



Lisbon School
of Economics
& Management
Universidade de Lisboa

MASTER
ACCOUNTING

MASTER'S FINAL WORK
DISSERTATION

**MOTIVATIONS AND ATTITUDES OF AUDITORS IN THE WORKPLACE
IN PORTUGAL**

LEONOR MARGARIDA BRAZÃO DIONÍSIO

JANUARY – 2026



Lisbon School
of Economics
& Management
Universidade de Lisboa

MASTER ACCOUNTING

MASTER'S FINAL WORK DISSERTATION

**MOTIVATIONS AND ATTITUDES OF AUDITORS IN THE
WORKPLACE IN PORTUGAL**

LEONOR MARGARIDA BRAZÃO DIONÍSIO

SUPERVISION:
IRYNA BEROVA ALVES

JANUARY – 2026

GLOSSARY

AVE – Average Variance Extracted

CB-SEM – Covariance-based SEM

EM – Extrinsic Motivation

ER – Extrinsic Rewards

HTMT – Heterotrait-Monotrait ratio

IM – Intrinsic Motivation

IP – Individual Performance

IR – Intrinsic Rewards

IT – Information Technology

OC – Organizational Commitment

OL – Outer Loadings

PLS-SEM – Partial Least Squares SEM

R^2 – Coefficient of Determination

Rho_a – Exact or Consistent Reliability

Rho_c – Composite Reliability

SD – Standard Deviation

SDT – Self-Determination Theory

SEM – Structural Equation Modeling

SME – Small and Medium Enterprise

WOL – Work Overload

ABSTRACT

This dissertation examines how different types of rewards – intrinsic and extrinsic, work overload, and motivational orientations are associated with organizational commitment and individual performance, using statutory auditors working in Portugal as the empirical context. Auditing represents a demanding professional environment characterized by high workload and performance pressures, making it particularly relevant for examining these relationships. Despite extensive research on rewards, workload, and motivation, these elements are often examined separately or within partial models, leaving limited evidence on their joint effects within an integrated framework, particularly in the Portuguese context. To address this gap, the study develops and empirically tests a theoretical model linking rewards, work overload, motivation, organizational commitment, and individual performance. Data were collected through an online questionnaire administered in 2020-2021, resulting in a final sample of 301 responses from statutory auditors. The proposed model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The empirical analysis indicates that extrinsic and intrinsic rewards are associated with extrinsic and intrinsic motivation, respectively. Both forms of motivation are positively related to organizational commitment, while work overload is negatively associated with commitment. Organizational commitment, in turn, is positively related to individual performance. Overall, the findings contribute to the literature by integrating these constructs into a single explanatory model and by providing empirical evidence from the Portuguese work context. The study also offers practical insights for organizations operating in demanding work environments such as auditing.

KEYWORDS: Rewards; Employee Motivation; Work Overload; Organizational Commitment; Individual Performance; Auditing.

RESUMO

Esta dissertação analisa a forma como diferentes tipos de recompensas – intrínsecas e extrínsecas, a sobrecarga de trabalho e as orientações motivacionais se associam com o compromisso organizacional e com o desempenho individual, tendo como contexto empírico os auditores a exercer em Portugal. A auditoria constitui um ambiente profissional particularmente exigente, caracterizado por elevados níveis de carga de trabalho e pressão associada ao desempenho, o que a torna especialmente relevante para a análise destas relações. Apesar da extensa literatura sobre recompensas, carga de trabalho e motivação, estes elementos têm sido frequentemente analisados de forma isolada ou através de modelos parciais, resultando numa evidência limitada quanto aos seus efeitos conjuntos num quadro teórico integrado, em particular no contexto português. Para colmatar esta lacuna, o estudo desenvolve e testa empiricamente um modelo teórico que relaciona recompensas, sobrecarga de trabalho, motivação, compromisso organizacional e desempenho individual. Os dados foram recolhidos através de um questionário online aplicado entre 2020 e 2021, tendo sido obtida uma amostra final de 301 respostas de auditores. O modelo proposto foi analisado através da Modelação de Equações Estruturais por Mínimos Quadrados Parciais (PLS-SEM). A análise empírica indica que as recompensas extrínsecas e intrínsecas estão associadas à motivação extrínseca e intrínseca, respetivamente. Ambas as formas de motivação apresentam uma relação positiva com o compromisso organizacional, enquanto a sobrecarga de trabalho está associada negativamente ao compromisso. O compromisso organizacional, por sua vez, encontra-se positivamente relacionado com o desempenho individual. De modo geral, os resultados contribuem para a literatura ao integrarem estes construtos num único modelo explicativo e ao fornecerem evidência empírica proveniente do contexto laboral português. Adicionalmente, o estudo apresenta implicações práticas para as organizações que operam em ambientes de trabalho exigentes, como o setor de auditoria.

PALAVRAS-CHAVE: Recompensas; Motivação dos trabalhadores; Sobrecarga de trabalho; Comprometimento organizacional; Desempenho individual; Auditoria.

TABLE OF CONTENTS

Glossary	i
Abstract.....	ii
Resumo	iii
Table of Contents.....	iv
Index of Figures.....	vi
Index of Tables	vi
Acknowledgments	vii
1. Introduction	1
2. Literature Review and Hypothesis Development	4
2.1. Rewards and Motivation.....	4
2.1.1. Rewards	4
2.1.2. Motivation	5
2.1.3. Association between Extrinsic Rewards and Extrinsic Motivation.....	7
2.1.4. Association between Intrinsic Rewards and Intrinsic Motivation.....	8
2.2. Motivation and Organizational Commitment.....	8
2.2.1. Organizational Commitment	8
2.2.2. Association between Extrinsic Motivation and Organizational Commitment	9
2.2.3. Association between Intrinsic Motivation and Organizational Commitment	10
2.3. Work Overload and Organizational Commitment.....	11
2.3.1. Work Overload	11
2.3.2. Association between work overload and organizational commitment.....	11
2.4. Organizational Commitment and Individual Performance.....	12
2.4.1. Individual Performance	12

2.4.2. Association between Organizational Commitment and Individual Performance.....	12
3. Methodology.....	13
3.1. Information collection method	13
3.2. Description of the variables	16
3.3. Data analysis method.....	17
4. Results and Discussion	19
4.1. Evaluation of the Measurement Model	19
4.2. Descriptive statistics of the variables	23
4.3. Evaluation of the Structural Model	25
4.4. Robustness Tests.....	28
5. Conclusion	34
References	36

INDEX OF FIGURES

FIGURE 1 – Taxonomy of Human Motivation (Ryan & Deci, 2000)	6
FIGURE 2 – Proposed Theoretical Model.....	13
FIGURE 3 – Final Results of the Main Model	28

INDEX OF TABLES

TABLE I – Descriptive statistics for demographic variables (N=301)	15
TABLE II – Reliability and Validity of the Final Model Variables	21
TABLE III – Cross-Loadings.....	22
TABLE IV – Fornell-Larcker Criterion.....	23
TABLE V – HTMT	23
TABLE VI –Descriptive Statistics.....	25
TABLE VII – R^2 and Adjusted R^2 for the Endogenous Latent Variables	26
TABLE VIII –Results of the Structural Model Evaluation (N=301)	26
TABLE IX – Robustness Test Excluding High Cross-Loading Indicators	29
TABLE X – Individual-control model estimations	30
TABLE XI – Structural Model with all control Variables.....	31
TABLE XII – Alternative Model Specifications without Mediators.....	32

ACKNOWLEDGMENTS

First, I would like to express my deepest gratitude to my supervisor, Professor Iryna Alves, for her continuous support, constant availability, and dedicated guidance from the very beginning of this work. Her knowledge, insight, and constructive feedback were fundamental to my academic development and to the completion of this dissertation.

I would also like to express my sincere appreciation to Miguel Limão for sharing his database, which was essential for the empirical analysis conducted in this study.

I am sincerely grateful to my family for believing in me and for their constant encouragement, advice, and unconditional support. Their presence and motivation were essential in helping me reach this important milestone in my life.

Finally, I would like to thank my friends for their constant support, understanding, and companionship throughout this journey. Their kindness, patience, and humor made this process lighter and more enjoyable.

1. INTRODUCTION

Organizations increasingly operate in environments characterized by high performance expectations, time pressure, and growing work intensity. Competitive and regulatory demands often require employees to manage complex tasks under tight deadlines, conditions that may affect motivation, well-being, and performance outcomes. Consequently, understanding how organizational practices and working conditions influence employees' attitudes and performance has become a concern in organizational research (Sonnentag & Frese, 2012).

Employees are frequently required to manage workloads that exceed their available time and resources. When work demands exceed individuals' capacity to manage them effectively, employees are more likely to experience stress and fatigue and face difficulties in sustaining consistent effort (Poulose & Dhal, 2020; Sonnentag & Bayer, 2005). Persistent exposure to excessive workload has been linked to emotional exhaustion, reduced engagement, and a weaker attachment to the organization, ultimately impairing individual performance (IP) (Johari et al., 2019).

Alongside job demands, organizations rely on reward systems to influence employee behavior and support performance objectives. The way rewards are structured and communicated may influence employees' motivation and their relationship with the organization. Well-designed reward systems can strengthen organizational commitment (OC) and increase performance (Emmanuel & Nwuzor, 2021; Gagné & Deci, 2005). In contrast, poorly structured rewards may foster disengagement and increase the risk of errors (Kuvaas, 2018; Persellin et al., 2019). In this context, employee motivation could help to explain how reward systems influence employees' attitudes (Gagné & Deci, 2005; Ryan & Deci, 2000).

Within this framework, OC represents an important attitudinal outcome of these processes. It reflects the extent to which employees identify with organizational goals and are willing to exert effort on behalf of the organization. Employees who develop stronger OC are more likely to persist in demanding situations and to maintain higher levels of performance (Meyer & Herscovitch, 2001).

The high work demands are especially salient in the auditing profession, which has been widely documented as a work context characterized by high performance

expectations, strict deadlines, and periods of intense workload, particularly during peak reporting seasons (Fogarty et al., 2000; Sweeney & Summers, 2002). These characteristics make auditing a particularly relevant context to examine how employees respond to different organizational rewards and workload demands, especially in Portugal, where empirical evidence on these relationships remains limited.¹

In addition, competitive organizational environments place increasing pressure on firms to attract and retain skilled professionals, which has heightened interest in understanding the role of reward systems in shaping employees' motivation and work-related attitudes (Emmanuel & Nwuzor, 2021). Accordingly, this dissertation develops and tests an integrated theoretical model examining how rewards and work overload (WOL) are related to employees' motivation, OC, and IP.

The proposed model is tested using primary data collected through an online questionnaire administered in 2020-2021 as part of a broader research project (Limão, 2021). After data screening, 301 valid responses were analyzed using Partial Least Squares Structural Equation Modeling (PLS–SEM) in SmartPLS 4.1.1.5, a method suitable for complex models with latent constructs.

The empirical analysis supports the proposed theoretical model. The findings suggest that ER are positively associated with EM, and IR are positively related to IM. Both types of motivation are positively linked to OC, with EM showing a comparatively stronger association. Higher WOL is associated with lower levels of OC, indicating that excessive demands may weaken employees' attachment to their organizations. OC, in turn, is positively related to IP, highlighting its role as a mechanism linking motivational and work-related factors to performance outcomes.

This dissertation contributes to the literature by addressing several gaps in analyzing how different types of rewards, workload demands, and motivational orientations are associated with employees' commitment and performance. This study offers a more comprehensive view of behavioral responses in the workplace by integrating these variables into a single theoretical model. Prior research has typically examined these

¹ Empirically, the study focuses on statutory auditors working in Portugal. Although auditors constitute the empirical context of the study, the theoretical framework and hypotheses are grounded in general organizational behavior and motivational theory.

constructs in isolation or within partial models. For example, studies have separately explored the effects of rewards on employee motivation (Gagné & Deci, 2005; Kuvaas, 2018) and the impact of WOL on OC (Johari et al., 2019; Sonnentag & Frese, 2012). As a result, evidence remains limited regarding how these factors jointly influence attitudinal and performance-related outcomes. Furthermore, the study adds empirical evidence from Portugal, a context that has received limited attention in empirical research on auditor behavior (Almeida, 2023; Limão, 2021). The findings offer practical implications for organizations seeking to design effective reward systems and manage workload demands to support sustained employee performance.

An additional relevant perspective is the alignment of organizational practices with the Sustainable Development Goals (SDGs). Effective reward management, employee well-being initiatives, and balanced workloads support SDG 3 (Good Health and Well-being), which promotes healthy lives and well-being. This study also relates to SDG 8 (Decent Work and Economic Growth), as reward systems and workload management influence key factors for sustainable, productive workplaces.

The dissertation is divided into 5 chapters. The first chapter presents a brief summary of the work that will be carried out throughout the following chapters. The second chapter contains the literature review that supports this study and the hypothesis that will be tested. The third chapter outlines the research methodology, sample, and variables used in the proposed model. The fourth chapter presents and discusses the empirical results. The fifth chapter concludes the study, outlining its limitations and directions for future research.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This chapter reviews literature on factors considered relevant to IP. Specifically, it analyzes the associations between IR, ER, EM, IM, WOL, and OC, and formulates the study hypothesis (Johari et al., 2019; Murphy, 2015; Rachman, 2022).

2.1. Rewards and Motivation

2.1.1. Rewards

Reward systems can be defined as mechanisms designed to provide fair compensation for employee contributions, enhancing a sense of value and motivation (Emmanuel & Nwuzor, 2021; Pratheepkanth, 2011). When strategically designed, they also communicate organizational priorities by rewarding performance behaviors aligned with long-term strategic objectives (Özutku, 2012; Rafaelli et al., 2008). Rewards can be divided into extrinsic and intrinsic rewards (Alhmoud & Rjoub, 2019; Victor & Hoole, 2017).

ER are incentives provided and controlled by the organization that are external to the task itself, encompassing both tangible and intangible forms (Nnaji-Ihedinmah & Egbunike, 2015). These rewards include event or travel tickets, salary increases, and recognition from supervisors (Saks, 2006). They motivate employees by reinforcing perceptions of fairness and accomplishment, thereby promoting short-term motivation and organizational loyalty (Emmanuel & Nwuzor, 2021; Nnaji-Ihedinmah & Egbunike, 2015).

IR, by contrast, are intangible and self-generated, emerging directly from the work itself. They provide psychological satisfaction, a sense of purpose, and opportunities for personal growth (Jacobs et al., 2014; Jessen, 2010). Their internal origin supports ongoing psychological attachment to employees' work and to the organization as a whole (Emmanuel & Nwuzor, 2021; Victor & Hoole, 2017). IR include opportunities for development, challenging projects, and increased autonomy (Saks, 2006).

Prior research suggests that intrinsic and extrinsic rewards should be viewed as complementary rather than independent mechanisms. For example, Ajmal et al. (2015) find that intrinsic and extrinsic rewards examined together are positively associated with

OC, while Nnaji-Ihedinmah & Egbunike (2015) conclude that both reward types influence IP. Taken together, these findings indicate that these rewards are relevant for employee outcomes.

Although prior research generally suggests that intrinsic and extrinsic rewards complement one another, some authors caution that extrinsic rewards may, under certain conditions, weaken intrinsic motivation through a “crowding-out” effect. According to self-determination theory, this may occur when external rewards are perceived as controlling rather than supportive, reducing employees’ sense of autonomy and shifting their perceived locus of causality from internal to external. As a result, excessive reliance on tangible rewards may undermine employees’ intrinsic interest in their tasks and decrease the psychological satisfaction derived from the work itself (Ryan & Deci, 2000).

Empirical research further suggests that rewards have positive and significant effects on performance, both by providing tangible benefits and by fulfilling employees’ psychological needs (Emmanuel & Nwuzor, 2021; Nnaji-Ihedinmah & Egbunike, 2015). These effects are strengthened when employees perceive rewards as fairly linked to their individual effort and performance. When reward practices are perceived as equitable and reflective of employees’ contributions, they generate positive emotional responses and enhance motivation and engagement, which in turn support higher levels of individual and organizational performance (Pratheepkanth, 2011; Rafaelli et al., 2008). Moreover, Newman and Sheikh (2011) conclude that well-structured reward systems strengthen OC by satisfying both their professional and psychological expectations.

2.1.2. Motivation

Motivation arises from both internal and external factors that sustain individuals’ efforts toward personal and organizational objectives. It reflects the psychological energy that directs employees’ persistence and determination to perform effectively (Sarmad et al., 2016).

Within the workplace, motivation is closely tied to the fulfillment and satisfaction derived from task execution. Higher satisfaction levels lead to greater motivation and commitment to professional responsibilities (Figueiredo et al., 2025).

According to Self-Determination Theory (SDT), motivation is a multidimensional phenomenon that varies in intensity and orientation (Ryan & Deci, 2000). This multidimensional taxonomy of motivation, illustrated in Figure 1, distinguishes regulatory styles of EM along a continuum ranging from amotivation to IM.

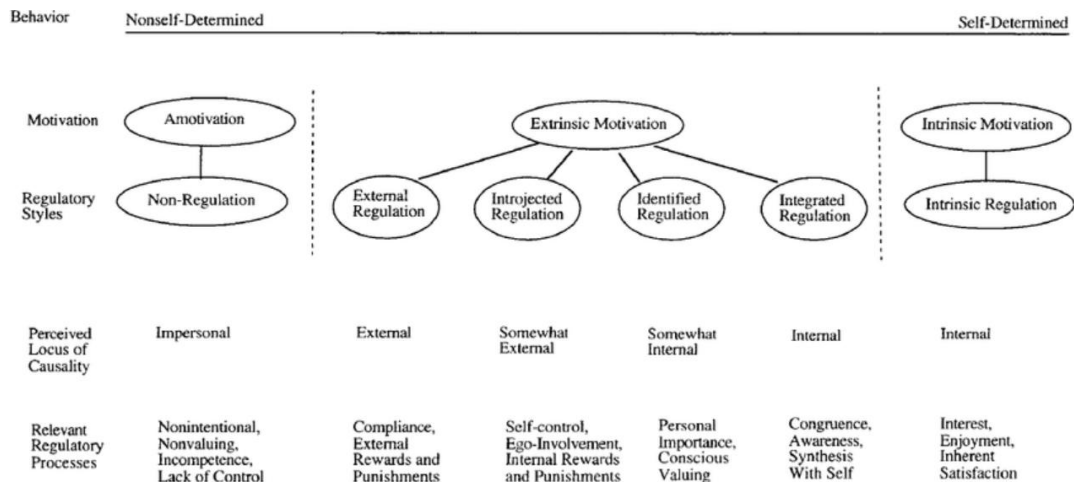


FIGURE 1 – Taxonomy of Human Motivation (Ryan & Deci, 2000)

According to Ryan & Deci (2000), amotivation reflects a state in which individuals lack the intention to act because they don't see a connection between their actions and desired outcomes, often feeling ineffective or lacking control.

EM refers to actions pursued for their instrumental purpose, influenced by external rewards or recognition rather than inherent enjoyment. It is driven by external incentives such as rewards, recognition, or the avoidance of punishment (Ryan & Deci, 2000).

SDT proposes that the autonomy within EM depends on how fully individuals internalize these external values and goals, meaning that extrinsically motivated behavior can range from highly controlled to relatively self-determined forms. The most controlled form of EM is External Regulation, where external factors, such as rewards or punishment, control behavior. Introjected Regulation is partially internalized and motivated by guilt avoidance or a desire to maintain self-esteem. Identified Regulation occurs when individuals consciously agree with a behavior's purpose, and Integrated Regulation, in which values are fully incorporated into one's identity, although the actions remain instrumental in nature (Ryan & Deci, 2000).

At the most self-determined end of the continuum lies Intrinsic Regulation, where behavior is completely self-endorsed and performed purely for enjoyment or interest. This regulatory style corresponds to IM, which arises when individuals engage in activities for the satisfaction and fulfillment derived from the activity itself (Gagné & Deci, 2005; Ryan & Deci, 2000). IM represents the most autonomous form of motivation and is sustained in environments that foster autonomy and competence, promoting creativity and personal growth (Ryan & Deci, 2000).

External demands become personally meaningful through internalization and integration, processes supported by satisfying three basic psychological needs: Autonomy, Competence, and Relatedness (Ryan & Deci, 2000; Thibault Landry & Whillans, 2019). Supportive contexts, where constructive feedback is a common practice, encourage deeper internalization. This alignment enables EM to correspond with personal values and sustains persistence even in less enjoyable tasks (Gagné & Deci, 2005; Ryan & Deci, 2000).

Thus, this theory emphasizes that the quality of motivation is more consequential than its intensity: IM fosters deep engagement and creativity, while well-internalized forms of EM sustain persistence and effective performance (Gagné & Deci, 2005; Ryan & Deci, 2000).

2.1.3. Association between Extrinsic Rewards and Extrinsic Motivation

In organizational contexts, ER (such as promotions and recognition) serve as incentives that reinforce motivation to perform effectively (Putra et al., 2017; Salman & Olawale, 2022).

Victor & Hoole (2021) report that employees perceive pay and benefits as necessary extrinsic motivators. Empirical research supports this relationship. For instance, Danish et al. (2015) found that satisfaction with material rewards significantly increases extrinsic work motivation, as employees feel their efforts are valued and fairly compensated. This aligns with Putra et al. (2017), who showed that tangible rewards function as extrinsic motivators, by external needs, and provide a sense of acknowledgment that encourages continued effort. Emmanuel & Nwuzor (2021) further demonstrated that consistent and equitable extrinsic reward practices act as effective extrinsic motivators, while Newman

& Sheikh (2011) and Salman & Olawale (2022) showed that such ER foster trust and reciprocity in the employment relationship, thereby reinforcing employees' EM.

A recent systematic review confirmed these findings, concluding that ER stimulate motivation by aligning employee behavior with desired external outcomes (Figueiredo et al., 2025).

Thus, the following hypothesis is formulated:

H1: ER is positively related to EM.

2.1.4. Association between Intrinsic Rewards and Intrinsic Motivation

Empirical research shows that IR increase IM by fulfilling employees' psychological needs and supporting meaningful engagement at work. Danish et al. (2015) demonstrated in the private sector that non-monetary recognition and autonomy increase employees' enjoyment and sense of purpose. Similarly, Hassan & Govindhasamy (2020) found that autonomy and participation in decision-making promote a stronger sense of ownership, encouraging employees to act from personal satisfaction rather than external pressure.

Building on this, both the quantitative and qualitative studies by Victor & Hoole (2017, 2021) reveal that respect, belonging, and development opportunities increase engagement and sustain IM by addressing employees' inner aspirations and psychological needs. Moreover, Salman & Olawale (2022) report that employees who perceive IR as fair and meaningful exhibit higher levels of IM in public organizations.

According to the previous evidence, the following hypothesis is established.

H2: IR is positively related to IM.

2.2. Motivation and Organizational Commitment

2.2.1. Organizational Commitment

OC refers to the extent to which employees identify with their organization's mission and values and engage in its activities. It is a psychological state shaped by workplace experiences and organizational perceptions, promoting loyalty and intention to remain (Mowday et al., 1979; Rai, 2012).

Among the several multidimensional models of OC, the three-component model proposed by Allen & Meyer (1990) is the most widely researched and supported (Luthans, 2011). Meyer & Allen (1991) subsequently elaborated and clarified this three-component framework², by providing a more detailed theoretical explanation and empirical validation of its components: Affective Commitment, which reflects emotional attachment and value alignment; Continuance Commitment, based on perceived costs of leaving; and Normative Commitment, which reflects a sense of obligation to remain. These dimensions are not mutually exclusive and highlight the complexity of how employees internalize organizational values and objectives.

Meyer & Herscovitch (2001) further defined OC as a psychological force that binds individuals to actions that support organizational goals, enhancing effort and persistence without external incentives.

Recent research reaffirms the central role of OC in shaping employee behavior, highlighting its influence as both an emotional and rational bond that sustains effort and alignment with organizational objectives (Eliyana et al., 2019; Rachman, 2022).

2.2.2. Association between Extrinsic Motivation and Organizational Commitment

Extrinsically motivated employees tend to exhibit stronger OC when the organization supports their external aspirations, such as recognition and job security (Bytyqi, 2020; Pandya, 2024). This support fosters a rational and reciprocal form of attachment, in which remaining with the organization is perceived as a fair and instrumental means of achieving personal and professional aspirations (Kuvaas, 2018). When EM is accompanied by equitable and competence-enhancing practices, employees are more likely to feel valued and respected, reinforcing their sense of belonging and responsibility toward the organization (Bytyqi, 2020; Kuvaas, 2018; Pandya, 2024).

Empirical research supports this association, through its strength varies across cultural and organizational contexts. Huang (2014) conducted a comparative analysis of United

² Although organizational commitment can be conceptualized through affective, continuance, and normative dimensions (Meyer & Allen, 1991), this study does not differentiate among these types. Instead, it examines overall organizational commitment as a unidimensional construct reflecting employees' overall attachment to their organization.

States and Chinese employees and found that EM had little impact on OC in the United States but significantly predicted commitment in China. This difference is a result of cultural and economic conditions. In China, ER are perceived as indicators of stability and support, whereas in the United States, they are generally expected and thus exert less influence.

Siregar (2022) reviewed evidence across industries and concluded that EM consistently increases OC, particularly when organizations offer promotion opportunities and supportive supervisors. Similar associations have been observed in the hospitality and IT sectors (Asha & Warriar, 2017; Cetinkaya, 2011). Solong et al. (2021) further demonstrated that fair treatment and supportive leadership strengthen employees' loyalty and reinforce identification with organizational values. Therefore, the following hypothesis is formulated:

H3: EM is positively related to OC.

2.2.3. Association between Intrinsic Motivation and Organizational Commitment

When employees perceive their work as meaningful and aligned with their personal values, they experience purpose and opportunities for growth. This fulfillment facilitates the internalization of organizational goals and strengthens their emotional bond with the organization. Empirical evidence supports that workplaces promoting autonomy and development opportunities increase employees' sense of competence and belonging, deepening their attachment and loyalty (Bytyqi, 2020; Kuvaas, 2018; Pandya, 2024).

Studies across higher education, hospitality, and SMEs report that IM strengthens OC by fostering emotional connection and encouraging citizenship behaviors, such as helping colleagues (Cetinkaya, 2011; Choong et al., 2011; Kim et al., 2020; Rani & Desiana, 2019).

Cross-cultural research also supports this relationship. Huang (2015) found that the influence of IM on OC varies across the United States and China, reflecting differing cultural contexts. Staunton (2019) analyzed a multinational sales company operating in six European countries and confirmed this positive association across diverse work environments.

Based on this evidence, the following hypothesis is proposed:

H4: IM is positively related to OC.

2.3. Work Overload and Organizational Commitment

2.3.1. Work Overload

WOL arises when employees perceive that the volume or intensity of assigned tasks exceeds their capacity to manage them effectively (Hwang & Kim, 2021). As a result, employees often extend their working hours to meet performance expectations (Major et al., 2002).

Persistent overload intensifies time pressure and impedes psychological detachment during non-work hours, leading to fatigue and reduced recovery (Sonnentag & Bayer, 2005). Over time, this sustained strain depletes energy resources and weakens career commitment as employees experience physical and emotional exhaustion (Poulose & Dhal, 2020).

These consequences can directly impair job performance. Emotional strain and fatigue lower efficiency and output quality, demonstrating that prolonged WOL undermines employees' performance (Andriani & Disman, 2023).

2.3.2. Association between work overload and organizational commitment

WOL undermines employees' emotional connection to the organization. Continuous exposure to excessive demands depletes psychological resources, such as emotional energy and perceived control over one's work, that are essential for maintaining engagement and attachment (Hwang & Kim, 2021; Poulose & Dhal, 2020). As these resources decrease, employees become increasingly detached and less aligned with organizational goals, resulting in lower OC.

Empirical evidence across diverse sectors supports this relationship. Research in South Korea, the automotive industry, and banking shows that excessive job demands reduce employees' psychological resources and weaken loyalty (Aqilah et al., 2023; Ko et al., 2022; Shahzad et al., 2020). Similarly, studies in healthcare and education report

that high workloads increase stress and emotional exhaustion, leading to an increased organizational detachment (Abdulaziz et al., 2022; Fehr & Koob, 2025).

Considering these findings, the following hypothesis is established:

H5: WOL is negatively related to OC.

2.4. Organizational Commitment and Individual Performance

2.4.1. Individual Performance

IP represents how effectively employees apply their skills and effort to accomplish assigned tasks and contribute to organizational goals (Inuwa, 2016). Beyond completing job-specific duties efficiently, it also reflects supportive and cooperative behaviors that strengthen the social environment at work (Gangai & Agrawal, 2015).

Performance encompasses not only quantifiable outcomes, such as productivity and efficiency, but also persistence and the willingness to exceed formal role expectations (Van der Kolk et al., 2019).

2.4.2. Association between Organizational Commitment and Individual Performance

IP is fundamental to organizational productivity and long-term success. OC is identified as a crucial factor that increases performance through loyalty and dedication to organizational objectives (Zhenjing et al., 2022).

Shore & Martin (1989) provided early evidence that committed employees tend to perform better. Furthermore, similar findings were reported in Portugal, where Cesário & Chambel (2017) stated that commitment was positively associated with IP. In the banking sector in Bali, Kawiana (2018) highlighted the role of OC in improving performance through employee identification with organizational culture. Panigrahi et al. (2024) reinforced, in a systematic review, that OC improves IP across different contexts.

Considering these findings, the following hypothesis is established:

H6: OC is positively related to IP.

Based on the previous literature review, the following theoretical model is proposed:

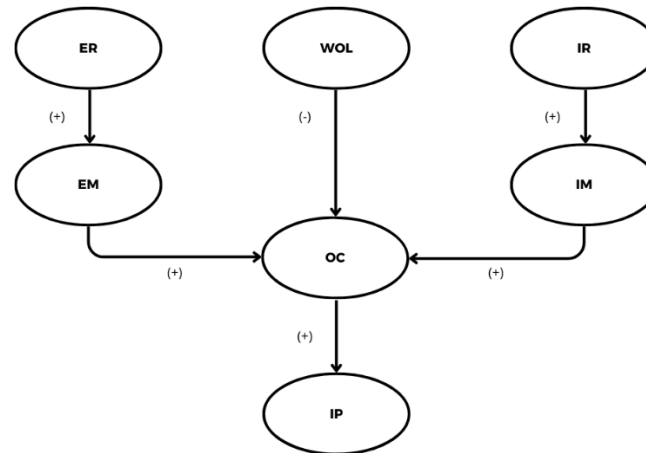


FIGURE 2 – Proposed Theoretical Model

3. METHODOLOGY

3.1. Information collection method

To test the hypotheses developed in the previous chapter, data were collected through an online questionnaire conducted in 2020-2021 as part of a broader research project examining the work of financial and internal auditors in Portugal (Alves et al., 2024; Limão, 2021). The survey invitation was distributed through LinkedIn, alumni and student mailing lists from two public universities, and a network of accounting researchers. Additionally, the questionnaire link was publicly available on the website of the Organization of Statutory Auditors (OROC).

A total of 1.096 invitations were sent, resulting in 301 usable responses and an estimated response rate of 27,5%. The initial dataset contained 398 valid observations; however, 42 responses from non-auditors and 55 from internal auditors were excluded, producing the final sample of 301 observations used for analysis. It should be noted that the reported response rate may be slightly overestimated, as the publicly accessible link could have been forwarded beyond the initial distribution list.

Given that all constructs were measured using a single questionnaire, the potential for common method bias was considered using both procedural and statistical procedures. Respondents were assured of anonymity, items were written clearly, and the questionnaire was pre-tested with practitioners and academics to ensure clarity and

appropriate length. Furthermore, the order of the variables was intentionally varied to minimize the likelihood of response patterns. Statistically, Harman's single-factor test and confirmatory factor analysis were performed, and both indicated that common method bias was not a significant concern in this study. Harman's single-factor test produced a five-factor solution with eigenvalues greater than 1, while the first factor explained only 37% of the total variance, suggesting that no single factor accounted for the majority of the covariance among the measures. (Alves et al., 2024; Limão, 2021).

Table I presents the descriptive statistics of the respondents. On average, participants are 29 years old, with eight years of professional experience. They report four years in their current position, six years of auditing experience, and five years of tenure in their organization. In terms of education, 52% hold a master's degree, and 45% have a bachelor's degree. Regarding the education area, the largest proportion of respondents have a background in Management (38%), followed by Accounting, Finance, Economics, and Audit, with a small minority from other fields. Nearly half hold entry-level or junior positions, such as staff, associate, or trainee, while a smaller proportion hold senior positions.

TABLE I - DESCRIPTIVE STATISTICS FOR DEMOGRAPHIC VARIABLES (N=301)

Section A. Demographic Information of the Respondents					
Variables (Years)	P25	Mean	Median	P75	ST Dev
Age	25	29,47	27	31	7,76
Professional Experience	3	7,79	5	9	8,69
Auditing Experience	2	6,46	4	7	7,89
Position Tenure	1	3,83	2	4	5,91
Company Tenure	1,25	4,67	2	5	5,63

Section B. Gender		
Variables	Number	Percentage
Female	149	49,67%
Male	151	50,33%

Section C. Education Level		
Variables	Number	Percentage
Bachelor's Degree	136	45,18%
Master's Degree	155	51,50%
PhD Degree	2	0,66%
Other	8	2,66%

Section D. Education Area		
Variables	Number	Percentage
Management	144	37,87%
Accounting	57	18,94%
Economy	42	13,95%
Audit	37	12,29%
Finance	46	15,28%
Other	5	1,66%

Section E. Position in the Current Firm		
Variables	Number	Percentage
Staff/ Associate/ Trainee	137	45,51%
Senior/ Supervisor	105	34,88%
Manager/ Director	30	9,97%
Partner	22	7,31%
Other	7	2,33%

Note: *The number of observations per variable may differ from the total sample (N=301) due to missing data.*

3.2. Description of the variables

This study analyzes seven constructs: ER, IR, EM, IM, WOL, OC, and IP. All measurements were based on previously validated survey items, following the guidelines of Bedford & Speklé (2018) to ensure construct validity. According to Limão (2021), the questionnaire underwent pre-testing, including translation and back-translation and expert review, to ensure conceptual equivalence and clarity.

Intrinsic and extrinsic rewards

Rewards were measured using an adapted version of the framework proposed by Saks (2006). Twenty-one items captured intrinsic and extrinsic reward practices relevant to the auditing context (e.g., “promotion opportunities” for ER and “training and development opportunities” for IR). Respondents assessed the extent to which each reward was offered by their organization on a five-point Likert scale ranging from 1 (“not offered”) to 5 (“offered to a large extent”).

Intrinsic and extrinsic motivation

IM and EM were assessed using the Work Preference Inventory developed by Amabile et al. (1994). This instrument consists of 30 statements that differentiate intrinsic and extrinsic motivational orientations (e.g., for EM, “I prefer working on projects with clearly specified procedures,” and for IM, “It is important for me to have a way to express myself”). Respondents rated the degree to which each statement described them on a four-point Likert scale ranging from 1 (“never or rarely true”) to 4 (“always or almost always true”).

Work Overload

WOL was measured through four statements validated in the extant accounting literature (Smith et al., 2020), capturing perceptions of excessive work volume relative to available time (e.g., “I am responsible for an almost unmanageable number of projects or assignments at the same time”). Items were rated on a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”).

Organizational Commitment

OC was measured using items adapted from Wong et al. (2010). The scale was designed to capture auditors’ attachment to their organization and their willingness to

support its goals (e.g., “I am willing to put in a great deal of effort beyond that normally expected in order to help this organisation be successful”). Respondents indicated their level of agreement on a seven-point Likert scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”).

Individual Performance

IP was assessed using items adapted from Kalbers & Cenker (2008). Respondents evaluated their performance relative to peers in similar positions. The scale included seven items assessing aspects such as goal achievement and supervisor evaluation (e.g., “The quality of my performance with respect to the appropriate use of auditing procedures under relevant circumstances”). Each item was rated on a seven-point Likert scale ranging from 1 (“well below average”) to 7 (“well above average”).

3.3. Data analysis method

To test the proposed hypotheses, this study applies the Structural Equation Modeling (SEM), using the Partial Least Squares (PLS-SEM) approach. PLS-SEM is a variance-based technique designed to maximize the explained variance of endogenous constructs and generate determinate composite scores (Hair et al., 2022). All analyses were conducted in SmartPLS software (version 4.1.1.5).

PLS-SEM focuses on variance explanation and is robust to non-normal data, small to medium samples, and complex models (Hair et al., 2017). It also handles multicollinearity, missing values, and measurement noise while creating latent variables (constructs) as weighted composites of indicators (Garson, 2016). As a non-parametric technique, it operates under distribution-free assumptions, ensuring high statistical power even with limited sample sizes (Hair et al., 2017).

In contrast, Covariance-based SEM (CB-SEM) prioritizes global model fit and is often associated with larger samples. However, Hair et al. (2017, 2022) argue that sample size should not be the sole criterion for method selection. Due to the predictive orientation of the study, the model’s complexity, and the characteristics of the data, PLS-SEM represents the most appropriate analytical approach.

Sample adequacy was assessed using a power-based approach in accordance with established PLS – SEM guidelines (Hair et al., 2017). Specifically, sample size adequacy was evaluated with reference to the most complex endogenous construct in the structural model, defined as the construct with the largest number of incoming structural paths, as this component imposes the greatest estimation demands. In the present model, OC represents the most complex endogenous construct, with three antecedent variables (EM, IM, and OC) and an explained variance of $R^2 = 0,274$.

Based on Cohen's formulation, as adopted in the power-based framework described by Hair et al. (2017), this level of explained variance corresponds to an effect size of $f^2 \approx 0,38$, which is considered large. In line with conventional practice in the social sciences, a significance level of 5% was adopted, and a statistical power of 0,80 was set, representing the minimum acceptable probability of detecting true effects. Under these conditions, power analysis based on multiple regression indicates that the minimum sample size is approximately 35 observations. With 301 valid responses, the study exceeds the recommended minimum, ensuring adequate statistical power and stable parameter estimation.

PLS-SEM comprises two interdependent components: the measurement (outer) model, which defines the relationships between latent variables and their indicators; and the structural (inner) model, which specifies hypothesized relationships between latent constructs (Hair et al., 2017). Latent variables are unobservable theoretical concepts, measured indirectly through observable items or survey responses (Hair et al., 2019, 2022). In this study, all constructs are modeled reflectively, meaning indicators are viewed as effects of the latent construct (Garson, 2016).

The measurement model evaluates reliability and validity to ensure that indicators consistently and accurately reflect their constructs and that the constructs are empirically distinct (Hair et al., 2011, 2017). The structural model helps to determine the statistical significance and theoretical relevance of the hypothesized paths (Hair et al., 2017, 2022).

4. RESULTS AND DISCUSSION

4.1. Evaluation of the Measurement Model

The measurement model evaluates the accuracy and consistency of the indicators in representing their latent constructs through internal consistency reliability, convergent validity, and discriminant validity.

Internal consistency reliability ensures that the indicators of a construct consistently measure the same underlying concept by exhibiting a high degree of interrelatedness and shared variance, indicating that the construct is measured with acceptable reliability (Hair et al., 2011, 2017). It was evaluated using Cronbach's Alpha, exact or consistent reliability (Rho_a), and composite reliability (Rho_c). Cronbach's Alpha tends to underestimate reliability because it assumes equal indicator contributions, whereas Rho_c incorporates individual loadings and generally provides more accurate estimates (Hair et al., 2017). Rho_a serves as an additional robust measure, typically falling between the values of Cronbach's Alpha and Rho_c (Hair et al., 2019). Values above 0,70 were considered acceptable for all three criteria (Hair et al., 2017).

Convergent validity ensures that the indicators of a construct converge by sharing a high proportion of variance, demonstrating that the indicators effectively represent and explain the same underlying concept (Hair et al., 2011, 2017). Indicator reliability (as a component of convergent validity) was assessed using standardized outer loadings (OL). According to Hair et al. (2011), OL indicates the strength of the relationship between each indicator and its latent construct, with values above 0,70 considered desirable. Following Hair et al. (2017, 2022), indicators with OL below 0,40 were removed in a stepwise manner until no indicators with loadings below this threshold remained. In total, 2 items from ER, 8 items from EM, 5 items from IM, and 1 item from OC were eliminated. After this procedure, 4 items (1 item from ER, 2 items from EM, and 1 item from IM) exhibited OL between 0,40 and 0,50, which fall within the broader acceptable range of 0,40 and 0,70. These indicators were retained only when Average Variance Extracted (AVE), Cronbach's Alpha, Rho_a, and Rho_c met acceptable levels.

Further, convergent validity was assessed through the AVE, with values above 0,50 indicating that a construct explains more than half of the variance in its indicators (Hair et al., 2017, 2019). After removing indicators with OL below 0,40, the AVE values for

EM, IM, ER, and IR remained below the recommended threshold. A stricter criterion was therefore applied, excluding items with loadings below 0,60. Specifically, 2 items from ER, 2 items from IR, 3 items from EM, and 5 items from IM were removed. Following this refinement, all constructs met the minimum requirements for AVE and reliability.

After these refinements, Cronbach's Alpha for EM was slightly below the conventional threshold (0,688). However, the Rho_a, Rho_c, and AVE exceeded the minimum recommended values (0,70 and 0,50, respectively), mitigating reliability concerns (Hair et al., 2017). Overall, the final model (after removing problematic items) demonstrates strong reliability and AVE across all constructs, supporting the internal consistency reliability and convergent validity, as shown in Table II.

TABLE II – RELIABILITY AND VALIDITY OF THE FINAL MODEL VARIABLES

	OL	Cronbach's Alpha	Rho_a	Rho_c	AVE
ER		0,882	0,886	0,905	0,517
ext_rew3	0,736				
ext_rew4	0,652				
ext_rew6	0,747				
ext_rew7	0,750				
ext_rew9	0,736				
ext_rew10	0,645				
ext_rew12	0,631				
ext_rew13	0,763				
ext_rew14	0,792				
IR		0,827	0,842	0,873	0,536
int_rew5	0,755				
int_rew11	0,638				
int_rew15	0,673				
int_rew18	0,815				
int_rew20	0,755				
int_rew21	0,743				
EM		0,688	0,702	0,804	0,509
ext_mot_comp1	0,611				
ext_mot_comp3	0,751				
ext_mot_comp5	0,766				
ext_mot_outw1	0,715				
IM		0,824	0,822	0,883	0,655
int_mot_chal1	0,845				
int_mot_chal2	0,845				
int_mot_chal3	0,829				
int_mot_enj2	0,711				
WOL		0,861	0,862	0,906	0,707
wol1	0,794				
wol2	0,864				
wol3	0,828				
wol4	0,875				
OC		0,922	0,926	0,936	0,648
comit1	0,767				
comit2	0,811				
comit4	0,831				
comit5	0,837				
comit6	0,859				
comit7	0,791				
comit8	0,803				
comit9	0,732				
IP		0,886	0,900	0,909	0,557
perf1	0,703				
perf2	0,816				
perf3	0,778				
perf4	0,706				
perf5	0,701				
perf6	0,792				
perf7	0,746				
perf8	0,716				

Discriminant validity ensures that each construct measures a unique concept and is empirically distinct from the others (Hair et al., 2011, 2017). It was assessed through Cross-Loadings, the Fornell–Larcker Criterion, and the Heterotrait–Monotrait ratio (HTMT). As observed in Table III, the Cross-Loadings show that each indicator loads more strongly on its intended construct than on any other, with the highest loading for each indicator highlighted in bold.

TABLE III – CROSS-LOADINGS

	ER	IR	EM	IM	WOL	OC	IP
ext_rew3	0,736	0,557	0,227	0,145	-0,002	0,286	0,092
ext_rew4	0,652	0,411	0,286	0,202	-0,159	0,396	0,227
ext_rew6	0,747	0,440	0,229	0,062	0,001	0,297	0,104
ext_rew7	0,750	0,438	0,200	0,019	0,064	0,199	0,070
ext_rew9	0,736	0,399	0,258	0,106	0,110	0,279	0,125
ext_rew10	0,645	0,322	0,212	0,034	0,064	0,174	0,103
ext_rew12	0,631	0,328	0,196	0,082	0,002	0,268	0,085
ext_rew13	0,763	0,581	0,256	0,145	-0,101	0,480	0,187
ext_rew14	0,792	0,480	0,259	0,081	-0,020	0,354	0,117
int_rew5	0,469	0,755	0,267	0,248	0,040	0,316	0,206
int_rew11	0,321	0,638	0,276	0,193	-0,262	0,448	0,215
int_rew15	0,593	0,673	0,322	0,128	-0,098	0,420	0,216
int_rew18	0,518	0,815	0,362	0,232	0,040	0,345	0,331
int_rew20	0,461	0,755	0,253	0,190	-0,007	0,455	0,291
int_rew21	0,383	0,743	0,269	0,166	-0,033	0,329	0,306
ext_mot_comp1	0,143	0,123	0,611	0,205	0,000	0,146	0,301
ext_mot_comp3	0,288	0,285	0,751	0,316	-0,029	0,235	0,307
ext_mot_comp5	0,310	0,365	0,766	0,406	-0,082	0,324	0,347
ext_mot_outw1	0,175	0,286	0,715	0,336	-0,088	0,385	0,394
int_mot_chal1	0,071	0,188	0,391	0,845	-0,122	0,263	0,316
int_mot_chal2	0,097	0,207	0,373	0,845	-0,090	0,249	0,278
int_mot_chal3	0,134	0,207	0,363	0,829	-0,164	0,312	0,329
int_mot_enj2	0,145	0,265	0,356	0,711	-0,126	0,307	0,247
wol1	-0,017	-0,017	-0,073	-0,159	0,794	-0,273	-0,057
wol2	0,030	-0,016	-0,069	-0,147	0,864	-0,256	-0,148
wol3	-0,062	-0,124	-0,072	-0,129	0,828	-0,298	-0,160
wol4	0,009	-0,034	-0,056	-0,097	0,875	-0,270	-0,146
comit1	0,232	0,366	0,291	0,333	-0,296	0,767	0,475
comit2	0,362	0,444	0,318	0,291	-0,298	0,811	0,290
comit4	0,299	0,367	0,293	0,233	-0,373	0,831	0,272
comit5	0,493	0,472	0,373	0,266	-0,170	0,837	0,365
comit6	0,412	0,503	0,376	0,380	-0,298	0,859	0,355
comit7	0,435	0,440	0,311	0,199	-0,183	0,791	0,312
comit8	0,404	0,397	0,378	0,278	-0,257	0,803	0,327
comit9	0,156	0,320	0,248	0,266	-0,210	0,732	0,327
perf1	0,068	0,234	0,320	0,168	0,083	0,221	0,703
perf2	0,169	0,331	0,431	0,389	-0,130	0,361	0,816
perf3	0,186	0,341	0,371	0,229	-0,141	0,304	0,778
perf4	0,153	0,243	0,350	0,251	-0,061	0,281	0,706
perf5	0,064	0,181	0,238	0,217	-0,177	0,263	0,701
perf6	0,147	0,325	0,404	0,264	-0,194	0,400	0,792
perf7	0,119	0,271	0,375	0,365	-0,089	0,389	0,746
perf8	0,138	0,136	0,287	0,203	-0,142	0,252	0,716

The Fornell–Larcker Criterion requires that the square root of each construct’s AVE exceeds its correlations with other constructs, confirming conceptual distinctiveness. Table IV confirms that this requirement is met.

TABLE IV – FORNELL-LARCKER CRITERION

	ER	IR	EM	IM	WOL	OC	IP
ER	0,719						
IR	0,616	0,732					
EM	0,333	0,396	0,713				
IM	0,143	0,273	0,460	0,810			
WOL	-0,014	-0,059	-0,081	-0,158	0,841		
OC	0,434	0,516	0,404	0,355	-0,328	0,805	
IP	0,179	0,355	0,474	0,363	-0,152	0,428	0,746

Furthermore, the HTMT values reported in Table V are all below the 0,85 threshold, indicating a clear separation between constructs (Hair et al., 2017).

TABLE V – HTMT

	ER	IR	EM	IM	WOL	OC	IP
ER							
IR	0,726						
EM	0,404	0,490					
IM	0,161	0,313	0,581				
WOL	0,115	0,157	0,096	0,184			
OC	0,469	0,601	0,474	0,394	0,362		
IP	0,197	0,403	0,591	0,408	0,199	0,453	

Taken together, these results confirm that the model is both reliable and valid, with constructs both statistically and conceptually distinct.

4.2. Descriptive statistics of the variables

Table VI presents the descriptive statistics of the latent variables, calculated as the mean of the items composing each construct.

ER have a mean of 3,51 on a 1-5 scale, indicating a moderate level of this variable. This construct exhibits greater dispersion, with a standard deviation (SD) of 0,88, although the interquartile range remains largely above the midpoint.

IR show a mean of 3,68 on a 1-5 scale, slightly higher than ER, indicating that organizations provide IR to a considerable extent. The SD is relatively low compared to most other constructs (SD = 0,71), and the interquartile range lies entirely above the scale midpoint, suggesting that at least half of the respondents perceive relatively high levels of IR.

Regarding motivation, IM displays a mean of 3,16 on a 1–4 scale, reflecting a strong internal motivational orientation. EM displays a lower mean of 2,85, although still above the midpoint, indicating that respondents are more driven by internal than external factors. Both variables exhibit low variability (SD = 0,59), consistent with their relatively narrow interquartile ranges.

WOL registers a mean of 3,52 on a 1–5 scale, indicating that respondents experience notable levels of workload. The SD of 0,91 suggests greater heterogeneity in responses, with the interquartile range spanning and extending above the midpoint of the scale.

OC reports a mean of 5,04 on a 1–7 scale, suggesting that respondents report relatively strong commitment to their organization. Although dispersion is higher (SD = 1,25), quartile values remain concentrated above the midpoint, suggesting a strong emotional and professional attachment to the organization.

IP records a mean of 5,21 on a 1–7 scale, indicating that respondents assess their performance as above average. The SD of 0,88 reflects moderate variability, while the interquartile range remains clearly above the midpoint of the scale.

TABLE VI – DESCRIPTIVE STATISTICS

Variable	Theoretical Range	N	Mean	Minimum	P25	Median	P75	Maximum	SD
ER	1 - 5	298	3,51	1,11	2,92	3,67	4,11	5,00	0,88
IR	1 - 5	298	3,68	1,17	3,33	3,83	4,17	5,00	0,71
EM	1 - 4	301	2,85	1,25	2,50	2,75	3,25	4,00	0,59
IM	1 - 4	301	3,16	1,50	2,75	3,00	3,75	4,00	0,59
WOL	1 - 5	298	3,52	1,00	3,00	3,75	4,00	5,00	0,91
OC	1 - 7	301	5,04	1,00	4,38	5,25	5,88	7,00	1,25
IP	1 - 7	300	5,21	1,75	4,57	5,25	5,91	7,00	0,88

4.3. Evaluation of the Structural Model

The assessment of the structural model began with an examination of potential collinearity among the latent variables, following the guidelines of Hair et al. (2017).

Multicollinearity was assessed using the Variance Inflation Factor (VIF), as high intercorrelations between constructs can undermine the reliability of the model's estimates. The VIF values ranged from 1,281 to 3,043, all lower than the recommended threshold of 5. The model's explanatory power was assessed using the coefficient of determination (R^2) for each endogenous construct. R^2 represents the proportion of variance in an endogenous variable explained by its antecedent constructs in the structural model, and therefore indicates how well the model accounts for the observed outcomes (Hair et al., 2019).

The adjusted R^2 was also examined. Unlike R^2 , which always increases or remains unchanged when additional predictors are included, adjusted R^2 corrects for the number of predictor constructs in the model. As a result, adjusted R^2 provides a more conservative estimate of explanatory power (Hair et al., 2019).

According to Hair et al. (2011), R^2 values of 0,75, 0,50, or 0,25 can be interpreted as substantial, moderate, or weak explanatory power, respectively. As shown in Table VII, the R^2 values for EM, IM, OC, and IP constructs exhibit weak explanatory power, although the coefficient for OC approaches the lower bound of a moderate effect. The adjusted R^2 values are only marginally lower than the corresponding R^2 values, indicating that model complexity does not substantially inflate the explained variance.

TABLE VII – R^2 AND ADJUSTED R^2 FOR THE ENDOGENOUS LATENT VARIABLES

Variable	R^2	R^2 adjusted
EM	0,111	0,108
IM	0,074	0,071
OC	0,274	0,267
IP	0,183	0,180

To determine the significance of path coefficients, a bootstrapping procedure with 5,000 subsamples was performed (Hair et al., 2017). This non-parametric technique provides robust estimates of standard errors and confidence intervals. A 95% confidence level ($p < 0,05$) was applied, and coefficients were considered statistically significant when their confidence intervals excluded zero. The results of the hypothesis tests are presented in Table VIII.

TABLE VIII – RESULTS OF THE STRUCTURAL MODEL EVALUATION (N=301)

Hypothesis	Expected Signal	Coefficient	T-Value	Result
H1: ER → EM	+	0,333 *	6,357	Supported
H2: IR → IM	+	0,273 *	5,260	Supported
H3: EM → OC	+	0,303 *	5,305	Supported
H4: IM → OC	+	0,172 *	3,004	Supported
H5: WOL → OC	-	-0,276 *	6,145	Supported
H6: OC → IP	+	0,428 *	8,565	Supported

Note: * means that $p < 0,01$ (two-tailed tests).

H1 examined whether ER is positively related to EM. The results show a positive and statistically significant relationship ($\beta = 0,333$; $p < 0,01$), confirming this hypothesis. These findings indicate that the availability of ER within the organization is associated with higher levels of EM among respondents, which is consistent with prior empirical research (Emmanuel & Nwuzor, 2021). It also aligns with broader empirical evidence linking ER with extrinsically regulated motivational orientations in organizational settings (Danish et al., 2015; Putra et al., 2017).

H2 tested whether IR is positively related to IM. The relationship is positive and statistically significant ($\beta = 0,273$; $p < 0,01$), thereby supporting this hypothesis. These findings indicate that the availability of IR within the work environment is associated

with higher levels of IM among respondents. This finding is theoretically consistent with prior literature emphasizing the role of intrinsically supportive work conditions in fostering IM, and also extends the literature by providing empirical evidence of a positive association between IR and IM in the present sample (Danish et al., 2015; Victor & Hoole, 2017, 2021).

H3 assessed whether EM is positively related to OC. The results reveal a positive and statistically significant association between these variables ($\beta = 0,303$; $p < 0,01$), supporting this hypothesis. These findings indicate that higher levels of EM are associated with higher levels of OC among respondents. This is consistent with prior empirical studies reporting positive associations between extrinsic motivation-related constructs and OC in organizational contexts (Bytyqi, 2020; Huang, 2014).

H4 tested whether IM is positively related to OC. This hypothesis was also supported, as the results reveal a positive and statistically significant association ($\beta = 0,172$; $p < 0,01$). These findings indicate that higher levels of IM are associated with higher levels of OC, consistent with prior empirical research (Huang, 2015). This result also aligns with conceptual literature emphasizing the role of IM in sustaining commitment across organizational contexts (Staunton, 2019).

H5 examined whether WOL is negatively related to OC. The negative and significant coefficient ($\beta = -0,276$; $p < 0,01$) confirms the hypothesis. This result is consistent with prior empirical evidence showing negative associations between WOL and commitment-related outcomes (Poulose & Dhal, 2020). It also aligns with contextual and theoretical research highlighting the adverse implications of excessive workload for employees' work-related attitudes, including commitment (Sonnentag & Bayer, 2005; Sonnentag & Frese, 2012).

H6 assessed whether OC is positively related to IP. The results reveal a positive and statistically significant association ($\beta = 0,428$; $p < 0,01$). These findings indicate that higher levels of OC are associated with higher levels of self-reported IP among respondents, consistent with prior empirical research reporting positive associations between OC and performance-related outcomes (Shore & Martin, 1989; Cesário & Chambel, 2017). The final results of the main model is illustrated in Figure 3.

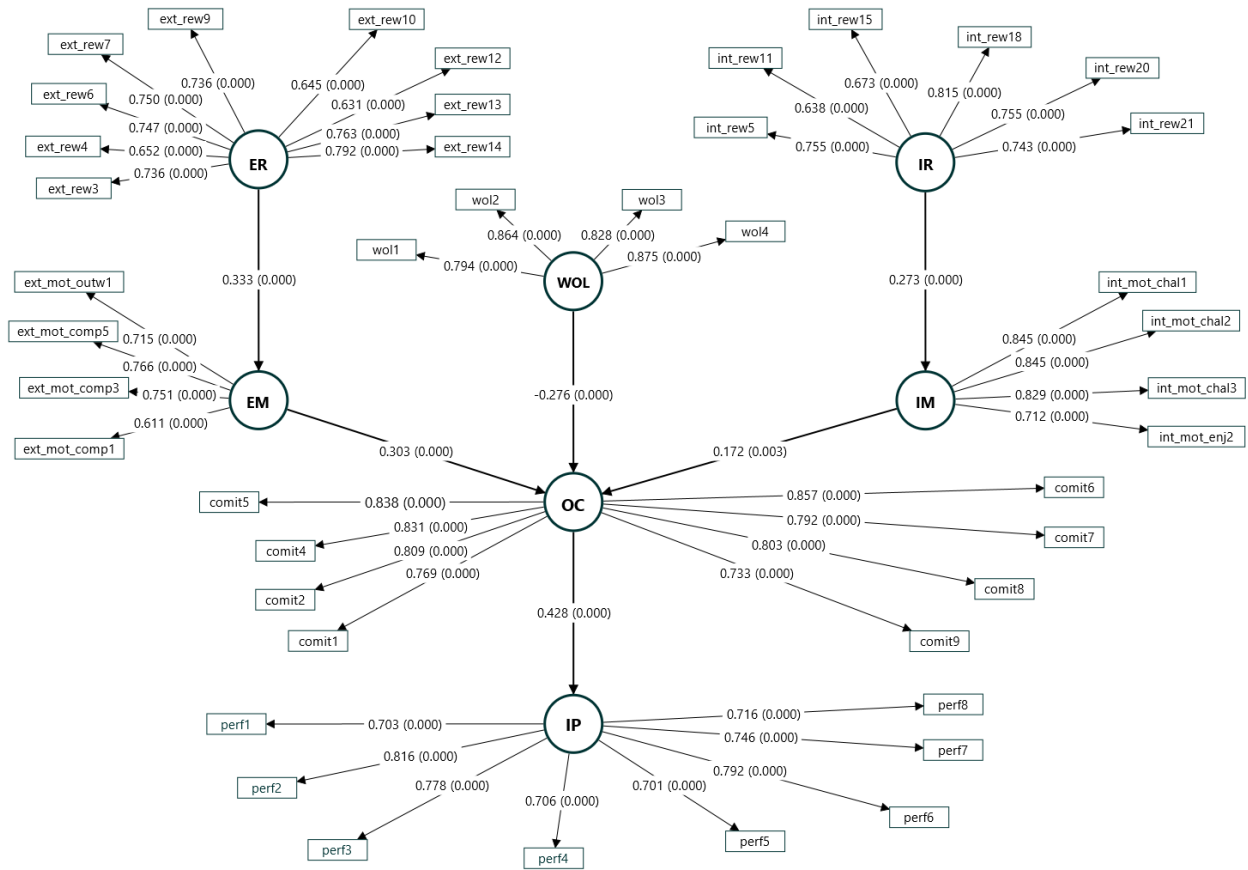


FIGURE 3 – Final Results of the Main Model

4.4. Robustness Tests

Robustness analysis assesses whether the study's conclusions remain stable when the model is estimated under alternative specifications. Results are considered robust when they persist despite modifications designed to rule out rival explanations (Schupbach, 2018).

First, the main model was re-estimated after excluding indicators with cross-loadings above 0,50 on non-target constructs. In PLS-SEM, indicators are expected to load highly on their intended construct and have low cross-loadings on other constructs (Amora, 2021). Indicators that do not satisfy these criteria may be removed because high cross-loadings can undermine convergent and discriminant validity. Thus, 2 items of IR and 2 items of ER were removed. After re-estimating the model without these indicators, the results did not alter, as shown in Table IX.

TABLE IX - ROBUSTNESS TEST EXCLUDING HIGH CROSS-LOADING INDICATORS

Hypothesis	Coefficient	T-Value	Result
H1: ER → EM	0,331 *	6,361	Supported
H2: IR → IM	0,231 *	4,273	Supported
H3: EM → OC	0,302 *	5,282	Supported
H4: IM → OC	0,173 *	3,031	Supported
H5: WOL → OC	-0,276 *	6,149	Supported
H6: OC → IP	0,428 *	8,566	Supported

Note: * means that $p < 0,01$ (two-tailed tests).

In PLS-SEM, robustness can also be examined by re-estimating the structural model under alternative specifications, such as the inclusion of control variables as predictors of endogenous constructs (Hair et al., 2017). To account for potential demographic and organizational influences identified in prior research (Samad, 2006; Zarei Matin et al., 2012), the structural model was re-estimated with relevant control variables.

All control variables were collected through the same questionnaire used to measure the main study constructs. Auditing experience and organizational tenure were modeled as continuous variables, while hierarchical position (staff, senior, manager, and partner) and Big 4 affiliation were included as categorical variables. All controls were specified as direct predictors of the endogenous constructs EM, IM, OC, and IP, as these outcomes may plausibly be influenced by demographic and organizational characteristics independently of the theoretical relationships specified in the model.

The model was first re-estimated by introducing each control variable individually in separate model estimations, allowing the isolated effects of each control to be examined. Subsequently, a full model including all control variables simultaneously was estimated.

Results from the individual-control model estimations are summarized in Table X. Regarding continuous controls, auditing experience showed a positive association with EM and OC, indicating that more experienced auditors tend to report higher levels of EM and stronger attachment to the organization. However, it did not significantly predict IM or IP. Organizational tenure was positively associated with EM, OC, and IP, while its relationship with IM was not significant.

With respect to the categorical controls, hierarchical position indicated that managers and partners reported higher EM and OC, and managers also exhibited higher IP. Big 4 affiliation was negatively associated with EM and IM, indicating lower motivation levels among auditors working in Big 4 firms compared to those in non-Big 4 companies. Across these individual-control model estimations, the results did not alter, as the significance and direction of the hypothesized results remained stable.

TABLE X – INDIVIDUAL-CONTROL MODEL ESTIMATIONS

Control Variables	EM	IM	OC	IP
Auditing experience	0,148 *	0,103	0,141**	0,094
Organizational tenure	0,126 *	0,085	0,142 *	0,117 **
Hierarchical position – Senior	-0,113	0,027	0,080	-0,024
Hierarchical position – Manager	0,443 *	0,290	0,463*	0,376**
Hierarchical position – Partner	0,431 **	0,253	1,073*	0,350
Big 4 affiliation	-0,317 *	-0,321 *	0,079	-0,079

Note: Reported values correspond to standardized path coefficients (β), with *p*-values shown in parentheses. Staff auditors serve as the reference category for hierarchical position. Big 4 affiliation is coded as 1 = Big 4 firm and 0 = non-Big 4 firm; * means that $p < 0,01$; ** means that $p < 0,05$ (two-tailed tests).

Results from the full model, in Table XI, further support the robustness of the findings. In contrast to the individual-control estimations, neither auditing experience nor organizational tenure significantly predicted the endogenous constructs, suggesting shared explanatory power with other controls. Hierarchical position continued to show a positive association with OC, with managers and partners reporting higher OC than staff auditors. Additionally, managerial position remained positively associated with IP. Big 4 affiliation remained negatively associated with IM and positively associated with OC.

Overall, although some controls were significant when entered individually, their effects attenuated in the full model, indicating shared variance rather than instability. The

results did not alter across specifications, providing evidence that the main findings are robust to the inclusion of demographic and organizational controls.

TABLE XI – STRUCTURAL MODEL WITH ALL CONTROL VARIABLES

Control Variables	EM	IM	OC	IP
Auditing experience	0,066	0,049	-0,097	-0,028
Organizational tenure	0,011	0,019	-0,034	0,081
Hierarchical position – Senior	-0,134	-0,006	0,131	-0,044
Hierarchical position – Manager	0,293	0,137	0,463*	0,376**
Hierarchical position – Partner	0,113	-0,080	1,517*	0,223
Big 4 affiliation	-0,197	-0,290**	0,230**	-0,028

Note: Reported values correspond to standardized path coefficients (β), with p -values shown in parentheses. Staff auditors serve as the reference category for hierarchical position. Big 4 affiliation is coded as 1 = Big 4 firm and 0 = non-Big 4 firm. * means that $p < 0,01$; ** means that $p < 0,05$ (two-tailed tests).

As an additional robustness procedure, the structural model was re-estimated after removing each mediating variable in turn. This procedure allows assessing whether the main results depend on the presence of the mediators and whether the overall model structure remains stable. When a mediator is removed, the model can be re-specified by connecting the antecedent directly to the final outcome variable. This approach examines whether the original indirect effect depends on the mediator or whether there is also an underlying direct effect. Table XII summarizes the results of these alternative model estimations. First, OC was removed from the main model. In this specification, EM, IM, and WOL were linked directly to IP, since OC no longer mediated these relationships. The results showed that WOL had a negative and significant direct association with IP ($\beta = -0,136$, $p < 0.01$). The remaining results did not alter, as they retained their expected significance and direction.

Second, IM was removed from the model, while OC remained included. In the original model, IR influenced IP indirectly through IM and OC. After removing IM, the model was re-specified so that IR was linked directly to IP. The remaining relationships were preserved. The results showed that the direct association between IR and IP became significant. This finding suggests that IM and OC only partially mediate the association between IR and IP, as IR appears to retain a direct effect on IP even in the absence of the mediating mechanism represented by IM and OC.

Third, EM was removed, while OC remained included. In the original model, ER influenced IP indirectly through EM and OC. After removing EM, the model was re-specified so that ER was linked directly to IP, and the remaining associations did not change. The results showed that the association between ER and IP was also nonsignificant ($\beta = 0,002$, $p > 0,05$).

Across all alternative specifications, the results only altered for the relationship involving the removed mediator, while the remaining structural relationships remained stable. Taken together, these results provide further support for the robustness of the main findings and the stability of the proposed model structure.

TABLE XII – ALTERNATIVE MODEL SPECIFICATIONS WITHOUT MEDIATORS

ALTERNATIVE SPECIFICATION 1 – OC REMOVED

Hypothesis	Coefficient	T-Value	Result
H1: ER → EM	0,328 *	6,105	Supported
H2: IR → IM	0,267 *	5,032	Supported
H3: EM → IP	0,371 *	6,922	Supported
H4: IM → IP	0,157 *	2,446	Supported
H5: WOL → IP	-0,136 *	2,866	Supported

ALTERNATIVE SPECIFICATION 2 – IM REMOVED

Hypothesis	Coefficient	T-Value	Result
H1: ER → EM	0,333 *	6,358	Supported
H2: IR → IP	0,209 *	3,437	Supported
H3: EM → OC	0,380 *	7,967	Supported
H4: WOL → OC	-0,296 *	6,759	Supported
H5: OC → IP	0,317 *	4,860	Supported

ALTERNATIVE SPECIFICATION 3 – EM REMOVED

Hypothesis	Coefficient	T-Value	Result
H1: ER → IP	0,002	0,038	Not Supported
H2: IR → IM	0,249 *	7,321	Supported
H3: IM → OC	0,312 *	6,316	Supported
H4: WOL → OC	-0,280 *	5,939	Supported
H5: OC → IP	0,429 *	7,321	Supported

Note: * means that $p < 0,01$ (two-tailed tests).

5. CONCLUSION

This dissertation examined how different types of rewards, workload, and motivational orientations are associated with OC and IP, using statutory auditors working in Portugal as the empirical context. By focusing on these relationships within a demanding professional environment, the study contributes to a better understanding of how organizational practices and working conditions are associated with employees' attitudes and performance. The auditing profession represents a relevant context for this analysis due to its high workload and performance pressure.

The results show that ER are positively associated with EM, and IR are positively related to IM. These findings confirm the relevance of reward systems in shaping employees' motivational orientations. Both forms of motivation are positively related to OC, with EM showing a stronger positive association. Additionally, WOL is negatively associated with OC, suggesting that higher job demands are related to lower levels of employees' attachment to the organization. OC is, in turn, positively associated with IP, highlighting its role as a key attitudinal variable related to motivation, work-related conditions, and performance outcomes.

From a theoretical perspective, this study contributes to the literature by integrating constructs that have often been examined separately or within partial models. Prior research has, for example, examined reward systems in relation to motivation (Ajmal et al., 2015; Gagné & Deci, 2005), investigated WOL as a job demand with implications for commitment (Poulose & Dhal, 2020; Sonnentag & Frese, 2012), or analyzed OC as a predictor of performance (Cesário & Chambel, 2017; Meyer & Herscovitch, 2001). This study extends prior work on auditor behavior and organizational psychology by bringing these perspectives together within a single model.

From a practical standpoint, the findings offer important implications for audit firms. The positive associations between rewards, motivation, and commitment highlight the relevance of reward systems that combine extrinsic incentives with intrinsic elements such as respect and autonomy. At the same time, the negative association between WOL and OC underscores the importance of effective workload management, particularly during periods of heightened demand. Addressing both motivational and job-demand factors may help organizations sustain performance and reduce disengagement.

Despite its contributions, this study has several limitations. The reliance on self-reported questionnaire data may introduce response bias, as participants' perceptions may not fully reflect objective behaviors or performance outcomes. Although several procedural remedies were adopted to mitigate this risk, including the use of validated measurement scales, subjectivity remains an inherent limitation.

Additionally, the cross-sectional design limits the ability to draw causal inferences between the examined variables. While the theoretical model is grounded in established literature and tested using a robust analytical technique, the observed relationships capture associations at a single point in time and do not reflect potential changes across different phases of the audit cycle or career stages.

The study focuses on statutory auditors working in Portugal, which may also limit the generalizability of the findings to other institutional or regulatory contexts. Differences in audit regulation, organizational practices, and labor market conditions could influence how rewards, workload, and motivation affect auditors' attitudes and performance. In addition, while the proposed model integrates several key determinants of employee behavior, it does not account for other potentially relevant factors such as leadership style, organizational culture, or work-life balance, which may also shape employees' attitudes.

Future research could build on this study in several ways. Longitudinal research designs would enable a more robust examination of causal relationships and allow analysis of how the constructs evolve over time. Comparative and cross-national studies could further assess whether the relationships identified differ across countries, regulatory frameworks, or cultural contexts, thereby enhancing the external validity. The proposed model could also be extended by incorporating additional variables and examining potential mediating or moderating effects among these constructs. Finally, mixed-methods approaches that combine quantitative surveys with qualitative techniques, such as interviews or case studies, could offer deeper insights into employees' experiences, perceptions of workload, and responses to reward systems, complementing survey-based evidence.

REFERENCES

- Abdulaziz, A., Bashir, M. & Alfalih, A. (2022). The Impact of Work–Life Balance and Work Overload on Teachers’ Organizational Commitment: Do Job Engagement and Perceived Organizational Support Matter? *Education and Information Technologies* 27, Article 11013.
- Ajmal, A., Bashir, M., Abrar, M., Mahroof Khan, M. & Saqib, S. (2015). The Effects of Intrinsic and Extrinsic Rewards on Employee Attitudes: Mediating Role of Perceived Organizational Support. *Journal of Service Science and Management* 8(4), 461–470.
- Alhmoud, A. & Rjoub, H. (2019). Total Rewards and Employee Retention in a Middle Eastern Context. *Sage Open* 9(2).
- Allen, N.J. & Meyer, J.P. (1990). The Measurement and Antecedents of Affective, Continuance and Normative Commitment to the Organization. *Journal of Occupational Psychology* 63, 1–18.
- Almeida, D. (2023). Cognitive biases and audit professional skepticism: A sample from Portugal. *Master’s thesis*, Universidade Católica Portuguesa, Lisbon.
- Alves, I., Limão, M. & Lourenço, S.M. (2024). Work Overload, Work–Life Balance and Auditors’ Turnover Intention: The Moderating Role of Motivation. *Australian Accounting Review* 34(1), 4–28.
- Amabile, T.M., Hill, K.G., Hennessey, B.A. & Tighe, E.M. (1994). The Work Preference Inventory: Assessing Intrinsic and Extrinsic Motivational Orientations. *Journal of Personality and Social Psychology* 66(5), 950–967.
- Amora, J. T. (2021). Convergent validity assessment in PLS -SEM: A loadings - driven approach. *Data Analysis Perspectives Journal*, 2(3), 1–6.
- Andriani, R. & Disman, D. (2023). Effects of Work Overload and Job Stress on Employee Performance: Categorical Moderation from Polychronicity and Work Environment. *JPPI (Jurnal Penelitian Pendidikan Indonesia)* 9(4), 378–387.
- Aqilah, Q., Nursal, A.T., Osman, A.A., Rahimi, M. & Bin, I. (2023). The Effects of Perceived Work Overload on Organizational Commitment on Employee Turnover

Intention in the Automotive Industry in Pahang. *Journal of Technology and Operations Management* 18(1), 40–55.

Asha, S. & Warriar, U. (2017). A Study on the Effect of Intrinsic and Extrinsic Employee Motivation on Organisational Commitment With Respect to the IT Sector. *IOSR Journal of Business and Management* 19(11), 1–5.

Bedford, D.S. & Speklé, R.F. (2018). Construct Validity in Survey-Based Management Accounting and Control Research. *Journal of Management Accounting Research* 30(2), 23–58.

Bytyqi, Q. (2020). The Impact of Motivation on Organizational Commitment: An Empirical Study With Kosovar Employees. *Prizren Social Science Journal* 4(3), 24–32.

Cesário, F. & Chambel, M.J. (2017). Linking Organizational Commitment and Work Engagement to Employee Performance. *Knowledge and Process Management* 24(2), 152–158.

Cetinkaya, A. (2011). The Impact of Employee Motivation on Emotional Commitment: Research Undertaken in a Five-Star Hotel. *Journal of Transnational Management* 16(3), 149–156.

Choong, Y.O., Lau, T.C. & Wong, K.L. (2011). Intrinsic Motivation and Organizational Commitment in the Malaysian Private Higher Education Institutions: An Empirical Study. *Researchers World – Journal of Arts, Science & Commerce* 2(4), 91–100.

Danish, R., Khan, M., Shahid, A.U., Raza, I. & Humayon, A. (2015). Effect of Intrinsic Rewards on Task Performance of Employees: Mediating Role of Motivation. *International Journal of Organizational Leadership* 4(1), 33–46.

Eliyana, A., Ma'arif, S. & Muzakki (2019). Job Satisfaction and Organizational Commitment Effect in the Transformational Leadership Towards Employee Performance. *European Research on Management and Business Economics* 25(3), 144–150.

Emmanuel, N. & Nwuzor, J. (2021). Employee and Organisational Performance: Employees' Perception of Intrinsic and Extrinsic Rewards System. *Applied Journal of Economics, Management and Social Sciences* 2(1), 26–32.

Fehr, L. & Koob, C. (2025). Associations Between Key Job Resources, Job Demands and Affective Organizational Commitment Among Nursing Professionals in German Hospitals: A Cross-Sectional Study. *BMC Nursing* 24, Article 442.

Figueiredo, E., Margaça, C., Sánchez García, J.C. & Ribeiro, C. (2025). The Contribution of Reward Systems in the Work Context: A Systematic Review of the Literature and Directions for Future Research. *Journal of the Knowledge Economy* 16, 16525–16559.

Fogarty, T., Singh, J., Rhoads, G. & Moore, R. (2000). Antecedents and consequences of burnout in accounting: Beyond the role stress model. *Behavioral Research in Accounting*, 12(1), 31–67.

Gagné, M. & Deci, E.L. (2005). Self-Determination Theory and Work Motivation. *Journal of Organizational Behavior* 26(3), 331–362.

Gangai, K.K. & Agrawal, R. (2015). Job Satisfaction and Organizational Commitment: Is It Important for Employee Performance? *International Journal of Management* 5(1), 269–278.

Garson, G.D. (2016). Partial Least Squares: Regression and Structural Equation Models. Asheboro, NC: Statistical Associates Publishers.

Guan, Z., Chupradit, S., Ku, K.Y., Nassani, A.A. & Haffar, M. (2022). Impact of Employees' Workplace Environment on Employees' Performance: A Multi-Mediation Model. *Frontiers in Public Health* 10, Article 890400.

Hair, J.F., Ringle, C.M. & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *The Journal of Marketing Theory and Practice* 19(2), 139–152.

Hair, J.F., Hult, G.T.M., Ringle, C.M. & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). 2nd Ed. Thousand Oaks: Sage.

Hair, J., Risher, J., Sarstedt, M. & Ringle, C. (2019). When to Use and How to Report the Results of PLS-SEM. *European Business Review* 30(1), 2–24.

Hair, J., Hult, G.T.M., Ringle, C.M. & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 3rd Ed. Thousand Oaks: Sage.

Hassan, Z. & Govindhasamy, C. (2020). An Investigation on Extrinsic and Intrinsic Rewards on Employee Retention Among Gen Y: A Study in Malaysian Manufacturing Companies. *Journal of Business and Economic Analysis* 3(1), 55–69.

Huang, Y. (2014). How Intrinsic Motivation and Extrinsic Motivation Affect Organizational Commitment and Job Satisfaction: A Cross-Cultural Study in the United States and China. *Doctoral dissertation*, Texas A&M International University, College Station, Texas, USA.

Huang, Y. (2015). Impact of Intrinsic Motivation on Organizational Commitment: Empirical Evidences From China. *International Business and Management* 11(3), 31–44.

Hwang, Y.S. & Kim, B.J. (2021). “The Power of a Firm’s Benevolent Act”: The Influence of Work Overload on Turnover Intention, the Mediating Role of Meaningfulness of Work and the Moderating Effect of CSR Activities. *International Journal of Environmental Research and Public Health* , 18, Article 3780.

Inuwa, M. (2016). Job Satisfaction and Employee Performance: An Empirical Approach. *The Millennium University Journal* 1(1), 90–103.

Jacobs, S., Renard, M. & Snelgar, R.J. (2014). Intrinsic Rewards and Work Engagement in the South African Retail Industry. *SA Journal of Industrial Psychology* 40(2), 1–13.

Jessen, J.T. (2010). Job Satisfaction and Social Rewards in the Social Services. *Journal of Comparative Social Work* 5(1), 21–38.

Johari, R.J., Ridzoan, N.S. & Zarefar, A. (2019). The Influence of Work Overload, Time Pressure and Social Influence Pressure on Auditors’ Job Performance. *International Journal of Financial Research* 10(3), 88–106.

Kalbers, L.P. & Cenker, W.J. (2008). The Impact of Exercised Responsibility, Experience, Autonomy and Role Ambiguity on Job Performance in Public Accounting. *Journal of Managerial Issues* 20(3), 327–347.

Kawiana, I.G.P., Dewi, L.K.C., Martini, L.K.B. & Suardana, I.B.R. (2018). The Influence of Organizational Culture, Employee Satisfaction, Personality and

Organizational Commitment Towards Employee Performance. *International Research Journal of Management, IT and Social Sciences* 5(3), 35–45.

Kim, S.H., Kim, M. & Holland, S. (2020). Effects of Intrinsic Motivation on Organizational Citizenship Behaviors of Hospitality Employees: The Mediating Roles of Reciprocity and Organizational Commitment. *Journal of Human Resources in Hospitality & Tourism* 19(2), 168–195.

Ko, S.H., Choi, Y., Lee, S.H., Kim, J.-Y., Kim, J. & Kang, H.C. (2022). Work Overload and Affective Commitment: The Roles of Work Engagement, Positive Psychological Capital and Compassion. *Social Behavior and Personality: An International Journal* 50(6), Article e11306.

Kuvaas, B. (2018). The Relative Efficiency of Extrinsic and Intrinsic Motivation. *At the Forefront, Looking Ahead* In: Osland, L., Kalleberg, R. & Bakken, T. (Eds.), 198–213. Oslo: Universitetsforlaget. Limão, M. (2021). A Study of Turnover Intention of Auditors in Portugal. *Master's thesis*, Instituto Politécnico de Lisboa – ISCAL, Lisbon.

Luthans, F. (2011). *Organizational Behavior: An Evidence-Based Approach*. 12th Ed. New York: McGraw-Hill/Irwin.

Major, V.S., Klein, K.J. & Ehrhart, M.G. (2002). Work Time, Work Interference With Family and Psychological Distress. *Journal of Applied Psychology* 87(3), 427–436.

Meyer, J.P. & Allen, N.J. (1991). A Three-Component Conceptualization of Organizational Commitment. *Human Resource Management Review* 1(1), 61–89.

Meyer, J.P. & Herscovitch, L. (2001). Commitment in the Workplace: Toward a General Model. *Human Resource Management Review* 11(3), 299–326.

Mowday, R.T., Steers, R.M. & Porter, L.W. (1979). The Measurement of Organizational Commitment. *Journal of Vocational Behavior* 14(2), 224–247.

Murphy, B. (2015). The Impact of Reward Systems on Employee Performance. *Master's thesis*, Dublin Business School, Dublin.

Newman, A. & Sheikh, A.Z. (2011). Organizational Commitment in Chinese Small- and Medium-Sized Enterprises: The Role of Extrinsic, Intrinsic and Social Rewards. *The International Journal of Human Resource Management* 23(2), 349–367.

Nnaji-Ihedinmah, N.C. & Egbunike, F.C. (2015). Effect of Rewards on Employee Performance in Organizations: A Study of Selected Commercial Banks in Awka Metropolis. *European Journal of Business and Management* 7(4), 80–88.

Özutku, H. (2012). The Influence of Intrinsic and Extrinsic Rewards on Employee Results: An Empirical Analysis in Turkish Manufacturing Industry. *Business and Economics Research Journal* 3(3), 29–48.

Pandya, J.D. (2024). Intrinsic & Extrinsic Motivation & Its Impact on Organizational Performance at Rajkot City: A Review. *Journal of Management Research and Analysis* 11(1), 46–53.

Panigrahi, A., Kumar, A. & Behera, S. (2024). The Interplay of Organizational Commitment and Employee Engagement in Driving Performance: A Systematic Review. *Journal of Informatics Education and Research* 4(2), 2811–2820.

Persellin, J., Schmidt, J., Vandervelde, S. & Wilkins, M. (2019). Auditor perceptions of audit workloads, audit quality, and job satisfaction. *Accounting Horizons*, 33(4), 95–117.

Poulose, S. & Dhal, M. (2020). Role of Perceived Work–Life Balance Between Work Overload and Career Commitment. *Journal of Managerial Psychology* 35(3), 169–183.

Pratheepkanth, P. (2011). Reward System and Its Impact on Employee Motivation in Commercial Bank of Sri Lanka PLC in Jaffna District. *Global Journal of Management and Business Research* 11(B4), 85–92.

Putra, E., Cho, S. & Liu, J. (2017). Extrinsic and Intrinsic Motivation on Work Engagement in the Hospitality Industry: Test of Motivation Crowding Theory. *Tourism and Hospitality Research* 17, 228–241.

Rachman, M.E. (2022). Impact of Motivation on Performance: The Role of Organizational Commitment. *Jurnal Manajemen Teori dan Terapan* 15(3), 376–393.

Rafaelli, D.V.A., Ferreira, R.S. & Abreu, N.R. (2008). Sistemas de Recompensas e Suas Influências na Motivação de Servidores Públicos. *SEGeT – Simpósio de Excelência em Gestão e Tecnologia*, 1–16.

Rai, G.S. (2012). Organizational Commitment Among Long-Term Care Staff. *Administration in Social Work* 36(1), 53–66.

Rani, R. & Desiana, P.M. (2019). The Impact of Owners' Intrinsic Motivation and Work–Life Balance on SMEs' Performance: The Mediating Effect of Affective Commitment. *International Journal of Business* 24(4), 393–411.

Ryan, R.M. & Deci, E.L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology* 25(1), 54–67.

Saks, A.M. (2006). Antecedents and Consequences of Employee Engagement. *Journal of Managerial Psychology* 21(7), 600–619.

Salman, A. & Olawale, Y.A. (2022). Effect of Reward System on Employees' Productivity: A Study of Guaranty Trust Bank, Ilorin Metropolis. *Journal of Management and Social Sciences* 10(3), 1128–1143.

Samad, S. (2006). The Contribution of Demographic Variables: Job Characteristics and Job Satisfaction on Turnover Intentions. *Journal of International Management Studies* 1, 1–12.

Sarmad, M., Ajmal, M.M., Shamim, M., Saleh, M. & Malik, A. (2016). Motivation and Compensation as Predictors of Employees' Retention: Evidence From Public Sector Oil and Gas Selling Organisations. *Journal of Behavioural Sciences* 26(2), 174–188.

Schupbach, J.N. (2018). Robustness Analysis as Explanatory Reasoning. *The British Journal for the Philosophy of Science* 69(1), 275–300.

Shahzad, Q., Shah, B., Waseem, M. & Bilal, H. (2020). An Empirical Analysis of Work Overload, Organizational Commitment and Turnover Intentions Among Employees of the Banking Sector. *Journal of Business and Social Review in Emerging Economies* 6(2), 781–788.

Shore, L.M. & Martin, H.J. (1989). Job Satisfaction and Organizational Commitment in Relation to Work Performance and Turnover Intentions. *Human Relations* 42(7), 625–638.

Siregar, Z. (2022). Extrinsic Motivation and Organizational Commitment: A Literature Review. *International Journal of Business, Technology and Organizational Behavior* 2(4), 397–402.

Smith, K.J., Haight, T.D., Emerson, D.J., Mauldin, S. & Wood, B.G. (2020). Resilience as a Coping Strategy for Reducing Departure Intentions of Accounting Students. *Accounting Education* 29(1), 77–108.

Solong, A., Wekke, I., Aras, D. & Maqbul, M. (2021). Correlation Between Intrinsic and Extrinsic Motivation to Employee Performance Through Commitment and Organizational Culture. *Asia Pacific International Conference on Industrial Engineering and Operations Management* 694–705.

Sonnentag, S. & Bayer, U.V. (2005). Switching Off Mentally: Predictors and Consequences of Psychological Detachment From Work During Off-Job Time. *Journal of Occupational Health Psychology* 10(4), 393–414.

Sonnentag, S. & Frese, M. (2012). Stress in organizations. In: Weiner, I., Schmitt, N. W. & Highhouse, S. (Eds.), *Handbook of Psychology*, 2nd Ed. Hoboken: Wiley, 560–592.

Staunton, S. (2019). Exploring the Link Between Intrinsic Motivation and Organisational Commitment Within the Context of a Sales Organisation. *Master's thesis*, National College of Ireland, Dublin.

Summers, S. & Sweeney, J. (2002). The effect of the busy season workload on public accountants' job burnout. *Behavioral Research in Accounting*, 14(1), 223–245.

Thibault Landry, A. & Whillans, A. (2019). The Power of Workplace Rewards: Using Self-Determination Theory to Understand Why Reward Satisfaction Matters for Workers Around the World. *Compensation & Benefits Review* 50(3), 123–148.

Van der Kolk, B., Dirks, P. & Bogt, H. (2019). The Impact of Management Control on Employee Motivation and Performance in the Public Sector. *European Accounting Review* 28(3), 417–447.

Victor, J. & Hoole, C. (2017). The Influence of Organisational Rewards on Workplace Trust and Work Engagement. *SA Journal of Human Resource Management* 15(0), 1–14.

Victor, J.A. & Hoole, C. (2021). Rejuvenating the Rewards Typology: Qualitative Insights Into Reward Preferences. *SA Journal of Industrial Psychology* 47(1), 1–17.

Wong-On-Wing, B.L., Guo, L. & Lui, G. (2010). Intrinsic and Extrinsic Motivation and Participation in Budgeting: Antecedents and Consequences. *Behavioral Research in Accounting* 22(2), 133–153.

Zarei Matin, H., Sayed Kalali, N. & Akhavan Anvari, M. (2012). Do Demographic Variables Moderate the Relationship Between Job Burnout and Its Consequences? *Interdisciplinary Journal of Management Studies* 5(1), 47–62.

Zhenjing, G., Chupradit, S., Ku, K. Y., Nassani, A. A., & Haffar, M. (2022). Impact of Employees' Workplace Environment on Employees' Performance: A Multi-Mediation Model. *Frontiers in Public Health* 10, Article 890400.