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Impact of motivation on the job performance of public sector employees: the case of Morocco

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Abstract

This study investigates the driving forces behind job performance in Morocco's public sector amid its latest reforms. Despite extensive research on motivation and job performance, the unique dynamics within this sector, particularly following recent legislative changes, still need to be explored. This study links job performance to an incentive-based system by examining the roles of both intrinsic and extrinsic motivations in enhancing employee performance. Employing qualitative methodology, this study explores how incentives and motivation impact job performance. Data collected via a structured questionnaire are analyzed using structural equation modeling to elucidate the connections between work performance, motivation, and incentives. These findings highlight the significance of transparent human resource policies, comprehensive incentive systems, appropriate performance metrics, and robust leadership in cultivating a motivated and high-performing workforce.

Keywords Job performance, Incentives, Intrinsic motivation, Extrinsic motivation, Public sector, Structural equation modeling

Introduction

In the evolving landscape of the Moroccan public sector, characterized by significant legislative changes, notably the introduction of the Organic Law of Finance (LOF) [1], the imperative to maximize resources for optimal job performance has become increasingly pertinent. Modern organizational theory champions pay-for-performance systems to enhance productivity, profits, and customer service [2–4], despite their limitations such as potentially creating a risk-averse environment and overlooking aspects such as loyalty and belonging [5, 6]. Similar systems, recognized for retaining better-performing employees more effectively than praise or recognition [7, 8], and motivating employees through a balanced blend of incentives, are critical for achieving optimal performance.

The Moroccan public sector's transition toward performance-oriented management, prompted by the Organic LOF [1], represents a paradigm shift, mandating a re-evaluation of job performance metrics and management strategies. This shift calls attention to the notable gap in understanding the post-LOF dynamics, especially considering the sector's significant role in the economy and employment [9]. The imperative for a performance-oriented approach in the public sector, akin to the transformation observed in Morocco, aligns with broader organizational theories emphasizing the roles of leadership and cultural adjustments in enhancing employee productivity. Studies have explored the significance of transformational leadership and organizational culture in driving productivity and motivation in the public sector [10].

This study aims to fill this gap by examining the interplay between intrinsic and extrinsic motivation and job

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performance within the context of legislative changes introduced by the Organic LOF. Using structural equation modeling (SEM) with AMOS, informed by foundational theories such as Maslow's hierarchy of needs [11] and Alderfer's existence, relatedness, and growth (ERG) theory [12], this study aims to provide nuanced insights into the motivational factors influencing job performance in the Moroccan public sector. This study makes both theoretical and practical contributions by providing insights for policymakers and practitioners to enhance management efficiency and performance in Morocco's public sector.

The introduction of pay-for-performance systems and emphasis on a comprehensive incentive system emphasize the intricate relationship between employee motivation, incentives, and job performance. Therefore, this research is crucial for understanding how key aspects of motivation and job performance can be leveraged to improve organizational efficiency and effectiveness.

In light of these considerations, this paper embarks on a detailed examination of the factors influencing job performance in the Moroccan public sector post-LOF implementation, structuring the exploration to begin with a foundational review. Section "Literary review" delves into a review of the relevant literature on motivation theories, notably self-determination theory (SDT), and their implications for job performance, thus establishing the theoretical groundwork for the study. Section "Methodology" details the methodology, emphasizing the employment of structural equation modeling (SEM) to examine the intricate relationships between incentives, motivation, and job performance. This section is crucial for understanding the empirical approach and the questionnaire design disseminated among civil servants in the Moroccan public sector. Following this, Sect. "Data sources and collection method" explains the data collection process, highlighting the development of the questionnaire and the application of a stratified sampling strategy to ensure a representative dataset from the Moroccan public sector. This approach highlights the paper's commitment to empirical rigor and methodological thoroughness. Subsequently, Sect. "Results" presents the study's outcomes, showcasing the exploratory and confirmatory factor analyses that validate the theoretical framework. The relationships among incentives, motivation, and job performance are explored in depth, providing empirical evidence to support the hypotheses. Section "Discussion" discusses the implications of the findings within the broader context of the Moroccan public sector, integrating insights from interactions with the Moroccan Ministry of Digital Transition and Administrative Reform. This section bridges the gap between research findings and practical applications, offering recommendations to enhance public sector performance. Finally, Sect. "Conclusions" concludes the paper by summarizing the key insights gained, acknowledging the limitations of our study, and proposing directions for future research. This section highlights the significance of our findings for policymakers and practitioners alike, emphasizing the contribution of our research to the field.

Literary review

Motivation

Overview

Motivation is a complex and multifaceted construct that significantly influences individuals' actions and decisions in various contexts, including the workplace. Researchers have extensively studied motivation to understand its underlying factors, different types, and their impact on performance and well-being. While early theories, such as Maslow's hierarchy of needs and Herzberg's two-factor theory, laid the foundation for understanding motivation, recent developments in motivation research have broadened our understanding of the factors that drive human behavior and have practical implications for organizational settings [11, 13].

A motivation theory: self-determination theory

To further expand these foundational insights, self-determination theory (SDT) has emerged as a pivotal framework**.** Developed by Deci and Ryan, SDT explores both intrinsic motivations that arise from an individual's satisfaction derived from the task itself, leading to increased engagement and well-being, and extrinsic motivations that are driven by rewards, such as bonuses or recognition [14]. This theory is particularly relevant in public sector reforms, including those in Morocco, in which employee motivation is shaped by the interplay of task nature, incentive structures, and organizational goals [15].

By applying SDT to the Moroccan public sector, this study examines the crucial roles of autonomy, competence, and relatedness, the three fundamental psychological needs at the core of SDT, in enhancing job performance. Autonomy refers to individuals having control over their work; competence involves mastering tasks; and relatedness signifies connections with colleagues in the workplace. Such elements are particularly pertinent given Morocco's shift toward performance-driven management, as mandated by the Organic LOF [1], necessitating the reassessment of incentive design and implementation [16].

Empirical evidence supporting SDT indicates that when individuals' psychological needs are satisfied, they exhibit higher levels of motivation and job performance. Such dynamics are vital for policymakers and

organizational leaders who aim to cultivate a motivated and high-performing workforce. Thus, SDT offers a robust theoretical framework for analyzing motivation and provides practical insights for designing interventions that can lead to optimal organizational outcomes [16]. These psychological needs accentuate the importance of considering both intrinsic and extrinsic factors when assessing motivation's impact on job performance, a theme echoed subsequently in job performance itself.

Job performance

Overview

Job performance is a key factor in determining employee and organizational success. The exploration of job performance has evolved along with the study of motivation from early theories focusing primarily on job satisfaction to more recent considerations of employee engagement and job crafting. This literature review provides an overview of key concepts and ideas related to job performance and their practical implications in organizational settings.

Early theories: job satisfaction

Moving from a general overview to specific theoretical models, early theories of job performance centered on job satisfaction**.** However, research has shown that job satisfaction only sometimes leads to better performance. Other factors, such as job demands, job resources, and work engagement, are also important in determining job performance [17].

Job demands–resources model

Transitioning from job satisfaction to a broader consideration of work environment factors, the job demands–resources (JD-R) model introduces the concept that both job demands and resources significantly influence job performance. This model theorizes that high job demands can lead to burnout, whereas adequate job resources can foster work engagement and motivation [18]. This theory has been used to inform interventions to optimize workplace job design and resource allocation. After exploring the implications of the JD-R model for job performance, it becomes evident that the broader organizational environment, including culture, plays a crucial role in shaping employee motivation and outcomes. Abane et al. [19] have provided insights into this dynamic, demonstrating through Denison's culture model that a positive organizational culture is significantly correlated with enhanced employee productivity in the public sector. Such findings suggest that similar cultural elements may also be critical in optimizing job performance in Morocco's public sector reforms.

Employee engagement

Expanding on the factors that influence job performance, employee engagement has emerged as a crucial element representing the degree to which employees are emotionally invested in their work. Engaged employees are more likely to be motivated, productive, and innovative, which leads to better job performance [20]. Organizations can promote employee engagement by creating a supportive work environment, providing opportunities for development and growth, and recognizing and rewarding employees for their contributions.

Incentives

Discussions of job performance naturally lead to the examination of incentives, as organizations frequently employ them to encourage employees to improve their performance and job efficiency. In various domains such as psychology, economics, and business, incentives serve to inspire people to execute specific actions or reach certain objectives. The literature on incentives covers many subjects, from the design and application of incentive systems to the efficacy of incentives in diverse settings and the psychological foundations of incentives. Designing effective incentive systems requires identifying the best types of incentives in a given context. Incentives are classified into two categories: extrinsic and intrinsic. Extrinsic incentives involve external rewards that individuals receive for specific actions or outcomes such as bonuses, awards, or promotions.

Conversely, intrinsic incentives come from the experience of participating in an activity, such as the sense of achievement or pleasure derived from solving complex problems. Various factors influence the effectiveness of incentives, including the type and magnitude of the incentive, the characteristics of the people being incentivized, and the specific behaviors or outcomes targeted. Generally, larger incentives are more effective than smaller ones; however, their effectiveness diminishes beyond a certain threshold [21]. Moreover, an individual's motivation and engagement with a task influence the efficacy of incentives, with more motivated and engaged individuals responding better to incentives.

When designing incentive systems, it is crucial to consider potential unintended consequences. For example, incentives might cause individuals to focus solely on targeted behaviors or outcomes, neglecting other essential aspects of their jobs or tasks. Furthermore, incentives can create pressure or coercion, leading people to adopt unethical or unproductive behaviors to achieve the desired outcome [21]. Nevertheless, incentives can effectively motivate individuals to perform specific actions and achieve set goals. They have been employed in

various settings, such as education, health care, and the workplace, to promote desirable behaviors and outcomes [22]. One method for countering the potential drawbacks of incentives is to combine extrinsic and intrinsic incentives into a single system. A system offering monetary rewards and opportunities for skill development and career progression may be more effective than one that relies solely on extrinsic rewards [23]. Studies have also investigated the psychological mechanisms underlying the effectiveness of incentives. One such mechanism is goal-setting theory, which suggests that individuals are more motivated by specific, challenging goals than by vague or easy ones [24]. Another mechanism is social comparison theory, which posits that individuals are driven to outperform their peers [25]. The literature on incentives is extensive and multifaceted and includes various topics and viewpoints. Although incentives can effectively motivate individuals to perform specific behaviors or achieve certain goals, they must be designed and executed meticulously to avoid drawbacks and unintended consequences. A combination of extrinsic and intrinsic incentives, specific and challenging goals, and social comparison mechanisms may also be effective.

Motivation and incentives

In bridging the topics of motivation and job performance, the relationship between motivation and incentives is complex yet critical. In organizational psychology, the concepts of motivation and incentives are closely connected. Incentives are rewards or benefits provided to employees for their performance, whereas motivation is the inner drive that pushes individuals to behave in certain ways [14]. This review examines the connection between these two ideas and discusses the relevant theories and research findings.

SDT is a significant theory in motivational research [26]. This posits that humans have a natural inclination toward growth and self-determination, which are crucial for well-being [23]. SDT distinguishes between three types of motivation: intrinsic, extrinsic, and amotivation. Intrinsic motivation involves participating in an activity for its own sake, whereas extrinsic motivation focuses on engaging in an activity to gain reward or avoid punishment. Amotivation is the absence of motivation to perform an activity [14].

Incentives can substantially influence motivation [27]. When used correctly, they can boost intrinsic motivation, making people feel more competent and autonomous in their work [14]. Giving employees a sense of choice and control over their work can enhance their intrinsic motivation, as they feel that they are making meaningful contributions to the organization [16]. However, the effect of incentives on motivation is complex and depends on factors such as the incentive type, individual motivation level, and work environment [27]. Extrinsic incentives, such as bonuses and promotions, often aim to increase motivation and performance [28]. Although effective in the short term, they may undermine intrinsic motivation in the long term, as people may focus more on external rewards than on internal satisfaction from the work [14]. Incentives can create pressure and coercion, causing people to view their work as a means to an end rather than an end in itself [29]. To counter analogous adverse effects, organizations can provide employees with a sense of autonomy and control over their work [16]. Incentives may involve offering opportunities for employees to set their own goals and work methods, and including them in decision-making processes [15]. The work environment also influences the effectiveness of incentives for enhancing motivation [30]. A positive environment that encourages supportive relationships, clear communication, and a sense of community can boost intrinsic motivation and incentive efficacy [14]. For example, giving employees recognition opportunities and social connections can improve their sense of belonging and motivate them to perform well [31].

Organizations must balance extrinsic and intrinsic motivations to achieve effective workplace performance [14]. SDT can help organizations develop and execute incentive programs that increase motivation and encourage efficient performance [15, 23]. Further research is needed to understand the intricate relationship between motivation and incentives and determine the best approaches for designing and implementing incentive programs that support optimal performance and well-being in the workplace [27].

Motivation and job performance

The previous research has explored the connection between motivation and job performance, reinforcing the idea that these two aspects are essential for workplace success [24]. Motivation refers to the internal drive that prompts people to exhibit specific behaviors, whereas job performance reflects how effectively and efficiently individuals accomplish tasks. Several theoretical frameworks explain the relationship between motivation and job performance, with expectancy theory being among the most prominent [32]. Expectancy theory suggests that motivation is a function of expectancy, instrumentality, and valence; thus, individuals are motivated to engage in activities when they believe that their efforts will result in better performance and desirable outcomes.

Studies have shown that motivation is vital for determining job performance. Highly motivated individuals tend to exhibit behaviors that lead to improved job performance, such as increased effort, productivity, and

persistence [24]. Moreover, motivation often leads to positive emotions, such as enthusiasm, satisfaction, and pride, which can further boost job performance [15]. However, the relationship between motivation and job performance is complex and influenced by factors such as the type of motivation, job role, and work environment. For instance, intrinsic motivation, which is driven by personal satisfaction and enjoyment, is more connected to job performance than extrinsic motivation, which is guided by external rewards or consequences [26]. Research has shown that motivation substantially affects job performance in positions requiring advanced skills and creativity, such as knowledge work.

In contrast, the influence of motivation on job performance is less pronounced in roles involving routine tasks and repetition. Work environment is also crucial in determining how motivation affects job performance. A positive work atmosphere that encourages supportive relationships, clear communication, and a sense of unity can boost motivation and improve job performance [33]. Organizations can elevate motivation and foster job performance by cultivating a positive work environment that nurtures motivation in line with expectancy theory and provides opportunities for recognition and social interaction. Motivation and job performance are intimately connected and crucial for optimal workplace performance [24]. While intrinsic motivation tends to exhibit a stronger association with job performance than extrinsic motivation does [14], the impact of motivation on job performance is contingent on factors such as job role and work environment. Therefore, in line with expectancy theory, creating a positive work environment that encourages motivation can enhance motivation and foster job performance [33].

Incentives and job performance

Similarly, the relationship between incentives and job performance highlights the importance of carefully designing incentive programs that align with employee needs and motivations. Organizations frequently employ incentives to encourage employees to improve their performance and job efficiency. Incentives, whether monetary or nonmonetary, can encompass bonuses, promotions, recognition, and career-growth opportunities. Thus, the literature review next examines the connection between incentives and job performance, presenting a synopsis of key theoretical principles and empirical findings.

Goal-setting theory is a prominent theory that elucidates the relationship between incentives and job performance. According to this theory, individuals are more likely to be motivated and perform well when they have specific, challenging, and attainable goals [34]. In this context, incentives encourage employees to set and pursue such goals, consequently boosting their motivation and job performance. Empirical research has substantiated the link between incentives and job performance. For example, a meta-analysis by Stajkovic and Luthans [35] has revealed a positive correlation between incentive use and job performance. Moreover, Kohn [36] discovered that individual performance-based incentives such as individual bonuses tend to yield higher job performance levels than group performance-based incentives such as team bonuses.

However, the efficacy of incentives in bolstering job performance is contingent on several factors. For example, the magnitude of an incentive can influence its effectiveness. Studies indicate that larger incentives generally improve job performance up to a certain threshold, beyond which the efficacy of the incentive diminishes [37]. Consequently, organizations should judiciously determine the optimal incentive magnitude by considering the context and individual employees. The design of an incentive system also influences its effectiveness in augmenting job performance. Incentives associated with specific measurable performance goals yield better results than those associated with ambiguous or ill-defined goals [24].

In addition, employing transparent and fair performance metrics can enhance an incentive system's perceived legitimacy and further boost its effectiveness [38]. The potential unintended consequences of using incentives to improve job performance are crucial to consider. For example, incentives based solely on performance outcomes may prompt employees to adopt unethical or counterproductive behaviors to achieve the desired results [39]. Furthermore, incentives may cause employees to concentrate narrowly on a targeted behavior or outcome, neglecting other vital job aspects [22, 37]. Combining incentives with other motivational factors, such as job design, work environment, and leadership, may be beneficial for addressing potential drawbacks. Research has shown that a supportive work environment that fosters positive relationships, clear communication, and a sense of community can enhance job performance and the effectiveness of incentives [33] and that effective leadership that provides clear direction, support, and feedback can enhance job performance and promote the effectiveness of incentives [22].

Incentives are effective tools for enhancing job performance. However, their effectiveness depends on various factors, such as the incentive type and magnitude, incentive system design, and the potential for unintended consequences. By carefully considering the aforementioned factors and integrating incentives with other motivational elements, organizations can establish a positive work

environment that nurtures motivation and enhances job performance. In addition, tailoring incentives to individual needs and preferences can improve their effectiveness. Research suggests that the perceived value of incentives varies among individuals depending on factors such as personality, cultural background, and personal values [27]. By understanding and addressing individual differences, organizations can implement incentive programs that better align with employee motivation and, as a result, achieve higher job performance. It is essential to periodically review and update incentive systems because the effectiveness of particular incentives may change over time. Factors such as market conditions, industry trends, and changes in employee demographics may necessitate adjustments to the type, magnitude, or structure of incentives [27]. Periodic evaluations can help organizations ensure that their incentive programs remain relevant, engaging, and effective in motivating and retaining employees. Using incentives to improve job performance can be a powerful strategy for organizations, provided that they carefully consider various factors and potential challenges. Organizations can create a motivational environment that fosters increased job performance and employee satisfaction by incorporating goal-setting theory and adapting incentive programs to employee needs.

The impact of incentives on job performance has been illustrated by Forson et al. [40], who demonstrate how intrinsic and extrinsic motivators significantly influence the effectiveness of educational professionals. Their findings highlight the complex dynamics between incentives and job performance, particularly in the educational sector.

Methodology

Analytical framework

In this study, SEM serves as the primary statistical method to clarify the relationships among the constructs of incentives, motivation, and job performance. SEM integrates elements of both factor and multiple regression analyses to estimate complex and hypothetical causal relationships [41].

An essential feature of SEM is its robustness in handling measurement errors and accounting for missing data, thereby ensuring the reliability of research findings [42]. Moreover, SEM's capacity to estimate latent variables from observed data enhances analysis, particularly in fields such as psychology, sociology, and marketing, where unobservable constructs are often of interest [43].

AMOS was used to facilitate the SEM analysis in this study [41]. The SEM framework within the study determines the independent variable, incentives, as the starting construct from which causal effects emanate, hypothesized to directly influence both the mediator and dependent variables. The mediator variable, motivation, is believed to mediate the relationship between the independent and dependent variables, acting as a conduit for the effect of incentives on job performance. Job performance was the dependent variable, representing the outcome construct influenced by both independent and mediator variables.

As illustrated in Fig. 1, the constructed theoretical model depicts the abovementioned relationships with the model parameters estimated to determine the fit with the collected data [44, 45]. The analysis examines the direct paths from incentives to job performance and incentives to motivation, as well as the indirect path where motivation mediates the effect of incentives on job performance alongside the direct effect of motivation on job performance. Model fit is evaluated, and the results are interpreted within the context of our theoretical framework, providing insights into the mechanisms by which motivation and incentives contribute to job performance.

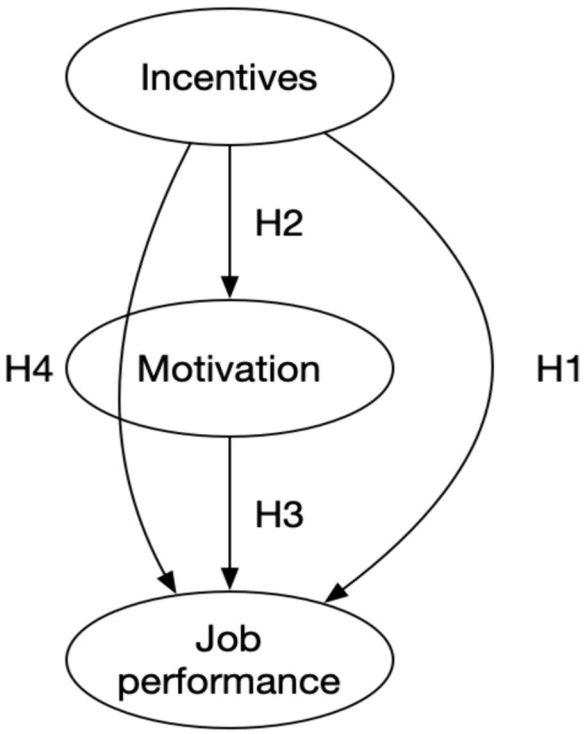

Fig. 1 Mediation model between motivation, job performance, and incentives. *Note* SEM mediation model shows hypothesized effects of incentives on job performance, mediated by motivation (H1–H4)

H1 A significant positive relationship exists between incentives and job performance.

H2 A significant positive relationship exists between incentives and the motivation,

H3 A significant positive relationship between motivation and job performance,

H4 Motivation mediates the underlying mechanism of the relationship between incentives and job performance.

Rationale for the proposed model

This study explores the complex interplay of motivation (mediator), job performance (dependent), and extrinsic and intrinsic incentives (independent), focusing on the associations between the independent variables (incentives) and the dependent variable (job performance) mediated by motivation. This research focuses on well-established theoretical constructs, including job performance, motivation, incentives, and behavioral motivation, as documented in numerous studies [21, 22, 27, 46, 47]. The indicated constructs form the basis of this study, providing an understanding of current interactions and dependencies among them. Specifically, the associations between motivation and job performance and between incentives and job performance are discussed [14, 23, 26, 29]. Insights from existing relationships pave the way to understanding how variables interact with each other. Additionally, this study examined how extrinsic and intrinsic motivation influence job performance, and how incentives affect motivation and job performance [32, 34, 48, 49]. This analysis offers a comprehensive view of the interaction between variables and serves as a robust base for the structure of the proposed model.

The proposed SEM is tailored to investigate the relationships between motivation, job performance, and incentives [14, 24, 27]. Rooted in a theoretical framework and informed by existing relationships, the model is constructed upon understanding how the constructs interact (Fig. 2), combined with a systematic approach that aims to test the hypotheses and elucidate the underlying dynamics governing the hypothesized relationships (Fig. 3).

Schematic flow from established constructs to a proposed model, showing the theorized interactions and influences of motivation and incentives on job performance.

Data sources and collection method

Measures

A structured questionnaire was used to collect the data for this study. The questionnaire included 30 items assessed on two types of five-point Likert scales, ranging from "strongly disagree" to "strongly agree" and from "rarely" to "always."

They were provided face-to-face, with the basic premise of anonymity. Motivation, both intrinsic and extrinsic, was measured using 13 items derived from Maslow's hierarchy of needs [11] and Alderfer's ERG theory of motivation [12, 50]. The incentive construct was measured using seven items extracted from a study by Mikander [51], which was meticulously conducted to ensure that it was in line with the comprehensive synthesis of the relevant

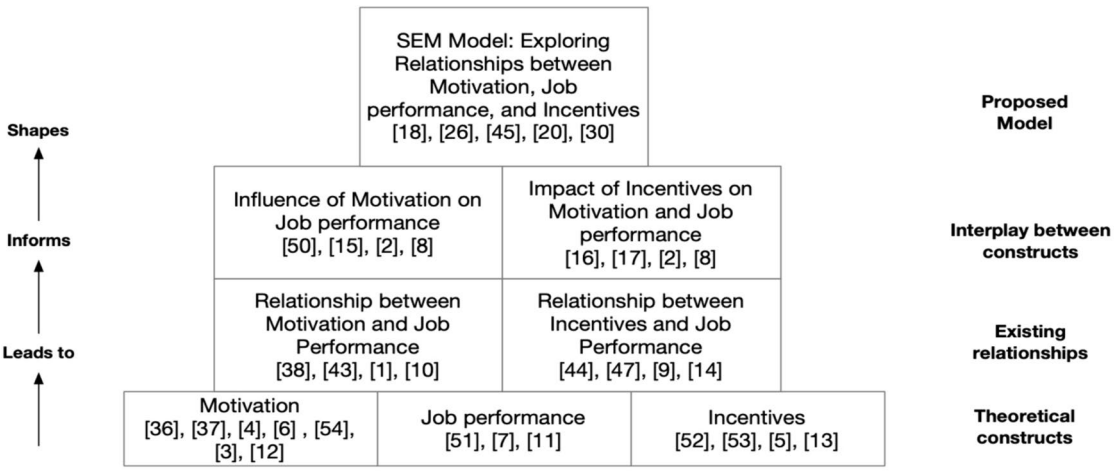

Fig. 2 Sequential representation of motivation, incentives, and job performance: from constructs to a proposed model. *Note* Schematic flow from established constructs to a proposed model, showing the theorized interactions and influences of motivation and incentives on job performance

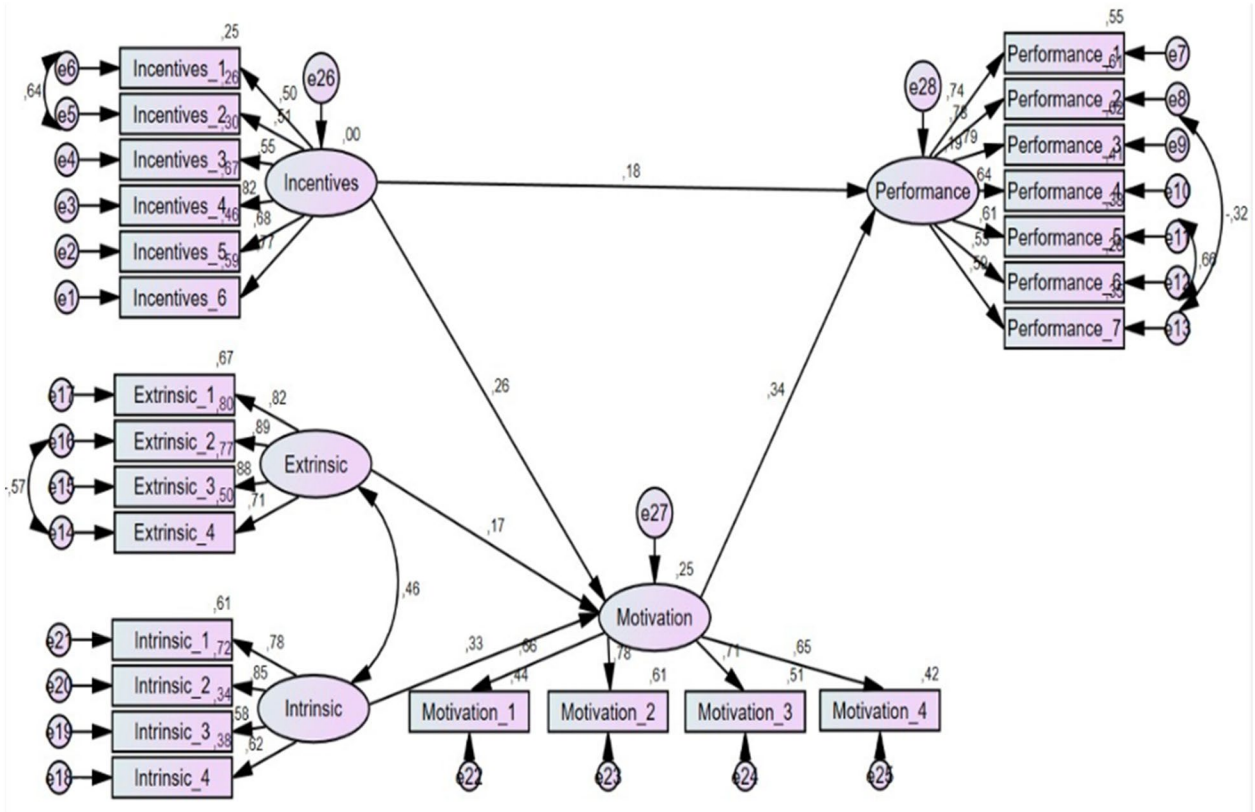

Fig. 3 SPSS AMOS output. *Note* Structural model output from SPSS AMOS showing the factor loadings and path coefficients for incentives, extrinsic, intrinsic motivation, and job performance constructs. The model meets the fit criteria with all factor loadings > 0.5, indicating convergent validity, and composite reliability coefficients > 0.6, suggesting a good fit to the data

literature undertaken in the study. Similarly, the job performance construct was adapted using eight items from the Individual Work Performance Questionnaire (IWPQ) [52]. In selecting those items, we drew upon the review of the literature on job performance, ensuring that the chosen metrics can effectively capture the multifaceted nature of job performance.

While the study's core methodology relies on a quantitative framework, including techniques such as SEM, the approach has qualitative facets. Face-to-face administration of the 30-item structured questionnaire allowed for real-time clarification and rapport-building with respondents, thereby enhancing data reliability. Additionally, the development of a theoretical framework offers qualitative insights into the relationships between key constructs, integrating both quantitative rigor and qualitative depth into the analysis.

The questionnaire is shown in Appendix 1.

Sample and data

The questionnaire was initially developed in English to better accommodate constructs and items from the literature. Then, the questionnaire was translated into French. The main respondents were civil servants and employees in the Moroccan public sector. The sample size was determined to be 400, which is a suitable size [53] for SEM [54–56] using AMOS [41, 57].

The present research methodology adopted a stratified random sampling approach to ensure a fair representation of the ranking of employees in the Moroccan public sector. Respondents ranged from high-ranking officials to employees with lesser roles, reflecting diverse job positions within the public service context. The various sample compositions provided a rich and comprehensive perspective on the studied phenomena, thus enhancing the robustness and generalizability of our findings. Furthermore, the questionnaires were administered face-to-face, strengthening the response rate and allowing the clarification of any ambiguities in real time. This approach minimized potential misunderstandings or misinterpretations of the questions, thereby improving the reliability of the data collected. Face-to-face administration also allowed for building rapport with respondents, leading to more candid responses and deeper insights into the dynamics

between motivation, incentives, and job performance within the Moroccan public sector.

Data analysis

Exploratory factor analysis (EFA) was initially used to measure and examine the internal reliability of the model. These criteria were chosen to assess discriminant validity among the constructs [54].

Confirmatory factor analysis (CFA) and path analysis were used to evaluate the model fit and validity of the constructs. These criteria were chosen to assess the constructs' reliability and the model fit [44, 55].

Finally, the hypotheses were tested using SEM with a significance level of 5%.

Results

Exploratory factor analysis

After the EFA, the Kaiser–Meyer–Olkin (KMO) value was 0.833, Cronbach's alpha was 0.885, and the *p*-value of Bartlett's test was less than 0.05. The explained variance was greater than 50%. Thus, the constructs are internally consistent (Table 1).

Structural model

The SEM estimation showed that the selected criteria were met: Chi-square/df = 2.679, CFI = 0.906, IFI = 0.907, TLI = 0.893, and RMSEA = 0.065 (Table 2). After removing the unsatisfactory items, the factor loadings of the items in each construct were greater than 0.5, indicating that the items had reached convergent validity. The composite reliability coefficients were greater than 0.6, and the average variance was greater than 50%. Thus, the proposed model fit the actual data (Table 3).

Hypothesis test

The findings showed that two factors positively affect job performance: motivation and incentives ($p \leq 0.05$). Furthermore, the outcome displays a significantly positive relationship between incentives and motivation at the 5% significance level ($p \leq 0.05$). It also exhibits a significant indirect effect of incentives on job performance, specifically the relationship of incentives → motivation → job performance, at the significance level of 5% (p-value ≤ 0.05). The results verify that motivation plays a mediating role between incentives and job performance.

Thus, we verified and accepted H1, H2, and H3 (Table 4). To verify whether motivation is a mediator that explains the underlying mechanism of the relationship between incentives and job performance, in the relationship of incentives → motivate → job performance, there should be a significant indirect effect of incentives on job performance. This is the case in this instance because the two-tailed significance (confidence 95%) p-value = 0.01 < 0.05. Thus, H4 is accepted.

Table 1 Criteria for indices and tests for the exploratory factor analysis. *Source* Thresholds established in the literature [54]

Indices and tests	Criteria
Kaiser–Meyer–Olkin (KMO)	KMO > 0.5
Cronbach's alpha	> 0.70
Bartlett's test of sphericity	p-value < = 0.05
Total variance explained (TVE)	> 50%

Note Criteria for EFA include KMO > 0.5 for sampling adequacy, Cronbach's alpha > 0.7 for internal consistency, Bartlett's test p-value ≤ 0.05 for sphericity, and TVE > 50% for sufficient variance explanation. These thresholds validate the model's reliability and construct distinctiveness

Table 2 Criteria for indices and tests for the confirmatory factor analysis and path analysis. *Source* Thresholds established in the literature [54]

Indices and tests	Criteria
CMIN/DF	< 3
CFI	> 0.9
IFI	> 0.9
TLII	> 0.9
RMSEA	< 0.08
Factor loadings of items	> 0.4
AVE	> 0.5
CR	> 0.6

Note CFA and path analysis criteria: CMIN/DF < 3, CFI/IFI/TLI > 0.9 for good model fit, RMSEA < 0.08 for acceptable error, factor loadings > 0.4, AVE > 0.5, and CR > 0.6 for construct validity and reliability

Discussion

Engaging with the Moroccan Ministry of Digital Transition and Administrative Reform provided practical context to explore the real-world implications of this study's findings. The dialog focused on the public sector's practical challenges, in which the Ministry's

Table 3 Reliability and validity test results. *Source* Data derived from the study

Construct	Cronbach's alpha	C.R	AVE
KMO = 0.842, p-value < 0.001 (Bartlett's test)			
Motivation	0.797	0.794	0.493
Incentives	0.822	0.813	0.529
Intrinsic motivation	0.775	0.804	0.513
Extrinsic motivation	0.879	0.896	0.686
Job performance	0.856	0.854	0.459

Note Reports construct reliability (Cronbach's alpha, C.R.) and validity (AVE) with KMO and Bartlett's test confirming data suitability for analysis. Achieved thresholds highlight the constructs' internal consistency and the model's empirical validity

Table 4 The SEM analysis results. *Source* Data derived from the study

Hypotheses	Relationships	Standardized regression	S.E	C.R	*p*-value	Accepted/rejected
H1	Incentives → Job performance	0.185	0.051	3.178	< 0.001	Accepted
H2	Incentives → Motivation	0.262	0.055	4.430	< 0.001	Accepted
H3	Motivation → Job Performance	0.344	0.06	5.395	< 0.001	Accepted
–	Extrinsic → Motivation	0.17	0.052	2.693	0.007	–
–	Intrinsic → Motivation	0.33	0.106	4.633	< 0.001	–

Note SEM analysis validates hypotheses on incentives, motivation, and job performance, showing significant relationships (p-value ≤ 0.05). Standardized regression weights, S.E., C.R., and p-values highlight the mediation effect of motivation

representative highlighted the need to re-evaluate and potentially overhaul approaches, especially in restructuring incentive systems and redefining performance indicators. These insights highlight the importance of study outcomes in guiding reforms and acknowledging challenges such as budgetary constraints and entrenched institutional structures. The Ministry's recognition of the necessity for a transparent human resources policy and a comprehensive incentive system aligns with the study's propositions, emphasizing the need for a nuanced approach to policy implementation. Leadership's role in shaping organizational culture and motivation, as emphasized by the Ministry, validates the focus of this study and the necessity for further exploration.

Interaction with the Ministry emphasizes the practical challenges in applying academic findings and the importance of continuous dialog between researchers and public sector practitioners. Based on the insights from this study and the subsequent dialog, we suggest strategic actions to enhance efficiency and employee satisfaction in the Moroccan public sector. Recommendations include overhauling incentive systems to align with employee motivations and organizational objectives and developing transparent human resources policies to support growth and fairness in evaluation and rewards. Such strategies aim to address challenges and support efforts to optimize performance, requiring strategic planning and careful resource allocation for a transformative impact in the public sector.

Furthermore, this study opens avenues for future research to explore variables impacting job performance, such as organizational culture and technological advancement, extending to diverse public sectors across geographical regions. Such exploration could enrich our understanding and provide a comprehensive view of the factors influencing job performance in various contexts.

Conclusions

This study uncovered essential insights into the relationships among incentives, motivation, and job performance within the Moroccan public sector. The positive effects of incentive systems and motivation on job performance were validated, highlighting the critical mediating role of motivation.

Engagement with the Moroccan Ministry of Digital Transition and Administrative Reform allowed for a deeper understanding of the study's outcomes and their real-world implications. The responses not only indicate a willingness to re-evaluate current practices, such as restructuring incentive systems or redefining performance indicators, but also underline the challenges arising from budgetary constraints, institutional structures, and diverse employee expectations.

The proposition of crafting a transparent human resources policy and comprehensive incentive system was met with cautious agreement, acknowledging the necessity for meticulous planning and resource allocation. The findings converge with the goals of the Moroccan Ministry to optimize employee potential and satisfaction while balancing resources.

This study also highlights areas that require further exploration. The stratified random sampling approach, while aimed at diverse representations, may conceal biases, and specificity to the Moroccan context may limit its generalizability. The use of SEM, although well-suited for analyzing complex relationships, relies on predefined relationships, possibly overlooking unexpected variables or interactions. Potential alternative explanations must be considered, including factors such as organizational culture and individual personality traits. The assumed linear relationship between variables may fail to encapsulate the complexity of human motivation, suggesting the need for more intricate considerations.

The study also recognizes contradictory evidence from the existing literature, such as the proposal that extrinsic incentives might decrease intrinsic motivation in certain contexts [58] or that the connection between motivation and job performance is more nuanced [15, 59].

This study aims to contribute to the understanding of the dynamics governing motivation, incentives, and job performance within the Moroccan public sector and beyond. This offers valuable insights for policymakers and underlines the criticality of evidence-based approaches in public administration. These findings can serve as a foundation for implementing effective strategies and significantly contribute to enhancing the public sector performance in Morocco. Future research focusing on efficient strategies for rolling out a comprehensive incentive system and instituting transparent human resources policies could further enrich this field.

Appendix 1

Questionnaire

Organisme/organization:

Genre/gender:

Âge/age (facultatif):

	1 Fortement en désaccord Strongly disagree	**2 En désaccord Disagree**	**3 Neutre Neutral**	**4 En accord Agree**	**5 Fortement en accord Strongly agree**
1. Les augmentations de salaire pour du travail bien fait motivent les fonctionnaires 1. *The salary increments given to employees who do their jobs very well motivates them*					
2. Je ne suis pas satisfait de mon salaire actuel 2. *I am not satisfied with the salary I draw at present*					
3. Je suis satisfait des pauses, autorisations et congés accordés par mon organisation 3. *I am satisfied with the lunch break, rest breaks, and leaves given in the organization*					
4. Je dispose de bonnes conditions de travail 4. *Good working conditions are provided in the organization*					
5. Les fonctionnaires dans mon organisation se sentent en sécurité dans leur travail 5. The officials of my organization feel safe in their work					
6. Je suis satisfait(e) par le régime de retraite et d'assurance maladie de mon organisation 6. *I am satisfied with the retirement and medical benefits in my organization*					
7. Le contact avec ma hiérarchie supérieure est important pour moi 7. *Visibility with top management is important to me*					

	1 Fortement en désaccord Strongly disagree	2 En désaccord Disagree	3 Neutre Neutral	4 En accord Agree	5 Fortement en accord Strongly agree
8. Je ressens que mes supérieurs apprécient toujours mes travaux 8. *I feel that my superior always recognizes the work done by me*					
9. Je suis satisfait(e) avec mes responsabilités et mon rôle 9. *I am satisfied with my role and responsibilities*					
10. Ma relation avec mes collègues est importante pour moi 10. *My relationship with my co-workers is important to me*					
11. Je suis satisfait(e) de la gestion des ressources humaines dans mon organisation 11. *I am satisfied with the human resources management in my organization*					
12. Je veux être le meilleur dans mon domaine 12. *I want to be the best in my field*					
13. Je peux évoluer dans cette organisation 13.*I can progress within this company*					
14. Mon objectif est de réaliser mes aspirations de carrière et mon potentiel 14. *My goal is to realize my potential and career aspirations*					
15. Les récompenses sont distribuées de façon équitable 15. *The rewards are distributed rightfully*					
16. Les récompenses sont équivalentes à l'effort consenti 16. *Rewards match my work effort*					
17. Je suis satisfait de la qualité/quantité des récompenses 17. *I am satisfied with the quality/quantity of the rewards*					
18. Je suis prêt à augmenter mes efforts pour recevoir plus de récompenses 18. *I am ready to increase my work efforts in order to gain the rewards*					

	1 Fortement en désaccord Strongly disagree	2 En désaccord Disagree	3 Neutre Neutral	4 En accord Agree	5 Fortement en accord Strongly agree
19. *Les fonctionnaires travaillent plus comme une équipe pour recevoir des récompenses* 19. *Employees work more as a team in order to gain rewards*					
20. Les récompenses ont un effet positif sur l'ambiance de mon travail 20. *The rewards have a positive effect on the work atmosphere*					
21. Les récompenses me motivent pour bien faire mon travail 21. *The rewards motivate me to perform well in my job*					

	1 Rarement Rarely	2 Parfois Seldom	3 Régulièrement Regularly	4 Souvent Often	5 Toujours Always
22. J'ai pu planifier mes tâches, donc j'ai pu les terminer dans les délais 22. *I managed to plan my work so it was done on time*					
23. Ma planification était optimal 23. *My planning was optimal*					
24. J'ai gardé en tête les résultats que j'ai voulu atteindre 24. *I kept in mind the results that I had to achieve in my work*					
25. J'ai pu séparer les tâches principales des tâches secondaires dans mon travail 25. *I was able to separate main issues from side issues at work*					
26. J'ai pu bien faire mon travail avec un minimum de temps et d'effort 26. *I was able to perform my work well with minimal time and effort*					
27. J'ai commencé de nouvelles tâches de ma propre initiative, quand j'ai fini avec les anciennes 27. *I started new tasks myself, when old ones were finished*					
28. J'ai travaillé à garder mes connaissances techniques à jour 28. *I worked at keeping my job skills up-to-date*					

	1 Rarement Rarely	2 Parfois Seldom	3 Régulièrement Regularly	4 Souvent Often	5 Toujours Always
29. J'ai travaillé à garder mes connaissances professionnelles à jour 29. *I worked at keeping my job knowledge up-to-date*					
30. J'ai participé de manière active dans les réunions professionnelles 30. *I actively participated in work meetings*					

Abbreviation
LOF Law of finance

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Author contributions
DEA conceived and designed the study, performed data collection, conducted the data analysis, interpreted the results, and wrote the first draft of the manuscript. AK and NB both oversaw the study, assisted in its design, and contributed to manuscript revisions. All authors read and approved the final manuscript.

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Data availability
The data that support the findings of this paper are available at the following link: https://data.mendeley.com/datasets/3ymdm6gf72/1.

Declarations

Ethics approval and consent to participate
This study adheres to ethical guidelines for research involving human participants. The data used in this research were collected using a questionnaire, in which no personal or sensitive information was solicited. Participation in the survey was entirely voluntary, and participants were informed at the beginning of the survey that their responses would be used for research purposes. At no point during data collection or analysis was individual responses identifiable, ensuring the confidentiality and privacy of participants. In line with the nature of the data and the methodology of our research, formal ethical approval was not sought. In Morocco, ethical approval is typically required for studies involving humans or animals, especially those related to medical or health sciences; however, at the time of conducting this research, there was no dedicated ethics committee available within our institutional context specifically geared toward social science research, such as the current study. However, all necessary steps were taken to respect and protect the rights and privacy of the participants.

Consent for publication
The respondents were informed of the nature and purpose of the study and provided informed consent by completing the questionnaire voluntarily.

Competing interests
The authors declare no competing interests.

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