature of the work, the organizational culture, and the specific needs of employees. It is imperative that these incentives are utilized judiciously to optimize outcomes. Researchers in the domain of incentives provide several classifications and delineations, which can be articulated as follows:

First: Incentives categorized by nature

Material incentives:

This type of incentive is designed to fulfill fundamental human needs and is characterized by its financial, monetary, or economic dimensions. Generally, it may be posited that material incentives significantly influence an individual's motivation and commitment to work, particularly when remuneration is commensurate with their needs. Conversely, inadequate compensation that fails to align with the effort expended can critically undermine a worker's engagement and diminish productivity levels. Material incentives manifest in various forms, including: wages (which represent one of the most salient material incentives, wherein higher wages correlate with the satisfaction of a greater number of needs, thereby fostering enhanced job satisfaction); overtime compensation (whereby certain roles necessitate extended working hours, thus warranting additional financial incentives for overtime work); profit sharing (in which specific departments allocate shares to employees to bolster motivation); and promotions (which play a pivotal role in motivating employees and serve as financial incentives, as they often entail salary increases and can also provide moral encouragement by conferring higher status roles).

Moral incentives:

Moral incentives refer to non-material rewards that are not predicated on financial compensation, which organizations offer to employees to stimulate increased effort and enhance performance. These incentives are administered through moral avenues that honor the human resource, acknowledging their feelings and sentiments while advancing to fulfill their psychological and social needs. Among the most salient of these needs are: security and stability in the workplace (a factor that profoundly influences worker psychology, as individuals require assurance against risks associated with their work environment; an employee who perceives the threat of imminent dismissal inevitably experiences insecurity and instability, which hampers creativity); recognition, praise, and appreciation (awarded to employees who fulfill their job responsibilities or exhibit professional development, but not extended to those who do not warrant such acknowledgment, as this may dilute its intrinsic value); and training (an organized endeavor aimed at enhancing and developing employees' skills and competencies to empower them to execute their duties efficiently and effectively, serving as a crucial motivator when grounded in robust principles).

Second: Classification of Incentives According to Their Impact

Incentives can be categorized as either appealing incentives, which encompass positive or motivational incentives, and negative incentives. Positive incentives: These refer to the qualitative and quantitative aspects of incentives that signify the provision of diverse benefits to employee's contingent upon their fulfillment of job responsibilities, thereby granting them both tangible and intangible value. Positive incentives are typically classified into two distinct categories: material monetary incentives and moral incentives. Illustrative examples of positive incentives include: affording employees' greater autonomy and independence in their tasks; facilitating opportunities for employees to engage in decision-making processes; ensuring a secure and healthy work environment; publicly acknowledging employees' accomplishments; and creating avenues for employees to socialize and collaborate in support of their objectives. Negative incentives: Negative incentives aim to shape employee behavior through punitive measures, threats, deterrence, and intimidation, which encompass the enforcement of disciplinary actions and adherence to job discipline. Such measures may involve the imposition of both material and moral sanctions, including salary deductions, reductions in annual bonuses, or denial of promotions; it is understood that the application of negative incentives within organizations is an essential strategy to mitigate violations of regulations.

1.3. Motivation Objectives

Motivation encompasses various objectives that can be realized in the following contexts:

• *Objectives of Employees:* When employees embrace and exhibit enthusiasm towards the implementation of an incentive system, they are propelled by an urgent desire for a material enhancement in their income, alongside aspirations to elevate their standard of living and acquire additional benefits and services from their organization. Furthermore, they seek to fulfill their moral requirements, which include appreciation, respect, continuous encouragement, and a profound sense of belonging to the organization.

• *Objectives of the Organization:* The organization aims to augment production levels by optimizing the utilization of existing resources, such as raw materials, energy, and labor; to minimize costs through the efficient allocation of available resources; to enhance the quality of products or services, thereby elevating the standard of the produced goods without compromising quality due to accelerated production or increased volume; and to boost organizational profitability, recognizing that this objective constitutes the ultimate aim of the organization. The introduction of an incentive system facilitates the attainment of a distinguished competitive position relative to comparable entities within the industry.

1.4. Factors Influencing the Efficacy of Job Performance

Given the plethora of variables that influence the efficacy of job performance, accurately identifying or reaching a consensus on these elements is a challenging endeavor, primarily due to their intricate interdependencies. These determinants of employee performance effectiveness can be systematically categorized as follows: The fundamental resources of the organization, encompassing equipment, office spaces, and infrastructure, contingent upon their optimal provisioning. Financial Resources: This encompasses the allocation of monetary resources, the financial framework of the organization, execution processes, and the remuneration of employees. Employees, both in quantitative and qualitative terms, which encompass factors such as their levels of satisfaction, commitment, and morale. Organizational Environment: This includes the prevailing organizational climate and leadership dynamics. A pivotal factor influencing job performance pertains to the employee's levels of commitment, satisfaction, and educational attainment. Crucially, the traditional hierarchical divisions prevalent within organizations must be dismantled, as the strategic utilization of all resources has the potential to significantly impact performance outcomes and foster a sustained competitive advantage among organizations within the marketplace.

Researcher Jihad Ahmed posits that the most salient factors impacting job performance include: Rewards and Incentives System: Prior to delving into the optimal strategies and outcomes associated with the rewards and incentives system, it is imperative to elucidate the term itself, as it represents the framework established by the organization to dispense rewards to employees based on their performance. The overarching objective is to augment employee motivation and commitment to sustained exemplary performance within the institution. Reward systems predominantly consist of programs and policies related to employee compensation; however, they may also encompass additional privileges and other supplementary incentives tailored to fulfill employee needs. The Human Resources Department primarily concentrates on the efficacy of implementing the compensation framework within the organization. Many organizations endeavor to establish a pay-for-performance model that offers competitive compensation within the labor market and allocates varying remuneration to employees in accordance with their performance levels. Organizations that adopt a pay-for-performance philosophy aim to recognize and reward high-performing employees, thereby positioning them as exemplars and incentivizing their peers through bonuses, which collectively enhances the overall performance of the institution while emphasizing the significance of high-impact employees. The comprehensive remuneration strategy, wherein Human Resources professionals play a pivotal role in defining reward systems, considers employee compensation as merely one component of total remuneration.

Absence of Specific Objectives: An organization lacking clearly articulated and detailed operational plans, objectives, and production benchmarks will be unable to effectively assess employee achievement or hold employees accountable for their performance levels, as there exists no established standard for evaluation. In the absence of defined standards or performance indicators, the distinction between high-performing and low-performing employees becomes indistinguishable.

Non-participation in management: The absence of employee involvement at various administrative tiers in the processes of planning and decision-making fosters a disconnect between administrative leadership and the lower-level workforce, consequently resulting in a diminished sense of accountability and collaboration in pursuit of institutional objectives. This phenomenon ultimately culminates in a reduced performance level among these employees, as they perceive their exclusion from the establishment of goals to be achieved or in the formulation of solutions to the challenges they encounter in their work, potentially leading them to regard themselves as marginalized within the organizational framework.

Different levels of performance: A salient factor influencing employee performance is the ineffectiveness of management strategies that correlate performance metrics with the material and moral rewards employees receive. The greater the association between an employee's performance level and the subsequent promotions, bonuses, and incentives they attain, the less impactful the motivational factors appear to be for the workforce. This situation necessitates the implementation of a robust performance evaluation system that can effectively distinguish between high-performing diligent employees, average-performing diligent employees, and those who are unproductive or lack initiative.

Job satisfaction issues: Job satisfaction constitutes a pivotal determinant of employee performance levels, as a lack of job satisfaction or diminished performance is intrinsically linked to subpar productivity outcomes. The construct of job satisfaction is influenced by a myriad of organizational and individual factors pertinent to the employee, including social determinants such as age, educational attainment, gender, and cultural customs, as well as organizational elements such as job responsibilities, meal provisions, and the frameworks of promotions and incentives within the institution.

Administrative laxity: Administrative laxity within the institution signifies the squandering of work hours on nonproductive activities, which may adversely impact the performance of other employees. Such laxity can emerge as a consequence of the prevailing leadership or supervisory styles, or as a result of the organizational culture that predominates within the institution.

2. Research Methodology

The methodological framework of this investigation was an empirical analysis that quantitatively evaluates the data elucidated in this manuscript. The studied population consisted of personnel representing all occupational categories within the corporation located in Algeria.

Sampling Design

In order to achieve the research aims, a questionnaire containing a collection of statements was distributed to a random sample of 64 employees, encompassing all occupational categories within the institution from a total population of 150 employees. The responses obtained from the questionnaire were subjected to statistical scrutiny through the application of SPSSv29 software.

Upon the electronic dissemination of the questionnaire and the subsequent completion of all forms, it is imperative to initiate the extraction of these data, as they cannot be utilized in their unprocessed form as raw material; hence, these outcomes must be transmuted into numerical representations and then examined after being imported into the statistical package for social sciences (29) SPSS, based on a database meticulously designed specifically for the analysis of these results, with the objective of constructing both simple and correlational frequency tables.

Reliability and validity of the questionnaire

The reliability of the questionnaire pertains to the consistency of the responses from the sample participants across its various items and their coherence with one another. The reliability of the questionnaire was validated through the calculation of the Cronbach's alpha coefficient, while the validity was similarly assessed, articulated as follows:

Validity coefficient = square root of the reliability coefficient.

Table 1.

Questionnaire reliability and validity

No.	Axis/Factor	Number of Items	reliability	validity
01	Axis 1: Material Incentives	8	0.831	0.601
	Axis 2: Material Incentives	8	0.823	0.911

No.	Axis/Factor	Number of Items	reliability	validity
	Total for Material Incentives	16	0.827	0.756
02	Moral Incentives	7	0.593	0.770
03	Social Incentives	6	0.374	0.611
04	Performance Evaluation	11	0.678	0.823
Total		32		

(Source: authors' processing)

Reliability: It is observed from the preceding table that the Cronbach alpha reliability coefficient for the four dimensions fluctuates between 0.374 (37.4%) and 0.831 (83.1%), thus exceeding the threshold of 60%, which signifies an acceptable level of reliability for the dimensions encompassed within the questionnaire. Regarding the axes of the questionnaire, the obtained reliability coefficients of Cronbach alpha were recorded as 0.601 (60.1%) for the first axis (incentives) and 0.823 (82.3%) for the second axis (performance evaluation axis), thereby indicating that both axes of the questionnaire possess an adequate degree of reliability, and consequently, the questionnaire is characterized by acceptable reliability.

Validity: The validity coefficient values for the four dimensions of the questionnaire vary from 0.611 (61.1%) to 0.911 (91.1%), thus reflecting an excellent level of validity. Similarly, for the two axes, the first axis exhibits a value of 0.773 (77.3%) while the second axis displays a value of 0.907 (90.7%), both indicating good validity; therefore, the questionnaire as a whole is recognized for its good validity.

Conclusion: The items and statements of the questionnaire were addressed with transparency and sincerity, evidencing a commendable and acceptable nature due to their clarity and coherence for the sample participants, thereby minimizing any potential for ambiguity.

2. Results and Discussion

The analysis primarily revolves around the distribution of employees based on various factors: gender, age, education level, job title, and years of experience.

Study Sample Characteristics

Table 2.

Distribution of the Study Sample by Gender

Variable	Category	Frequency	Percentage
Gender	Male	38	61%
	Female	26	39%

(Source: authors' processing)

Interpretation: The majority (61%) of the sample was male, indicating a male-dominated workforce in the corporation. This could be due to the nature of the company's work, which might be physically demanding or require specific skills typically associated with males.

Table 3.

Distribution of the Study Sample by Age

Variable	Category	Frequency	Percentage
Age	Under 30	2	3.1%
	30-40	32	50%

Variable	Category	Frequency	Percentage
	Over 40	30	46.9%

(Source: authors' processing)

Interpretation: The largest age group in the sample was between 30 and 40 years old, followed closely by those over 40. This suggests a relatively mature workforce with a significant number of experienced employees. The low percentage of employees under 30 could indicate limited recent hiring or a high turnover rate among younger employees.

Table 4.

Distribution of the Study Sample by Education Level

Variable	Category	Frequency	Percentage
Education	University	41	64.1%
	Postgraduate	14	21.6%
	Vocational	4	6.3%
	General Education	5	7.8%

(Source: authors' processing)

The majority of the sample held university degrees, indicating a highly educated workforce. This aligns with the assumption that the corporation requires employees with a strong educational background.

Table 5.

Distribution of the Study Sample by Job Title

Variable	Category	Frequency	Percentage
Job Title	Employee	21	32.8%
	Executive Assistant	11	17.2%
	Control Assistant	2	3.1%
	Senior Executive	30	46.9%

(Source: authors' processing)

Interpretation: A significant proportion of the sample held senior executive positions. This suggests a hierarchical organizational structure with a concentration of decision-making power at the top.

Table 6.

Distribution of the Study Sample by Years of Experience

Variable	Category	Frequency	Percentage
Experience	Less than 5 years	1	1.6%
	5-10 years	11	17.2%
	10-15 years	18	28.1%
	More than 15 years	34	53.1%

(Source: authors' processing)

A large percentage of employees had over 15 years of experience, indicating a stable workforce with a high level of institutional knowledge. This could be attributed to factors such as attractive compensation, job security, and a positive work environment.

From the sample characteristics:

✓ The corporation has a predominantly male workforce with a significant number of employees holding university degrees and senior positions.

✓ The company appears to value experience, as evidenced by the high percentage of employees with 15 or more years of service.

✓ The age distribution suggests a relatively mature workforce.

✓ The company may face challenges in attracting and retaining younger talent, given the low percentage of employees under 30.

Testing the hypothesis of the study

The study aims to determine if there are significant differences in employee motivation and performance based on various demographic factors such as gender, education level, job title, age, and years of experience; using One-Way ANOVA as a statistical test used to compare the means of two or more groups. In this case, it's used to compare the means of different groups based on these demographic variables.

Hypothesis: There is a statistically significant difference in the motivation and performance of the corporation human resources based on their personal data (gender, educational qualification, job title, age, years of experience).

The tables presented show the results of one-way ANOVA tests conducted to compare the means of different groups.

Table 7.

Calculating differences in motivation and performance due to gender using one-way ANOVA test

Significance value (p)	valueF	Mean squares	Degree of freedom	Sum of squares	Source of variance	Dimension
0.979	0.001	0.001	1	0.001	Between groups	Financial incentives
		0.989	62	61,347	Within groups	
			63	61,347	the total	
0.128	2.379	1.129	1	1.129	Between groups	Moral incentives
		0.475	62	29,420	Within groups	
			63	30.548	the total	
0.759	0.095	0.036	1	0.036	Between groups	Social incentives
		0.379	62	23,467	Within groups	
			63	23,503	the total	
0.571	0.325	0.084	1	0.084	Between groups	Performance
		0.259	62	16,057	Within groups	
			63	16.141	the total	

(Source: authors' processing)

A one-way analysis of variance was employed to address the research inquiry - Is there a statistically significant disparity in the motivation and performance of the human resources at the corporation attributable to their demographic information? The findings depicted in the table indicate that:

There exist no statistically significant discrepancies among the mean assessments of the corporation personnel regarding the provision of material and moral or social incentives relative to the gender variable, as the significance values were recorded in the following order: 0.979, 0.128, 0.759, all of which exceed the threshold of 0.05, thereby rendering them statistically insignificant at the 0.05 level.

Furthermore, there are no statistically significant differences in the performance levels concerning the variable of sex in relation to the availability of performance evaluations for employees, as the significance value was determined to be 0.571, which is also greater than 0.05, thus indicating a lack of statistical significance at the 0.05 level.

Table 8.

Calculating the differences in motivation and performance due to educational qualification using one-way ANOVA test

Significance value (p)	valueF	Mean squares	Degree of freedom	Sum of squares	Source of variance	Dimension
0.006	4.610	3.831	3	11,492	Between groups	Financial incentives
		0.831	60	49.855	Within groups	
			63	61,347	the total	
0.316	1.203	0.578	3	1.733	Between groups	Moral incentives
		0.480	60	28,815	Within groups	
			63	30.548	the total	
0.225	1.494	0.545	3	1.634	Between groups	Social incentives
		0.364	60	21,869	Within groups	
			63	23,503	the total	
0.074	2.430	0.583	3	1.749	Between groups	Performance
		0.240	60	14,393	Within groups	
			63	16.141	the total	

(Source: authors' processing)

A one-way analysis of variance was employed to address the research inquiry - Is there a statistically significant difference in the motivation and performance of the human resources at the corporation attributable to the level of academic qualification? The findings delineated in the accompanying table indicate that:

Significant statistical differences exist among the average perceptions of the corporation employees concerning the provision of material incentives related to the educational qualification variable, as evidenced by a significance value of 0.006, which is less than 0.01, thereby confirming its significance at the 0.01 level.

Conversely, no statistically significant differences were identified among the average perceptions of the corporation employees regarding the provision of moral and social incentives in relation to the educational qualification variable, with significance values recorded as 0.316 and 0.225, both of which exceed the threshold of 0.05, thus rendering them not significant at the 0.05 level.

Furthermore, there are no statistically significant differences in the performance levels associated with the academic qualification variable in the context of performance evaluation for employees, as the significance value was determined to be 0.074, which surpasses the 0.05 threshold and is consequently not significant at the 0.05 level.

Table 9.

Calculating differences in motivation and performance due to job title using one-way ANOVA test

Significance value (p)	valueF	Mean squares	Degree of freedom	Sum of squares	Source of variance	Dimension
0.034	3.085	2.733	3	8.199	Between groups	Financial incentives
		0.886	60	53.149	Within groups	
			63	61,347	the total	
0.748	0.408	0.204	3	0.611	Between groups	Moral incentives
		0.499	60	29.937	Within groups	
			63	30.548	the total	
0.184	1.666	0.602	3	1.807	Between groups	Social incentives
		0.362	60	21,696	Within groups	
			63	23,503	the total	
0.138	1.909	0.469	3	1.407	Between groups	Performance
		0.246	60	14,735	Within groups	
			60	16.141	the total	

(Source: authors' processing)

One-way analysis of variance was employed to address the research inquiry - Is there a statistically significant distinction in the motivation and performance of the human resources of the corporation attributable to the job title? The findings presented in the table indicated that:

- There exist statistically significant disparities among the average assessments of the corporation employees concerning the availability of material incentives relative to the job title variable, as the significance value was determined to be 0.008, which is less than 0.01, thereby indicating significance at the 0.01 level.
- There are no statistically significant discrepancies among the average evaluations of the corporation employees regarding the availability of moral and social incentives in relation to the job title variable, as the significance values were recorded in the following order: 0.748, 0.184, both of which exceed 0.05, and consequently, are not significant at the 0.05 level.
- There are no statistically significant differences in the performance level concerning the variable of Job Title in terms of the availability of Performance Evaluation for employees, as the significance value was found to be 0.138, which is greater than 0.05, and thus is not significant at the 0.05 level.

Table 10.

Calculating differences in motivation and performance due to age using one-way ANOVA test

Significance value (p)	**valueF**	**Mean squares**	**Degree of freedom**	**Sum of squares**	**Source of variance**	**Dimension**
0.711	0.343	0.341	02	0.682	Between groups	Financial incentives
		0.995	61	60.665	Within groups	
			63	61,347	the total	
0.679	0.390	0.193	02	0.386	Between groups	Moral incentives
		0.494	61	30.163	Within groups	
			63	30.548	the total	

Significance value (p)	valueF	Mean squares	Degree of freedom	Sum of squares	Source of variance	Dimension
0.199	1.657	0.605	02	1.211	Between groups	Social incentives
		0.365	61	22,292	Within groups	
			63	23,503	the total	
0.561	0.584	0.152	02	0.303	Between groups	Performance
		0.260	61	15.838	Within groups	
			63	16.141	the total	

(Source: authors' processing)

The one-way analysis of variance was employed to address the research inquiry – Is there a statistically significant disparity in the motivation and performance of the human resources of the corporation attributable to age? The data presented in the table indicated that:

There exist no statistically significant differences among the mean assessments of the corporation employees regarding the availability of material, moral, and social incentives in relation to the age variable, as the significance values were as follows, in sequence: 0.711, 0.679, and 0.199, all of which exceed 0.05, thereby rendering them not significant at the 0.05 level.

Furthermore, there are no statistically significant differences concerning the performance levels related to the age variable in terms of availability of performance evaluation for employees, where the significance value recorded was 0.561, which also surpasses 0.05, and consequently is not significant at the 0.05 threshold.

Table 11.

Calculating differences in motivation and performance due to years of experience using one-way ANOVA test

Significance value (p)	valueF	Mean squares	Degree of freedom	Sum of squares	Source of variance	Dimension
0.876	0.229	0.232	03	0.695	Between groups	Financial incentives
		1.011	60	60.653	Within groups	
			63	61,347	the total	
0.320	1.192	0.573	03	1.718	Between groups	Moral incentives
		0.480	60	28,830	Within groups	
			63	30.548	the total	
0.122	2.008	0.715	03	2.145	Between groups	Social incentives
		0.356	60	21,358	Within groups	
			63	23,503	the total	
0.954	0.110	0.029	03	0.088	Between groups	Performance
		0.268	60	16,053	Within groups	
			63	16.141	the total	

(Source: authors' processing)

One-way analysis of variance was employed to address the research inquiry - Is there a statistically significant difference in the motivation and performance of human resources at the corporation attributable to years of experience? The findings, as delineated in the table, indicate that:

There are no statistically significant distinctions among the mean assessments of the corporation employees concerning the provision of material, moral, and social incentives relative to the variable of years of experience, as the significance values were recorded as follows, in sequence: 0.876, 0.320, and 0.122, all of which exceed 0.05, and hence are not considered significant at the 0.05 level.

There are no statistically significant differences in the level of performance concerning the variable of years of experience or the availability of performance evaluations for employees, as the significance value was determined to be 0.954, which is greater than 0.05, and therefore not significant at the 0.05 threshold.

Based on the aforementioned results, it is evident that the hypothesis positing the existence of statistically significant differences in material incentives due to the variable of academic qualification and job title is supported at a significance level of 0.01, while the hypothesis is refuted in the remaining instances (gender, age, years of experience). Additionally, the results of the performance evaluations further contradict the validity of the hypothesis, indicating that there are no statistically significant differences in performance.

Main Findings

Gender: No significant difference was found in the perception of material, moral, or social incentives based on gender. *And* No significant difference was found in performance ratings based on gender.

Education Level: There was a significant difference in the perception of material incentives based on education level. Higher-educated employees perceived material incentives differently. *And* No significant differences were found in the perception of moral or social incentives or in performance ratings based on education level.

Job Title: There was a significant difference in the perception of material incentives based on job title. Different job titles had varying perceptions of material incentives. *And* No significant differences were found in the perception of moral or social incentives or in performance ratings based on job title.

Age: No significant differences were found in the perception of material, moral, or social incentives or in performance ratings based on age.

Years of Experience: No significant differences were found in the perception of material, moral, or social incentives or in performance ratings based on years of experience.

- Education level and job title mattered when it came to how employees perceived material rewards.
- Gender, age, and years of experience did not significantly affect how employees felt about incentives or how well they performed their jobs.

Conclusion

This research determined that the corporation exhibits a preference for male employees over female counterparts, attributable to the inherent demands of the complex's operational activities, which necessitate a workforce of this gender at the construction site. Furthermore, the organization displays a predilection for individuals possessing university qualifications, owing to their adeptness in functioning under duress and their capacity to acquire specialized competencies and knowledge across diverse domains that are beneficial to the institution, including but not limited to engineering, electrical systems, mechanics, and information technology. It is noteworthy that the organization has refrained from expanding its employment opportunities since 2006, primarily due to a pronounced need for employee loyalty. The corporation is characterized as one of the enterprises with a high degree of career stability, which serves to incentivize employees to remain with the organization for extended durations; additionally, it prioritizes employees with greater tenure when making decisions regarding promotions and bonuses, recognizing the invaluable contribution of their accumulated experience to the organization's success. Moreover, the extensive network of the corporation branches emphasizes the recruitment of seasoned professionals who possess requisite leadership attributes and exceptional efficiency, thereby enabling them to effectively motivate and guide the workforce.

The empirical investigation conducted within the corporation of Electricity and Gas regarding the influence of personal data on enhancing the motivational factors that drive the performance of human resources has similarly established that motivational elements exert a favorable impact on the elevation and enhancement of the performance of personnel within this institution. It was observed that the efficacy of motivation is markedly amplified when the organization avails itself of various incentives, particularly material and social ones, aimed at augmenting quality across all disciplines. This is achieved through a comprehensive understanding of the role played by the human element, including its inherent characteristics and the extent of its contribution to the institution. It can be posited that the specific scientific qualifications and job titles have a discernible effect on performance, whereas other personal attributes may not exert a similar influence. Consequently, it is advisable to fortify the incentive framework in alignment with academic qualifications and job titles to facilitate enhanced performance outcomes.

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