



***MASTER'S DEGREE PROGRAMME IN BUSINESS
ADMINISTRATION***

Postgraduate Dissertation:

***“The role of learning culture in shaping employee job
satisfaction and engagement: An empirical investigation in the
technology sector”***

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Patras, Greece, “September” “2026”

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“Dedicated to my wife and son, whose unwavering presence has been my compass and my strength, guiding my path with clarity and purpose”

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Abstract

The present study focuses on the relationship between learning organization culture, job satisfaction, and work engagement among employees in the technology sector. The technology sector faces many rapid changes, while employees need to continuously develop their skills, with organizational learning culture being an equally important factor that can influence employees' attitudes. The study focuses on analyzing how a learning-oriented approach can lead to high levels of employee satisfaction and engagement. For that purpose, a quantitative research study was conducted using a questionnaire which was distributed to 100 employees in the technology sector. The questionnaire consisted of the Utrecht Work Engagement Scale (UWES), the Dimensions of the Learning Organization Questionnaire (DLOQ), and the Job Satisfaction Survey (JSS). The SPSS program was used to analyze the data using descriptive statistics, Pearson correlation, linear regression, and moderation analysis. Overall, the findings revealed a statistically significant, strong, and positive relationship between organizational learning culture and job satisfaction, as well as work engagement. Additionally, learning culture was found to be a statistically significant predictor of the variables, while organizational level was one of the strongest contributors among the different learning dimensions. Additionally, the moderation analysis revealed that education level could not statistically significantly affect the relationship between learning culture and work engagement. Overall, the findings highlight that learning culture is highly important in enhancing employees' attitudes and creating a supportive environment that can lead to high levels of satisfaction, engagement, and effectiveness.

Keywords: *Learning culture, job satisfaction, engagement, technology sector*

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«Ο ρόλος της μαθησιακής κουλτούρας στη διαμόρφωση της εργασιακής ικανοποίησης και της εργασιακής κινητοποίησης: Μια εμπειρική έρευνα στον τεχνολογικό κλάδο»

«Γεώργιος Αθανασίου»

Περίληψη

Η παρούσα μελέτη επικεντρώνεται στη σχέση μεταξύ της κουλτούρας οργανισμού μάθησης, της εργασιακής ικανοποίησης και της εργασιακής δέσμευσης των εργαζομένων στον τεχνολογικό τομέα. Ο τεχνολογικός τομέας αντιμετωπίζει πολλές και ταχείες αλλαγές, ενώ οι εργαζόμενοι χρειάζεται να αναπτύσσουν συνεχώς τις δεξιότητές τους, με την οργανωσιακή κουλτούρα μάθησης να αποτελεί έναν εξίσου σημαντικό παράγοντα που μπορεί να επηρεάσει τις στάσεις των εργαζομένων. Η μελέτη επικεντρώνεται στην ανάλυση του τρόπου με τον οποίο μια προσέγγιση προσανατολισμένη στη μάθηση μπορεί να οδηγήσει σε υψηλά επίπεδα εργασιακής ικανοποίησης και δέσμευσης των εργαζομένων. Για τον σκοπό αυτό πραγματοποιήθηκε ποσοτική έρευνα μέσω ερωτηματολογίου, το οποίο διανεμήθηκε σε 100 εργαζομένους στον τεχνολογικό τομέα. Το ερωτηματολόγιο αποτελούνταν από την Κλίμακα Εργασιακής Δέσμευσης της Ουτρέχτης (Utrecht Work Engagement Scale - UWES), το Ερωτηματολόγιο Διαστάσεων του Οργανισμού Μάθησης (Dimensions of the Learning Organization Questionnaire - DLOQ) και την Κλίμακα Εργασιακής Ικανοποίησης (Job Satisfaction Survey - JSS). Το πρόγραμμα SPSS χρησιμοποιήθηκε για την ανάλυση των δεδομένων μέσω περιγραφικής στατιστικής, συσχέτισης Pearson, γραμμικής παλινδρόμησης και ανάλυσης μετριάσμου. Συνολικά, τα ευρήματα αποκάλυψαν μια στατιστικά σημαντική, ισχυρή και θετική σχέση μεταξύ της οργανωσιακής κουλτούρας μάθησης και της εργασιακής ικανοποίησης, καθώς και της εργασιακής δέσμευσης. Επιπλέον, η κουλτούρα μάθησης βρέθηκε να αποτελεί στατιστικά σημαντικό προβλεπτικό παράγοντα των μεταβλητών, ενώ το οργανωσιακό επίπεδο ήταν ένας από τους ισχυρότερους συντελεστές μεταξύ των

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διαφορετικών διαστάσεων μάθησης. Επιπρόσθετα, η ανάλυση μετριάσμου αποκάλυψε ότι το επίπεδο εκπαίδευσης δεν μπορούσε να επηρεάσει στατιστικά σημαντικά τη σχέση μεταξύ της κουλτούρας μάθησης και της εργασιακής δέσμευσης. Συνολικά, τα ευρήματα αναδεικνύουν ότι η κουλτούρα μάθησης είναι ιδιαίτερα σημαντική για την ενίσχυση των στάσεων των εργαζομένων και τη δημιουργία ενός υποστηρικτικού περιβάλλοντος που μπορεί να οδηγήσει σε υψηλά επίπεδα ικανοποίησης, δέσμευσης και αποτελεσματικότητας.

Λέξεις-Κλειδιά: Μαθησιακή κουλτούρα, ικανοποίηση από την εργασία, δέσμευση, τεχνολογικός τομέας

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1. Introduction

1.1 Problem Definition

Undoubtedly, the role of learning culture in employee satisfaction and dedication is crucial and constitutes a topic of high research importance. A learning culture, where continuous learning and development are a priority, enhances employee devotion, pleasure and engagement by promoting a sense of progression, autonomy, teamwork, innovation, recognition, reward and organizational support, which lead to higher commitment and better performance in the company. This means that satisfaction arises from factors such as the satisfactory salary, development opportunities, support from managers, friendly and enjoyable working environment, and training chances, which make employees feel valuable and capable of performing their work. So, a learning culture affects in a positive way job satisfaction, performance and devotion, because through a set of practices and behaviors that encourage people to learn, develop and share knowledge, many opportunities for ongoing training are developed, making employees feel they are evolving in corporation activities and procedures and their skills are improving. Thus, employees feel satisfied with their work, as their job satisfies their needs, expectations, and values, leading to increased productivity, self-confidence, and overall well-being, physical and mental. Also, when an organization cultivates an environment where learning, development, and knowledge sharing are considered an important part of business processes, this procedure directly affects how employees feel about their work and this approach encourages employees to take more initiatives and learn from their mistakes, enhancing a sense of control and self-confidence. Moreover, this strategy creates an environment where knowledge sharing and collaboration are considered fundamental, strengthening bonds between employees. Furthermore, a genuine learning culture gives people the feeling that they are evolving and encourages

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new ideas and experimentation, making work more interesting and less repetitive (Bozkus, 2023).

Additionally, when knowledge is shared effortlessly, collaboration and a sense of “belonging” are enhanced. People feel like they are part of a community and when someone feels empowered, supported, and part of a living organization, job satisfaction naturally rises. In addition to this, employees feel like they are contributing to something greater, strengthening their commitment. Therefore, a strong learning culture constitutes a critical factor in creating a work environment where employees want to be, learn and actively contribute, leading to mutual benefits.

Overall, the issue concerns how the cultivation of a learning culture can act as a lever for improving job satisfaction, positively influencing both individual well-being and the overall performance of the organization.

Especially, learning culture is a main factor for job satisfaction in the technology field as companies in this sector have to face the challenges of the rapid development of artificial intelligence. In the technology industry, the ability to learn new and innovative working methods and procedures is not just a given, but a non-negotiable demand for the continuous improvement of working skills. Employees who are supported in their personal and professional development feel more connected to the organization and form a deeper relationship of trust and loyalty. Also, providing ongoing training in new technologies, such as Artificial Intelligence, turns job insecurity into optimism, with employees viewing technology as an empowerment tool, which improves and upgrades their job abilities and expands their working skills within the organization. Learning not only reduces anxiety and uncertainties but also fosters a more optimistic behavior towards the execution of working duties. Finally, the utilization of Artificial Intelligence technologies is important for the creation of personalized development plans, focused on the real needs, abilities, weaknesses, expectations and aspirations of each employee. When workers receive targeted support, they feel that the organization recognizes their

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uniqueness and their needs and for this reason a much deeper relationship of trust and loyalty is created within the company. This increases their job engagement and performance, given that employees develop working abilities that meet the real demands of their job position. Thus, Artificial Technology tools act as an important catalyst for more effective talent evolution and more sustainable job engagement, dedication and satisfaction (Liang, Fan and Wang, 2025).

1.2 Research Objectives and Questions

The main research objectives of this dissertation are the following:

- The examination of the relationship between the learning culture and the job satisfaction of employees in the technology sector.
- The further investigation of the relation between learning culture and employee engagement, devotion and loyalty.
- The identification of the parameters of learning culture that affect job satisfaction and dedication to a greater extent.
- The determination for the fact that job satisfaction mediates the relation between ongoing learning opportunities in the context of corporate procedures and employee commitment.

There is no doubt that the significance of learning culture at work constitutes a determining parameter in the modern technology sector, where rapidly changing environments dominate and demanding job skills are needed. When employees have unlimited access to emerging chances for professional development, training, empowerment, upgrade, evolution and promotion, then they feel that the organization focuses on their professional progress. This tactic enhances their sense of self-efficacy, self-confidence, professional autonomy, reduces anxiety related to job needs, and increases trust and commitment to the entity. Learning is not only a means of improving

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working skills, but also a significant source of job satisfaction. Employees who learn systematically have the great feeling that they are developing, that they are recognized, and that they have a perspective for new and promising roles and working responsibilities, as well as for rapid professional progress. This positive experience contributes importantly to job satisfaction, development and recognition, creating positive emotions, commitment, and intention to remain in the firm.

Also, the basic research questions in the context of this study are the below:

RQ1. What is the relationship between the total learning organization attitude (DLOQ total) and employees' overall job satisfaction (JSS total)?

RQ2. What is the relationship between the total learning organization attitude (DLOQ total) and employees' overall work engagement (UWES total)?

RQ3. What is the relationship between the total learning organization attitude (DLOQ total) and the dimensions of work engagement (vigor, dedication, absorption)?

RQ4. What is the relationship between the total learning organization attitude (DLOQ total) and the dimensions of job satisfaction (pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work, communication)?

RQ5. To what extent does the total learning organization attitude (DLOQ total) predict (a) overall work engagement (UWES total) and (b) overall job satisfaction (JSS total)?

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1.3 The Importance of the Topic

The significance of the examined topic in the context of such dissertation is based on the growing strategic need of organizations to transform their intra-organizational environments into learning ecosystems that function not only as mechanisms for knowledge transmission but also as main foundations for shaping psychological engagement and empowerment of employees, as in conditions of digital transition and increased cognitive demand, traditional work is destabilized and organizational performance is inextricably linked to the quality of internal cultural practices. This topic constitutes a crucial intersection of organizational theory, human resource management and behavioral psychology, given that the cultivation of continuous learning is not a simple educational practice, but a prerequisite for strengthening internal motivation, preventing burnout, reducing job stress and exhaustion and enhancing active participation in organizational development.

Furthermore, the study of learning culture as a variable that systematically influences commitment and satisfaction contributes significantly to the deconstruction of single-factor perceptions of work behavior and proposes a unified, conceptually coherent view of work as a dialectical relationship between culture and subjective experience, with practical implications for talent retention policy, reducing attrition and enhancing the psychological safety and self-confidence of employees (Schaufeli, Salanova, González-Romá and Bakker, 2002).

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1.4 Structure of the Dissertation

For the needs and goals of this dissertation, the structure is as follows:

The first chapter constitutes in fact an introductory approach, describing the definition of the examined issue, which is the importance of learning culture in job satisfaction and engagement, the most important research purposes and questions, the importance and the value of investigated topic, as well as the structure of this study.

The second chapter is the main literature review regarding the learning organization culture and the approaches of job satisfaction and commitment, with the ultimate intention of bridging the research gap concerning the direct relationship between ongoing learning culture and employee job satisfaction and engagement in the technology sector.

The third chapter describes mainly the research methodology, the data collection procedures, the sampling tactic, the data analysis strategies, as well as the most significant ethical considerations.

The fourth chapter refers to the descriptive statistics, the inferential statistics and correlations, as well as to the explanations of results.

The fifth chapter of this dissertation presents the most important conclusions, theoretical and practical and the basic limitations, as well as the main suggestions for further future research.

Finally, the main bibliographical references are listed.

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2. Literature Review: Theoretical Foundations of Learning Culture, Job Satisfaction, and Engagement.

2.1 Theoretical Frameworks of Organizational Learning

Indisputably, the theoretical frameworks of organizational learning lead to an important conclusion and finding:

The more an organization cultivates and promotes continuous and efficient learning, dialogue, collaboration, professional development, progress and advancement and focuses on the psychological safety and professional satisfaction and well-being of employees, the more their job satisfaction and commitment to the organization increases. Learning therefore creates a strong sense of perspective, recognition, reward, dedication, involvement and greater participation in corporate processes, decisions and activities — elements that significantly enhance professional euphoria and work commitment.

However, these theoretical approaches of organizational learning offer different perspectives on how organizations create, share and utilize knowledge, and how such frameworks affect the job development and performance of employees. The connection between these important theoretical frameworks of organizational learning and job satisfaction, especially in the technology sector, is particularly interesting and high, because technology requires continuous skill renewal, adaptability, and a culture of innovation.

In this sub-chapter of the dissertation, the most common and important approaches to organizational learning will be presented, which contribute to the improvement of the work skills of employees in the technological sector, thus reducing job insecurity, enhancing their self-efficacy and professional performance and productivity, further cultivating professional and future prospects for professional development and

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advancement, but also increasing work commitment and satisfaction to a great extent in our days.

First of all, single-loop learning, as described by Argyris & Schön (1996), is the most basic form of organizational learning and constitutes an important approach in the technology sector. In other words, single-loop learning occurs when an organization identifies an error or deviation from a purpose and proceeds to correct and improve the behavior, but without questioning or reexamining the underlying assumptions, values, or norms that led to the error or to the omission. This means that the action is changed, but not the reason behind it. A simple example of this method explains that when a system produces an incorrect result, single-loop learning will attempt to correct the result, without considering the way that this system needs to be changed. As a result, in this case, this approach constitutes a strategy for identifying and correcting problems, while maintaining the existing design, goals and rules of the organization.

More specifically, in the technology field, employees are constantly faced with new tools, systems, technologies, advancements, rapid and radical changes, and requirements (Bakker & Demerouti, 2017). Single-loop learning helps people quickly fix mistakes, adapt their behavior, and improve their performance without having to overhaul entire processes (Argyris and Schön, 1997). This strategy has three very important and positive effects on job satisfaction. Firstly, it reduces anxiety, doubts and uncertainty. When employees can fix problems quickly and improve results directly, they feel more efficient and productive in their work. In the technology industry, where time pressure is intense, this approach increases a sense of security and stability. It boosts self-efficacy and confidence of employees. The ability to solve and face problems in an effective way in the context of the organization without making deep changes to systems boosts certainly the self-confidence of workers. Employees feel satisfied when they feel that their skills are improved and that they can meet the demands of their job position better (Li, Yang and Shih, 2021). Also, this learning framework creates a sense of evolution and development in the technology sector, where learning is a daily necessity in corporate

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activities and procedures and this sense of progress contributes significantly to higher job satisfaction and engagement (Barile *et al.*, 2023).

On the other hand, double-loop learning constitutes the formation of a method for the same purpose, but by reconsidering, questioning and radically changing the possible goals, the policies for achieving them, the rules and principles of the organization (Argyris, 2004). Nevertheless, this framework is considered critical to enhancing job satisfaction in the technology sector (Clark, 2021). Unlike single-loop learning, which focuses on correcting errors based on predetermined rules, double-loop learning encourages employees to question the subjective assumptions, values, and strategies that affect their actions decisively (Argyris, 1991).

This means that double loop learning influences to a determining degree the job satisfaction and empowerment of employees, because when they are encouraged to question the “why” behind processes and propose fundamental changes within the company, they feel that their opinions are important and this emotion increases importantly their working engagement and loyalty to the organization (Argyris, 1991). Moreover, in rapidly evolving industries like technology, the ability to redefine the rules allows teams to innovate further rather than replicate outdated practices, reducing workplace stagnation. Furthermore, double-loop learning requires an environment that facilitates significantly critical thinking and reflective learning (West and Sacramento, 2006). This reduces the stress of failure and enhances job satisfaction through a supportive, helpful, friendly and collaborative working environment. In 2025, with the rise of Artificial Intelligence technologies and their important opportunities and functions, organizations that implement this method help their employees consider and assess technological disruptions as learning opportunities rather than serious threats, maintain their satisfaction at high levels (Patil, 2024).

Another important learning approach is Peter Senge's model (The Fifth Discipline) which is characterized as a central pillar for job satisfaction in the technology sector (Olobia,

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2021). Adopting the five disciplines transforms technology companies from "mechanical systems" to living organizations where learning is the source of happiness, satisfaction, engagement and performance. More particularly, this strategy supports that organizations that follow the approach of ongoing learning are more competitive in an increasingly complex and volatile business environment (Senge, 1990).

According to Senge, learning organizations should be governed by the following important characteristics. First of all, systematic thinking is a parameter of utmost importance. This implies collective thinking and understanding of the environment and function of the organization. Systematic thinking, in other words, is the cornerstone of Senge's approach and encourages the view of the firm as a difficult system made up of interconnected parts (Senge, 1990). This discipline promotes understanding of the holistic and interconnected nature of organizational issues, allowing leaders and employees to identify and address underlying patterns rather than reacting to immediate challenges. Sterman, (2000) highlights from this part that systematic thinking facilitates decision-making procedures and strategic planning processes, emphasizing its relevance in facing the complexity of the modern business demanding and evolving landscape effectively.

Also, the second discipline is personal development and evolution. It concerns the personal ability for professional growth, progress and development. Personal development includes individuals' engagement to ongoing learning and self-improvement, achieving personal, professional and organizational purposes and objectives (Senge, 1990). It involves promoting an environment where employees are encouraged to recognize their personal expectations and skills, focus on their development and on their effort to accomplish the ideal job performance. Marsick and Watkins (2003) refer that the importance of personal expectations is high in enhancing employee commitment and motivation, thus contributing to organizational learning and adaptability.

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Moreover, the third discipline is the mental models. These models are the set of perceptions employees have about the organization and its goals through which they make sense of data and act accordingly. Mental models refer to deep assumptions, generalizations, or even information that influence the way in which workers realize the organization and purposes of firm and take action (Senge, 1990). Challenging and reassessing these mental models is critical for learning and innovation, as these approaches can improve the responses of employees to new challenging situations. Edmondson (1999) emphasizes the significance and value of creating a learning culture where workers feel safe to question and rethink their mental models, thereby adopting open communication, collaboration and efficient problem-solving methods.

Furthermore, the fourth discipline is shared vision regarding the achievement of business goals, which lead to organizational success. A shared vision is about creating a shared sense of purpose and direction within the firm (Senge, 1990). It includes developing and cultivating an attractive image of the future that promotes genuine commitment and engagement rather than conformity. Kotter (1996) refers that a shared vision is necessary for encouraging employees to undertake the long-term efforts needed for organizational change, effectiveness and learning.

The fifth discipline is team learning. It is the creation of learning approaches focused mainly on active participation, communication, collaboration and dialogue. Team learning is the procedure of aligning and developing the abilities of a team to accomplish the results that its members truly expect (Senge, 1990). It promotes collaborative learning and leveraging the collective intelligence of the overall team. Argote and Levine (2020) consider that the value of team learning in improving organizational effectiveness is high, noting that teams that learn together can adapt more quickly to changes and can propose more innovative ideas for the better transformation of organizations.

Consequently, all the above disciplines of Peter Senge learning model increase job satisfaction and engagement, as employees feel like they are evolving and contributing to

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something greater, through team learning, shared vision and systematic thinking (Senge, 1990; Schaufeli et al., 2002; Saks, 2006).

Additionally, the SECI model (Socialization, Externalization, Combination, Internalization) proposed by Nonaka and Konno (1998) refers mainly to the dynamic process of knowledge for organizational evolution. Through the SECI model, knowledge constantly alternates from explicit to tacit and from tacit to explicit, with each phase contributing to the evolution of knowledge and to the enhancement of the self-confidence of employees. In the socialization phase, tacit knowledge is directly shared through interaction and common experiences. In externalization, tacit knowledge is transformed into explicit through procedures of expression of different experiences. In combination, existing explicit knowledge is combined to create new knowledge, while in internalization, new knowledge is incorporated as tacit, contributing to new skills. This means that all these factors create a positive environment where employees feel that they improve their cognitive abilities and reduce anxiety, boost self-confidence and increase job satisfaction and engagement (Nonaka & Takeuchi, 1995; Schaufeli et al., 2002).

Watkins & Marsick's Learning Organization Dimensions model is particularly useful for technology firms that invest in ongoing learning. Continuous learning, collaboration, empowerment, and leadership that supports quality learning form an environment where employees feel supported and have a high sense of job satisfaction and self-confidence. In the technology sectors where skill obsolescence is intense, this support significantly increases job engagement and pleasure (Baker & Demerouti, 2017).

More specifically, Watkins and Marsick (1993) define a learning organization as one that is continuously learning, evolving and transforming. They propose that the learning organization is guided by the following significant parameters:

- The creation of opportunities for ongoing learning.
- The promotion of collaboration and dialogue.

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- The encouragement of group learning and shared experiences.
- The establishment of advanced systems that facilitate the effective obtainment of knowledge and diffusion of learning.
- The empowerment of employees with the purpose of fostering a collective vision.
- The utilization of leadership that shapes and supports continuous learning in the companies of technology sector.

Concerning organizational learning, Watkins and Marsick (1993) and Marsick and Watkins (2003) support that it is a complex, collective experience that occurs in many subsystems, such as individual, group level and organizational level. The individual level includes two parameters: creating chances for ongoing learning and promoting opportunities for open communication and dialogue.

The group learning level is reflected in team learning mainly. In other words, work is designed to utilize groups to access various ways of thinking. Team members learn together in order to exchange knowledge, develop shared understanding, solve complex problems and create innovative ideas through ideal collaboration. The organizational level possesses four significant dimensions (Van Den Bossche *et al.*, 2010). First, it is crucial to form systems for acquiring knowledge, that is, technological tools that deal with useful learning. The second factor is the empowerment of employees to adopt a collective vision. Workers are involved in creating and fostering a collective vision for ongoing learning opportunities that have a positive influence on their working satisfaction. Responsibility for decision-making procedures is important so that employees feel higher job satisfaction, because they know who people are responsible for the results of such decisions. The third parameter is the organization's connection to its environment and goals. People are encouraged to understand the environment of the organization and utilize useful information to adjust their job practices and attitude. The fourth dimension is the existence of strategic leadership for continuous learning. The leadership approach should support learning in order to improve results for the

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organization. Consequently, leadership that cultivates ongoing learning chances and opportunities improves cognitive abilities of employees and the general functioning of the organization (Jerab and Mabrouk, 2023).

Finally, Albert Bandura's Social Cognitive Theory investigates learning through observation and imitation, highlighting the interaction between cognitive abilities, behavioral attitudes and environmental parameters. Unlike behaviorism, it integrates cognition and self-regulation and introduces concepts such as self-efficacy and modeling as key factors that affect behavioral changes. This means that employees learn by observing others and the implications of their actions, without necessarily having direct experience. When employees learn from each other, they feel like they belong to a strong community. A sense of belonging and support enhances job satisfaction and engagement and reduces the feeling of isolation that often dominates in firms of the technology sector (Bandura, 1986; Saks, 2006). Also, the confidence of employees in their abilities and skills to achieve a goal generates motivation and persistence. Moreover, the ability to control their thoughts, emotions and behaviors based on internal standards and goals contributes to the generation of commitment feelings from the part of employees to their work (Schaufeli et al., 2002).

More analytically, self-efficacy is the core of Bandura's theory and constitutes a necessary qualification for the achievement of professional goals. In the technology sector, workers face complex problems in a daily basis and there is intense need to obtain knowledge about new tools and developed technologies. So, success depends on their ability to solve problems effectively and directly. When employees feel competent, their job satisfaction is increased importantly, their stress is reduced, their job commitment is enhanced and their self-confidence is boosted (Judge *et al.*, 2001; Bakker & Demerouti, 2017).

Regarding learning through observation and imitation, pair programming, mentoring and via communities of practice, this approach enhances job satisfaction and engagement in

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technology field, as employees have role models, guidance, and opportunities to observe more experienced colleagues (Bandura, 1986; Saks, 2006; Bakker & Demerouti, 2017).

The theory of Bandura places also great importance on the environment. In the technology industry, an environment that encourages collaboration offers feedback, allows experimentation, limits mistakes, creates psychological safety and all these parameters contribute to the generation of high job satisfaction and pleasure for employees (Bandura, 1986; Edmondson, 1999; Bakker & Demerouti, 2017).

In addition to this, workers in technology field need to manage strict deadlines, demanding clients, constant changes and serious challenges. For this reason, the ability to self-regulate their behavior helps them stay focused and calm. When they feel that they can handle demanding tasks effectively, their job satisfaction is increased greatly.

In conclusion, Social Cognitive Theory supports the idea that job satisfaction in the technology industry is enhanced when employees believe in their abilities, have opportunities to learn from others, work in an environment that promotes learning, are able to regulate their behavior and emotions and feel that they are constantly evolving (Bandura, 1986; Bandura, 1997; Bakker & Demerouti, 2017). The more an organization promotes self-efficacy and continuous learning, the higher job satisfaction and commitment to working duties are (Saks, 2006).

2.2 The Concept of Learning Organization Culture

Learning culture in companies of technology sector is crucial for the growth, effectiveness, success and optimal operation of such organizations (Budihardjo and Supriyadi, 2025). A company in the technology field with a learning culture usually has many common and important characteristics. This means that employees feel safe to ask questions and admit mistakes without fear and anxiety. Knowledge is shared openly and in this way employees have unlimited access to new information and important topics for

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their job, and for this reason their work becomes less stressful (Yao *et al.*, 2023). The open transmission of knowledge creates a sense of trust, collaboration, and fairness and all these positive feelings make employees feel like they belong to a healthy and helpful team. So, their job satisfaction and engagement are increased (Kianto, Vanhala and Heilmann, 2016). In such companies, leadership also plays a crucial role, because it encourages experimentation, improvement and invests in the development of the skills of employees and this strategy creates a sense of perspective, which is directly linked to job satisfaction and commitment. In simple words, employees are more satisfied when they feel like their leader helps them become better and improves the way they work together for the achievement of organizational goals and for the accomplishment of the professional purposes and expectations of workers (Sultan and Fenn, 2020). In such cases, their work is meaningful and this factor is significant for greater job engagement, better job performance, and for the domination of a healthier, positive and collaborative working environment.

In the technology industry, where tools and methodologies change constantly on a radical basis, employees need an environment that allows them to upgrade their job skills continuously. When that environment exists, job satisfaction and engagement naturally increase (Kumi *et al.*, 2024). Continuous learning gives employees the feeling that they are staying current, capable, up-to-date and ready to meet the demands and needs of their job and their working position. This reduces the anxiety of employees and boosts their self-confidence (Olusegun, 2024). At the same time, access to new knowledge and participation in training, mentoring, or collaborative practices creates a sense of perspective and personal growth, and these are two significant parameters that are directly linked to job satisfaction and dedication. At technological companies where learning is integrated into all corporate activities and procedures, employees feel that the organization is investing in the improvement of their cognitive skills. This increases trust, commitment, and a willingness to contribute to the accomplishment of business goals. In simple words, when people feel that they acquire new valuable knowledge and

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information for their job position, they feel better about their job performance (Kianto, Vanhala and Heilmann, 2016).

In our days, the modern workplaces of technological entities have enormous complexity, due to the constant changes. Rapid technological advancements, changing market conditions and needs, as well as the demand for new knowledge have reshaped the skills and competencies required for organizational success and professional development and progress. Consequently, ongoing learning has become not just a personal pursuit but a professional imperative and expectation (Fenwick & Tennant, 2020).

According to Sessa and London (2015), organizations in technology sector need to continuously train their employees for the following reasons:

- Organizations are dealing with complex, changing, developing and multinational environments in uncertain economic contexts.
- In technology field, uncertainty is high, because complex systems such as technological changes are unpredictable and uncontrolled in many cases.
- Continuous learning helps technological firms maintain their competitiveness in an industry that is constantly transforming.
- There is demand for new developing and differentiating working skills that are needed in the technology industry for innovation reasons and for the obtainment of competitive advantage.

Consequently, continuous learning in technological entities is not just useful, but it is essential for their survival and effective operation. The technological industry faces radical challenges and for this reason knowledge, tools, methods, strategies and practices that are relevant today may be considered outdated in a few months. In this changing environment, ongoing learning acts as an important mechanism for adaptation, innovation, and stability. When a technological firm invests in learning, this opportunity gives the chance to employees to keep up with changes without fear of stress. This factor

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boosts self-confidence and creates a culture where employees feel that they upgrade their working abilities. At the same time, the company itself becomes more flexible, more creative, and more competitive to respond to market needs in a more effective and successful way, forming a culture of collaboration and knowledge sharing.

As a result, one of the most important benefits of constant learning in the context of technological firms is its ability to enhance adaptability. In a rapidly changing business climate, where technology and market needs are evolving rapidly, employees who engage in ongoing learning are better equipped to adapt to new conditions and demands, take on new and complex responsibilities, and contribute to the agility of their organizations to the maximum degree (Nisbet & Schucksmith, 2017).

Also, continuous learning in technological organizations leads to improved job performance. As employees acquire new knowledge and technical abilities, they become more proficient and productive at their tasks. This can lead to higher productivity, fewer errors, and increased overall effectiveness, which benefit both the worker and the organization success, profitability and efficiency (Nisbet & Schucksmith, 2017). Moreover, ongoing learning can contribute to career advancement and progress. In other words, employees who actively seek chances to upgrade their skills and knowledge are usually more competitive candidates for promotions and managerial positions. These opportunities increase the job security and commitment of employees to the specific organization and working position (Nisbet & Schucksmith, 2017).

Furthermore, these employees tend to be more innovative, successful and have a significant ability to solve working problems in a more effective way. They propose new ideas and innovative solutions for problems, which can contribute to the success of entities in technology sector. By adopting a learning culture, firms cultivate a workforce that continually seeks innovative methods and strategies to business challenges, obstacles and difficulties (Malik & Garg, 2020; Manuti, Patore, Scardigno, Giancaspro, & Morciano, 2015).

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2.3 Theories of Employee Engagement

Employee engagement in technological companies is one of the most critical parameters for job performance, innovation, talent retention and organizational efficiency. In the technology industry, where competition is intense and the pace of change is rapid, employee engagement is not just a factor, but it constitutes a strategic advantage. In a technology company, employee engagement is characterized as a significant factor, because when employees feel satisfied and enthusiastic about their work, they believe that their job has meaning and has the willingness to involve in the achievement of business goals.

However, there are three types of commitment, which are the following:

- Affective commitment
- Continuance commitment
- Normative commitment

As affective commitment we can refer to the positive emotional attachment, identification and involvement that an employee has with the company, its mission and its objectives. An employee who has high affective commitment is engaged to accomplishing the organization's intentions and expectations in order to remain a member of this firm. This means that employees in these cases experience a strong positive emotional connection with their work and want to take part in the organization's productive procedures. In other words, workers want to be occupied in the specific entity by choice and are not forced for other parameters (Meyer & Allen, 1991). This kind of commitment is usually affected by many demographic parameters, such as gender, age, but these factors are not strong and when recognized they cannot be clearly determined.

According to McMahon, affective commitment is a very positive kind of engagement because employees who experience this type of attitude feel pleasure from their

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cooperation with the organization and want to remain in the technological firm without any change (McMahon, 2007). In this way, strong emotional relationships are developed on the part of employees towards the company and firms are also supported to develop long-term and stable relations of confidence and loyalty with their workers.

Porter adds to the definition of affective commitment three parameters that play a crucial role, which are the acceptance of the values, principles and purposes of the organization, the willingness to focus efforts to accomplish the organization's expectations and the intense desire to remain an indispensable member of the firm (Porter et al., 1974).

Continuance commitment is the type that occurs when an employee feels a strong emotion of anxiety of quitting their working position. These employees believe that they should remain in the specific entity they are employed in, since the negative implications they will face from a possible resignation will be many times greater than the advantages they will obtain in a new job role. Thus, employees commit to the corporation for the reason that they perceive the high cost of losses, which has serious economic and social unwanted consequences.

Furthermore, normative commitment is the kind of engagement in which an employee feels the necessity to remain in the firm and reflects in fact the social obligation towards the corporation. It is mainly based on ethical parameters, because employees respect the long-term collaboration with the organization (McMahon, 2007). Employees who belong in this category remain in the business even if they are not satisfied with their job position and duties and even if they have another alternative for employment for the reason that they consider that there are crucial ethical reasons for their decision. One possible reason can be that the specific company has invested a lot of time and money in training programs for the employees.

Nevertheless, the three-component approach developed by Meyer and Allen, although it is the unique and innovative model for determining commitment, was judged by many researchers to be inadequate for firms in technology sector because the main reason for

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its advancement was organizational psychology. So, Keiningham, Frennea, Aksoy, Buoye and Mittal propose a new approach based on the primary three-component tactic, which was supplemented by the addition of two other kinds of job engagement, resulting in the components being formed into five factors (Keiningham *et al.*, 2015).

A necessary concept for the formation of this approach was the realization of some procedures. More particularly, the separation of constant engagement was made based on two independent parameters, which are the following:

- the economic, which was based on the economic and financial sacrifice that was needed and
- the forced, which was based on the belief that there were no alternative ideas to finding other equivalent job.

Then, another dimension was added to the determination of engagement, called habitual commitment, which is a false type of commitment, which is created by routine, long-term retention in the same work, the usual procedures and cognitive abilities related to job and all these important and crucial parameters contribute to the formation of strong bonds between employees and organization.

Thus, the five components that constitute this approach are the following:

- Affective commitment, which is based on emotion. This means that the employees want to maintain their job position into the organization. In the technology industry, where competition for talent is intense, that emotional connection is crucial. It is therefore important in the technology sector, where there is high employee mobility, intense competition for specialized personnel and continuous changes and demands are made.
- Normative commitment is based on a feeling of obligation and necessity. This means that employees have the obligation to retain their job for practical and ethical reasons. In practice, normative commitment arises when workers feel that the firm has

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supported them and this company offers over time many training opportunities to them. So, employees respect these chances and believe that is unethical to quit their working position, because they have formed a strong long-term relationship of loyalty and trust with the company.

- Economic commitment. In this case, when engagement is based mainly on economic reasons, for example a satisfactory wage, the job engagement may be moderate, since employees tend to remain in the business due to necessity and not due to their choice and willingness.
- Forced commitment is based on forced obligation to remain in the organization. This engagement occurs when the employee has no alternatives for employment in the technology market, fears financial instability, has anxiety about professional consequences and faces intense pressures from the entity.
- Habitual commitment is based on emotion and on the habit that the employee has developed with the job and the organization.

2.4 Models of Job Satisfaction

Job satisfaction is generally defined as the extent to which employees feel positively or negatively about their job and its various aspects, including work tasks, working conditions, interpersonal relationships and rewards (Locke, 1976). It reflects an overall affective orientation of individuals toward their work roles and constitutes a central construct in organizational and occupational psychology, as it is closely related to employees' well-being, motivation and attitudes toward work (Spector, 1997).

Job satisfaction in the technology sector is a multidimensional topic, affected by both the enormous demands of this competitive field and the important growth of this industry. Many technology workers often receive high levels of satisfaction and pleasure due to creativity, innovation and satisfactory salaries, but at the same time they face increased

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level of job stress, excessive workload and constant changes that can negatively impact their job satisfaction and performance.

Moreover, job satisfaction in the technology industry sector is closely related to many important factors, such as organizational culture, development opportunities, training chances, support and right guidance in the conduction of work duties, motivation and encouragement from leadership, ongoing learning and collaborative working environment. In other words, the technology sector industry provides high working satisfaction when it combines an innovative culture, fair, effective and creative strategies, constant learning chances and continuous support and help from managers and shareholders.

According to the opinion of Sell και Cleal (2011), factors such as the helpful and supportive workplace, salary rewards and the psychosocial dimension of the working climate and the involvement of employees into the decision-making processes have a positive impact on job satisfaction. The availability of supervisors in time of need, the help of other colleagues regarding working problems and challenges, the stimulation of critical thinking and the knowledge of the value and importance of open communication and ongoing learning, as well as the ability to interact with employees in a sincere, effective and meaningful way are the key characteristics for the improvement of job satisfaction. This means that good and effective supervision contributes to the accomplishment of high level of employee satisfaction, while ineffective communication increases the degree of dissatisfaction (Schroffel, 1999). Another study by Castillo and Cano (2004) on the degree of working satisfaction supported that constructive interpersonal relationships, recognition and rewards help to the enhancement of job satisfaction in technology industry. According to Bakotic and Babic (2013), working climate constitutes a vital factor for job satisfaction and for the creation of positive emotions from their job position and duties. In order to improve the satisfaction of these employees, the improvement of working conditions by the leadership of the technological entities is required (Bakotic & Babic, 2013).

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However, there are several theories regarding employee job satisfaction and the main factors that influence it.

Firstly, Herzberg's two-factor theory is directly linked with employee motivations that arise from the internal environment of a firm. The factors that are related to this theory are wages, relations with colleagues, relationships with managers, organizational strategy, working climate and finally recognition.

All of the above contribute to motivating employees to have a better job performance, but not to develop, to improve their performance. In other words, this specific theory is linked with higher-level demands, such as reward, recognition of important work, responsibility, development, progress and autonomy of initiative and the mentioned parameters are important, because these factors motivate workers to strive harder (Herzberg, 1976).

One of the most influential early theories of job satisfaction and motivation is Maslow's hierarchy of needs theory, according to which human behavior is driven by the fulfillment of a series of hierarchical needs, ranging from basic physiological and safety needs to higher-level social, esteem and self-actualization needs (Maslow, 1943). According to this perspective, individuals seek to satisfy lower-level needs before progressing to higher-order psychological and growth-related needs, which has important implications for motivation and satisfaction in the workplace.

Moreover, Alderfer further developed Maslow and Herzberg's theory, classifying demands and expectations into three main categories (Pritchard & Ashwood, 2008), such as existential needs, relatedness needs and developmental demands for growth, progress, advancement and development.

Furthermore, Vroom (1964) highlighted that job satisfaction affects employees' emotions based on their working duties and actions. Job satisfaction is the motivation of workers and the main incentive for better working performance.

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Clark (1997) also argues that if workers are not satisfied with their working roles, they are not sure about factors, such as their rights in the workplace. Additionally, when working conditions are not suitable, employees do not cooperate properly, the supervisor is not so helpful and the decisions are taken only by the senior managers of technological organizations, without taking into account the opinions and ideas of employees (Clark, 1997).

Consequently, nowadays, firms in the technology sector should not have unsatisfied employees, because they will not meet the job expectations and present an ideal job performance and this situation influences the operation, effectiveness and profitability of the organization in a negative way (M, R and S, 2025). Therefore, it is beneficial for firms to provide a stable and helpful work environment for workers and take their proposals into serious account and perceive them as an indispensable part of the entity. The morale of the staff should be high, as it will be reflected in their job productivity, because with low morale, they will make less effort to achieve corporation and professional goals.

Another approach is the Goal Setting Theory of Locke, which gave important boost to modern workplace motivation in technology sector, making the direct relationship between purposes, productivity, and employee commitment both determined and actionable. More specifically, this theory emphasized that employees are motivated by specific goals and that certain challenges in the workplace do not constitute negative factors in any case. Indeed, the primary revelation of this theory was around the power of setting specific and applicable purposes rather than attaining general results (Locke, 1976).

However, the five principles of this approach for effective goal setting are:

- Clarity. The intention should be specific.
- Challenge. An easy purpose is discouraging, and this goal is not interesting or challenging.

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- Commitment. Employees should understand the stages for the accomplishment of goals from the beginning.
- Feedback. Regular feedback must be given during the procedure of achievement of goals and possible improvements must be conducted. This helps to achieve the goals in a more direct, easy and effective way.
- Complementarity of tasks. Realistic timelines facilitate the generation of higher-quality results.

More specifically, in this model, the behavior of the employee is determined by many factors, such as the moral and economic rewards or the chances for ongoing learning. However, employees have different needs, desires, and expectations. This implies that employees decide between alternative ideas and this determined behavior will lead to a desired result.

In any case, efforts lead to the improvement of performance. The expected performance depends on the effort, working skills, knowledge and job abilities of the workers. Ability refers to the knowledge, skill and cognitive skills to conduct a task in an effective and successful way. Elements that are positively evaluated in a job are endurance, foresight and goal orientation and determination. In addition to this, employees who conduct the job tasks, duties and responsibilities must have an accurate role perception that refers to what people expect from their jobs and organizations. People may perceive their roles differently. Only those who perceive their roles as defined by the firm will be capable of performing effectively when they perform the required effort. Furthermore, when employees have a satisfactory working performance, they have the chance to receive extrinsic or intrinsic rewards, such as bonuses, recognition and praise. Another reward can be internal positive feelings or emotions, such as job pleasure and satisfaction. Satisfaction will result from both external and intrinsic parameters. However, in order to be satisfied, employees will compare their actual rewards with their perceived rewards. If the actual rewards meet the perceived fair rewards, workers will feel satisfied and

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engaged, and if the rewards are less than the fair rewards, employees will feel dissatisfied and disappointed.

Beyond extrinsic rewards, intrinsic motivation plays a decisive role in shaping job satisfaction, particularly in learning-oriented and knowledge-intensive environments such as the technology sector. Intrinsic motivation refers to the internal desire of employees to engage in work activities for the inherent pleasure, interest and personal fulfillment they derive from the task itself. When employees are intrinsically motivated, learning is experienced not as an obligation but as a meaningful and rewarding process, enhancing feelings of competence, autonomy and personal growth. Continuous learning opportunities strengthen intrinsic motivation by allowing employees to develop new skills, expand their knowledge and experience mastery, which in turn increases job satisfaction. Employees who perceive learning as a source of self-improvement and professional development are more likely to experience positive emotions toward their work, demonstrate persistence in challenging tasks and maintain higher levels of engagement. Consequently, intrinsic motivation, supported by ongoing learning, constitutes a fundamental mechanism through which employees derive satisfaction from their work beyond material rewards (Deli & Ryan, 1985; Ryan and Deci, 2000).

Overall, the literature indicates that learning organization culture can increase job satisfaction and engagement. Employees who engage in meaningful learning experiences often report higher levels of job pleasure, empowerment and encouragement, which can lead to increased retention rates and to the creation of a more positive and creative work environment (Malik & Garg, 2020).

2.5 Conceptual Framework and Identification of Research Gap

There is no doubt that job satisfaction in the technology sector is shaped by a set of parameters linked with the nature of the work and the development opportunities offered by the firms, as well as with the training chances. The technology field is characterized

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by rapid evolution, high demands and a constant need for adaptation and innovation, which make ongoing learning a critical factor of professional experience. Job satisfaction and engagement are increased when workers receive support from managers, have access to modern tools and feel that their skills are developing at a pace corresponding to technological changes. At the same time, the learning culture plays a significant role for job satisfaction and pleasure in the technology industry, because improved cognitive skills and abilities contribute to the creation of a sense of autonomy, a sense of competence, confidence, loyalty, commitment and trust in the firm. In this context, job satisfaction does not arise only from material and economic rewards, but from the interaction between job characteristics, development chances, supportive and cooperative workplace and from constant professional development and progress. Therefore, continuous learning constitutes an important factor that enhances job engagement and commitment, reduces job stress and contributes to the creation of an environment where workers feel that they are evolving. In this way, employees remain competitive and feel satisfaction from their working role and from the workplace of the entity.

Although job satisfaction and employee engagement have been extensively examined in the literature, particularly within organizational and work psychology, a closer examination of studies focusing on the technology sector reveals a more limited and fragmented treatment of learning culture as a core explanatory variable. A significant number of empirical studies in technology-intensive environments primarily emphasize factors such as compensation, leadership style, workload, job autonomy and work-life balance when explaining job satisfaction and engagement (Bakker & Demerouti, 2017; Judge et al., 2001; Saks, 2006). In these studies, learning-related aspects are often mentioned only indirectly, for example as part of training availability or skill development opportunities, without being conceptualized or measured as a distinct dimension of learning organization culture. Only a limited number of studies explicitly examine continuous learning, learning culture or learning-oriented organizational practices in relation to job satisfaction and engagement in technology-driven contexts

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(Malik & Garg, 2020; Kianto, Vanhala & Heilmann, 2016). Consequently, despite the recognized strategic importance of learning for technological organizations, the literature has not sufficiently clarified how learning culture and ongoing learning opportunities systematically influence job satisfaction and engagement, nor whether learning acts as a mediating mechanism between demanding job characteristics and employee well-being. This theoretical and empirical gap highlights the need for focused investigation into the role of learning organization culture in shaping job satisfaction and engagement within the technology sector, which the present study aims to address.

To ensure conceptual clarity and consistency between the research objectives, variables, and statistical analysis, the present study adopts a clearly defined research model. More specifically, the total learning organization attitude (DLOQ total) is treated as the main independent variable of the study, representing the overall learning culture of the organization.

The dependent variables include overall job satisfaction (JSS total) and overall work engagement (UWES total), which correspond directly to the core constructs highlighted in the title of the study. In addition, the individual dimensions of job satisfaction and work engagement are examined at a secondary level, in order to provide a more detailed understanding of the relationships.

For all the above reasons and for the filling of the research gap, the research part of this dissertation will attempt to confirm the following hypotheses:

***H1.** The total learning organization attitude (DLOQ total) is positively related to employees’ overall job satisfaction (JSS total).*

***H2.** The total learning organization attitude (DLOQ total) is positively related to employees’ overall work engagement (UWES total).*

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H3. *The total learning organization attitude (DLOQ total) is positively related to the three dimensions of work engagement: vigor, dedication, and absorption.*

H4. *The total learning organization attitude (DLOQ total) is positively related to the nine dimensions of job satisfaction: pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work, and communication.*

H5a. *The total learning organization attitude (DLOQ total) significantly predicts overall work engagement (UWES total).*

H5b. *The total learning organization attitude (DLOQ total) significantly predicts overall job satisfaction (JSS total).*

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3. Research methodology

3.1 Research Design

The method of quantitative analysis has the advantage of direct quantification of phenomena, converting them into manageable variables, even in cases with very complex concepts. In addition, quantitative research allows the identification of patterns and relationships among variables within the studied sample. However, due to the use of convenience sampling and the relatively small sample size, the findings should be interpreted with caution and cannot be fully generalized to the entire population of technology-sector employees. Also, the use of questionnaire also gives some advantages. More specifically, due to its structure, the questionnaire is an easy-to-use and enjoyable tool to complete, especially compared to interview procedures that are both time-consuming and thought-provoking. Printed or especially electronic questionnaires (Google Forms) can reach an extremely large audience, which favors by definition a survey that requires a large amount of data.

3.2 Instruments and Data Collection Methods

The questionnaire of the present research is consisted of 4 different sections. The first one consists of 3 close-ended questions that investigate the participants' demographic characteristics and more specifically, their gender, age and educational level.

The second chapter is consisted of the Utrecht Work Engagement Scale (UWES), which focuses on investigating the employees' positive work-related state of mind and engagement. The instrument was developed by Schaufeli and Bakker, while it focuses into 3 different aspects of the engagement. The first one is vigor, which analyzes the levels of energy and persistence in work that characterizes the employees. The second is the participants' dedication, enthusiasm and pride they have for working in their organization. The third and last aspect is the absorption, which focuses on the extend in

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which the participants are fully concentrated and engrossed in their work. The questionnaire is consisted of 17 statements, which receive answers from 0-Never up to 6-Always. To represent each one of the aspects a mean of 5 (dedication) or 6 (vigor & absorption) statements respectively was calculated, while for the total engagement of the participants the mean of all the 17 statements was calculated. So, all the new scores-variables accept values from 0 up to 6, with a higher mean representing a higher level of vigor, dedication, absorption and work engagement in total. Lastly, the reliability of the questionnaire was investigated via the Cronbach’s Alpha indicator and is quite high with an $\alpha=0.9$.

The third chapter is consisted of the “Dimensions of the Learning Organization Questionnaire (DLOQ)”, which was created by Marsick and Watkins. The instrument, focuses on the extent in which the organization support learning and create an appropriate environment that supports their employees individually and as a team to learn. The questionnaire is consisted of 43 statements, which receive answers from 1-Totally disagree up to 5-Totally agree, and the higher the mean is, the more the participants agree with each statement. In order to represent the subscales of the questionnaire but also the total of the learning attitude of the organization, 4 new variables-scores were calculated from the mean of 13 (learning attitude on an individual level), 6 (team level), 24 (organization level) and all the 43 statements. The variables-scores accept values from 1 up to 5, with a higher mean representing a higher level in which the organization offers a learning environment on each level. According to the Cronbach’s Alpha indicator the reliability is also high reaching $\alpha=0.9$.

The fourth and last section of the questionnaire is consisted of the “Job Satisfaction Survey (JSS)”, which was created by Spector at 1985. The instrument investigates the employees’ attitudes and satisfaction towards various aspects of their job. It is consisted of a total of 36 statements, which receive answers from 1-Never up to 6-Always. Through them the survey focuses on the participant’ satisfaction as of the payment, the chances for promotion, their supervisor, the fringe benefits they receive, the contingent rewards, the

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operating conditions of the organization, their coworkers, the nature of work and the communication in the organization. For each one of the nine aspects, a new variable-score was created by the average of 4 statements (Appendix-1,p-86) so they accept answers from 1 up to 24, with a higher mean representing a higher level of satisfaction from each aspect of their work. Additionally, to measure the participants’ total job satisfaction, the sum of all the 36 statements was calculated creating a score from 36 up to 216, with a higher mean representing a higher level of total job satisfaction. Lastly, the reliability of the survey was examined via the Cronbach’s Alpha indicator, which is high and equals to $\alpha=0.801$.

Justification for the Selection of Research Tools

The selection of the research instruments was guided by their strong theoretical foundations, empirical validity, and suitability for examining the core constructs of the present study. The Utrecht Work Engagement Scale (UWES) was selected because it conceptualizes work engagement as a distinct and positive psychological state, measured through the well-established dimensions of vigor, dedication, and absorption, and has been extensively validated across different occupational and cultural contexts. The Dimensions of the Learning Organization Questionnaire (DLOQ) was chosen due to its comprehensive and multidimensional approach to organizational learning, capturing learning processes at the individual, team, and organizational levels, as well as leadership and systemic support, which aligns closely with the study’s focus on learning culture rather than isolated training practices. Finally, the Job Satisfaction Survey (JSS) was selected because it provides a detailed and multidimensional assessment of job satisfaction across key facets of work life, allowing for a nuanced examination of employees’ attitudes beyond a single global satisfaction measure. Overall, the combined use of UWES, DLOQ, and JSS ensures conceptual coherence, methodological robustness, and comparability with existing empirical research.

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3.3 Sampling Strategy

The participants of the present research were chosen based on the convenience sampling method, which is a non-probability sampling strategy. More specifically, the participants were selected based on their accessibility and their willingness to take part in the research. The sampling methodology chosen for this study is that of convenience sampling. This choice is considered appropriate as it allows data collection without practical constraints such as time and geographical accessibility. However, it is worth noting that it raises limitations regarding the generalizability of the findings (Taherdoost, 2016). The participants were recruited from technology-sector organizations operating in Greece, while data collection took place on February 2026 through an online questionnaire distributed via Google Forms. The final sample of the present research consisted of 100 employees. As an inclusion criterion, participants were required to be employed in their current organization for at least one year at the time of completing the questionnaire, ensuring that they had sufficient organizational experience to evaluate the learning environment, work engagement, and job satisfaction within their organization. The majority of the participants were female (65%), were between 41 and 50 years old (47%), and held a bachelor's degree (61%).

3.4 Data Analysis Techniques

In order to analyze the data, the statistical program SPSS was used, as well as the Microsoft Excel. More specifically, the demographic characteristics of the sample were investigated using means and standard deviations, while the rest of the statements and variables-scores were presented via means and standard deviations. Then, the Shapiro-Wilk test was used, according to which the Spearman correlation was chosen to investigate the relationship between the learning environment of the organization, the work engagement and the job satisfaction of the participants. Additionally, two linear regression models were conducted, with the dependent variables being the work satisfaction and work engagement respectively, and the independent variable being the

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total level of learning environment of the organization. Furthermore, 3 moderation analysis were conducted to investigate how age, gender and education affect the relationship between the learning attitude of the organization and the work engagement. All of the above are presented in proper tables and graphs created in the mentioned programs by the researcher.

3.5 Ethical Considerations

The research was conducted in accordance to the ethical principles of the academic research. More specifically, all the participants were informed about the aims of the research, the needed time and that they could stop the survey any moment they wished to without any consequences. Also, their answers were only accessible by the researcher ensuring the data protection regulations (GDPR).

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4. Findings and Analysis

Continuing, the finding of the research will be investigated descriptively and then the research aim is investigated.

4.1 Descriptive Statistics

Continuing the descriptive statistics, the research results are presented.

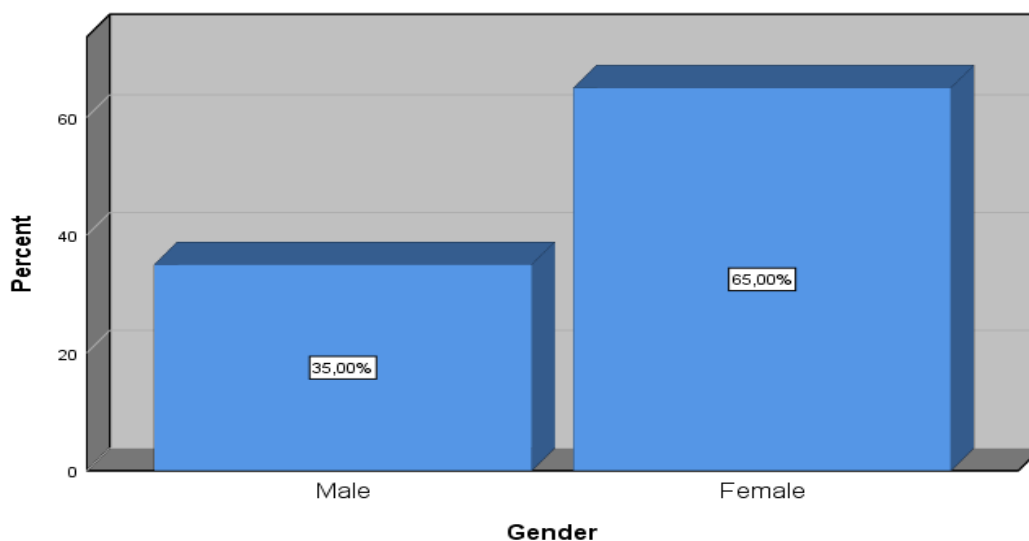
In Table 1 and Graph 1, where gender is investigated. 65% of participants are female, while 35% are male.

Table 1. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	35	35,0	35,0	35,0
	Female	65	65,0	65,0	100,0
	Total	100	100,0	100,0	

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Graph 1. Gender



Through Table 2 and Graph 2, the participants' age is analyzed. It is evident that 47% of participants are 41–50 years old, 25% are 31–40 years old, while 17% are over 50 years old. Additionally, 11% of the participants are up to 30 years old.

Table 2. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 30	11	11,0	11,0	11,0
	31-40	25	25,0	25,0	36,0
	41-50	47	47,0	47,0	83,0
	Over 50	17	17,0	17,0	100,0
	Total	100	100,0	100,0	

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Graph 2. Age

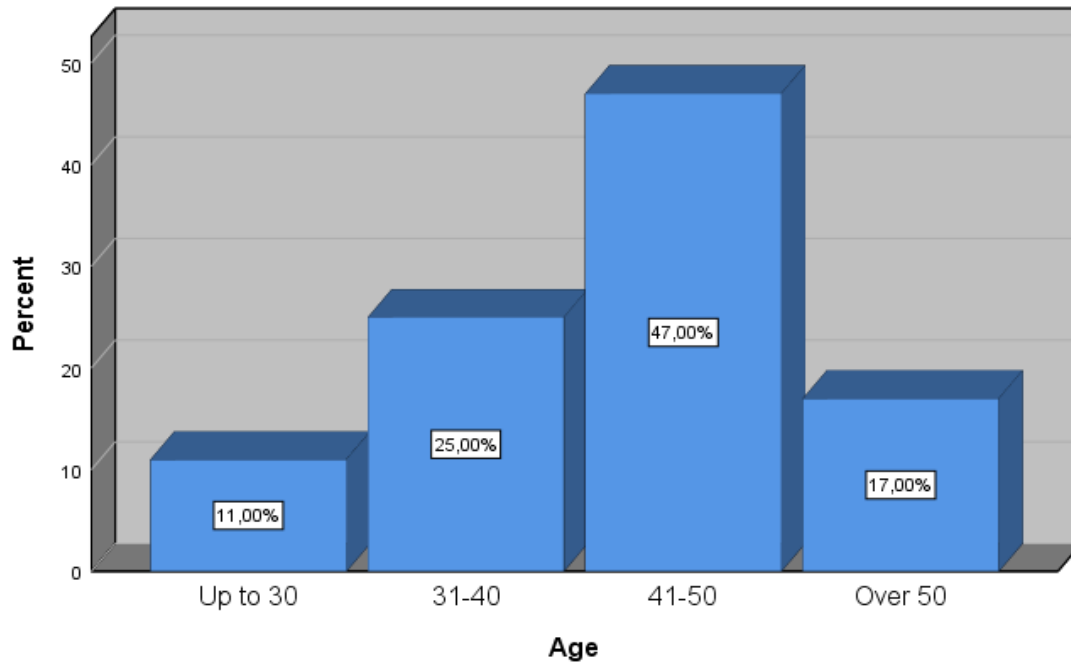


Table 3 and Graph 3 present the participants’ educational level. 61% of them have a bachelor’s degree, 23% have post-secondary education, while 9% hold a master’s degree. The participants who have stopped their education at the secondary level occupy 4% of the sample, while 3% hold a PhD.

Table 3. Educational level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary education	4	4,0	4,0	4,0
	Post secondary education	23	23,0	23,0	27,0
	Bachelor degree	61	61,0	61,0	88,0

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	Master	9	9,0	9,0	97,0
	PhD	3	3,0	3,0	100,0
	Total	100	100,0	100,0	

Graph 3. Educational level

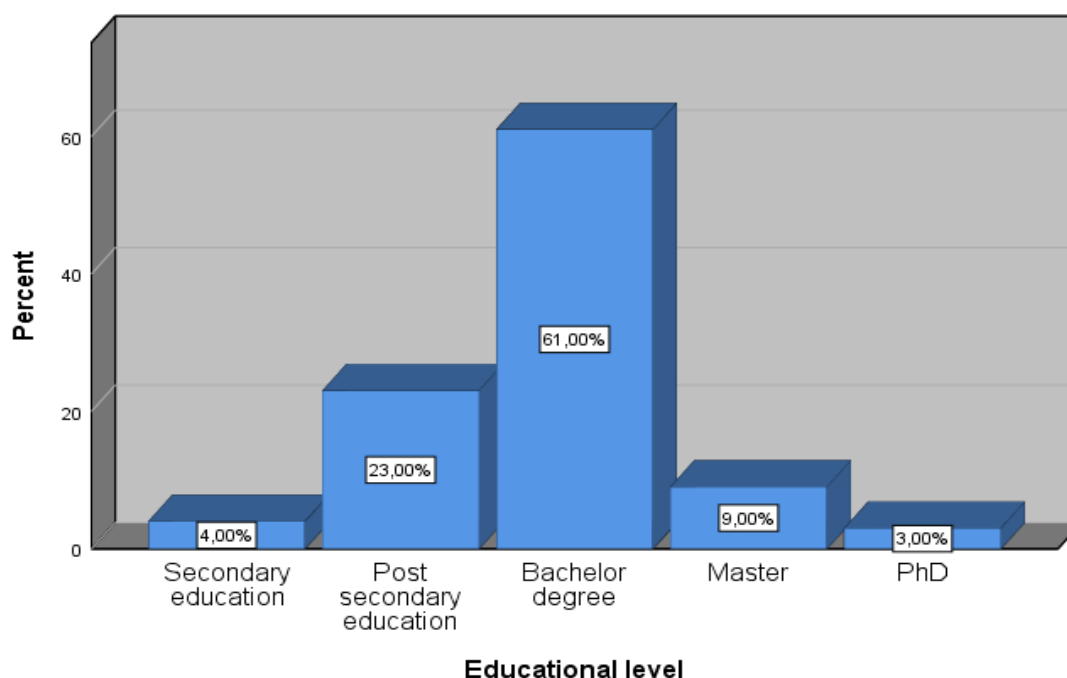


Table 4 investigates the statements regarding the vigor that the participants present in the workplace. It seems that the participants agree at a higher level that when they get up in the morning, they feel like going to work ($M=3.65$), and that at their job, they are very resilient mentally ($M=3.68$). Additionally, a bit lower appears the physical sense of energy and perseverance ($M=3.33$) and that they feel strong and vigorous at their job ($M=3.32$). However, they moderately support that at their work they always persevere even when things do not go well ($M=2.88$) and that they can continue working for very long periods at a time ($M=2.87$).

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Table 4. Statements regarding vigor in the workplace

	Mean	Median	Std. Deviation	Minimum	Maximum
At my work, I feel bursting with energy	3.33	3.00	1.596	1.00	6.00
At my job, I feel strong and vigorous	3.32	3.50	1.576	0.00	6.00
When I get up in the morning, I feel like going to work	3.65	4.00	1.579	0.00	6.00
I can continue working for very long periods at a time	2.87	3.00	1.346	0.00	5.00
At my job, I am very resilient, mentally	3.68	4.00	1.601	1.00	6.00
At my work I always persevere, even when things do not go well	2.88	3.00	1.572	0.00	6.00

In the following Table 5, the statements referring to the participants’ dedication in their workplace. More specifically, in a higher level the participants agree that to them, their job is challenging (M=3.71) and that they find the work that they do full of meaning and purpose (M=3.33). Furthermore, the participants less often support that their job inspires them (M=2.95), that they are enthusiastic about their job (M=2.65) and that they are proud on their work that they do (M=2.61).

Table 5. Statements regarding dedication in the workplace

	Mean	Median	Std. Deviation	Minimum	Maximum
I find the work that I do full of meaning and purpose	3.33	3.00	1.741	0.00	6.00
I am enthusiastic about my job	2.65	3.00	1.329	0.00	5.00
My job inspires me	2.95	3.00	1.666	0.00	6.00
I am proud on the work that I do	2.61	3.00	1.355	0.00	5.00
To me, my job is challenging	3.71	4.00	1.423	0.00	6.00

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In Table 6 that follows, the statements related to the participants’ absorption in their workplace are investigated. In a higher level, the participants support that when they are working, they forget everything else around them (M=3.43) and that they feel happy when they are working intensely (M=3.36). Furthermore, they agree a bit less that they get carried away when they are working (M=3.28), that time flies when they are working (M=3.23) and that they are immersed in their work (M=3.14). Lastly, the participants on a lower level agree that they are difficult to detach themselves from their job (M=2.86).

Table 6. Statements regarding absorption in the workplace

	Mean	Median	Std. Deviation	Minimum	Maximum
Time flies when I'm working	3.23	3.50	1.663	0.00	6.00
When I am working, I forget everything else around me	3.43	3.00	1.350	1.00	6.00
I feel happy when I am working intensely	3.36	4.00	1.761	0.00	6.00
I am immersed in my work	3.14	3.00	1.718	0.00	6.00
I get carried away when I'm working	3.28	3.00	1.570	1.00	6.00
It is difficult to detach myself from my job	2.86	3.00	1.538	0.00	6.00

Additional, in Table 7, the variables-scores that represent the participants’ level of vigor, dedication and absorption is investigated. Analytically, it seems that in a higher level the participants are characterized by vigor (M=3.29), absorption (M=3.22) and last is placed the level of their dedication (M=3.05). Furthermore, the total level of work engagement is also placed above average (M=3.19).

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Table 7. Variables-scores as of the work engagement

	Mean	Median	Std. Deviation	Minimum	Maximum
Vigor	3.29	3.33	1.411	0.33	5.50
Dedication	3.05	3.00	1.258	0.40	5.20
Absorption	3.22	3.17	1.430	1.17	5.83
Work Engagement	3.19	3.15	1.312	0.65	5.29

Through Table 8, the participants’ opinions regarding the learning environment that the organization offers on an individual level are analyzed. Especially, the participants agree on a higher level that in the organization people have available time to support learning (M=3.64), that people help each other to learn (M=3.57), when people say their opinion, they also ask others what they think (M=3.57). Furthermore, the participants also agree that in their organization people are encouraged to ask why (M=3.54), that people treat each other with respect (M=3.45) and that people use time to build trust among them (M=3.38). Furthermore, they neither agree nor disagree that people are rewarded by learning (M=3.24), that people listen to others’ opinion before talking (M=3.21) and that people see problems as learning opportunities (M=3.20). Also, to a medium extent, the participants mention that in their organization people have open discussions about errors and ways to learn from them (M=3.09), that people give open feedback to each other (M=3.08) and that people identified needed skills for future activities (M=2.91). However, in a lower level that participants support that people receive financial help to support learning (M=2.81).

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Table 8. Statements regarding the learning attitude on an individual level

	Mean	Median	Std. Deviation	Minimum	Maximum
In my organization, people have open discussions about errors and ways to learn from them	3.09	3.00	1.045	1.00	5.00
In my organization, people identify needed skills for future activities	2.91	3.00	1.093	1.00	5.00
In my organization, people help each other to learn	3.57	3.50	0.935	2.00	5.00
In my organization, people receive financial help to support learning	2.81	3.00	1.061	1.00	5.00
In my organization, people have available time to support learning	3.64	4.00	0.859	2.00	5.00
In my organization, people see problems as learning opportunities	3.20	3.00	0.876	1.00	5.00
In my organization, people are rewarded by learning	3.24	3.00	0.889	1.00	5.00
In my organization, people give open feedback to each other	3.08	3.00	1.161	1.00	5.00
In my organization, people listen to others' opinion before talking	3.21	3.00	0.924	1.00	5.00
In my organization, people are encouraged to ask why	3.54	4.00	1.009	1.00	5.00
In my organization, when people say their opinion they also ask others what they think	3.57	4.00	0.956	2.00	5.00
In my organization, people treat each other with respect	3.45	4.00	1.132	1.00	5.00
In my organization, people use time to build trust among them	3.38	3.00	0.951	2.00	5.00

In Table 9, the statements regarding the learning attitude on a team level of the organization, are investigated. In a higher level the participants agree that teams are free to adapt their targets according to the need ($M=3.65$), that teams are rewarded by their results as teams ($M=3.61$) and that in their organization teams review their opinion according to data or discussions ($M=3.39$). Additionally, the participants on a medium extend support that in their organization teams focus both on the task and how well the team is performing ($M=3.17$) and that teams trust that the organization will act according

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to their suggestion (M=3.15). In the same level they agree that teams treat their members as equals in their organization (M=3.14).

Table 9. Statements regarding the learning attitude on a team level

	Mean	Median	Std. Deviation	Minimum	Maximum
In my organization, teams are free to adapt their targets according to the need	3.65	4.00	1.114	1.00	5.00
In my organization, teams treat their members as equals	3.14	3.00	0.766	2.00	5.00
In my organization, teams focus both on the task and how well the team is performing	3.17	3.00	1.064	1.00	5.00
In my organization, teams review their opinion according to data or discussions	3.39	3.00	0.840	2.00	5.00
In my organization, teams are rewarded by their results as teams	3.61	4.00	0.963	2.00	5.00
In my organization, teams trust that the organization will act according to their suggestion	3.15	3.00	1.058	1.00	5.00

Continuing, in Table 10, the statements referring to the learning attitude on an organizational level, are investigated. The participants lean towards agreement regarding the organization creating systems to measure expected and actual performance (M=3.48), that they keep a database with employees' skills (M=3.44) and that leaders are mentors and develop their teams (M=3.37). Furthermore, they participant on a slightly lower level they agree that their organization gives people choice o their tasks (M=3.36), the organization supports employees that risk in a safe way (M=3.30), that it allows people to have easy and fast access to needed information at any time (M=3.27) and that it recognizes people by their initiative (M=3.25). A bit lower they place their agreement regarding the organization keeping available knowledge to all employees (M=3.24), inviting people to contribute to the business vision (M=3.24), and that it encouraged people to bring the customer perspective to business (M=3.17). In the same level the participants place their agreement about the organization leading continuously for learning opportunities (M=3.17), leaders making that their attitudes are consistent with

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company’s values (M=3.16) and that they share information with employees about market trends and others (M=3.13). Continuing, the participants neither agree nor disagree that their organization help employees balance work and family time (M=3.11), it empowers people regarding resources to complete their tasks (M=3.08), leaders empower others to help achieve company’s vision (M=3.07) and that the organization tracks time and money invested on training (M=3.05). Furthermore, in a medium extent the employees support that their organization aligns vision across different teams and work levels (M=3.04), encourages people to think in a global way (M=3.04) and encourages people to develop problem solving inside the company (M=3.03). The participants neither agree nor disagree that in their organization leaders generally support learning and training opportunities (M=2.95), their organization works with local community to meet common needs (M=2.91) that the organization uses 2-way communication in a regular way (M=2.89) and in a lower level they support that their organization considers how the decisions impact employees’ morale (M=2.73).

Table 10. Statements regarding the learning attitude on an organization level

	Mean	Median	Std. Deviation	Minimum	Maximum
My organization uses 2-way communication in a regular way	2.89	3.00	1.214	1.00	5.00
My organization allows people to have easy and fast access to needed information at any time	3.27	3.00	1.053	1.00	5.00
My organization keeps a database with employees’ skills	3.44	4.00	0.946	2.00	5.00
My organization creates systems to measure expected and actual performance	3.48	3.00	0.858	2.00	5.00
My organization keeps available knowledge to all employees	3.24	3.00	1.129	1.00	5.00
My organization tracks time and money invested on training	3.05	3.00	0.925	1.00	5.00
My organization recognizes people by their initiative	3.25	3.00	0.947	1.00	5.00
My organization gives people choice on their tasks	3.36	3.00	0.798	2.00	5.00
My organization invites people to contribute to the	3.24	3.00	0.955	1.00	5.00

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business vision					
My organization empowers people regarding resources to complete their tasks	3.08	3.00	0.918	1.00	5.00
My organization supports employees that risk in a safe way	3.30	3.00	1.210	1.00	5.00
My organization aligns vision across different teams and work levels	3.04	3.00	1.063	1.00	5.00
My organization helps employees balance work and family time	3.11	3.00	1.024	1.00	5.00
My organization encourages people to think in a global way	3.04	3.00	1.247	1.00	5.00
My organization encourages people to bring the customer perspective to business	3.17	3.00	1.319	1.00	5.00
My organization considers how the decisions impact employees' morale	2.73	3.00	1.014	1.00	5.00
My organization works with local community to meet common needs	2.91	3.00	1.016	1.00	5.00
My organization encourages people to develop problem solving inside the company	3.03	3.00	1.185	1.00	5.00
In my organization, leaders generally support learning and training opportunities	2.95	3.00	0.925	1.00	5.00
In my organization, leaders share information with employees about market trends, etc.	3.13	3.00	1.178	1.00	5.00
In my organization, leaders empower others to help achieve company's vision	3.07	3.00	0.924	1.00	5.00
In my organization, leaders are mentors and develop their teams	3.37	3.00	1.116	1.00	5.00
In my organization, leaders continuously look for learning opportunities	3.17	3.00	0.985	2.00	5.00
In my organization, leaders make sure that their attitudes are consistent with company's values	3.16	3.00	1.161	1.00	5.00

In the following Table 11, the variables and scores related to the learning attitude of the organization is investigated. More specifically, in a higher level the participants believe that the organization creates a good learning environment on a team level ($M=3.35$), on an individual level ($M=3.28$) and less on an organizational level ($M=3.15$). Additionally, the total of the learning attitude of the organization is also average ($M=3.22$).

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Table 11. Variables-scores of the subscale and the total of the learning attitude of the organization

	Mean	Median	Std. Deviation	Minimum	Maximum
Total of the learning on an individual level	3.28	3.38	0.794	1.77	4.38
Total of the learning on a team level	3.35	3.33	0.782	1.83	4.67
Total of the learning on an organizational level	3.15	3.33	0.820	1.63	4.38
Total of the learning attitude of the organization	3.22	3.43	0.787	1.70	4.33

In the following Table 12, the variable-scores regarding the job satisfaction that the participants feel are investigated. The participants’ satisfaction regarding the payment seems to be higher (M=3.86), followed by the fringe benefits (M=3.77) and the nature of work (M=3.76). Furthermore, a bit lower is placed their satisfaction as of the coworkers (M=3.73), the contingent rewards (M=3.71) and the supervision (M=3.70) as well as the operating conditions (M=3.70) and communication (M=3.59). Although, the lowest satisfaction is presented as of the promotion (M=3.30), which reveals that the participants are less satisfied from their chances to be promoted, while it is placed below average level in the Likert scale (1-Never, 6-Always). Additionally, the total satisfaction as of their work is placed above average as well (M=3.68).

Table 12. Variables-scores as of the job satisfaction

	Mean	Median	Std. Deviation	Minimum	Maximum
Pay	3.86	4	1.434	1.00	6.00
Promotion	3.30	3	0.782	1.00	6.00
Supervision	3.70	4	0.820	1.00	6.00
Fringe Benefits	3.77	4	0.787	1.00	6.00

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Contingent rewards	3.71	4	0.794	1.00	6.00
Operating conditions	3.70	4	0.782	1.00	6.00
Coworkers	3.73	4	0.82	1.00	6.00
Nature of work	3.76	4	0.787	1.00	6.00
Communication	3.59	4	0.794	1.00	6.00
Total satisfaction of work	3.68	4	0.782	1.00	6.00

4.2 Inferential Statistics and Correlations

Continuing, before the inferential statistics and correlations, the Shapiro-Wilk tests was conducted, in order to investigate the normality of the dependent variables. According to the results in Table 13, it seems that neither of the variables follow the normal distribution. So, it would be proper to use non-parametric tests in order to investigate the correlations between the learning attitude of the organization with the rest of the variables.

Table 13. Tests of Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Work Engagement	,959	100	,003
Total of the learning attitude of the organization	,923	100	,000
a. Lilliefors Significance Correction			

Continuing, the Spearman correlations were used in order to investigate the relationship between the total of the learning attitude of the organization with the rest of the variables-

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scores that represent the subscales of the research tools. The results in Table 14 reveal that there is a statistically significant positive correlation between all the variables and the learning attitude of the organization. This signifies that the higher the level in which the participants believe that their organization creates and encourages a learning environment, the more satisfied they are in each aspect of their job, but also the higher is their level of vigor, dedication and absorption. Additionally, it should be mentioned that the correlation with the lowest coefficient is presented between the level of learning attitude of the organization and the dedication ($r=0.819$, $p<0.001$), while the strongest appears to be between the learning attitude and the promotion chances ($r=0.972$, $p<0.001$).

Table 14. Spearman correlation as of the total of the learning attitude of the organization

		Total of the learning attitude of the organization (correlation coefficient)
Spearman's rho	Pay	,924**
	Promotion	,972**
	Supervision	,950**
	Fringe Benefits	,944**
	Contingent rewards	,964**
	Operating conditions	,953**
	Coworkers	,959**
	Nature of work	,958**
	Communication	,931**
	Vigor	,925**
	Dedication	,819**
	Absorption	,932**
**. Correlation is significant at the 0.01 level (2-tailed).		

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Additionally, the Spearman correlation was used in order to investigate the relationship between the total of the learning attitude of the organization with the employees’ total satisfaction from their job and the total level of work engagement that they present. According to the results presented in Table 15, it is evident that there is a positive statistically significant correlation between the extent in which the participants believe that their organization promotes a learning attitude and environment, with their satisfaction from their job and their work engagement.

Table 15. Spearman correlations between the total of the learning attitude of the organization, job satisfaction and work engagement

		Total of the learning attitude of the organization (correlation coefficient)
Spearman's rho	Total satisfaction of work	,972**
	Work Engagement	,939**
**. Correlation is significant at the 0.01 level (2-tailed).		

Before proceeding to the regression analyses, additional diagnostic procedures were conducted to assess the potential presence of common method bias and multicollinearity. Harman’s single-factor test revealed that the first unrotated factor accounted for 65.31% of the total variance, suggesting that common method variance may be present to some extent. Given that all variables were collected through self-report questionnaires administered at a single point in time, the possibility of common method bias cannot be completely excluded.

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Furthermore, multicollinearity diagnostics were examined in the regression models involving the individual, team and organizational learning dimensions. The results revealed elevated Variance Inflation Factor (VIF) values ranging from 7.41 to 9.74, tolerance values ranging from .103 to .135, and a maximum Condition Index of 32.56. These findings indicate substantial overlap among the learning organization dimensions. Therefore, although the regression models remained statistically significant, the magnitude of the regression coefficients should be interpreted with caution due to the conceptual similarity of the learning constructs.

Taking into account the above comments, a linear regression was conducted, with the dependent variable being the work engagement and the independent variable the total of the learning attitude of the organization, according to the employees. According to Table 16, the model explains the 88.5% of the variance of the work engagement. Also, the results in Table 17, reveal that the model is statistically significant ($p < 0.001$). Based on Table 18, it is revealed that the level in which the participants believe that the organization promotes a learning environment can statistically significantly predict the employees' level of work engagement. So, the more the participants agree that the organization promotes a learning environment, the higher is the level of their work engagement.

Table 16. Model Summary as of the work engagement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,941 ^a	,885	,883	,44791
a. Predictors: (Constant), Total of the learning attitude of the organization				

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Table 17. ANOVA^a as of the work engagement

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	150,797	1	150,797	751,652	,000 ^b
	Residual	19,661	98	,201		
	Total	170,457	99			
a. Dependent Variable: Work Engagement						
b. Predictors: (Constant), Total of the learning attitude of the organization						

Table 18. Coefficients^a as of the work engagement

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,848	,189		-9,765	,000
	Total of the learning attitude of the organization	1,567	,057	,941	27,416	,000
a. Dependent Variable: Work Engagement						

The study investigated the moderating role of age in the relationship between organizational learning and work engagement. As it appears, the overall model is statistically significant and explains 90.2% of the variance in work engagement ($F(3, 96) = 296.02$, $p < .001$). Specifically, organizational learning demonstrated statistically significant positive predictive power regarding work engagement ($B = 1.384$, $SE = 0.223$, $t = 6.21$, $p < .001$, 95% CI [0.941, 1.827]). However, age was not a statistically significant predictor of work engagement ($B = -0.240$, $SE = 0.258$, $t = -0.93$, $p = .355$, 95% CI [-0.752, 0.272]). Additionally, the interaction effect between organizational

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learning and age was also not statistically significant ($B = -0.010$, $SE = 0.071$, $t = -0.14$, $p = .888$, 95% CI $[-0.152, 0.131]$), with age not contributing in a statistically significant way to the explained variance ($\Delta R^2 = .000$, $F(1, 96) = 0.02$, $p = .888$). These findings indicate that age is not a statistically significant moderator of the relationship between organizational learning and work engagement. However, there is a statistically significant positive relationship between learning attitude and work engagement, which remains almost the same across all age groups.

Table 19. Moderation analysis as of the age

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Model : 1
Y : score4
X : score8
W : Dem2
Sample Size: 100

OUTCOME VARIABLE:
score4

Model Summary

R	R-sq	MSE	F	df1	df2	p
.9500	.9024	.1732	296.0196	3.0000	96.0000	.0000

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Model

	coeff	se	t	p	LLCI	ULCI
constant	-.5285	.8566	-.6170	.5387	-2.2289	1.1718
score8	1.3841	.2231	6.2052	.0000	.9413	1.8269
Dem2	-.2396	.2579	-.9290	.3552	-.7515	.2723
Int_1	-.0101	.0713	-.1414	.8879	-.1515	.1314

Product terms key:

Int_1 : score8 x Dem2

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0000	.0200	1.0000	96.0000	.8879

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output: 95.0000

----- END MATRIX -----

Continuing, another moderation analysis was conducted in order to examine whether gender affects the relationship between organizational learning attitude and work engagement. The results are presented in Table 20 and it seems that the overall model is statistically significant, $F(3, 96) = 249.87$, $p < .001$, and also explains 88.7% of the variance of the dependent variable, which is work engagement. Additionally, it was revealed that total organizational learning attitude can statistically significantly predict

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and positively affect the level of work engagement ($B = 1.440$, $SE = 0.188$, $t = 7.66$, $p < .001$, 95% CI [1.067, 1.814]), while gender cannot statistically significantly predict the level of work engagement ($B = -0.384$, $SE = 0.384$, $t = -1.00$, $p = .320$, 95% CI [-1.146, 0.378]). Additionally, it seems that the interaction between organizational learning attitude and gender is also not statistically significant ($B = 0.092$, $SE = 0.118$, $t = 0.78$, $p = .435$, 95% CI [-0.142, 0.326]). Lastly, the interaction term does not contribute in a statistically significant way to the increase of the explained variance ($\Delta R^2 = .001$, $F(1, 96) = 0.61$, $p = .435$). These findings indicate that the gender of the participants cannot statistically significantly moderate the relationship between organizational learning attitude and work engagement, while the positive relationship appears to be similar between males and females.

Table 20. Moderation analysis as of the gender

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Model : 1
Y : score4
X : score8
W : Dem1
Sample Size: 100

OUTCOME VARIABLE:
score4

Model Summary

R	R-sq	MSE	F	df1	df2	p
.9415	.8865	.2016	249.8740	3.0000	96.0000	.0000

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Model

	coeff	se	t	p	LLCI	ULCI
constant	-1.3037	.5953	-2.1899	.0310	-2.4853	-.1220
score8	1.4404	.1881	7.6559	.0000	1.0670	1.8139
Dem1	-.3841	.3840	-1.0004	.3196	-1.1463	.3781
Int_1	.0924	.1179	.7840	.4350	-.1416	.3264

Product terms key:

Int_1 : score8 x Dem1

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0007	.6146	1.0000	96.0000	.4350

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output: 95.0000

----- END MATRIX -----

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Continuing, in order to analyze how educational level affects the relationship between organizational learning attitude and work engagement, a moderation analysis was conducted. Once again, it seems from Table 21 that the overall model is statistically significant ($F(3, 96) = 247.87, p < .001$), while it explains 88.6% of the variance in work engagement. As presented in the results, it seems that organizational learning can statistically significantly predict the level of work engagement while having a positive relationship ($B = 1.365, SE = 0.235, t = 5.81, p < .001, 95\% CI [0.898, 1.831]$). However, educational level is not a statistically significant predictor of work engagement ($B = -0.237, SE = 0.266, t = -0.89, p = .374, 95\% CI [-0.765, 0.290]$). Furthermore, the interaction between educational level and organizational learning attitude is not statistically significant ($B = 0.073, SE = 0.080, t = 0.92, p = .362, 95\% CI [-0.085, 0.232]$), while the interaction term did not produce a higher explained variance ($\Delta R^2 = .001, F(1, 96) = 0.84, p = .362$). These findings indicate that educational level is not a statistically significant moderator of the relationship between organizational learning attitude and work engagement, suggesting that the correlation between these two variables remains consistent across different educational levels.

Table 21. Moderation analysis as of the educational level

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2

Model : 1
Y : score4
X : score8
W : Dem3
Sample Size: 100

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OUTCOME VARIABLE:
score4

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.9411	.8857	.2030	247.8650	3.0000	96.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	-1.2157	.7164	-1.6971	.0929	-2.6377	.2062
score8	1.3648	.2350	5.8087	.0000	.8984	1.8311
Dem3	-.2372	.2658	-.8924	.3744	-.7648	.2904
Int_1	.0731	.0799	.9153	.3623	-.0854	.2316

Product terms key:	
Int_1	: score8 x Dem3

Test(s) of highest order unconditional interaction(s):					
R2-chng	F	df1	df2	p	
X*W	.0010	.8377	1.0000	96.0000	.3623

***** ANALYSIS NOTES AND ERRORS *****

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Level of confidence for all confidence intervals in output: 95.0000

----- END MATRIX -----

Continuing, with the second linear regression, the depended variable is level of job satisfaction of the participants, while the independent variable is the total level of learning attitude of the organization. The model can represent the 94.7% of the variance of the job satisfaction, according to Table 22. Additionally, Table 23 reveals that the model is also statistically significant ($p < 0.001$). Lastly, through Table 24, it is evident that the total level of learning attitude of the organization can statistically significantly predict the level of the employee's job satisfaction.

Table 22. Model Summary as of the total satisfaction of work

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,973 ^a	,947	,947	11,06453
a. Predictors: (Constant), Total of the learning attitude of the organization				

Table 23. ANOVA^a as of the total satisfaction of work

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215651,106	1	215651,106	1761,513	,000 ^b
	Residual	11997,534	98	122,424		
	Total	227648,640	99			
a. Dependent Variable: Total satisfaction of work						
b. Predictors: (Constant), Total of the learning attitude of the organization						

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Table 24. Coefficients^a as of the total satisfaction of work

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	-58,183	4,675		-12,446 ,000
	Total of the learning attitude of the organization	59,277	1,412	,973	41,970 ,000
a. Dependent Variable: Total satisfaction of work					

Also, a linear regression was conducted with the predictors being the learning attitude of the organization as well as the demographic characteristics, while the depended variable is the work satisfaction. Based on Table 25, it is evident that the model represents 95.1% of the variance of the satisfaction, which is slightly higher than the initial model. Meanwhile, the Anova result reveals that the model is still statistically significant. The results in Table 27 make it clear that the total level of the learning attitude of the organization can predict in a statistically significant way the level of job satisfaction ($\beta=0.966$, $p<0.001$) even if the demographics are included. Also, the standardized coefficient is still quite high even if slightly lower than the initial model ($\beta=0.973$), which seems that the effect is still strong. Additionally, the gender can also predict in a statistically significant way the job satisfaction ($\beta=0.058$, $p=0.015$), suggesting that women tend to present higher levels of job satisfaction. However, age and educational level do not have a statistically significant effect. Concluding, it is clear that the demographic characteristics even if lead to a slightly higher variance, do not alter the relationship between the main variables.

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Table 25. Model Summary as of the total satisfaction of work and demographic characteristics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,975 ^a	,951	,949	10,88177
a. Predictors: (Constant), Educational level, Gender, Age, Total of the learning attitude of the organization				

Table 26. ANOVA^a as of the total satisfaction of work and demographic characteristics

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	216399,420	4	54099,855	456,875	,000 ^b
	Residual	11249,220	95	118,413		
	Total	227648,640	99			
a. Dependent Variable: Total satisfaction of work						
b. Predictors: (Constant), Educational level, Gender, Age, Total of the learning attitude of the organization						

Table 27. Coefficients^a as of the total satisfaction of work and demographic characteristics

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-64,088	10,498		-6,105	,000
	Total of the learning attitude of the organization	58,829	2,384	,966	24,681	,000

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	Gender	5,793	2,346	,058	2,469	,015
	Age	-,063	1,765	-,001	-,036	,971
	Educational level	-,719	1,838	-,011	-,391	,696
a. Dependent Variable: Total satisfaction of work						

Lastly, a hierarchical multiple regression was conducted in order to investigate how learning at the organizational, individual and team level can predict the job satisfaction of the employees. According to the first models it seems that the learning of the organizational level can predict in a statistically significant way the level of job satisfaction ($F(1, 98) = 1094.35, p < .001$), while also explain 91.8% of the variance. Also, in the second model it seems that the learning on an individual level ($\beta = .405, p < .001$) and on an organizational level ($\beta = .585, p < .001$) can predict the job satisfaction level, while the model explains a higher percentage of the variance which is 94.3% ($R^2 = .943, \Delta R^2 = .025$). Based on the third and last model, it seems that the learning at an organizational ($\beta = .519, p < .001$), individual ($\beta = .277, p < .001$) and team ($\beta = .204, p = .003$) can predict in a statistically significant way the job satisfaction, while the model represents in a slightly higher level the variance of the depended variable ($R^2 = .948, \Delta R^2 = .005$). Overall, the results reveal that all the three levels of learning can contribute and predict the level of job satisfaction, with the organizational learning remaining the strongest predictor.

Table 28. Step-wise model ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	208938,064	1	208938,064	1094,351	,000 ^b
	Residual	18710,576	98	190,924		
	Total	227648,640	99			

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2	Regression	214623,522	2	107311,761	799,167	,000 ^c
	Residual	13025,118	97	134,280		
	Total	227648,640	99			
3	Regression	215807,067	3	71935,689	583,185	,000 ^d
	Residual	11841,573	96	123,350		
	Total	227648,640	99			
a. Dependent Variable: Total satisfaction of work						
b. Predictors: (Constant), Total of the learning on an organizational level						

c. Predictors: (Constant), Total of the learning on an organizational level, Total of the learning on an individual level

d. Predictors: (Constant), Total of the learning on an organizational level, Total of the learning on an individual level, Total of the learning on a team level

Table 29. Stepwise model Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-43,784	5,503		-7,956	,000
	Total of the learning on an organizational level	56,033	1,694	,958	33,081	,000
2	(Constant)	-55,492	4,954		-11,202	,000
	Total of the learning on an organizational level	34,196	3,644	,585	9,383	,000
	Total of the learning on an individual level	24,479	3,762	,405	6,507	,000

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3	(Constant)	-59,856	4,952		-12,086	,000
	Total of the learning on an organizational level	30,354	3,706	,519	8,189	,000
	Total of the learning on an individual level	16,744	4,386	,277	3,818	,000
	Total of the learning on a team level	12,486	4,031	,204	3,098	,003
a. Dependent Variable: Total satisfaction of work						

Table 30. Stepwise model Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Total of the learning on an individual level	,405 ^b	6,507	,000	,551	,152
	Total of the learning on a team level	,346 ^b	6,005	,000	,521	,186
2	Total of the learning on a team level	,204 ^c	3,098	,003	,301	,125
a. Dependent Variable: Total satisfaction of work						
b. Predictors in the Model: (Constant), Total of the learning on an organizational level						
c. Predictors in the Model: (Constant), Total of the learning on an organizational level, Total of the learning on an individual level						

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5. Results Discussion

5.1 Key Findings of the Study

The results of the present study highlight the existence of strong and statistically significant relationships between the learning culture of the organization and both job satisfaction and work engagement. More specifically, the findings indicate that employees who perceive a stronger learning-oriented environment tend to report higher levels of satisfaction across multiple aspects of their work, as well as higher levels of engagement.

In addition, the correlation analysis revealed consistently strong positive associations between the total learning organization attitude and all examined dimensions of job satisfaction and work engagement, confirming the central role of learning culture in shaping employees’ work-related attitudes.

Furthermore, the regression analyses demonstrated that the learning culture of the organization constitutes a particularly strong predictor of both job satisfaction and work engagement, explaining a substantial proportion of their variance.

Finally, the hierarchical regression analysis showed that learning at all three levels (organizational, individual, and team) contributes significantly to the prediction of job satisfaction, with organizational-level learning emerging as the strongest predictor.

5.2 Overview of the Main Findings

Through the research, it is revealed that the participants agree on a higher level that when they get up in the morning they feel like going to work, when they are working, they forget everything else around them, their job is challenging and generally demands an

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above average level of work engagement. Furthermore, the participants seem to agree more that in their organization people have available time to support learning, teams are free to adapt their targets according to the need and that the organization creates systems to measure expected and actual performance, while they support on an average level that the organization creates a learning environment. Lastly, the participants are more satisfied by the payment and the fringe benefits they received and their overall job satisfaction is above average. Analyzing the research, it is revealed that the more the participants support that the organization creates an environment that promotes learning, the higher is their level of engagement and satisfaction on each aspect of their job. Additionally, it is clear that the total of the learning culture of the organization can predict in a statistically significant way both the level of the participants’ engagement and their satisfaction from the job.

5.3 Discussion of Findings by Research Questions

5.3.1 Research Question 1: Relationship between learning organization attitude (DLOQ total) and overall job satisfaction (JSS total)

According to the results of this study, there appears to be a particularly strong and statistically significant positive correlation between the overall learning culture of the organization and job satisfaction, confirming the first hypothesis. This finding is consistent with the theoretical approach of Marsick & Watkin (2003). More specifically, the existence of learning opportunities, the enhancement of collaboration and the diffusion of knowledge seem to function as key mechanisms for enhancing positive job evaluation, as employees perceive that the organization is substantially investing in their professional development (Kianto, Vanhala & Heilmann, 2016). This finding is also consistent with the results of Malik and Garg (2020), who argue that learning culture is a critical factor in enhancing job satisfaction, especially in high-cognitive environments,

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such as the technology sector. Furthermore, this strong relationship can also be interpreted in the light of motivation theories, such as Frederick Herzberg's theory and Edward Deci and Richard Ryan's self-determination theory, as continuous learning enhances endogenous factors such as autonomy, competence and personal development, which are directly related to job satisfaction (Spector, 1997). Therefore, it becomes clear that learning culture is not simply a complementary element of organizational functioning, but a key determinant of overall job satisfaction.

5.3.2 Research Question 2: Relationship between learning organization attitude (DLOQ total) and overall work engagement (UWES total)

The findings of this study demonstrate the existence of a statistically significant and strong positive correlation between the organization's learning culture (DLOQ total) and total work engagement (UWES total). So, the second hypothesis is confirmed. Which suggests that the higher the level of the perceived learning environment, the more active and positive employee engagement in their work increases. This finding is in line with the theoretical model of work engagement by Wilmar Schaufeli and Arnold Bakker, according to which organizational resources, such as learning, support and skill development, significantly enhance employee engagement. More specifically, learning culture appears to function as a critical psychological and organizational resource, as it reduces the uncertainty that characterizes the technological sector and enhances employees' sense of competence and control. This interpretation is also supported by Albert Bandura's social cognitive learning theory, according to which self-efficacy plays a decisive role in the active involvement of individuals in demanding work environments. At the same time, the existence of an environment that encourages knowledge exchange and collaboration enhances psychological safety, as Amy Edmondson points out, which allows employees to actively participate without fear of failure. Therefore, the results

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confirm that the learning culture is a determining factor in enhancing work commitment, functioning as a key mechanism for activating positive work behaviors.

5.3.3 Research Question 3: Relationship between learning organization attitude (DLOQ total) and the dimensions of work engagement (vigor, dedication, absorption)

The results of the present study indicate that the learning culture of the organization (DLOQ total) is positively and statistically significantly correlated with all three dimensions of work engagement, namely vigor, dedication and absorption. This finding suggests that as the perceived level of learning within the organization increases, employees tend to report higher levels of energy, concentration and involvement in their work, confirming the third research hypothesis. However, differences are observed in the mean levels of the engagement dimensions, with dedication appearing lower compared to vigor and absorption. This indicates that although employees remain active and cognitively engaged in their tasks, this is not accompanied to the same extent by strong emotional attachment, enthusiasm or sense of pride towards their work. The finding is consistent with the theoretical framework of Schaufeli et al. (2002), according to which work engagement consists of distinct but related dimensions that may be influenced differently by organizational resources. In addition, similar patterns have been reported in technology-driven environments, where continuous demands for adaptation and performance tend to strengthen task-focused engagement, while limiting deeper emotional identification with work roles (Bakker & Demerouti, 2017). Furthermore, the relatively lower levels of dedication may reflect weaker affective bonding with the organization, which is in line with the concept of affective commitment as described by Meyer and Allen (1991). Therefore, the findings suggest that learning culture primarily reinforces the behavioral and cognitive aspects of engagement, while its impact on the

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emotional dimension appears comparatively less pronounced, highlighting a differentiated effect across engagement components.

5.3.4 Research Question 4: Relationship between learning organization attitude (DLOQ total) and the dimensions of job satisfaction

The results of the present study indicate that the learning culture of the organization (DLOQ total) is positively and statistically significantly correlated with all individual dimensions of job satisfaction. This finding suggests that as the perceived level of organizational learning increases, employees tend to report higher satisfaction across multiple aspects of their work, including supervision, coworkers, rewards and working conditions, which confirms the fourth research hypothesis. However, differences are observed in the mean scores of the satisfaction dimensions, with promotion and communication presenting comparatively lower levels than other facets such as pay, fringe benefits and nature of work. This indicates that although learning culture is strongly associated with overall job satisfaction, its influence is not equally reflected across all dimensions of the construct. The finding is consistent with the multidimensional approach of job satisfaction proposed by Spector (1997), according to which different facets of satisfaction are influenced by distinct organizational factors. In addition, previous research suggests that relational and intrinsic aspects of work, such as support, collaboration and meaningful tasks, are more directly enhanced through learning-oriented environments (Kianto et al., 2016; Malik & Garg, 2020), while structural aspects, such as promotion opportunities, may depend on broader organizational policies. Furthermore, the relatively lower satisfaction regarding promotion aligns with the distinction proposed by Herzberg (1976), where advancement and recognition function as motivators that are not automatically fulfilled through general organizational practices. Similarly, lower levels of communication may reflect limitations in the implementation of open dialogue and knowledge sharing, which are considered

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essential components of a fully developed learning organization (Marsick & Watkins, 2003). Therefore, the findings suggest that learning culture significantly enhances job satisfaction, while its impact varies depending on the nature of each individual dimension.

5.3.5 Research Question 5: Predictive effect of learning organization attitude on (a) work engagement and (b) job satisfaction

The results of the present study indicate that the learning culture of the organization (DLOQ total) can predict in a statistically significant way both work engagement and job satisfaction. Even when demographic characteristics are included in the model. More specifically, the predictive effect of learning culture appears particularly strong, explaining a very high proportion of variance in both dependent variables, which suggests that it constitutes a central explanatory factor of employees' work-related attitudes. At the same time, the predictive power of learning culture remains stable even after the inclusion of control variables, indicating that its effect is robust and not substantially influenced by demographic differences. However, differences are identified in the strength of the prediction, as the effect on job satisfaction appears stronger compared to work engagement. This finding suggests that job satisfaction is more directly linked to the evaluation of organizational practices and the learning environment. While commitment, although significantly influenced, may also be shaped by additional individual or psychological factors. This interpretation is consistent with the theoretical approach of Bakker and Demerouti (2017), according to which organizational resources strongly influence commitment, but are not the only determining factor. At the same time, the strong effect on job satisfaction is aligned with empirical findings that support that learning-oriented environments directly enhance employees' perception of the quality of their work experience (Kianto et al., 2016; Malik & Garg, 2020). Therefore, the results indicate that learning culture functions as a key mechanism for shaping both commitment

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and satisfaction, with a differentiated intensity of effect depending on the nature of each variable. All of the above confirm the fifth research hypothesis as a whole.

5.4 Discussion of the Relative Contribution of Learning Levels

The results of the present study indicate that the different levels of learning culture contribute in a statistically significant way to the prediction of job satisfaction, with variations observed in the strength of their effects. More specifically, learning at the organizational level appears as the strongest predictor, followed by learning at the individual level, while learning at the team level, although significant, presents a comparatively weaker effect. This finding suggests that employees' job satisfaction is influenced more strongly by structured and systemic aspects of learning, such as leadership support, organizational practices, access to knowledge systems, and alignment with organizational goals, rather than exclusively by interpersonal or team-based learning experiences. The result is consistent with the theoretical framework of Marsick and Watkins (2003), according to which organizational-level learning reflects the extent to which learning is embedded in systems, leadership, and strategic processes, thus exerting a broader impact on employees' perceptions. Similarly, the emphasis on systemic learning aligns with the perspective of Senge (1990), who highlights the importance of shared vision and systems thinking in shaping meaningful organizational experiences. In addition, the relatively lower contribution of team-level learning may indicate that, although collaboration and dialogue are important, they are not sufficient on their own to significantly enhance job satisfaction without corresponding structural support. This is further supported by the work of Nonaka and Takeuchi (1995), who argue that knowledge creation becomes effective when it is integrated into organizational processes rather than remaining at the interpersonal level. Therefore, the findings suggest that the impact of learning culture on job satisfaction is hierarchical, with organizational-level mechanisms

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playing a central and more influential role compared to individual and team-level learning processes.

5.5 Interpretation of Lower Mean Scores and Critical Findings

The results of the present study indicate that, despite the overall positive evaluation of the learning culture, certain dimensions present comparatively lower mean scores, particularly promotion, communication and financial support for learning. This finding suggests that while employees perceive the existence of learning opportunities, these are not always translated into clear career development pathways or supported by adequate structural and communication mechanisms. In addition, lower scores in aspects such as open feedback, discussions about errors and identification of future skills indicate that learning processes may be implemented at a more operational level, without being fully integrated into a strategic and developmental framework. This pattern is consistent with the distinction made by Marsick and Watkins (2003), who emphasize that a mature learning organization requires not only access to learning opportunities but also their alignment with organizational systems and long-term development strategies. Similarly, limited communication and feedback practices may reflect lower levels of psychological safety, which has been identified as a critical condition for effective learning and knowledge sharing (Edmondson, 1999). Furthermore, the weaker link between learning and promotion opportunities aligns with findings suggesting that employees' satisfaction with career advancement depends on the perceived transparency and consistency of organizational policies (Spector, 1997). Therefore, the findings suggest that although the learning culture is present, it appears to be moderately developed, with certain structural and strategic elements requiring further strengthening in order to fully support employees' professional growth and satisfaction.

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6. Conclusions

6.1 Key Findings

As can be seen, the present study examined the relationship between organizational learning culture, job satisfaction, and work engagement among employees in the technology sector. In particular, the findings that emerged from the analyses in the paper revealed important elements that are worth mentioning. More specifically, employees perceived a moderate to positive learning culture within their organizations. At the same time, they reported above-average levels of both work engagement and job satisfaction. At this point, the most important thing was that the results showed significant positive relationships between organizational learning culture and overall work engagement and satisfaction. This, of course, also supports the main research hypotheses. Subsequently, employees who perceived stronger learning-oriented practices within organizations tended to report higher levels of vigor, dedication, absorption, and overall commitment. In fact, they also reported higher satisfaction in various dimensions of their work experience. In addition, regression analyses confirmed that the learning culture of the organization significantly predicts both work commitment and job satisfaction. This fact underlines its central role in shaping positive employee attitudes. Also, regarding demographic analyses, they showed that gender, age and educational level did not significantly change the overall pattern of observed relationships. This suggests that the positive effect of the learning culture is relatively consistent across different groups of employees. In conclusion, the findings highlight the strategic importance of promoting learning-oriented workplaces in one of the organizations' technologies.

6.2 Practical Implications

The findings of the research can be used in many practical implications regarding the enhancement of employee satisfaction and engagement. Analytically, organizations

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should focus on creating a learning-oriented and supportive environment and promote continuous training by providing development opportunities to employees, encouraging knowledge-sharing practices, and strengthening organizational support. Organizational learning can statistically significantly predict not only job satisfaction but also work engagement. Additionally, leadership should focus on practices that encourage employees to participate and collaborate, while also supporting their professional development through different resources and opportunities. Organizations should also aim to strengthen their communication systems and skills, provide proper feedback, and offer appropriate career development opportunities, since these dimensions were identified as among the least satisfactory ones. Organizations that systematically integrate learning into daily work practices will not only enhance employees’ attitudes but also create a more resilient and productive work environment that can respond effectively to the constantly changing demands of the technology sector.

As can be seen, the present study examined the relationship between organizational learning culture, job satisfaction, and work engagement among employees in the technology sector. In particular, the findings that emerged from the analyses in the paper revealed important elements that are worth mentioning. More specifically, employees perceived a moderate to positive learning culture within their organizations. At the same time, they reported above-average levels of both work engagement and job satisfaction. At this point, the most important thing was that the results showed significant positive relationships between organizational learning culture and overall work engagement and satisfaction. This, of course, also supports the main research hypotheses. Subsequently, employees who perceived stronger learning-oriented practices within organizations tended to report higher levels of vigor, dedication, absorption, and overall commitment. In fact, they also reported higher satisfaction in various dimensions of their work experience. In addition, regression analyses confirmed that the learning culture of the organization significantly predicts both work commitment and job satisfaction. This fact underlines its central role in shaping positive employee attitudes. Also, regarding

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demographic analyses, they showed that gender, age and educational level did not significantly change the overall pattern of observed relationships. This suggests that the positive effect of the learning culture is relatively consistent across different groups of employees. In conclusion, the findings highlight the strategic importance of promoting learning-oriented workplaces in one of the organizations' technologies.

Finally, another finding worth mentioning was the demographic characteristics of the sample. Despite the fact that the majority of participants were women, belonged to the age group of 41-50, and held a university degree. The upcoming analyses, therefore, did not reveal substantial differences in the relationships between learning culture, work commitment, and job satisfaction, among demographic groups. This suggests that the positive impact of organizational culture can be extended to different categories of employees and is not limited to a specific demographic profile.

6.3 Limitations of the Study

The present research offers valuable findings, however, there are several limitations that should be taken into account when analyzing the results. First, the sample was selected based on the convenience sampling method, which can lead to limited generalizability to the wider population of technology sector employees. Additionally, the sample consisted of only 100 employees, making it relatively small and unable to fully represent all employees in the technology sector, as well as employees from different sectors, industries, or organizational contexts. Also, the small sample also reduces the statistical power to detect smaller effects and differences between subgroups. Another limitation concerns the use of self-reported questionnaires, which may affect employees' responses since participants might provide socially desirable answers that do not fully reflect the actual conditions they experience within their organizations. Furthermore, the use of a cross-sectional study design results in a lower level of causal inference regarding the

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relationships among learning culture, work engagement, and job satisfaction. Therefore, although associations between the variables can be identified, conclusions cannot be interpreted as causal and should be considered with caution regarding both their direction and broader applicability.

6.4 Recommendations for Future Research

In future researches a larger and more diverse sample could be used, including participants from different sectors not only within the technology industry but also from other organizational settings, in order to achieve higher levels of validity and generalizability of the results. Additionally, future studies could employ probability sampling techniques and adopt a longitudinal research design in order to analyze and investigate how learning culture within organizations influences employees' attitudes over time. Furthermore, researchers could include additional variables related to employees' work engagement and job satisfaction, such as leadership styles, psychological well-being, burnout experienced at work, and the work-life balance promoted by organizations. In this way, future studies could investigate possible mediating and moderating mechanisms across a broader range of variables in order to develop a deeper understanding of how learning culture can affect employee performance and workplace outcomes.

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Appendix

Questionnaire

Part -1

1. Gender
 - ☐ Male
 - ☐ Female
2. Age
 - ☐ Up to 30
 - ☐ 31-40
 - ☐ 41-50
 - ☐ Over 50
3. Educational level
 - ☐ Secondary education
 - ☐ Post secondary education
 - ☐ Bachelor degree
 - ☐ Master
 - ☐ PhD

Part -2 Utrecht Work Engagement Scale (UWES)/TOTAL 17 QUESTIONS

Sub-scale: Vigor (6 questions)

1	At my work, I feel bursting with energy	0	1	2	3	4	5	6
2	At my job, I feel strong and vigorous	0	1	2	3	4	5	6
3	When I get up in the morning, I feel like going to work	0	1	2	3	4	5	6
4	I can continue working for very long periods at a time	0	1	2	3	4	5	6
5	At my job, I am very resilient, mentally	0	1	2	3	4	5	6
6	At my work I always persevere, even when things do not go well	0	1	2	3	4	5	6

(0: Never →6: Always)

Sub-scale: Dedication (5 questions)

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7	I find the work that I do full of meaning and purpose	0	1	2	3	4	5	6
8	I am enthusiastic about my job	0	1	2	3	4	5	6
9	My job inspires me	0	1	2	3	4	5	6
10	I am proud on the work that I do	0	1	2	3	4	5	6
11	To me, my job is challenging	0	1	2	3	4	5	6

(0: Never →6: Always)

Sub-scale: Absorption (6 questions)

12	Time flies when I'm working	0	1	2	3	4	5	6
13	When I am working, I forget everything else around me	0	1	2	3	4	5	6
14	I feel happy when I am working intensely	0	1	2	3	4	5	6
15	I am immersed in my work	0	1	2	3	4	5	6
16	I get carried away when I'm working	0	1	2	3	4	5	6
17	It is difficult to detach myself from my job	0	1	2	3	4	5	6

(0: Never →6: Always)

Part -3 Dimensions of the Learning Organization Questionnaire (DLOQ) /TOTAL 43 QUESTIONS

Sub-scale: Statements regarding the learning attitude on an individual level (13 questions)

1	In my organization, people have open discussions about errors and ways to learn from them	1	2	3	4	5
2	In my organization, people identify needed skills for future activities	1	2	3	4	5
3	In my organization, people help each other to learn	1	2	3	4	5
4	In my organization, people receive financial help to support learning	1	2	3	4	5
5	In my organization, people have available time to support learning	1	2	3	4	5
6	In my organization, people see problems as	1	2	3	4	5

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	learning opportunities					
7	In my organization, people are rewarded by learning	1	2	3	4	5
8	In my organization, people give open feedback to each other	1	2	3	4	5
9	In my organization, people listen to others' opinion before talking	1	2	3	4	5
10	In my organization, people are encouraged to ask why	1	2	3	4	5
11	In my organization, when people say their opinion they also ask others what they think	1	2	3	4	5
12	In my organization, people treat each other with respect	1	2	3	4	5
13	In my organization, people use time to build trust among them	1	2	3	4	5

(1: Totally disagree →5: Totally agree)

Sub-scale: Statements regarding the learning attitude on a team level (6 questions)

14	In my organization, teams are free to adapt their targets according to the need	1	2	3	4	5
15	In my organization, teams treat their members as equals	1	2	3	4	5
16	In my organization, teams focus both on the task and how well the team is performing	1	2	3	4	5
17	In my organization, teams review their opinion according to data or discussions	1	2	3	4	5
18	In my organization, teams are rewarded by their results as teams	1	2	3	4	5
19	In my organization, teams trust that the organization will act according to their suggestion	1	2	3	4	5

(1: Totally disagree →5: Totally agree)

Sub-scale: Statements regarding the learning attitude on an organization level (24 questions)

20	My organization uses 2-way communication in a regular way	1	2	3	4	5
21	My organization allows people to have easy and fast access to needed information at any time	1	2	3	4	5
22	My organization keeps a database with employees' skills	1	2	3	4	5

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23	My organization creates systems to measure expected and actual performance	1	2	3	4	5
24	My organization keeps available knowledge to all employees	1	2	3	4	5
25	My organization tracks time and money invested on training	1	2	3	4	5
26	My organization recognizes people by their initiative	1	2	3	4	5
27	My organization gives people choice on their tasks	1	2	3	4	5
28	My organization invites people to contribute to the business vision	1	2	3	4	5
29	My organization empowers people regarding resources to complete their tasks	1	2	3	4	5
30	My organization supports employees that risk in a safe way	1	2	3	4	5
31	My organization aligns vision across different teams and work levels	1	2	3	4	5
32	My organization helps employees balance work and family time	1	2	3	4	5
33	My organization encourages people to think in a global way	1	2	3	4	5
34	My organization encourages people to bring the customer perspective to business	1	2	3	4	5
35	My organization considers how the decisions impact employees' morale	1	2	3	4	5
36	My organization works with local community to meet common needs	1	2	3	4	5
37	My organization encourages people to develop problem solving inside the company	1	2	3	4	5
38	In my organization, leaders generally support learning and training opportunities	1	2	3	4	5
39	In my organization, leaders share information with employees about market trends, etc.	1	2	3	4	5
40	In my organization, leaders empower others to help achieve company's vision	1	2	3	4	5
41	In my organization, leaders are mentors and develop their teams	1	2	3	4	5
42	In my organization, leaders continuously look for learning opportunities	1	2	3	4	5
43	In my organization, leaders make sure that their	1	2	3	4	5

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	attitudes are consistent with company’s values					
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(1: Totally disagree →5: Totally agree)

Part -4 Job Satisfaction Survey (JSS) TOTAL 36 QUESTIONS

1	I feel I am being paid a fair amount for the work I do	1	2	3	4	5	6
2	There is really too little chance for promotion on my job	1	2	3	4	5	6
3	My supervisor is quite competent in doing his/her job	1	2	3	4	5	6
4	I am not satisfied with the benefits I receive	1	2	3	4	5	6
5	When I do a good job, I receive the recognition for it that I should receive	1	2	3	4	5	6
6	Many of our rules and procedures make doing a good job difficult	1	2	3	4	5	6
7	I like the people I work with	1	2	3	4	5	6
8	I sometimes feel my job is meaningless	1	2	3	4	5	6
9	Communications seem good within this organization	1	2	3	4	5	6
10	Raises are too few and far between	1	2	3	4	5	6
11	Those who do well on the job stand a fair chance of being promoted	1	2	3	4	5	6
12	My supervisor is unfair to me	1	2	3	4	5	6
13	The benefits we receive are as good as most other organizations offer	1	2	3	4	5	6
14	I do not feel that the work I do is appreciated	1	2	3	4	5	6
15	My efforts to do a good job are seldom blocked by red tape	1	2	3	4	5	6
16	I find I have to work harder at my job because of the incompetence of people I work with	1	2	3	4	5	6
17	I like doing the things I do at work	1	2	3	4	5	6
18	The goals of this organization are not clear to me	1	2	3	4	5	6
19	I feel unappreciated by the organization when I think about what they pay me	1	2	3	4	5	6
20	People get ahead as fast here as they do in other places	1	2	3	4	5	6

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21	My supervisor shows too little interest in the feelings of subordinates	1	2	3	4	5	6
22	The benefit package we have is equitable	1	2	3	4	5	6
23	There are few rewards for those who work here	1	2	3	4	5	6
24	I have too much to do at work	1	2	3	4	5	6
25	I enjoy my coworkers	1	2	3	4	5	6
26	I often feel that I do not know what is going on with the organization	1	2	3	4	5	6
27	I feel a sense of pride in doing my job	1	2	3	4	5	6
28	I feel satisfied with my chances for salary increases	1	2	3	4	5	6
29	There are benefits we do not have which we should have	1	2	3	4	5	6
30	I like my supervisor	1	2	3	4	5	6
31	I have too much paperwork	1	2	3	4	5	6
32	I don't feel my efforts are rewarded the way they should be	1	2	3	4	5	6
33	I am satisfied with my chances for promotion	1	2	3	4	5	6
34	There is too much bickering and fighting at work	1	2	3	4	5	6
35	My job is enjoyable	1	2	3	4	5	6
36	Work assignments are not fully explained	1	2	3	4	5	6

(1: Never up →6: Always)

Sub-scales

	Questions
Pay	1, 10, 19, 28
Promotion	2, 11, 20, 33
Supervision	3, 12, 21, 30
Fringe Benefits	4, 13, 22, 29

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Contingent rewards	5, 14, 23, 32
Operating conditions	6, 15, 24, 31
Coworkers	7, 16, 25, 34
Nature of work	8, 17, 27, 35
Communication	9, 18, 26, 36
Total satisfaction	1-36