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**The moderating effect of stress on the  
relationship between high-performance working  
systems and perceived employee Performance.**

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## The moderating effect of stress on the relationship between high-performance working systems and perceived employee Performance.

المستخلص:

يهدف هذا البحث إلى دراسة التأثير المعدل للضغط على العلاقة بين أنظمة العمل عالية الأداء، وفقاً لنموذج AMO (القدرة، الدافع، الفرصة) وأداء الموظفين المدرك في قطاع الاتصالات في مصر والاختلافات بين الجنسين. تم اخذ عينة عشوائية طبقية من ٦٠٠ موظف من قطاع الاتصالات المصرية. تم استخدام (SEM) لاختبار فرضيات البحث، وكشف عن علاقات بين المتغيرات المستقلة (القدرة، الدافع، الفرصة) والمتغيرات المعدلة (حمولة العمل، الثقافة التنظيمية، الصراع بين الأشخاص، غموض الدور، التوازن بين العمل والحياة). كان للمتغيرات المعدلة تأثيرات متنوعة على أداء الموظف المدرك. إدارة أعباء العمل والثقافة التنظيمية والعلاقة بين القدرة وأداء الموظف المدرك، في حين أثر الصراع بين الأشخاص وغموض الدور أيضاً على هذه العلاقة. ومع ذلك، لم يؤثر التوازن بين العمل والحياة بشكل كبير على أداء الموظف المدرك. تم فحص الاختلافات بين الجنسين في التأثير المعدل للضغط من خلال تحليل التباين (ANCOVA)، وكشف أن الضغط كان له تأثير معدل أقوى على الذكور مقارنة بالإناث.

الكلمات الرئيسية: الضغط - أنظمة العمل عالية الأداء - أداء الموظف المدرك - الاختلاف بين الجنسين

**Abstract:**

This research investigates the moderating effect of stress on the relationship between high-performance working systems, according to the AMO model (Ability, Motivation, Opportunity), and perceived employee performance in the context of the telecom sector in Egypt. It also explores gender differences in this context. A stratified random sample of 600 employees from telecom companies was surveyed. Structural Equation Modelling (SEM) was employed to test research hypotheses, revealing significant relationships between independent variables (Ability, Motivation, Opportunity), and moderating variables (Workload, Organizational Culture, Interpersonal Conflict, Role Ambiguity, Work-Life Balance). The moderating variables had diverse effects on perceived employee performance. Workload and Organizational Culture moderated the relationship between Ability and perceived employee performance, while Interpersonal Conflict and Role Ambiguity also affected this relationship. However, Work-Life Balance did not significantly affect perceived employee performance. Gender differences in the moderating impact of stress were examined through analysis of covariance (ANCOVA), revealing that stress had a stronger moderating effect on males compared to females.

**Keywords:** Stress, High-Performance Working Systems (HPWS), AMO, Perceived employee performance, Gender differences

## 1. Introduction:

In an era of globalization with fierce competition between firms and progressive technological advancements, organizations are always trying to enhance, extend, and sustain their competitive advantages (Zhang and Morris, 2014; Hassan et al., 2013; Khasawneh and Alzawahreh, 2012; Messersmith et al., 2011). Employees are the primary driver of competitive advantage in organizations Pfeffer, J. (1994). As the success of a company depends on the effectiveness of its employees, employee performance is the foundation of a company's productivity. While traditional measures of employee performance, such as output and productivity, provide valuable information, the concept of perceived employee performance (PEP) has emerged as a crucial addition to the performance evaluation framework. It is deeply influenced by how coworkers, supervisors, and employees view themselves and evaluate this performance. This concept was discussed in research by Bowling and Beehr (2006) Perceived employee performance is a subjective evaluation that is based on how people interpret their biases, and their cognitive processes when assessing an employee's work. Many factors could affect, ranging from an employee's personal qualities and behaviors to the overall work environment. As Judge and Bono pointed out (2001), an individual's attributes, such as communication skills, work ethic, and adaptability, play a significant role in shaping how their performance is perceived.

Adopting high-performance human resources (HPCR) practices are crucially required for generating and maintaining high-performance work systems (HPWS) Huselid (1995) Undoubtedly, this must be ranked high on the agenda of organizational objectives. In this regard, it is argued that scarce, valuable, inimitable, non-exchangeable, and non-transferable resources are among the key determinants of distinguishable competitive edges (Mahdy and Alhadi., 2021). Human resources are at the top of the key determinants of securing distinguishable competitive edges (Jyoti and Rani., 2019). High-performance work systems (HPWS)

are the catalyst for accumulating high-quality human resources. Developing HPWS aims to boost workers' productivity and efficiency to the fullest extent possible. To enhance workers' skills, motivation, and likelihood of attaining exceptional performance, organizations implement human resource methods such as training, remuneration, and performance management (Huselid, 1995; Wang & Hsieh, 2013).

According to Sun et al. (2007), comparing employees' assessments of their own performance with the company's expectations might highlight differences. These inconsistencies may indicate opportunities for improving the implementation of HPWS or for offering further training or communication to ensure that workers have a thorough understanding and actively participate in HPWS activities. Frago et al. (2021) add that companies may tailor High-Performance Work Systems (HPWS) protocols to better fit the needs and preferences of their employees by evaluating how well workers feel they are doing. To optimize the impact of High-Performance Work Systems (HPWS) on employee performance, companies should identify and prioritize the components of HPWS that workers value the most. Jiang et al. (2015) discovered that when employees' self-evaluations of performance are routinely assessed, it creates an atmosphere that promotes continuous development and adaptability throughout the implementation of High-Performance Work Systems (HPWS). In order to ensure alignment between High Performance Work Systems (HPWS) and both corporate objectives and employee requirements, firms may solicit employee feedback about the effectiveness of these systems, identify any areas of concern, and then address them.

A Study results from Demerouti et al. (2015) indicate that high-pressure work settings (HPWS) may increase stress, which may cause burnout and decreased productivity. As a result of implementing HPWS, employees may feel fatigued, anxious, and overwhelmed due to the increased demands and expectations placed on them. Burnout, which is defined as a state of extreme mental, emotional, and physical exhaustion that

significantly impairs performance, can also be caused by unmanaged stress (Maslach et al., 2001). When adopting high-performance work systems (HPWS), it is essential to manage stress levels to maintain optimal employee well-being and performance (Den Hartog et al., 2013). Excessive stress can also diminish the positive effects of HPWS on perceived employee performance. While HPWS can enhance motivation and engagement (Appelbaum et al., 2000), these benefits are reversed when stress levels become excessive, Overwhelmed, and stressed employees lack the energy or focus to fully engage in their work (Saavedra and John, 2013). Failing to manage stress levels can also lead to increased employee turnover (Huselid, 1995). Employees experiencing chronic stress and excessive workload are more prone to resign from their positions (Kahn, 1990), leading to elevated costs for firms in terms of recruiting and training (Griffith et al., 2006). Women are crucial participants in Egypt's labor force, making substantial contributions to the nation's economic and social advancement. Women's involvement in the workforce has consistently grown, and they currently make up a significant proportion of the working population. According to data compiled by the World Bank, the proportion of working-age Egyptian women rose from 13.6% in 2010 to 17.7% in 2022. Several factors have contributed to the current increase in this tendency. These include governmental programs aimed at empowering women economically, improved access to higher education, and shifting cultural norms that respect women's participation in the job market. The aforementioned alterations have failed to eradicate the significant lack of female presence in Egypt's telecoms industry. Only 24% of those working in the telecommunications business were women in 2020, according to the International Telecommunication Union (ITU). This percentage is well below the worldwide average of 36%.

In Egypt's telecommunications business, men occupy 27% of high-ranking positions, while women only wield a meager 10% (Egyptian Telecommunications Regulatory Authority, TRA, 2019). Leadership

positions are also susceptible to this imbalance. Furthermore, as reported by the World Bank (2020), there exists a disparity in wages between genders within this sector, with females earning 25% less than their male counterparts. Based on the provided information. According to research conducted in 2023 by the Egyptian Telecoms Regulatory Authority (TRA), female telecom workers in Egypt are more likely to experience stress and burnout compared to their male counterparts. The research (United Nations Economic and Social Commission for Western Asia SCWA, 2018) identified numerous factors contributing to the inequality, including conflicts between work and family duties, restricted professional progression chances, and gender-based discrimination. According to the Ministry of Communication and Information Technology, the telecommunications industry in Egypt encompasses all aspects of communication technology and services (MCIT). There has been tremendous change and expansion in this market over the years, especially in the mobile and online spheres. Information and communication technology (ICT) contributed EGP 93.4 billion, or around 4% of Egypt's GDP, in 2019, according to the National Telecom Regulatory Authority (NTRA). When compared to 2018, the information and communication technology sector added EGP 81.1 billion to GDP, this is a substantial gain.

Consequently, this research aims to examine the potential moderating effect of stress in the relationship between high-performance work systems and perceived employee performance. The effect of gender plays a significant part in shaping the dynamics inside Egyptian telecommunications firms. Therefore, it is important to investigate the impact of stress within this context and determine whether it affects individuals of different genders, similarly offering valuable guidance and recommendations for telecommunications companies in Egypt suggesting improvements to working conditions, employee welfare, and the development of a more diverse and productive workforce.



## 2. Literature Review and hypotheses development

The following section reviews the literature on perceived employee performance, the difference between perceived performance and actual performance, and then high-performance working systems, the AMO model, and the moderating effect of stress with its dimension on the relationship between the two variables considering the gender differences in Egypt in the telecommunications industry.

### 2.1 Perceived Employee Performance (PEP)

PEP is the term for the subjective assessment of a worker's performance at work made by peers, supervisors, or subordinates. It frequently depends on the behaviours, abilities, and competencies displayed at work. As it can affect satisfaction with work, motivation, retention, and productivity, it may have a substantial impact on the worker, the company, and its stakeholders. Several factors that may influence PEP have been identified in various research. Important factors to think about include leadership style (Veldsman & Venter, 2019), organizational culture (Almeida et al., 2020), work satisfaction (Suleiman & Abdullah, 2019), and professional advancement (Bai & Lu, 2020).

The success of perceived employee performance (PEP) is significantly affected by the quantity of communication between managers and employees, according to Al-Omar et al. (2019). The study's results show that clarity of job requirements, reduction of role ambiguity, and enhancement of work quality are all positively impacted by supervisors and employees maintaining regular and transparent communication. Employee engagement and PEP are directly related, according to Albrecht et al. (2015). People who are really into what they do for a living are more likely to go above and above since their motivation, dedication, and enthusiasm are all rising.

According to a study conducted by Ilies, Scott, and Judge (2006), there is evidence that indicates employees who are recognized as top achievers have higher levels of motivation to perform effectively. Moreover, there is a correlation between it and the retention of employees. According to Allen and Meyer (1990), there is a negative correlation between employee turnover and perceived employee performance.

### **2.1.1 The difference between perceived employee performance and actual performance**

Perceived employee performance does not always accurately reflect actual performance. The impression of employee performance may be influenced by biases exhibited by managers and peers. An instance that exemplifies the halo effect is when a single favorable characteristic of an employee influences a comprehensive positive assessment, potentially resulting in exaggerated perceptions of their performance ratings. Nevertheless, there exists certain data that indicates perceived performance may serve as a valuable indicator of real performance. According to a study conducted by Borman and Motowidlo (1993), there was a moderate correlation observed between perceived performance ratings and actual performance ratings.

### **2.2 High-Performance Work System (HPWS)**

Wood and Albanese (2015) state that High-performance work systems (HPWS) are alternatively referred to as high-involvement workplaces (HIW), high-commitment workplaces (HCW), and high-performance work practices (HPWP). A High-Performance Work System (HPWS) refers to a collection of methods implemented by organizations to effectively attract, select, manage, and retain highly skilled individuals within their workforce (Takeuchi et al., 2009). (HPWS) refers to a collection of techniques and methodologies that are systematically incorporated into an organizational framework with the aim of optimizing employee productivity and fostering higher levels of employee engagement. it might be regarded as a distinctive combination of interrelated human resources strategies, as referred to by Arthur in his works from 1992 and 1994.

High-Performance Work Systems (HPWS) have gained significant recognition as a highly effective strategy for enhancing organizational performance and attaining a competitive advantage (Huselid, 1995). (HPWS) prioritize the integration of human resource strategies such as training, performance evaluation, and reward systems. There is a

deliberate effort to improve the workforce's motivation, skills, and performance via these activities (Boxall and Macky, 2009). These techniques are based on the core concepts of ability, motivation, and opportunity (AMO), which work together to achieve the most positive outcomes. Appelbaum et al. (2000) conducted a study that revealed High-Performance Work Systems (HPWS) may significantly enhance employees' skill development and motivation. Furthermore, HPWS fosters a workplace environment that prioritizes competence and provides many opportunities for workers to contribute their perspectives to significant decision-making processes. This occurrence leads to an increase in employee involvement, which enhances the overall performance of the organization. In 1996, Delery and Doty performed a comprehensive investigation which revealed that High-Performance Work Systems (HPWS) had a beneficial impact on both the financial and non-financial components of an organization's performance. The findings emphasize the substantial impact of High Performance Work Systems (HPWS) on a corporation by efficiently combining individuals' talents, motivation, and potential with the firm's strategic objectives. Over time, the organization gains advantages from the combined effects of synergy resulting from alignment. This enhances both individual and team performance, leading to increased financial profitability and improved operational quality.

In addition, Boselie, Dietz, and Boon (2005) demonstrated that the AMO model is a valuable foundation for comprehending the relationship between HPWS and employee performance.

### **2.2.1 AMO model**

The AMO model provides a theoretical basis for developing and executing HPWS; it was first proposed by Appelbaum et al. in the year 2000. The three pillars upon which this paradigm rests are ability, motivation, and opportunity. Everyone brings a unique set of skills, interests, and experiences to a work, and the term "ability" encompasses all of them. The term "motivation" describes the state of affairs in which workers become more productive. An "opportunity" is any one of the

resources available to workers who want to do a better job. All three components must work together for the AMO model to achieve its full potential, say Boxall and Macky (2007). To create a High-Performance Work System that really works, all three of these characteristics must be present at the same time and work in harmony with one another, as the proposed model acknowledges.

### **2.1.1 Ability:**

The goal of High-Performance Work Systems (HPWS) is to maximize productivity in the workplace by facilitating the integration of training and education for all employees. According to research carried out by Martín-Rojas, R. et al. (2020), offering employees chances for training and development leads to positive outcomes including increased job satisfaction, better productivity, and lower turnover rates. This research proves that High-Performance Work Systems (HPWS) should prioritize spending money on helping their employees grow professionally. In addition to addressing problems caused by employee turnover, this investment cultivates a happy and competent team.

Training programs that incorporate High-Performance Work Systems were positively correlated with employees' ability to manage complex tasks and adapt to changing work environments, according to research by Bowen and Ostroff (2004). High-Performance Work Systems (HPWS) are emphasised by the aforementioned association as a means to provide workers with the information and skills necessary to succeed in today's complicated workplace. High-Performance Work Systems (HPWS) training helps employees become more proficient in their jobs while simultaneously making them more resilient and adaptable to deal with changes in the workplace.

### **2.1.2 Motivation:**

Prioritizing motivation is critical for the effective implementation of a High-Performance Work System (HPWS). The reason for this is because providing incentives greatly improves how well employees' work. During this phase, you will evaluate your organization's mission and values in

depth and establish clear and measurable goals and objectives. To encourage creativity and boost morale, it's important to provide pay that's competitive with market prices. A high-performance culture may be nurtured via the use of recognition and incentive systems, which can motivate and inspire employees to do more.

According to Jiang et al. (2012), companies should make an effort to foster a positive and supportive work environment. The primary objective is to encourage greater engagement from workers and raise levels of job satisfaction. Employees' dedication, enthusiasm, and morale may be greatly enhanced in a workplace where their own values and those of the company are strongly reflected. The foundation for a High-Performance Work System is an encouraging workplace that helps employees enjoy their work and see the value in what they do.

### **2.1.3 Opportunity:**

A wide range of resources and assistance are part of employee support, which helps employees carry out their duties. Providing workers with the information and means they need to do their jobs well. In addition, businesses should make every effort to accommodate their workers' requirements and preferences by offering flexible work schedules. Companies may encourage employees to think outside the box and actively participate in decision-making by creating avenues for them to do so. Improvements in technology can help firms boost internal communication and collaboration (Purcell & Hutchinson, 2007).

### **2.3 Relationship between HPWS and Perceived Employee Performance**

The link between HPWS and perceived employee performance in the workplace has been the subject of a great deal of research. There is strong evidence from a number of studies that HPWS (High Performance Work Systems) boost productivity in the workplace. Appelbaum, Bailey, Berg, and Kalleberg (2000), Combs, Liu, Hall, and Ketchen (2006), Guthrie (2001), Bowen and Ostroff (2004), Huselid (1995), and Wang, Law, Hackett, Wang, and Chen (2021) are the sources that are mentioned. A positive association between the use of HPWS and the overall

performance of enterprises was discovered by Boselie, Dietz, and Boon (2005). Improve your company's efficiency and productivity with the help of High-Performance Work Systems (HPWS). Moreover, research by Bowen and Ostroff (2004) clarifies the relationship between HPWS and employee performance, which includes their mindset and behavior. To what extent a company succeeds depends on the dynamic between attitudes and deeds.

If what Guest claims is true (2017). Productivity gains, happier workers, and better bottom lines are just a few of the benefits of High-Performance Work Systems (HPWS). Many of the academic studies that have looked at how HPWS affect productivity in the workplace have used the AMO model.

Results from research by Jiang, Lepak, Hu, and Baer (2012) showed that HPWS had a positive effect on worker productivity. Individuals' beliefs about their own competence, drive, and opportunities for advancement inside the company had a significant impact on the result. How High-Performance Work Systems (HPWS) are affected by an employee's competency, motivation, and luck is demonstrated in this research.

Findings from the study by Kim, Park, and Cho (2017) demonstrated that HPWS have a positive impact on output. The main characteristics that mitigated this effect were the employee's dedication to the company and contentment with their job. By increasing employee happiness and loyalty to the company, the study shows that High-Performance Work Systems (HPWS) boost effectiveness. The essay emphasizes the complex features of High-Performance Work Systems (HPWS) and how important they are in motivating modern workers.

#### **2.4 Stress**

There are several facets to the human response to stress, including the physiological and psychological. Anxiety happens when a person sees a situation as difficult or scary, or when they feel overwhelmed by the expectations placed on them. Two studies, one by Lazarus and Folkman (1984) and the other by Selye (1974), confirmed the existence of this reaction and demonstrated its link to mental and physiological stress. The

correct execution of duties related to High-Performance Work Systems (HPWS) might be impeded by stress. It has the potential to materialize in reaction to a range of conditions, encompassing the pressures of professional obligations, disputes in interpersonal relationships, and significant events in one's personal life. The stressors identified possess the capacity to hinder the operational effectiveness of High-Performance Work Systems (HPWS) by exerting adverse effects on employee well-being, motivation, and overall performance. This underscores the need to manage stress within the workplace to cultivate the prosperity of these systems.

### **Research Gap**

The existing literature on the relationship between high-performance work systems (HPWS) and perceived employee performance (PEP) has primarily focused on Western contexts and male-dominated industries. There is a dearth of research examining this relationship in the context of Egypt's telecommunications industry, which is characterized by a unique cultural context and a significant female workforce.

### **Research Questions**

- To what extent does the implementation of HPWS influence PEP in the Egyptian telecommunications industry?
- Does the perceived stress level of employees moderate the relationship between HPWS and PEP in the Egyptian telecommunications industry?
- Is there any gender-based differences in the relationship between HPWS, stress, and PEP in the Egyptian telecommunications industry?

### **Potential Contributions**

This study would make several significant contributions to the existing literature: It would provide new insights into the relationship between HPWS and PEP in a non-Western context (Egypt). It would shed light on the moderating role of stress in this relationship. It would explore the potential impact of gender on this relationship. The findings of this study would have important implications for HR practitioners and policymakers in the Egyptian telecommunications industry. By understanding the factors that influence PEP, organizations can design and implement more effective HR practices to improve employee performance and organizational outcomes.

**Research hypotheses**

**HA: Stress moderates the relationship between high-performance working systems according to the AMO model and perceived employee performance**

**2.4.1 Workload:**

widely recognized as a common cause of stress within the professional environment. According to the findings of Leka, Griffiths, and Cox (2004), personnel facing excessive workloads and constrained by limited time are at a higher risk of encountering stress, which can subsequently hinder their ability to perform their job duties efficiently. This highlights the urgent necessity for firms to acknowledge and tackle these variables in order to reduce stress and enhance employee performance and well-being.

**HA1: Workload moderates the relationship between Ability and perceived employee performance.**

**HA2: Workload moderates the relationship between motivation and perceived employee performance.**

**HA3: Workload moderates the relationship between opportunity and perceived employee performance.**

**2.4.2 Organizational culture:**

The concept of organizational culture can potentially contribute to the experience of stress within a work environment. According to Cox and Griffiths (1996), individuals employed in a work setting characterized by high levels of competition, authoritarianism, or bureaucracy may encounter stress.

**HA4: Organizational culture moderates the relationship between Ability and perceived employee performance.**

**HA5: Organizational culture moderates the relationship between Motivation and perceived employee performance.**

**HA6: Organizational culture moderates the relationship between opportunity and perceived employee performance.**



**2.4.3 Interpersonal conflict:**

Deutsch, M., Coleman, P. T., & Marcus, E. C. (Eds.). (2006). Stated that interpersonal conflict includes instances of discord, strain, or contention that emerge among individuals because of differences in their objectives, principles, viewpoints, or conduct. These conflicts may manifest in diverse circumstances, including interpersonal relationships, professional settings, social collectives, or even at a broader societal level. Interpersonal conflict within the workplace can contribute to elevated levels of stress, particularly when it involves colleagues or superiors (Janssen, Van Yperen, & De Jonge, 2004).

**HA7: Interpersonal conflict moderates the relationship between ability and perceived employee performance.**

**HA8: Interpersonal conflict moderates the relationship between motivation and perceived employee performance.**

**HA9: Interpersonal conflict moderates the relationship between Opportunity and perceived employee performance.**

**2.4.4 Role Ambiguity:**

Refers to a situation in which employees experience uncertainty regarding their job tasks and the expectations associated with their employment. This lack of clarity can contribute to heightened levels of stress among individuals (Jackson & Schuler, 1985).

**HA10: Role Ambiguity moderates the relationship between ability and perceived employee performance.**

**HA11: Role Ambiguity moderates the relationship between motivation and perceived employee performance.**

**HA12: Role Ambiguity moderates the relationship between Opportunity and perceived employee performance.**

**2.4.5 Work-life balance:**

According to Greenhaus, J. H., & Allen, T. D. (2011). The concept of work-life balance pertains to the state of equilibrium or harmony achieved when individuals effectively manage and allocate their time and effort between their professional pursuits and personal lives, encompassing family responsibilities, leisure pursuits, and other non-

work-related activities. The challenge of achieving a work-life balance can also serve as a significant stressor (Greenhaus & Beutell, 1985). Numerous studies have shown that elevated stress levels can negatively impact various aspects of employee well-being, including their performance, motivation, and overall state of mind (Bakker & Demerouti, 2017; Spector, 2019; Sonnentag & Frese, 2002).

Stress has been found to harm cognitive functioning, decision-making skills, motivation, and physical health. All these factors collectively contribute to a decrease in employee performance. Work-related stress can have multiple origins, which include but are not limited to job expectations, the degree of control an individual has over their work, and the availability of social support (Karasek, 1979). The importance of organizations addressing these difficulties to cultivate an improved and more efficient work environment is underscored by the complex interplay of pressures.

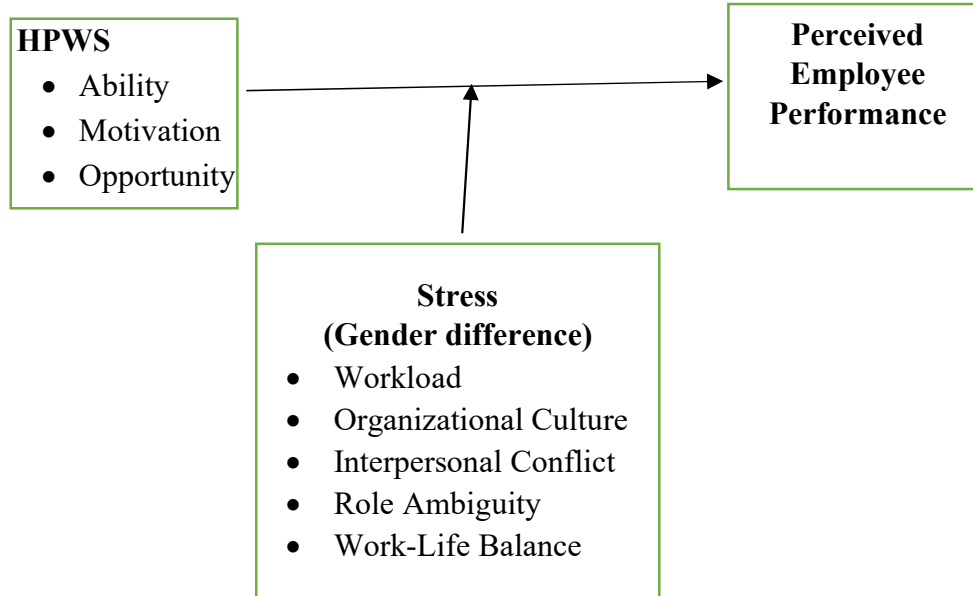
**HA13: Work-life balance moderates the relationship between ability and perceived employee performance.**

**HA14: Work-life balance moderates the relationship between motivation and perceived employee performance.**

**HA5: Work-life balance moderates the relationship between Opportunity and perceived employee performance.**

## **2.5 The moderating effect of stress on the relationship between HPWS and employee performance**

(Kehoe & Wright, 2013; Boswell & Olson-Buchanan, 2007) have explored the potential impact of stress as a moderator in the relationship between High-Performance Work Systems (HPWS) and various employee outcomes, such as job satisfaction and turnover intentions. Halbesleben and Buckley's (2004) study showed that job stress can indeed change the link between HPWS and organizational commitment. Their research showed that HPWS works better at making employees more committed to the company when employees are less stressed about their jobs. There hasn't been a lot of research done in Egypt, though, on how stress affects the relationship between HPWS and employee success, especially when it comes to possible gender differences. These areas of study could be useful for future research that wants to learn more about how these factors affect the Egyptian workforce.



### Conceptual Framework

## 3. Research methods

### 3.1 Research sample and population

Company	Total Employees	Male Employees	Female Employees	Top Management	Middle Management	First Line	Non-Managerial
Telecom Egypt	53,332	39,999	13,333	100	500	10,000	29,432
Vodafone Egypt	20,000	15,000	5,000	75	300	6,000	8,625
Orange Egypt	5,000	3,750	1,250	50	200	3,000	1,000
Etisalat Egypt	4,000	3,000	1,000	30	150	2,000	820
Other telecom companies	10,000	7,500	2,500	100	400	3,000	4,000
<b>Total:</b>	<b>92,332</b>	<b>69,249</b>	<b>23,083</b>	<b>355</b>	<b>1,550</b>	<b>24,000</b>	<b>43,877</b>

Male Employees	Female Employees	Top Management	Middle Management	First Line	Non-Managerial
75.00%	25.00%	0.40%	1.70%	26%	47.50%

**Table (1) Prepared by the researcher based on the Egyptian Ministry of Communications and Information Technology (MCIT).**

### 3.2 Measures

To ensure consistency, a five-point Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree) was employed. The scale items were modified to improve comprehension. To evaluate the high-performance work system, a 12-item scale was developed by Schmitz, J., & Strobl, (2018). Perceived employee performance is an 11-item scale developed by Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012). Job stress was measured at the 25-item scale used by Doreen Sams (2005) and Karatepe, O. M., Kilic, H., & Yavas, U. (2015). Demographic information, including gender, age, role, education, and work experience, was collected from the respondents.

A questionnaire technique has been used to collect data from all levels of managers (Top, middle, first line) and employees of the telecommunication sector in Egypt in the year 2022 representing 92,332 members in telecom companies. According to the previous results, the questionnaire decided to be distributed among the whole population using a stratified random sample of 600 employees. Finally, 462 questionnaires were returned from the surveyed sample. This represents a 77 percent response rate.

### 3.3 Descriptive analysis

Basic descriptive statistics were conducted to ensure that the distortion of the questionnaire response outputs was negligible. The descriptive analysis results (Table 2) illustrated that the mean and the standard deviation are small which revealed that there is only a weak distortion of the collected data for all variables. These results imply some homogeneity of the surveyed sample. The Skewness coefficients are negative which means the surveyed sample is left skewed or the mean is less than the median.

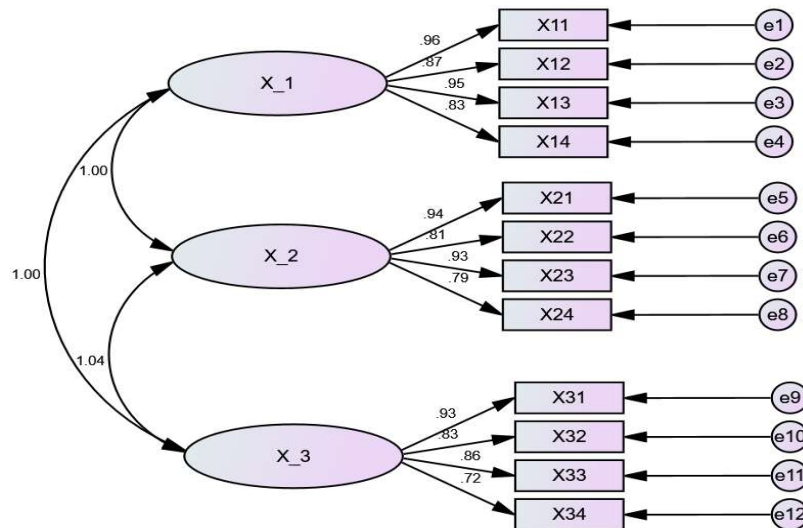
Table (2) – Descriptive analysis

	N	Mean	Std.	Skewness	
	Statistic	Statistic	Deviation	Statistic	Std. Error
			Statistic		
Ability	462	4.5368	.64008	-1.521	.114
Motivation	462	4.3059	.45445	-.403	.114
Opportunity	462	4.3896	.45071	-.611	.114
high-performance working system	462	4.4108	.40605	-.717	.114
Workload	462	4.4848	.60946	-.860	.114
Organizational Culture	462	4.5082	.58578	-.818	.114
Interpersonal Conflict	462	4.5377	.57535	-1.032	.114
Role Ambiguity	462	4.3905	.55163	-.845	.114
Work Life Balance	462	3.9242	.94245	-1.192	.114
Stress	462	4.3691	.50990	-.749	.114
Perceived Employee Performance	462	4.6560	.56318	-.537	.114

3.4 Confirmatory factor analysis

To assess the suitability of the data confirmatory factor analysis (CFA) for evaluating the validity of the data CFA was done.

Figure (1) – CFA path diagram of a high-performance working system (X)

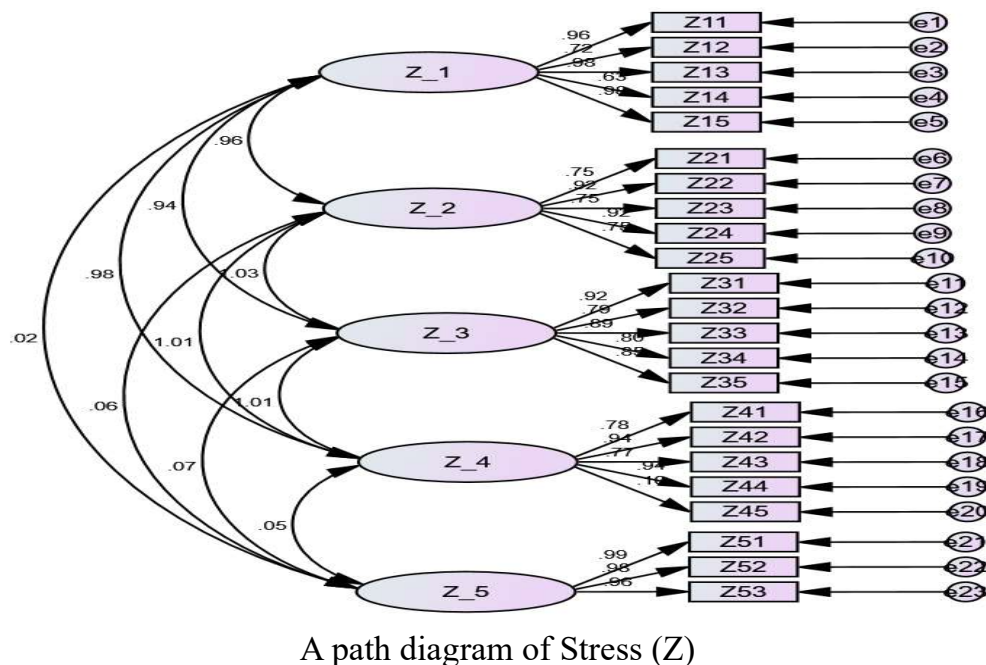


**Table (3) Goodness of fit indices for high-performance working system (X)**

Variable	CMIN/DF	RMSEA	AIC	GFI
for high-performance working system (X)	6.153	0.0842	325.25	0.9041

All goodness-of-fit indices for the high-performance working system (X) were provided in Table 3 for this first application. Afterwards, we will just show a selected portion of the fit statistics. Next, we'll examine how each cluster stacks up against the suggested model. Go over Arbuckle's work from 2007. The first findings are presented using fit statistics. Before moving on to RMSEA, AIC, and CFI, we have a look at the chi-square (CMIN/DF). In order to set a standard for the more important categorical models, the results of the continuous data models are reviewed first. The great majority of replications converged in every case.

**Figure (2) – CF**

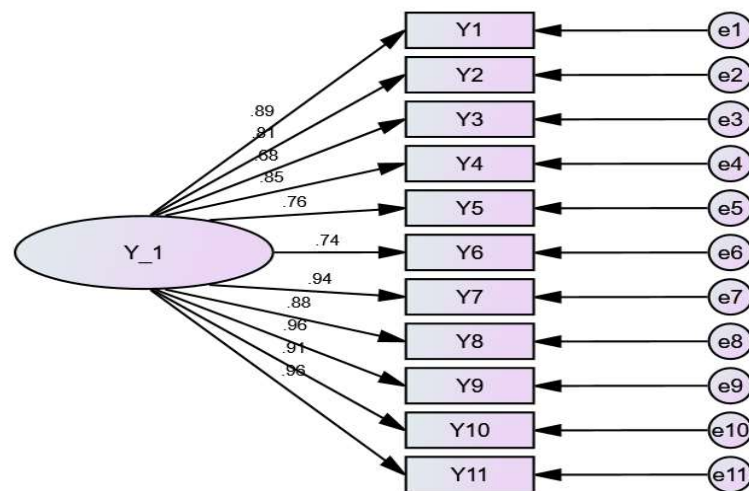


A path diagram of Stress (Z)

**Table (4) Goodness of fit indices for Stress (Z)**

Variable	CMIN/DF	RMSEA	AIC	GFI
Stress (Z)	4.449	0.0709	298.58	0.9115

All of the goodness-of-fit indices for stress (Z) are shown in table (4). Two components were subtracted from Z2 in the first model that was proposed. Going forward, we will only provide a limited set of fit statistics. What follows is an examination of each cluster in light of the suggested model. A fit statistic is used to report the early findings. The chi-square statistic (CMIN/DF) is covered first, then the RMSEA, and finally the AIC and CFI. First, we take a look at the continuous data models to set the stage for the important categorical models. Regardless of the environment, most replications converged.

**Figure (3) – CFA path diagram of Perceived Employee Performance (Y)**

**Table (5) Goodness of fit indices for the Perceived Employee Performance (Y)**

Variable	CMIN/DF	RMSEA	AIC	GFI
Perceived Employee Performance (Y)	8.098	0.0984	389.75	0.9287

For the initially anticipated model, this first application showed the goodness-of-fit indices evaluating the Perceived Employee Performance (Y) in Table (5). This would lead to the provision of just a subset of fit statistics. What follows is an examination of each cluster considering the suggested model. To demonstrate the first outcomes, fit statistics are employed. The chi-square statistic (CMIN/DF) is covered first, then the RMSEA, and finally the AIC and CFI. First, we look at the continuous data models to set the stage for the important categorical models. Most replications consistently arrived at the same result across all scenarios. To find out how reliable the data was for the factor dimensions, Cronbach's alpha was utilized. For every indicator on the scale, a distinct SPSS reliability analysis was carried out (Table 5).



Table (6) – Reliability analysis for sample

Scale	No. of indicators	Cronbach's alpha
Ability	4	0.881
Motivation	4	0.848
Opportunity	4	0.790
<b>All high-performance working system</b>	<b>12</b>	<b>0.879</b>
Workload	5	0.887
Organizational culture	5	0.868
Interpersonal conflict	5	0.872
Role ambiguity	5	0.655
Work-life balance	5	0.895
Stress total	25	0.811
<b>Perceived employee performance</b>	<b>11</b>	<b>0.940</b>

Generally, reliability coefficients (Cronbach's alpha) of 0.6 or higher are considered adequate (Sekaran, 2003). As illustrated in Table (6), since the calculated Cronbach's alpha values range between 0.655 and 0.940 and overall, the research can rely on the collected data for testing the research hypotheses.

### 3.5 Hypotheses testing

To test the research hypotheses, sixteen hypotheses as shown previously were conducted to examine the moderating influence of stress on the relationship between high-performance working systems and perceived employee performance considering gender differences in Egypt.

A multivariate data analysis was used because of the existence of multiple measures of proposed constructs (Hair et al. 2010) to examine the moderating influence of stress on the relationship between high-performance working systems and perceived employee performance considering gender differences in Egypt. Structural equation model (SEM) analysis was used as a way where the moderating influence of stress on the relationship between high-performance working systems and perceived employee performance at the same time and because of this causal model is complex.

Variable	Name
X1	Ability
X2	Motivation
X3	Opportunity
Z1	Workload
Z2	Organizational Culture
Z3	Interpersonal Conflict
Z4	Role Ambiguity
Z5	Work-Life Balance
Y	Perceived Employee Performance

Figure 1 presents SEM diagram from Hypothesis 1 to Hypothesis 15. Table (7) presents the variables included in the model:

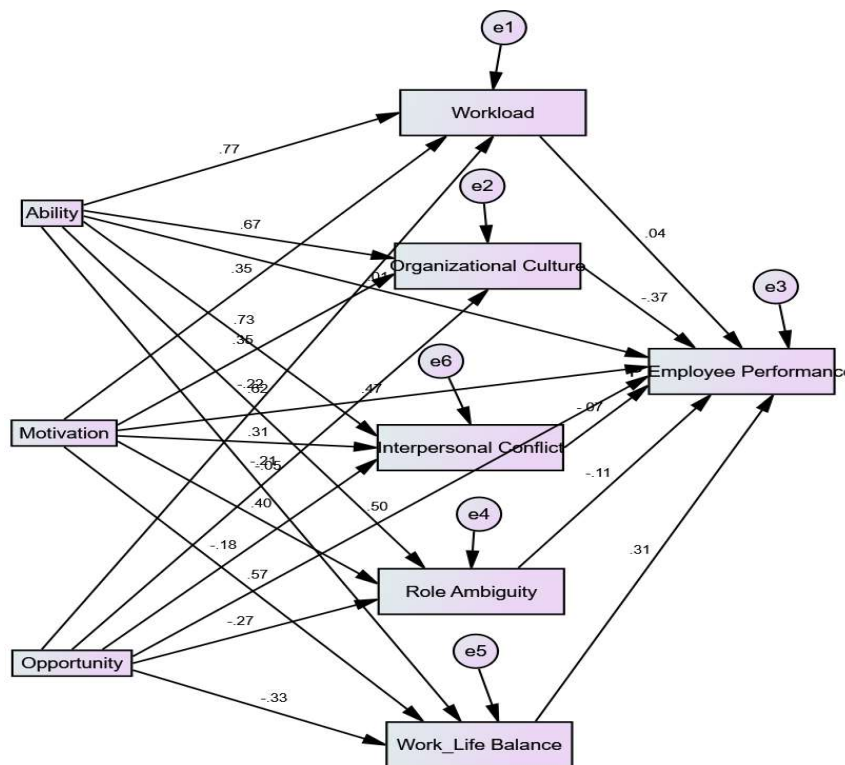


Figure (4) SEM for research hypotheses

**3.6 Moderating effect test:**

Table (8) shows the regression weights for model 1 by observing the critical ratio (C.R) which represents the parameter estimate divided by its standard error; as such, it operates as a z-statistic in testing that the estimate is statistically different from zero. Based on a probability level of significance of 0.05 or 0.01 (Hoelter's, 1983)

**Table (8) Regression Weights of moderating effect test**

		Estimate	S.E.	C.R.	P
ZY <---	ZZ	-.35687871	.04925187	-7.24599247	***
ZY <---	ZX	.79869153	.05093063	15.68194939	***
ZY <---	INT	-.17635426	.03051264	-5.77971175	***

\*\*\* significant at 0.001

Where the INT: interaction between X and Z.

The above table shows that with the inclusion of the interaction effect of the moderating influence of stress on the relationship between high-performance working systems and perceived employee performance, this model has a p-value < 0.05. for the interaction effect which shows that the null hypothesis of having no moderating effect of stress on the relationship between high-performance working systems and perceived employee performance is rejected because the value is less than the significance level of the study i.e. 0.05. Thus, stress works as a moderator variable in influencing high-performance working systems and perceived employee performance.

**Table (9) Standardized Regression Weights**

		Estimate
ZY <---	ZZ	-.35687871
ZY <---	ZX	.79869153
ZY <---	INT	-.22850791

Moreover, the sign of estimate + means direct relation, and - means indirect relation. Table (9) presents the standardized regression weights between variables that were included in the moderating effect test and it was found to be negative see table (9).

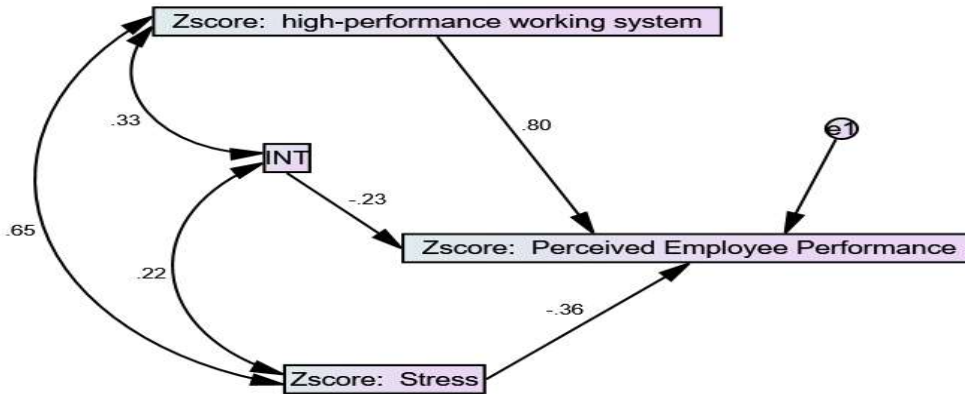


Figure (5) –path diagram of moderating effect test

Table (10) Regression weights for the whole model

			Estimate	S.E.	C.R.	P	Conclusion
Z1	<---	X1	.77224201	.02261051	34.15412172	0.0	significant
Z2	<---	X1	.63722721	.02786458	22.86872140	0.0	significant
Z3	<---	X1	.68203717	.02498933	27.29313901	0.0	significant
Z4	<---	X1	.57719463	.02698260	21.39136757	0.0	significant
Z5	<---	X1	-.08560443	.05961124	-1.43604503	.15098953	Not significant
Z1	<---	X2	.49227510	.03184634	15.45782176	0.0	significant
Z2	<---	X2	.47405426	.03924657	12.07887119	0.0	significant
Z3	<---	X2	.39914949	.03519685	11.34048834	0.0	significant
Z4	<---	X2	.52276116	.03800432	13.75530765	0.0	significant
Z5	<---	X2	1.37080654	.08396097	16.32671227	0.0	significant
Z1	<---	X3	-.31038284	.03211056	-9.66606760	0.0	significant
Z2	<---	X3	-.28521907	.03957218	-7.20756469	0.0	significant
Z3	<---	X3	-.23848900	.03548887	-6.72010758	0.0	significant
Z4	<---	X3	-.35210016	.03831963	-9.18850603	0.0	significant
Z5	<---	X3	-.79288032	.08465756	-9.36573591	0.0	significant
Y	<---	Z1	.03163585	.04352242	.72688618	.46729568	Not significant
Y	<---	Z2	-.32662207	.03531595	-9.24857054	0.0	significant
Y	<---	Z3	-.06172761	.03937937	-1.56751119	.11699525	Not significant
Y	<---	Z4	-.09766664	.03647032	-2.67797576	.00740686	significant
Y	<---	Z5	.15534254	.01650803	9.41012122	0.0	significant
Y	<---	X1	.00630606	.05699974	.11063306	.91190733	Not significant
Y	<---	X2	.55102917	.05241723	10.51236756	0.0	significant
Y	<---	X3	.59968646	.04010903	14.95140911	0.0	significant

Critical value (CR) (see Hoelter's .05 and .01 indices), then, the test statistic needs to be more than  $\pm 1.96$  before the hypothesis (that the estimate equals 0.0) can be rejected see Table (10). We note that in reviewing the unstandardized estimates, all are statistically significant given C.R. values  $> \pm 1.96$  before the hypothesis (that the estimate equals 0.0) can be rejected.

variables	Effect	X3	X2	X1	Z5	Z4	Z3	Z2	Z1
Z5	Total	-.3275973	.57108027	-.05023038	.00000000	.00000000	.00000000	.00000000	.00000000
	Direct	-.32759731	.57108027	-.05023038	.00000000	.00000000	.00000000	.00000000	.00000000
	Indirect	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000
Z4	Total	-.26611251	.39837373	.61952515	.00000000	.00000000	.00000000	.00000000	.00000000
	Direct	-.26611251	.39837373	.61952515	.00000000	.00000000	.00000000	.00000000	.00000000
	Indirect	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000
Z3	Total	-.18092006	.30531087	.73479128	.00000000	.00000000	.00000000	.00000000	.00000000
	Direct	-.18092006	.30531087	.73479128	.00000000	.00000000	.00000000	.00000000	.00000000
	Indirect	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000
Z2	Total	-.20965812	.35135770	.66521957	.00000000	.00000000	.00000000	.00000000	.00000000
	Direct	-.20965812	.35135770	.66521957	.00000000	.00000000	.00000000	.00000000	.00000000
	Indirect	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000
Z1	Total	-.21834083	.34916719	.77148636	.00000000	.00000000	.00000000	.00000000	.00000000
	Direct	-.21834083	.34916719	.77148636	.00000000	.00000000	.00000000	.00000000	.00000000
	Indirect	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000	.00000000
Y	Total	.50979961	.46342378	-.34378868	.31474792	-.10818133	-.06811868	-.37197826	.03764847
	Direct	.50202968	.46512325	.00749722	.31474792	-.10818133	-.06811868	-.37197826	.03764847
	Indirect	.00776993	-.0016994	-.35128591	.00000000	.00000000	.00000000	.00000000	.00000000

**Table (11) Standardized Total – Direct – Indirect Effects**

Table (11) presents the total standardized effects that were divided into two categories: standardized direct effect and standardized indirect effect for ability, motivation, and opportunity as independent variables and workload, organizational culture, interpersonal conflict, interpersonal conflict, role ambiguity, work-life balance as moderating variables on perceived employee performance and the standardized value measure the partial correlation.

The standardized direct effects for ability, motivation, and opportunity as independent variables and workload, organizational culture, interpersonal conflict, interpersonal conflict, role ambiguity, and work-life balance as moderating variables on perceived employee performance. Moreover, the standardized indirect effects of ability, motivation, and opportunity as independent of perceived employee performance through the moderating variables workload, organizational culture, interpersonal conflict, interpersonal conflict, role ambiguity, and work-life balance were presented.

It was found that ability has a significant effect on each of the following moderating variables, workload (0.771), organizational culture (0.665), interpersonal conflict (0.734), and role ambiguity (0.619), so, we can say that it has only a significant indirect effect for ability on perceived employee performance (-0.351285) through the moderating variables workload, organizational culture, interpersonal conflict, role ambiguity but no significance for the work-life balance (-.050230) this means that the increase of the moderating variables will cause a decrease in perceived employee performance.

Opportunity has a negative effect on each of the following moderating variables, workload (-0.218), organizational culture (-0.209), interpersonal conflict (-0.180), role ambiguity (-0.266), and work-life balance (-.0.327) so, we can say that it has only a significant direct effect for opportunity on perceived employee performance through the moderating variables. Moreover, the standardized indirect coefficient sign is positive (0.007). This means that the increase of the moderating variables will cause an increase in perceived employee performance. Unlike the ability and motivation. (- 0.00169)

Thus, stress works as a moderating variable in influencing the high-performance working systems and the perceived employee performance table (8) presents the standardized regression weights between variables that were included in the moderating effect test, and it was found to be negative so we can say that when the stress decreased it is lead to the existence of high-performance working systems and perceived employee performance.

### 3.7 Checking model goodness of fit

**Table (12) Model (1) goodness of fit indices**

Index	CMIN/DF	RMSEA	AIC	CFI	GFI
	1.85	0.0884	50.8	0.908	0.95

All goodness-of-fit statistics were provided for the initially hypothesized model in this first application; hereafter, only a selected group of fit statistics will be reported. We turn now to an examination of each cluster, as they relate to the hypothesized model (see table 8). (Arbuckle, 2007). Finally, it could be concluded that a linear regression is calculated. The results provide empirical evidence for verifying the hypotheses as in Table (15)

**Table (13) – Research hypotheses results**

Hypotheses		Variables			Hypothesis Result
		Dependent	Independent	Moderating	
HA1	Workload moderates the relationship between Ability and perceived employee performance.	Y	X1	Z1	Accepted
HA2	Workload moderates the relationship between motivation and perceived employee performance	Y	X2	Z1	Accepted
HA3	Workload moderates the relationship between opportunity and perceived employee performance	Y	X3	Z1	Rejected
HA4	Organizational culture moderates the relationship between Ability and perceived employee performance.	Y	X1	Z2	Accepted
HA5	Organizational culture moderates the relationship between Motivation and perceived employee performance	Y	X2	Z2	Accepted
HA6	Organizational culture moderates the relationship between opportunity and perceived employee performance.	Y	X3	Z2	Rejected
HA7	Interpersonal conflict moderates the relationship between ability and perceived employee performance	Y	X1	Z3	Accepted
HA8	Interpersonal conflict moderates the relationship between motivation and perceived employee performance.	Y	X2	Z3	Accepted
HA9	Interpersonal conflict moderates the relationship between Opportunity and perceived employee performance.	Y	X3	Z3	Rejected
HA10	Role Ambiguity moderates the relationship between ability and perceived employee performance.	Y	X1	Z4	Accepted
HA11	Role Ambiguity moderates the relationship between motivation and perceived employee performance.	Y	X2	Z4	Accepted
HA12	Role Ambiguity moderates the relationship between Opportunity and perceived employee performance.	Y	X3	Z4	Rejected
HA13	Work-life balance moderates the relationship between ability and perceived employee performance.	Y	X1	Z5	Rejected
HA14	Work-life balance moderates the relationship between motivation and perceived employee performance.	Y	X2	Z5	Rejected
HA15	Work-life balance moderates the relationship between Opportunity and perceived employee performance.	Y	X3	Z5	Rejected

HB: The moderating effect of stress on the relationship between high-performance working systems according to the AMO model and perceived employee performance will be stronger for females than for males.

Analysis of covariance (ANCOVA) is used to test HB the difference between females and males due to (Gender) of the moderating effect of stress on the relationship between high-performance working systems according to the AMO model and perceived employee performance, the results are shown as follows:

**Table (14) ANCOVA**  
Tests of Between-Subjects Effects

Source		Mean Square	F	Sig.	Decision
Intercept	Hypothesis	.843	7.251	.007	Significant
	Error	.116			
X	Hypothesis	12.669	111.672	.000	Significant
	Error	.113			
Gender	Hypothesis	.009	2.680	.028	Significant
	Error	.111			
Z	Hypothesis	1.212	11.339	.000	Significant
	Error	.107			
Gender * Z	Hypothesis	.103	3.907	.036	Significant
	Error	.712			

From Table (14) it was found that:

- 1- Since the  $\text{sig} < \alpha = 0.05$  about testing the relation between high-performance working systems according to the AMO model and perceived employee performance, we can say that there is a significant relation between family motivation and job insecurity on the interpersonal competition overall (proved in the hypothesis before).
- 2- Since the  $\text{sig} < \alpha = 0.05$  about testing the difference between males and females (Gender), there is a moderating effect of stress on the relationship between high-performance working systems according to the AMO model and perceived employee performance will be different for females than for males.



#### 4. Discussion and research findings

The study aimed to investigate the moderating effect of stress on the relationship between high-performance working systems according to the AMO model (Ability, Motivation, and Opportunity) and perceived employee performance, while also considering gender differences in the context of the telecom sector in Egypt. The research population consisted of all levels of managers and employees in telecom companies, and a stratified random sample of 600 employees was surveyed, with a 77 percent response rate.

The descriptive analysis indicated that the collected data exhibited low distortion, suggesting homogeneity within the surveyed sample. Negative skewness coefficients (-1.521) indicated a left-skewed distribution, with means generally smaller than medians. Confirmatory Factor Analysis (CFA) was conducted to assess the validity of the data for high-performance working systems (X), stress (Z), and perceived employee performance (Y). The goodness of fit indices for the CFA models demonstrated satisfactory fit, supporting the validity of the measurement models. Reliability analysis using Cronbach's alpha showed acceptable internal consistency for the measurement scales, ranging from 0.655 to 0.940. These values suggested that the data collected were reliable for testing research hypotheses. In consideration of gender differences, sixteen hypotheses were tested using structural equation modeling (SEM) to investigate the moderating effect of stress on the relationship between HPWS and perceived employee performance.

The significant positive influence of HPWS on PEP aligns with established theory, suggesting that practices fostering employee ability, motivation, and opportunity foster enhanced performance. Conversely, factors like workload, organizational culture, interpersonal conflict, and role ambiguity findings revealed that high levels of stress can significantly weaken the positive impact of HPWS on employee performance.

**The research hypotheses were tested, and the results are summarized as follows:**

- Workload, organizational culture, and role ambiguity moderated the relationship between all three independent variables and perceived employee performance (accepted in HA1, 2, 4, 5, 7, 8, 10, 11). This suggests that the impact of ability, motivation, and opportunity on

perceived performance can be strengthened or weakened depending on the level of workload, organizational culture, and role ambiguity.

- Interpersonal conflict moderated the relationship between ability and motivation with perceived employee performance (accepted in HA7, 8), but not with opportunity (rejected in HA9). This suggests that high interpersonal conflict can hinder the positive effects of ability and motivation on performance, while opportunity's effect remains unaffected.
- Work-life balance did not moderate the relationship between any of the independent variables and perceived employee performance (all rejected in HA13, 14, 15). This suggests that work-life balance does not significantly influence the impact of ability, motivation, or opportunity on employee performance.
- Workload: High workload appears to weaken the positive effects of ability, motivation, and opportunity on performance.
- Organizational culture: Strong organizational culture seems to amplify the positive effects of ability, motivation, and opportunity on performance.
- Interpersonal conflict: High interpersonal conflict can hinder the positive impacts of ability and motivation, making it harder for employees to perform well even if they have the skills and drive.
- Role ambiguity: Unclear job roles can weaken the positive effects of ability, motivation, and opportunity on performance.
- Gender Differences: The moderating influence of stress on the link between high-performance working systems and perceived employee performance was also studied in the study concerning gender disparities. This moderating impact differed significantly between males and females, according to the analysis of covariance (ANCOVA). According to the study, men were more affected by stress's moderating effects than women were.

In the unique context of Egypt's telecommunications industry, the study's findings provide light on the complex interplay between HPWS, PEP, and the moderating effect of stress. The discussion will link these results to the current literature and the theories developed from the literature review.

#### **Perceived Employee Performance (PEP) and HPWS:**

The review of relevant research (Combs et al., 2006; Appelbaum et al., 2000; Huselid, 1995) has established a strong association between employee performance and High-Performance Work Systems (HPWS). The research findings confirm the association and highlight the need to incorporate High-Performance Work Systems (HPWS) that are in line with the concepts of opportunity, motivation, and capability (AMO model) into HPWS. This alignment ensures favorable results by enhancing staff capabilities, motivation, and overall productivity.

#### **Moderating Effect of Stress:**

Based on research by Boswell and Olson-Buchanan (2007) and Kehoe and Wright (2013), this review looks at how stress may have affected the link between HPWS and employee outcomes. This finding lends credence to the idea that stress functions as a moderator, clarifying the effects of certain stressors on the various parts of the AMO model. According to the research, some of the most important causes of stress in the workplace are heavy workloads, toxic work environments, interpersonal conflicts, and unclear job descriptions. There is a strong correlation between HPWS and PEP, however these variables significantly alter that correlation.

#### **Gender Differences:**

This literature evaluation demonstrates the need for more study into non-Western contexts and businesses with a large female workforce in order to fully understand the relationship between HPWS and PEP. This report fills that gap by investigating Egypt's telecom market. The results show that stress has different effects on men and women, with the former feeling its effects more strongly. This highlights the need of taking cultural and gender-specific aspects into account when analyzing how organizational changes impact employee performance.

#### **Integration of AMO Model and Stress Moderation:**

According to Appelbaum et al. (2000), who conducted the literature evaluation, the AMO model provides a theoretical basis for comprehending HPWS. Researchers in this study show how stress affects HPWS workers' abilities, motivation, and prospects by including a stress

moderation strategy in this model. As the study shows, load influences the relationship between ability and perceived employee performance, highlighting the complex interaction between organizational practices, individual qualities, and external stresses.

#### **Implications for HR Practitioners and Policymakers:**

Research findings have real-world implications for HR managers and government officials in Egypt's telecom sector, according to the study's commentary. When businesses learn how different stressors affect the relationship between HPWS and PEP, they may tailor their approach accordingly. Improving the effectiveness of High-Performance Work Systems (HPWS) and, by extension, employee performance, can be achieved by addressing workload-related concerns and fostering a supportive work environment.

#### **5. Recommendations**

The research's conclusions have important ramifications for Egyptian telecom firms, particularly concerning their efforts to maximize operational effectiveness and increase labor productivity. The primary duties encompass:

Egyptian telecommunications companies should use caution while assigning tasks to their employees. An excellent strategy to help employees better manage their duties is to implement procedures that ensure a fair and logical distribution of their tasks. Another option is to provide educational and developmental programs.

**Establishing an Optimal Work Environment:** To optimize employee performance, it is crucial to give priority to the development of a favorable organizational culture. Human resource and leadership tactics involve promoting open and genuine communication, including workers in decision-making, and creating a work atmosphere defined by trust and respect.

The ability to properly manage interpersonal difficulties is essential in addressing and resolving disagreements among individuals. Offering staff training in conflict resolution and interpersonal skills, while cultivating a collaborative culture, may amplify their cooperation and productivity. Job descriptions should aim to be concise and precise, and employers should make a strong effort to effectively explain job requirements to their employees. Providing regular feedback and clear communication on responsibilities and performance goals can effectively decrease stress and improve productivity in these areas.

Considering the unique effects of stress on males and females, it would be wise for telecommunications companies to consider creating tailored support programs to meet the special needs of men. To enhance effective stress management among male employees, potential interventions might encompass stress management training, employee assistance programs, and flexible work hours.

Businesses should continuously participate in monitoring and evaluation to guarantee the long-term efficacy of their activities. To effectively tackle the growing demands and problems of the workplace, it is imperative to get input from employees, regularly monitor key performance indicators, and make appropriate modifications accordingly.

#### **6. Contribution to the Literature:**

By including gender as a moderator variable, this study fills a gap in our understanding of how HPWS relates to PEP in non-Western contexts, thereby expanding our understanding of the topic. To better understand the elements that influence employee performance, the research improves upon the standard AMO model by factoring in the effect of stress. While implementing and researching organizational solutions, it is crucial to consider industry-specific and cultural aspects.

#### **7. Further Research**

The results of this study should motivate researchers to look into additional factors that might affect telecom workers' productivity in the future.

The specific mechanisms by which stress affects performance and gender-related inequalities might be the subject of future research.

Encouraging the sharing of data: It is a deliberate move to promote information sharing among Egypt's telecom providers. By sharing what has worked and what hasn't, this research can improve working conditions and staff productivity, which in turn boosts the sector's overall performance.

Employee Education: Consider putting in place educational initiatives that assist staff members in managing stress. These courses may cover stress management, time management, and resilience building. The organization's training and development programs may incorporate any or all of these topics.

In summary, this research offers significant perspectives for Egyptian telecommunications firms. Businesses may maximize employee performance and foster a healthier, more productive work environment by implementing these suggestions. This can therefore result in better company outcomes and employee wellbeing.

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