Determinants of Creative Climate and their Influence on Employee Engagement and Creativity: An Analytical Study

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DECLARATION

I declare that the Master Thesis entitled '**Determinants of Creative Climate and their Influence on Employee Engagement and Creativity: An Analytical Study of Ministry of Trade and Industry in Kurdistan Region-Iraq** is my own original work, and hereby I certify that unless stated, all work contained within this thesis is my own independent research and has not been submitted for the award of any other degree at any institution, except where due acknowledgment is made in the text.

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LINGUSITIC REVIEW

 I certtify that I have reviewed the thesis titled **Determinants of Creative Climate and their Influence on Employee Engagement and Creativity: An Analytical Study** from the English Linguistic point of view, and I can confirm that is free of grammatical and spelling error.

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SUPERVISOR CERTIFICATE

This thesis has been written under my supervision and has been submitted for the award of the degree of Master of **Business Administration** with my approval as supervisor.

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I confirm that all requirements have been fulfilled.

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EXAMINING COMMITTEE CERTIFICATION

We certify that we have read this thesis: **Determinants of Creative Climate and their Influence on Employee Engagement and Creativity: An Analytical Study of Ministry of Trade and Industry in Kurdistan Region-Iraq** and as an examining committee examined the student (Zhwan Khorshid Faysal) in its content and what related to it. We approve that it meets the standards of a thesis for the Master of Business Management.

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DEDICATION

I dedicate this humble research, praying for God's acceptance and success, to:

- The guiding lights of my success, my parents.

- My steadfast supporters in both my academic and personal life, my beloved husband and my daughters, Shanya, Ranya, and Talya.

- My cherished brother.

- All who instilled in me patience, hard work, and perseverance.

-Every teacher who imparted knowledge to me.

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ABSTRACT

This study examines the relationship between the creative climate, employee engagement, and creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq. A quantitative approach was employed, using a descriptive-analytical method to assess the dimensions of the creative climate and analyze their correlation and impact on engagement and creativity. Data were collected from 295 employees using a structured questionnaire, and a simple random sampling technique was applied to ensure unbiased representation. Statistical analyses were conducted using SPSS (Version 22). The findings indicate a strong positive relationship between the creative climate and employee engagement and creativity, except for the "Conflict" dimension, which showed no significant correlation. The study also demonstrates a substantial impact of the creative climate on both employee engagement and creativity.

To enhance these outcomes, the study recommends implementing targeted training programs to develop leadership skills, fostering open communication channels to build trust and transparency, and promoting workplace diversity to encourage innovation. Additionally, it highlights the importance of creating supportive work environments that facilitate collaboration, provide psychological well-being, and encourage innovative practices. Finally, the study emphasizes the role of positive leadership from senior management and high-performing employees in fostering a culture of creativity and engagement.

This study contributes to understanding how creative climate dimensions influence employee engagement and creativity in public sector organizations, offering evidence-based recommendations for enhancing organizational performance.

Keywords: Creative Climate, Employee Engagement, Creativity, Workplace Diversity, Organizational Innovation, Kurdistan Region of Iraq.

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LIST OF ABBREVIATIONS

CC: Creative Climate

C&I: Challenge and Involvement

EE: Employee Engagement

KRG: Kurdistan Regional Government

MBA: Master of Business Administration

SMEs: Small and Medium-sized Enterprises

SOQ: Situational Outlook Questionnaire

SPSS: Statistical Package for the Social Sciences

KMO: Kaiser-Meyer-Olkin

χ^2: Chi-Squared

CHAPTER ONE: INTRODUCTION

1. INTRODUCTION

Creativity in organizations, particularly in those related to the industrial and trade sector, involves joining the elements of purpose in a novel way to reach something unique that solves a problem while also accepting considered risk and even delving into the ambiguity, insecurity, and ambivalence that could arise as the foundation for a new order (Gyarmathy, 2011). Creativity can also be perceived not only in the context of organizational activities but also in the context of science or even the workplace. Tolerance for ambiguity fosters creativity, which in turn fosters recognition, understanding, and collaboration by encouraging the receiving of other people's perspectives (Palm, 2019).

Creativity has a positive impact on life quality and fosters more productive problem-solving and teamwork. According to Barkóczi (2012), creative individuals are more upbeat and persistent in problem-solving, and their daily creative output enhances their subjective well-being. However, since striving to develop something new and employ the human vision is the process of producing useful original ideas, creativity is thus predicted as a research challenge, where it is believed that an organizational issue that requires attention is the deficiency or weakness in implementing creative ideas (Robinson, 2009).

In the same regard, employee engagement has gained significant attention in the past years. There has been considerable discussion on the relationship between employee engagement, creativity, and high performance, such as total shareholder return, organizational success, and employee outcomes (Richman, 2006). Research indicates that although employee engagement is important, it is now diminishing while employee involvement is deeper. It has been stated that the majority of today's workers, nearly half of all

Americans in the workforce, are not completely engaged or disengaged, even in American corporations, contributing to what has been dubbed the engagement gap (Nauman & Ghafoor, 2023; Saks, 2006).

The goal of creative climate research is to quantify and define the relative degree to which an organizational environment supports creativity and employee engagement. This information may then be used to inform future attempts to enhance the environment. These elements were methodically examined in the context of business and organizations concerning workers' creative processes (Ekvall, 1999). While environmental factors may mobilize and even develop personal creative skills, theories focusing on the environmental determinants of creativity highlight the importance of individual and personal characteristics; they also emphasize the catalyst function of the surroundings. These research results highlight that individual qualities cannot evolve without a supportive creative climate (Mathisen & Einarsen, 2004). The fundamental tenet of creative climate theories is that inspired potential should be identified, encouraged, and given top priority in studies of creativity rather than being focused on socially recognized goods and the product-oriented perspective of creativity (Runco, 2010).

The existing literature on organizational behavior and management provides valuable insights into the factors influencing employee engagement, creativity, and organizational performance (Abo-Baker et al., 2023; Achmad et al., 2023). However, a notable research gap exists regarding the specific dimensions of creative climate and their impact on employee engagement and creativity within public sector organizations, particularly in the context of the Ministry of Trade and Industry in the Kurdistan Region of Iraq. While studies in private sector settings have explored the relationship between organizational climate, employee engagement, and creativity, there is a scarcity of empirical research focusing on public sector institutions in this region.

Additionally, few studies have systematically examined the independent influence of demographic variables on creative climate dimensions, employee engagement, and creativity within the public sector context of the Kurdistan Region of Iraq. Consequently, there is a need for empirical research to fill this gap and provide evidence-based insights that can inform organizational policies and practices aimed at enhancing employee engagement, creativity, and organizational performance within public sector institutions in this region.

Given the importance of rising creativity and cultivating employee engagement as an organizational problem requiring scientific research, the current study investigates the impact of creative climate dimensions on employee engagement and creativity: an analytical study of the Ministry of Trade and Industry in the Iraqi Kurdistan Region. In this context, conducting the current study from the participants' perspective in the Ministry of Trade and Industry is important because this Ministry is the first responsible for trade activities in the Kurdistan Region, also creating the conditions for the development of business and industrial activities,

All these require a creative atmosphere to encourage creativity and employee engagement in Ministry activities, as the business environment is changing quickly. Consequently, establishments, including the Ministry of Trade and Industry, are realizing how important creativity and employee engagement are in fostering long-term success. Establishing a creative atmosphere is one of the most important things for encouraging creativity and employee engagement. Based on that, for establishments anticipating maximizing the inventive potential of their workforce, understanding the particular aspects of the creative climate that support employee engagement and creativity is key to the development and long-term success.

1.1. PROBLEM STATEMENT

Employee engagement and creativity may be considered problems, particularly in government ministries and institutions. Since public sector employees are devoted to centralized decision-making and work in an environment devoid of freedom and incentives, they are set apart from private sector organizations. However, business organizations are realizing how vital creativity and employee engagement are to preserving competitive advantage and fostering sustainable development in the quickly changing business environment of today (Zybartaitė & Dzemyda, 2014).

An environment that supports creativity inside the establishment is one of the most important elements in encouraging employee creativity. Organizations looking to maximize the creative potential of their workforce must comprehend the particular aspects of a creative atmosphere that support employee engagement and innovation (Yström et al., 2015). Based on that, and to overcome the issues organizations face, as well as increase employee engagement and encourage creativity, the Ministry of Trade and Industry in the Kurdistan Region of Iraq must create a creative environment. Although it is commonly known that an encouraging workplace culture fosters innovation and promotes sustainable growth, there is a shortage of empirical research that particularly looks at how different aspects of the creative climate affect employee engagement and creativity in this public sector setting (Saks, 2006; Richman, 2006).

Moreover, there is a lack of studies on how the analysis factors and the demographic variables interact. Thus, within the Ministry of Trade and Industry in the Kurdistan Region of Iraq, the research problem is to identify the aspects of the creative climate that substantially impact employee engagement and creativity. It also involves analyzing the independent relationship between demographic variables and these study variables.

1.2. RESEARCH OBJECTIVES

The study objectives are formulated to provide a clear and focused framework for addressing the study's problem statement and research questions. These objectives aim to explore the dimensions of the creative climate and their influence on employee engagement and creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq. By systematically investigating these relationships, the study seeks to generate actionable insights that contribute to enhancing organizational performance and innovation in public sector institutions. Through this approach, the objectives align with the broader goal of fostering a supportive and innovative work environment that drives employee satisfaction, creativity, and engagement. The objectives of the research are as follows:

1. To examine the relationship between dimensions of the creative climate within the Ministry of Trade and Industry in the Kurdistan Region of Iraq.

2. To examine the relationship between demographic variables and creative climate dimensions, employee engagement, and creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq.

3. To identify the impact of creative climate dimensions on employee engagement within the Ministry of Trade and Industry in the Kurdistan Region of Iraq.

4. To highlight the impact of creative climate dimensions on employee creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq.

5. To examine the relationship between actionable recommendations that can be provided to organizational leaders within the Ministry of Trade and Industry in the Kurdistan Region of Iraq and enhance employee engagement, creativity, and organizational performance based on the findings of this study.

1.3. RESEARCH QUESTIONS

This study tries to answer its central question, which states to what extent creative climate dimensions impact employee engagement and creativity, as a case study of the Ministry of Trade and Industry in the Kurdistan Region of Iraq, to answer this question, the study also tries to answer the following questions:

1. What are the specific dimensions of the creative climate within the Ministry of Trade and Industry in the Kurdistan Region of Iraq?

2. What is the independent relationship between demographic variables and creative climate dimensions, employee engagement, and creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq?

3. How do creative climate dimensions impact employee engagement within the Ministry of Trade and Industry in the Kurdistan Region of Iraq?

4. How do creative climate dimensions impact employee creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq?

5. What actionable recommendations can be provided to organizational leaders within the Ministry of Trade and Industry in the Kurdistan Region of Iraq to enhance employee engagement, creativity, and organizational performance based on the findings of this study?

1.4. SIGNIFICANCE OF THE STUDY

The significance of this study lies in its contribution to academic knowledge and practical applications within the Ministry of Trade and Industry in the Kurdistan Region of Iraq. By exploring the relationships between creative climate, employee engagement, and creativity, the research provides targeted insights addressing specific organizational challenges and needs.

Academic Contributions

This study fills a critical gap in the literature by examining the dimensions of creative climate that influence employee engagement and creativity in public sector organizations, particularly within the Kurdistan Region. It offers empirical evidence that enriches the field of organizational behavior and management, providing a robust framework for future scholarly exploration. The study's quantitative approach, combined with the analysis of demographic data, presents a methodological progression that can guide further research in similar contexts.

Practical Contributions

On a practical level, the findings deliver actionable strategies for the Ministry to enhance its operational efficiency and foster a supportive work environment. For instance, the research emphasizes the importance of leadership development, workplace diversity, and open communication to address challenges such as low innovation and limited employee participation. These strategies are essential for improving policy formulation, service delivery, and resilience in the face of rapid environmental changes.

Implementing the study's recommendations could lead to measurable outcomes, including increased productivity, higher employee satisfaction, and enhanced innovation capacity. A creative climate can improve employee motivation, retention, and collaboration, directly benefiting organizational performance and stakeholder satisfaction. Furthermore, fostering innovation and engagement may result in greater organizational resilience, reduced attrition, and increased profitability, benefiting taxpayers and society.

Managerial Implications

For leaders and practitioners at the Ministry of Trade and Industry, the research offers evidence-based insights into the factors influencing employee engagement and creativity. By understanding the interplay between demographic characteristics and creative climate dimensions, decision-makers can customize policies and practices to foster employee well-being, motivation,

and inventive behaviors. These initiatives are crucial for aligning organizational goals with employee aspirations, enhancing public service delivery, and promoting economic growth.

Broader Impacts

The study's implications extend beyond the Ministry, benefiting staff in other public sector institutions by encouraging professional growth and improved working conditions. By fostering a culture of innovation and quality, the findings can aid the government of the Kurdistan Region in enhancing public services, attracting investment, and promoting regional economic development. Academic institutions may also use these insights to refine their curricula, develop targeted training programs, and foster collaborations with government agencies to advance research in organizational behavior and management.

This study aims to support the Ministry's mission of fostering economic growth, industrial development, and trade promotion in the region by aligning theoretical frameworks with practical recommendations. Its broader relevance ensures that public sector organizations across the Kurdistan Region can adapt these strategies for sustainable development and long-term success.

1.5. THE STUDY PURPOSES

This study's primary goal is to identify and examine the impact of creative climate dimensions on employee engagement and creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq. In addition, it provides actionable insights and recommendations for organizational leaders and policymakers within the Ministry of Trade and Industry in the Kurdistan Region of Iraq to enhance employee engagement, creativity, and organizational performance.

1.6. THE CONTEXT OF STUDY

The Ministry of Trade and Industry of the Kurdistan Regional Government (KRG) is a central institution for economic and industrial

development in the region. It oversees trade policy, industrial growth, and business facilitation, including registering trademarks and corporations. The Ministry was formed in 2009 through the merger of the Ministry of Industry and Energy (established in 1992) and the Ministry of Trade (established in 2006). Its policies aim to protect local products, regulate factory licensing based on market needs, and foster trade exchange, contributing to the region's economic growth. The Ministry also implements key programs such as food security initiatives, which involve building silos and warehouses to store grains and distribute food rations to residents. It is critical in electrifying government institutions and advancing sustainable industrial practices (gov.krd/moti-en, 2024).

As of 2023, the Ministry employed 2,992 individuals, with 63.4% men and 36.6% women, including 687 employees holding bachelor's degrees or higher. Employees are distributed across 11 directorates, such as Industrial Development, Company Registration, Planning, Commerce, and Quality Assurance, with a significant workforce concentration in trade (53.4%) and industrial development (30.3%). The Ministry's workforce is spread across the Kurdistan Region, including provinces like Erbil (39.3%), Sulaymaniyah (16%), and Duhok (16%), as well as smaller regions like Zakho, Soran, Garmian, and Kirkuk. This contextual diversity makes the Ministry ideal for examining how creative climate dimensions influence employee engagement and creativity in a public-sector organization (gov.krd/moti-en, 2024).

In the Kurdistan Region of Iraq, the Ministry of Trade and Industry is vital to developing the local economy. Its duties include creating trade-friendly legislation, assisting regional businesses, and luring international capital to boost the economy. The ministry works with other governmental agencies and foreign partners to develop business environments, modernize infrastructure, and open doors for regional businesses. Modernizing the industrial sector and promoting engagement from the private sector are other priorities for the

ministry. It also seeks to expedite trade agreements and guarantee local companies' access to regional and international markets. The ministry also works to promote growth and entrepreneurship for small and medium-sized businesses (SMEs) (gov.krd/moti-en, 2024).

The efficiency of the Kurdistan Regional Government's (KRG) Ministry of Trade and Industry in promoting trade and economic growth may be significantly impacted by employee engagement and creativity. In this condition, encouraging engagement and innovation can result in creative ideas, better policy formulation, and better service provision to stakeholders, including corporations, foreign investors, and people. Various services are offered by the Ministry of Trade and Industry, one of which is factory license issuance for industrial growth. Quality control is used to evaluate home manufacturing. Through the offering of trademark assistance. Despite company registration, permits for industry operations, imports, and exports are granted. In addition to giving silos and food receipts.

According to KRG (2022), employee engagement at public institutions is essential to maintaining staff motivation, output, and dedication to the ministry's objectives. In this respect, employees are matched to the ministry's goals for industrial development, trade facilitation, and economic growth. Engagement may be raised by having regular conversations about strategic objectives and how each person fits into them. Accordingly, the ministry improves skill sets and maintains employee motivation and engagement by offering chances for ongoing learning through seminars, courses, and industry-relevant certifications. Workers are more inclined to stick around if they believe their professional development is progressing. Establishing a system of rewards for exceptional work and contributions to important initiatives may also boost employee happiness and promote ongoing involvement (gov.krd/moti-en, 2024).

Within the ministry, creativity may spur innovation, result in better internal procedures, and contribute to more successful trade policies. Therefore, fostering creativity requires fostering innovation by offering a safe space where staff members may try out new concepts without worrying about failing. Frequent innovation workshops and brainstorming sessions can stimulate original thought. According to KRG's (2022) report titled Strategic Plan of the Ministry of Trade and Industry 2022-2023. The ministry is encouraging cooperation between various departments within the ministry to bring diverse perspectives together, which can lead to more creative solutions for challenges in trade and industrial policy (gov.krd/moti-en, 2024).

1.7. STUDY CONCEPTUAL FRAMEWORK

This study aimed to determine how key study factors, such as the Creative Climate (CC) and its dimensions, improve the levels of Creativity and Employee Engagement (EE) in the KRG Ministry of Trade and Industry. Literature on business organizations has produced helpful frameworks for capturing the creative environment (Ivanov & Glaeske, 2023).

A popular model for evaluating the creative climate, employee engagement, and creativity was developed by Amabile et al. (1996), Ekvall (1996), Alexander et al. (2017), and Gong et al. (2009) and included elements like challenges such as showing concern and pride in one's work, freedom mainly obtaining new things when finishing tasks), support for idea that actively listening and supporting each other's ideas, trust/openness refers to feeling comfortable sharing personal ideas with others). Also, other dimensions like dynamism/liveliness (making the workplace exciting), playfulness/humor refers to being lighthearted around in a cheerful manner and taking pleasure in one's work), debates which are related to talking about and investigating various concepts and approaches within the company), conflicts (handling and resolving conflicts constructively). In addition to risk-taking (having the

courage to take chances with novel concepts and put them into practice), and ample idea time (having enough time to talk, develop, and initiate new ideas within the company). A variety of encounters that form a singularly stimulating experience generated from a social setting give rise to the idea of a creative atmosphere (McLean, 2005).

Independent

Creative Climate
Challenge/ Involvement
Trust/ openness
Freedom
Idea time and support
Humor/ Playfulness
Conflicts
Debates
Diversity
Management Support
Risk Taking
Innovation Perception

Dependent

Employee Engagement

Employee Creativity
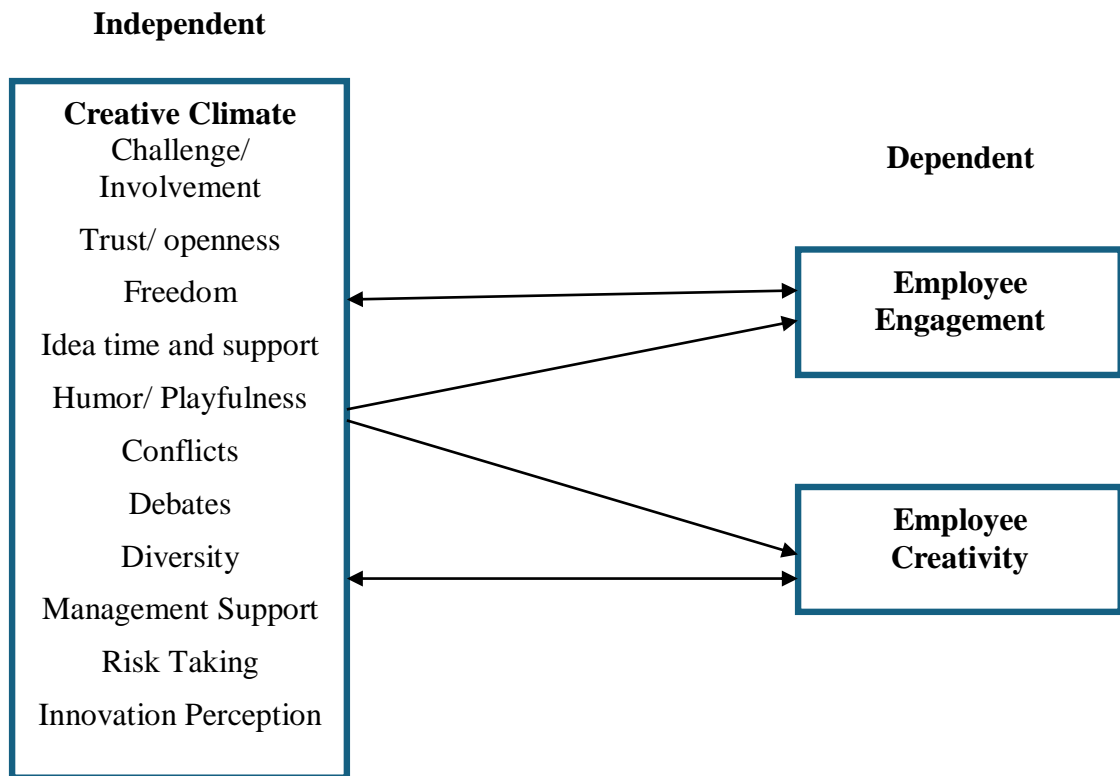
Figure 1.1 Study Conceptual Framework

Source: by researcher.

As seen in Figure 1.1, the study conceptual framework is developed based on creative climates, employee engagement in businesses, and creativity. This indicates the positive relationships between the study constructs or variables. The projected responses to the study questions related to the problem statement and represented the conceptual framework as a base for a set of hypotheses that were proposed:

- The ability to measure every research variable based on the operational scale.

- The study model's inclusivity and testing potential are based on statistical tests. Within the independent and dependent variables, this conceptual model was applied.

The creative climate and its dimensions mentioned above are considered independent variables that impact employee engagement and creativity as the dependent variables. The study model is an outline that displays a set of logical relations that may be in the form of a quantity or how to combine the main features of the reality in which these associations are concerned.

1.8. THEORETICAL FRAMEWORK AND KEY VARIABLES
1.8.1 Creative Climate, Employee Engagement and Creativity

A creative work environment enhances an organization's creative potential and employee engagement. Previous studies on employee engagement and creativity, such as Isaksen & Ekvall (2010), Ivanov & Glaeske (2023), and Jafri et al. (2016), have looked at the creative environments that exist in workplaces and their influence on potential creativity and employee engagement. By developing scales and questionnaires to assess the degree of supportive climate, engagement, and creativity inside an organization, researchers have tried to identify the traits that impact employee engagement and team creativity. The results showed that a supportive, creative climate positively influenced employee engagement and creativity.

According to McLean (2005), creating new conceptual spaces through strategic planning and design may help an organization nurture engagement and creativity. In a similar vein, Mäkikyrö & Insoll (2018) contend that to foster innovative breakthroughs, some kinds of businesses must build new, specialized competencies. It is commonly known that for businesses to gain or maintain a competitive advantage in their particular markets, they need to be able to manage change and adapt to it in today's fiercely competitive business climate and employee engagement. In their study, Bomin et al. (2020) looked

into and developed pathways to creativity, and the findings showed that while emotional intelligence independently predicted both job engagement and creative behaviors, genuine leadership reduced the creative activities of sports personnel. It was also shown that the association between creative activities and emotional intelligence is somewhat mediated by job engagement.

Amabile et al. (1996) developed instruments to evaluate the organizational creative environment by looking at factors that might either foster or stifle engagement and creativity. Researchers found that workload pressure and organizational barriers are two things that stifle creativity and have an impact on an organization's productivity. Conversely, six elements foster creativity: autonomy in the workplace, a wealth of resources, a challenging work environment, and support from the company, team members, and leaders.

Abdullah et al. (2015) conducted a study on the relationship between organizational culture, climate for creativity, and innovativeness. They employed purposive sampling to survey thirty-two small firms. The results showed a high correlation between organizational innovativeness and the atmosphere for creativity as well as organizational culture, which led to effective engagement. Fundamentally, a creative atmosphere is an organizational characteristic that stimulates and increases engagement and creativity. Since it includes a range of attitudes, feelings, and actions that show up in the workplace on a regular and group level. A creative environment, also known as a climate for creativity, supports organizational innovation, for example, by allowing varied ideas to be expressed freely (Anderson, Potocnik & Zhou, 2014). Studies have indicated that an effective creative environment is associated with better organizational performance, including variables like market share, sales volume, improved ability to carry out complex task designs, and more (Isaksen and Ekvall, 2010). Shah and Ali (2011) discovered that the organizational climate greatly influences middle management's motivation to

think creatively and improve organizational performance through radical product innovations.

According to Waheed et al. (2018), employees involved with their organization are more likely to exhibit creative work behavior, suggesting that employee engagement can foster the development of innovative work behaviors within employees.

1.8.2 Challenge/involvement, Employee Engagement, and Creativity

Challenge/Involvement is a measure used to assess how motivated and emotionally committed an individual is to completing activities and goals. Whether or not the primary duties are considered challenging and demanding to complete is the basis for evaluating the work. According to Amabile et al. (1996), pressure is the degree of difficulty that comes with working a job daily. Taking on challenging tasks at work increases a person's motivation and commitment.

Ekvall (1996) lists a highly dynamic atmosphere as one of the factors influencing creativity since it is said to be associated with a great deal of activity and events in business. Because new things are happening constantly, the atmosphere inside the company is always lively and changing (Ekvall, 1996). According to Amabile et al. (1996), a fast-paced environment may have negative effects since an excessive workload can cause stress on the body and mind. Assignments must be assigned to workers based on their skill level (Amabile et al., 1996).

1.8.3 Trust/openness, Employee Engagement, and Creativity

According to Ekvall (1996), openness and trust are important variables that affect how much flexibility and autonomy workers have in their day-to-day job, thus enhancing engagement and the potential of employee creativity. Abdullah et al. (2015) assert that there is a positive relationship between trust and creativity in organizations, as do Amabile (1996) and Gong et al. (2009). A

culture of strong trust inside an organization encourages employees to be more inclined to develop and express ideas and thoughts.

Furthermore, employees are encouraged to act without fear of being made fun of in the case of a mistake when they communicate straightforwardly and directly (Ekvall, 1996). Trusting relationships that arise from emotional safety have a positive effect on creativity in the workplace, according to Amabile (1996). This is because a high degree of trust encourages workers to produce and share thoughts and viewpoints.

1.8.4 Perception of Freedom in Decision-Making, Employee Engagement, and Creativity

In a setting with a great deal of freedom, people are given the power to choose a large percentage of their duties and obligations on their own. People can use judgment in their day-to-day activities, and they actively search for and share knowledge (Yström et al., 2015). The ability to take the initiative and make decisions about one's employment is referred to as freedom. A certain amount of independence in choosing the kind of work and how it is done is called freedom. Freedom, or autonomy, is the capacity to decide for oneself and act without interference from outside forces.

In research, Péter-Szarka (2012) revealed that the goal of creative climate is to identify and measure the relative extent to which an organizational environment fosters creativity. Future efforts to improve the environment may then be guided by the information provided here. These components were carefully investigated and analyzed using employees' creative processes within the framework of businesses and organizations.

This is acknowledged by Isaksen and Ekvall (2010), who also notes that openness and trust are important variables that affect how much flexibility and autonomy workers have in their daily jobs. Along with Amabile (1996), Ekvall (1996) emphasizes the importance of emotional safety in interpersonal interactions and claims that trust and creativity in businesses are positively

correlated. A highly trusted organization encourages its staff to come up with and express their ideas and viewpoints. Furthermore, a straightforward and honest communication style motivates individuals to strive without worrying about being made fun of if they do not succeed. Zybartaitė and Dzemyda (2014) suggest that granting employees total autonomy may derail them from the primary goal of the organization. Consequently, the degree of freedom has a significant impact on creativity.

1.8.5 Time for Idea Generation and Support, Employee Engagement, and Creativity

An environment that encourages the growth of ideas is a hallmark of an organization that cultivates a constructive and pleasant attitude, thus enhancing engagement and creativity. When receiving recommendations and complaints from staff members, the CEOs and other workers show consideration and attentiveness. Possibilities are created and new experiences are pursued in an atmosphere of mutual support and active listening (Ekvall, 1996).

Time for ideas is a term used to quantify the amount of time someone has available to come up with or develop new ideas. When there is a high idea-time case and opportunity for debate and testing of new proposals, people are more inclined to embrace new ideas in operations (Altman, 2000; Lauer, 1994). Developing an innovative and creative business culture requires this concept. During time idea, employees can use their imaginations without being constrained by their regular tasks. It encourages the exploration of original concepts and solutions as well as nonconformist thinking (Hong et al., 2014).

Idea support is the process by which businesses with robust and supportive inventive environments handle new ideas (Mathisen & Einarsen, 2004). As a result, in a creative and encouraging work environment, managers and staff members at all levels welcome and encourage ideas and proposals with care and compassion (Ericsson, 2010). Staff members of top firms, particularly those at the forefront of innovation, encourage and listen to one

another simultaneously (Ismail, 2005). Because of this, chances arise to try novel, creative ideas, creating a positive and productive atmosphere (Altman, 2000).

1.8.6 Playfulness, Employee Engagement, and Creativity

In their research, Lin et al. (2010) showed that the presence of playfulness/humor in the organizational culture positively affects employee creativity and engagement. Since creativity is enhanced by a peaceful atmosphere, it is more likely to occur when one is in a cheerful mood. Ekvall (1996) maintains that a fun business has a relaxed atmosphere where jokes and laughter are commonplace. It is less likely that staff members will be able to exhibit their creativity in a serious, formal workplace. The lively environment encourages and leads to better daily job performance.

Playfulness in the workplace may be easily achieved, according to Lin et al. (2010), by getting staff members involved in happy and stress-relieving activities. Amabile (1996) departs from the model because the researcher does not incorporate this feature. According to Ekvall (1996), playfulness and humor are additional components that come under the area of organizational encouragement and greatly influence the creative work environment.

1.8.7 Conflicts, Employee Engagement, and Creativity

Amabile et al. (1996) have identified three factors that might impede engagement and creativity in an organization: rigid organizational structures, conservatism, and internal disputes. It is thought that these elements impede original thought. In these circumstances, the individual perceives the culture of the organization as constrictive, which Amabile et al. (1996) characterize as having a detrimental effect on the inner motivation necessary for creativity. Most workers find conflict situations uncomfortable, so they use authoritarian tactics to avoid them, such as restricting communication. However, a wealth of studies on group dynamics have repeatedly demonstrated that the storming phase is a crucial part of group development (Isaksen & Ekvall, 2010).

Furthermore, a high level of conflict breeds hatred for one another among individuals and groups, creating a hostile environment. Schemes, traps, backstabbing, and gossip are all possible in this situation (Lauer, 1994). Despite being a normal and dynamic process that is a part of human nature, conflict can have a detrimental effect on the creative atmosphere of an organization (Altman, 2000).

Ericsson (2010) found that setting clear expectations for conduct and ensuring everyone complies with them are effective ways to manage conflict. Conflict resolution training should also be provided, and clear procedures for resolving disagreements should be set when they arise. Moreover, among the valuable tools are encouraging the use of mediation and problem-solving strategies as well as reminding team members of the common goals and objectives they are pursuing.

1.8.8 Fostering Debates and Discussions, Employee Engagement, and Creativity

When there are no alternative viewpoints, people often yield to those in positions of power. Ideas and challenges are the main subjects of discussion. Examining patterns without questioning them. A debate is a kind of discussion that assesses a person's ability to explain and discuss a wide range of ideas and points of view. Conflicts and arguments, according to Shah & Ali (2011), and Ekvall (1996), affect creativity. In addition to supporting and listening, these behaviors are among the elements that influence creativity.

Through discussion, staff members are urged to exercise critical thinking and examine ideas from several perspectives. This might lead to a more profound comprehension and dependable remedies. A good conversation also values and accepts different points of view. This diversity of opinions might spark novel ideas that would not emerge in a more homogeneous environment (Robinson, 2011). Ekvall (1996) discovered that employees are more likely to speak out and express their ideas in workplaces that encourage dialogue and

appreciate their opinions. Straightforwardness and openness define the engagement. Conversation or disagreement between two or more individuals with different beliefs or points of view. Interactions, discussions, or conflicts between various viewpoints, ideas, and experiences with knowledge are not the same. People who participate in discussion groups are eager to articulate their thoughts and are allowed to voice their opinions.

1.8.9 Diversity, Employee Engagement, and Creativity

The impact of diversity on employee engagement and innovation was investigated by Batmomolin et al. (2022) and the findings demonstrated the beneficial effects of diversity on employee engagement and innovative behavior. Ekvall (1996) asserts that a factor influencing employee creativity and engagement is the enormous amount of activity and events—including diversity—that enterprises in highly dynamic settings encounter. Because new ideas and innovations are constantly coming in, the atmosphere within the company is diverse, vibrant, and ever-changing. A fast-paced work environment might be detrimental since an excessive workload can cause stress in both the body and the mind.

Research conducted by Olufemi and Olabisi (2020) mentioned that diversity fosters a work atmosphere where people can work with peace of mind, promoting productivity, creativity, profitability, and employee engagement. When workers feel valued and welcomed by the company, regardless of their differences, they will be more dedicated to achieving the organization's objectives. Understanding how organizational diversity is influenced by factors including duration of employment, marital status, gender, age, and educational background will also impact group, individual, and organizational performance results. Diversity has a direct bearing on achieving organizational success, which includes innovation (Omotayo et al., 2020).

Increased idea promotion can result from diversity if it fosters an inclusive, varied, and equitable work environment where employees are

encouraged to appreciate and help one another despite differences. Research has demonstrated that diversity management can forecast creative behavior among employees (Ganji et al., 2021). One technique to foster a pleasant work atmosphere in which each employee feels appreciated and welcomed for their individuality due to variances in background, race, religion, culture, and other personal characteristics is through diversity. Research by Alshaabani et al. (2022), Ganji et al. (2021), and Bizri (2018) has shown the beneficial effects of diversity management on employee engagement.

1.8.10 Management Support, Employee Engagement and Creativity

Employees with management support and ownership over their work and ideas are more likely to perform, think creatively, and engage (Amabile et al., 1996). Ekvall (1996), Williams (2006), and Amabile (1996) have concluded that management support or management trust and innovation in companies are positively correlated. A highly trusted organization encourages its staff to come up with and express their ideas and viewpoints. Staff members of top firms, particularly those at the forefront of innovation, encourage and listen to one another simultaneously (Ismail, 2005). Because of this, chances arise to try novel, creative ideas, creating a positive and productive atmosphere (Altman, 2000).

In a welcoming and innovative atmosphere, managers and colleagues are receptive to ideas and suggestions. People listen to and encourage one another in their attempts, leading to new ideas and possibilities. Regarding the concept of support, a positive and constructive spirit penetrates (Ekvall, 1999). Management support is the process by which businesses with robust and supportive inventive environments handle new ideas (Mathisen, & Einarsen, 2004). As a result, in a creative and encouraging work environment, managers and staff members at all levels welcome and encourage ideas and proposals with care and compassion (Ericsson, 2010).

1.8.11 Willingness to Take Risks, Employee Engagement and Creativity

According to Amabile et al. (1996), one aspect that raises the possibility that employees engage and will come up with new, creative ideas is the level of support that companies provide for taking risks and thinking creatively. As indicated by Iqbal (2011), employees believe they can risk something by using some of their concepts and engaging with organizational tasks. According to Gong et al. (2009), the idea that a business welcomes uncertainty and is adept at handling the ambiguity and unpredictability of creative ventures is known as perceived risk-taking. Moreover, there are benefits and drawbacks to taking chances. On the one hand, it may lead to new chances and great successes, but it may also have unforeseen problems or effects (Runco, 2010).

Accordingly, willingness to take risks is a crucial procedure that aids in identifying and assessing possible risks as well as taking the necessary steps to lessen their detrimental effects (Mathewman et al., 2009). Additionally, workers in a creative environment can approach problems from several angles, leading to more effective and efficient solutions. This is vital to deal with difficult situations and adapt to changes in the market through creativity and effective employee engagement with the organization (Iqbal, 2011; Péter-Szarka, 2012).

1.8.12 Perceptions of Innovation, Employee Engagement and Creativity

Barkóczi (2012) asserts that creative people solve problems with greater optimism and persistence and that the everyday creative output they produce improves their subjective well-being. However, innovation is predicted as a research challenge because it is thought that an organizational issue that needs attention is the deficiency or weakness in implementing creative ideas. This is because striving to develop something new and employing the human vision is the process of producing useful original ideas (Robinson, 2009). In addition to the intrinsic drive of individuals, the tangible perception of the work environment is as important for fostering innovation and employee

engagement. The approach is based on several conceptual, organizational environment elements known as keys to enhancing innovation (Amabile et al., 1996).

Organizations looking to improve their competitiveness, productivity, and creativity should take these aspects into account since they are thought to have a direct impact on engagement and creativity (Richman, 2006). The ability to generate unique and meaningful ideas within a certain setting is known as creativity. It is seen as the source of innovative and competitive ideas that help a business find its position in the environment (Shah & Ali, 2011).

1.9. THESIS STRUCTURE

This thesis is structured into five chapters, each addressing a distinct aspect of the research to ensure a logical flow and comprehensive understanding of the study:

Chapter One: Introduction

This chapter provides an overview of the study, including the problem statement, research questions, significance, objectives, and the context of the research. It also presents the conceptual and theoretical frameworks that guide the study.

Chapter Two: Literature Review

This chapter critically examines the existing literature on the key variables of the study: creative climate, employee engagement, and creativity. It highlights theoretical perspectives, key dimensions, and empirical studies to establish the foundation for the research.

Chapter Three: Methodology

This chapter outlines the research design, data collection methods, sampling techniques, and data analysis procedures. It also discusses the study's hypotheses and the statistical tools used to test them.

Chapter Four: Statistical Analysis and Discussion

This chapter presents the results of the data analysis, including descriptive statistics, reliability tests, and hypothesis testing. The findings are interpreted in relation to the research objectives and compared with existing literature to provide a comprehensive discussion.

Chapter Five: Conclusion and Recommendations

The final chapter summarizes the key findings of the study, provides actionable recommendations for the Ministry of Trade and Industry, and suggests areas for future research to further explore the topic.

This structure ensures clarity and cohesion, facilitating a thorough exploration of the research topic while addressing its objectives systematically.

CHAPTER TWO: LITERATURE REVIEW

2.1. THEORETICAL ASPECT OF CREATIVE CLIMATE

Early organizational climate researchers made assumptions about creative climate based on how employees perceived their social or work environments. For example, Altman (2000) describes climate as an employee's understanding of their work environment, including their social, psychological, and physical interactions with coworkers. This explanation of the organizational, creative climate provides the finest description of the organizational setup across all circumstances.

In particular, research suggests that an essential component of the workplace environment inside an organization is the creative climate. First put forth by Amabile in 1988 and further developed in later works (Amabile et al., 1996-1997), the componential model of creativity and invention in organizations is an important study that looks at how an organization's work environment influences creative behavior on both an individual and team level. The model outlines the following five environmental characteristics influencing creativity: organizational impediments to creativity, autonomy, creativity promotion, pressures, and resources. Nonetheless, the research by Lin & Liu (2012) indicates that independent of the nation or the organization's culture, the creative climate and creative accomplishments are associated. This suggests that an environment that fosters creativity is more conducive to creative work and can provide an edge over competitors.

An atmosphere that fosters innovation and creative thinking is known as a creative climate. Several aspects of this environment encourage people to develop new concepts and creative solutions. Individuals may voice their opinions in creative conditions without worrying about being judged (Yström,

Aspenberg, & Kumlin, 2015). One of the most important factors in gaining a competitive edge and ensuring the survival and prosperity of a business is the creativity climate. As a result, the organization's capacity to obtain a competitive edge mostly rests on how it makes use of and utilizes its accessible materials (Egbu, 2004).

Consequently, the emergence of everyday creativity can lead to innovation. For example, ideas generated from spontaneous talks among coworkers in a work setting or inside a discussion forum might lead to innovation. On the other hand, it could result from the growth of so-called outstanding creativity, such as the discovery of a novel treatment or a significant improvement in scientific theory in a community of scientists' study (Hong, Chang, & Chai, 2014). A creative climate also promotes fresh concepts and offers the assistance required to put them into practice. A creative climate fosters teamwork and the sharing of ideas between individuals. Individuals with different experiences and backgrounds also contribute to creating novel ideas (Bissola & Imperatori, 2011).

According to Péter-Szarka, (2012), creative climate research aims to quantify and define the relative degree to which an organizational environment supports creativity. This information may then be used to inform future attempts to enhance the environment. These elements were methodically examined in the context of business and organizations in connection to workers' creative processes.

Strong organizational performance has been linked to a highly creative climate, as demonstrated by improvements in market share, volume of sales, and the capacity to execute complicated task designs, among other metrics (Isaksen and Ekvall, 2010). Creative climate factors are crucial in inspiring employees to think creatively and improve organizational performance through radical product innovations. Furthermore, a creative climate is consistent with intelligent organization concepts, which highly value innovation, knowledge

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exchange, and ongoing learning for long-term sustainability and success (Shah and Ali, 2011).

2.1.1. Concept and Definitions of Creative Climate

The literature on the creative climate reveals no consensus definition of the term, with several authors providing their interpretations. Hence, it appears that disagreements stem from the concept of creative climate itself (Ortisi, 2020). The creative climate in an organization is a multifaceted concept that depends on how individuals, groups, and the organization interact. It is sometimes like a commotion theory experiment. It is possible to approach the creation of innovative support from an organizational or more individual perspective (Waychal et al., 2011).

The term creative organizational climate describes the chances for cooperation and teamwork that promote sharing various perspectives and concepts. Along with improving organizational culture and procedures, promote measured risk-taking and failure-learning (Lin, & Liu, 2012). Concerning the distinction between corporate culture and creative climate, McLean (2005) asserts that behavior norms establish boundaries between acceptable and prohibited behavior. Culture sets these boundaries, while a creative climate provides the right conditions for innovation and performance development of employees and the organization as a whole.

According to Shah, & Ali (2011), a creative climate is an environment that supports creativity within an organization while fostering innovative thinking among its staff. It consists of several components and conditions that encourage and facilitate the production of new concepts, original thinking processes, and problem-solving techniques. According to Isaksen, & Ekvall (2010), the concept of creative climate refers to an attribute of the organization, a conglomerate of attitudes, feelings, and behaviors that characterize organizational life. A particularly rich experience inherited from a social

context appears to result from several interactions that shape the concept of creative climate. The research indicates explicitly that an organizational work environment contains a creative climate (Gyarmathy, 2011). A supportive and encouraging environment among managers and organization members that encourages them to participate in creative endeavors is called a creative organizational climate. A creative climate also involves being open to exploring and testing out innovative ideas and strategies, even when they diverge from conventional practices (Hong et al., 2014).

From the above definitions, it is clear that organizations that intend to innovate and adapt to the rapidly changing work environment should establish and develop a creative climate. Organizations may improve creativity, the innovation process, and employee participation in organizational activities by understanding and cultivating the elements that make up the creative climate.

2.1.2. The Importance of Creative Climate

For organizations to be innovative, improve their problem-solving capabilities, and achieve success, a creative climate is essential. Since the creative atmosphere within organizations fosters a welcoming and respectful environment for new ideas, it encourages all members of organizations to think creatively (Fadila, & Sawitri, 2023). Meanwhile, the innovative goods, services, and procedures with which leading organizations compete are partly due to the existence of a creative climate in organizations (Gyarmathy, 2011).

The significance of the creative climate has also been elucidated by Mathewman et al. (2009), who stated that creativity and innovation have evolved into essential components of every employee's job description, in addition to being catchphrases in the global labor market of the twenty-first century. This idea is consistent with the findings of Isaksen and Ekvall (2010), who showed that good organizational success in terms of market share, sales

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volume, and enhanced capacity to execute complicated task designs is strongly correlated with a highly organizational creative climate.

As indicated by Yström et al. (2015), when employees feel that their opinions are respected and heard, they are more likely to be interested in and pleased with their job. This may result in increased morale and a more positive workplace culture. Thus, a creative climate in the workplace increases employee engagement and satisfaction. Additionally, a creative climate makes organizations more agile and adaptive. This is critical in a corporate environment that is changing quickly and where success depends on adaptability (Ortisi, 2020).

Since creativity frequently flourishes in collaborative situations, a creative climate inside an open innovation arena is significant, which fosters better teamwork and collaboration. Stronger and more comprehensive solutions are produced when a creative environment enhances the exchange of different viewpoints (Balta, & Zwick, 2009). The search for excellence and development is also a constant in a creative climate. This kind of thinking may result in ongoing improvements to procedures, goods, and services, keeping the company competitive and relevant (Barrett et al., 2012).

2.1.3. The Dimensions of Creative Climate

Given the range of elements affecting an organization's creative climate and their potential to both foster and impede creativity and employee engagement, the Situational Outlook Questionnaire (SOQ) was chosen for use in this study as the main instrument to measure creative climate, which is implemented from (Ekvall, 1996). This particular instrument was chosen due to its purported ability to elucidate impacts on creativity and employee engagement. Consequently, these factors or dimensions were believed to have an impact on the creative performance of the organization based on resources,

both human elements and other resources, and enhancing employee engagement.

Applying the SOQ instrument in an Iraqi environment that shares similarities with most Arab and Asian countries regarding culture, Ismail (2005) and Iqbal (2011) revealed that the SOQ has also been utilized in investigations in Asian companies. The Ministry of Trade and Industry of the Iraqi Kurdistan Region was selected as the statistical study population to collect empirical data and test the study hypotheses. This sector has been identified and selected for two main reasons: First, the trade and industrial sector is active and responsible for the development of commercial activities in the region; Second, it is a good place to assess how a creative atmosphere affects employee engagement and creativity, two ideas that are entirely tied to participants perceptions.

2.1.3.1. Challenge and Involvement

The level of involvement that members of the organization have in the day-to-day activities and long-term objectives is known as a challenge. In an environment with many challenges, individuals are naturally driven to contribute, find fulfillment in their jobs, and expend a lot of energy (Ekvall, 1996). The indicator of challenge and involvement measures the degree of emotional dedication and drive toward accomplishing tasks and objectives (Ortisi, 2020). Ekvall (1996) establishes that an extremely challenging work environment increases and motivates people's innate desire. A rigorous work environment also encourages commitment and value in people and their work. Workers often experience a broad sense of indifference and alienation and become disinterested in the company when they are not faced with many obstacles. Moreover, excessive work and a job that a person feels is unmanageable prevent employees from thinking creatively.

The challenge is also the extent to which employees feel fulfillment and significance in their work and are expressively endowed in the organization's operations and goals (Péter-Szarka, 2012). In addition, the construct of challenge and involvement (C&I) describes how much a person is involved in day-to-day activities, long-term objectives, and organizational aspirations (Runco, 2010). Organizations may unleash the potential of their staff and set themselves up for long-term success in a constantly changing business environment by fostering a creative climate (Fadila, & Sawitri, 2023).

Accordingly, when C&I is high, employees are driven and dedicated to helping the company succeed (Palm, 2019). Furthermore, modern organizations and companies should constantly renew and adapt to stay up with the rapid advancements in technology and the growing socioeconomic shifts they face, which they call challenges. In this perspective, creativity is essential for success as the abilities needed for renewal and adaptability are necessities rather than extras in an ever-changing environment (Robinson, 2011).

2.1.3.2. Innovation Perception

Innovation is the concept connected to the perceptions, procedures, and management practices that ultimately change the employee's and managers' real processes and methods of doing their duties (Robertson et al., 2023). In addition, the basic notion of innovation as rational decision-making processes, the evolution of the human mind and the development of the organizational structure impact the important features of inventive thinking (Lee & Trimi, 2018). It is clear from creative thinking that a leader can view far and near outcomes and can propose solutions (Birkinshaw & Hamel, 2008).

Innovation, according to Olsson et al. (2019), is the process that occurs after the creative stage when an idea is given an actionable and practical shape, whether it be through better practices, processes, or products. According to this concept, innovation is more about being able to put new ideas into reality for

observable advancements than it is about generating original ideas. Based on that, innovation is a dynamic, nonlinear mental process catalyzed by creative thinking used to generate new ideas or ingenious applications of existing things, thus, it should bring improvement and enhancement (Al-Saidi et al., 2013). Innovation takes a spiral process since it is never static but dynamic, bringing about modification, especially in employment relations where it changes the nature of employment relationships (Bucciarelli, 2015).

Innovation in companies is a never-ending process that involves adapting to a quickly changing environment and aiming for constant progress. Changes in the organizational structure, such as increased decentralization, new team structures, or updated reporting, influence how management and processes are conducted (Cheng, Colin, Yang & Sheu, 2016). Thus, the center of change is the innovation process. This has been accomplished using several frameworks, tactics, and procedures to promote and control innovation inside businesses. Al-Saidi et al. (2013) further divide innovations into two categories: management innovations, which include new approaches to organizational management, leadership, and decision-making processes to improve efficiency, flexibility, and employee engagement and commitment; and technical innovations, which develop or apply new technology, tools, or techniques to enhance processes, products, or services. As a result, innovative businesses frequently use an idea management system. The systematic processing of ideas is known as idea management. Its goal is to identify the most promising concepts for additional development and application (Pan, Song, Zhang & Zhou, 2018).

2.1.3.3. Playfulness and Humor

As discussed by Ekvall (1996), playful organization around and being easygoing are referred to as being playful and humorous. Another way to describe the organization's high dimension is as a laid-back environment full of

practical jokes and laughter (Palm, 2019). There is a strong sense of urgency and resolve, and the atmosphere is bright and full of hope. Lenity and wit are the display of spontaneity and skillful performance. A measure of playfulness and humor that assesses how open people are to spontaneity, laughing, and lighthearted banter at work. According to Ekvall (1996), playfulness and humor are other components that fall under the area of organizational encouragement and have a significant positive influence on the creative work environment. It deviates from Amabile's (1996a) model since it omits this component.

Happiness and playfulness conveyed comfort and a certain vibe. In this dimension, a person who is at ease and feels happy and content scores highly. Low ratings signify a lack of enjoyment and have a more severe and serious attribute (Mathisen, & Einarsen, 2004). The roundness and comfort in organizations that permeate the environment are indicators of playfulness (Lin, & Liu, 2012). Similarly, Isaksen, & Ekvall, (2010) thought humor is the essence of playfulness. It is more than simply cracking jokes; it is about being able to laugh at oneself and see the positive aspects of life. Positiveness, fostering connections, and managing stress may all be greatly aided by having a strong sense of humor. Ekvall (1996) repeatedly makes the case that a fun business is one with a laid-back culture that values jokes and laughter. There is less chance that workers in a solemn culture will be able to show their creativity. The lively environment encourages and leads to better daily job performance.

2.1.3.4. Freedom

Ekvall (1999) defined dimension freedom as giving employees autonomy and responsibility in the workplace. Organizational members are granted the freedom to define their roles, take the initiative to obtain and disseminate knowledge, and make decisions on their work in an environment that values freedom. Individuals can use judgment in their daily lives and

proactively gather and disseminate information. Since freedom in the workplace relates to the degree of independence allowed, high scores in this area indicate that networking and information sharing inside the company are both commonplace. On the other hand, low ratings suggest that individuals follow the rules and remain passive, staying within predetermined boundaries (Yström et al., 2014).

In contrast to individuals who function under strict leadership supervision, Amabile et al. (1996) found that workers who feel in charge of their work and ideas often perform better and think more creatively. Ekvall (1996) asserts that workers in a company that fosters a culture of freedom are given the flexibility to decide most aspects of their work. In this environment, people communicate, share, and transfer information, thinking through problems and considering different solutions. Employees are more likely to take the initiative and participate in varied planning in an environment that values flexibility. Within an organizational context, freedom of employee movement refers to the individuality of conduct exhibited by its members. Individuals are presented with the chance to state a large portion of their job in an environment that values freedom (Robinson, 2011; Runco, 2010). Individuals are also able to use judgment in their daily lives and are proactive in collecting and distributing facts (Ekvall, 1999).

2.1.3.5. Risk Taking

Risk-taking is an important dimension of organizational creative climate, which refers to accepting ambiguity and uncertainty in job roles. Even when the results are uncertain, daring new initiatives can be undertaken in a high-risk corporate environment (Ekvall, 1999). Risk-taking is a term used to describe how an organization manages uncertainty. High scores are achieved when a business moves quickly, makes judgments, and encourages individuals to produce novel ideas. In the second type of organization, risks are avoided by

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delaying decisions until after they have been lessened or eliminated due to other variables (Palm, 2019).

Individuals in a risk-taking environment at work feel freer to experiment with their ideas. They are, therefore, more inclined to impart their thoughts to others. Employees frequently show risk aversion and their willingness to take risks is correlated with the level of support they receive from their leaders. Stated differently, there is consensus that encouraging people to take risks is not as important as supporting them when they do so. This is because leaders who show encouragement and are not afraid to take chances also encourage their employees to do the same (Ekvall, 1996).

Individuals believe they can take a chance with some of their concepts. Individuals are not afraid to take chances while presenting their thoughts (Iqbal, 2011; Gong et al., 2009). Risk-taking is also the perception that the business organization is a risk-taker and adept at handling the ambiguity and unpredictability of pioneering projects (Runco, 2010). In addition, risk-taking can have both positive and negative aspects. On the one hand, it can lead to new chances and great successes; on the other hand, it can cause unexpected results or problems.

Ekvall (1996) asserts that managers who show encouragement and a readiness to take chances likewise encourage their staff to take chances. According to Amabile et al. (1996), one aspect that raises the possibility that employees will come up with new, creative ideas is the level of support businesses offer for taking risks and thinking creatively. This is seen as one aspect of organizational marketing. Innovation inside companies is influenced by risk-taking, a component of the organizational environment. Moreover, he mentions and acknowledges this element. He also presents a different viewpoint on taking risks, acknowledging the reality of uncertainty in business endeavors.

In this regard, risk management is an important process that helps identify and evaluate potential risks and take appropriate actions to reduce their negative impact (Mathewman et al., 2009). Furthermore, employees within a creative climate can approach challenges from several perspectives, which results in more effective and efficient solutions, as this is necessary to handle challenging situations and adjust to market shifts (Iqbal, 2011; Péter-Szarka, 2012).

2.1.3.6. Time for Idea and Support

The dimension of idea time describes the amount of time individuals can and do to develop new tasks or concepts. There are opportunities to debate and test hunches and new ideas that are not planned or part of the work when there is a high idea time (Ekvall, 1999). Employees who said there was no chance to work on new ideas and felt they did not have enough time to conceive new ideas are referred to as having idea time (Runco, 2010).

Measurement of the amount of time and support people have available to generate or elaborate on new ideas is called time for idea and support. People are more likely to adopt new ideas in operations when there is a high idea-time case, with opportunities for discussion and testing of novel recommendations (Altman, 2000; Lauer, 1994). The term idea time also describes the period of time set aside by an organization's staff members to produce, develop, and present new ideas. This idea is essential to developing a creative and inventive corporate culture. Employees can exercise their creative thinking during idea time, free from the constraints of their daily responsibilities. It promotes unconventional thinking and investigating novel ideas and solutions (Hong et al., 2014).

However, Ekvall (1996) asserts that people's ability to be creative is limited when they are under time limitations because they tend to think less creatively. One of the negative factors that leads to adverse outcomes is time

pressure. "Idea Time" refers to a time measure individuals might set aside to create or refine new ideas. People want to use new concepts in their actions, and in the high idea-time example scenario, there are opportunities for discussion and evaluation of new recommendations.

In the same context, Ekvall (1996) found that one important factor affecting the creative atmosphere in firms is the amount of time employees are given to develop new ideas. Throughout the course of the workday, this time is frequently referred to as the ideation phase. When an organization scores highly in this area, opportunities to explore and test ideas and impulses are more readily available, even when they are not part of the job or plan.

Integrating idea time into employees' weekly or daily routines is generally necessary for its successful adoption. It makes the process more consistent and prevents idea time from becoming an isolated incident. Consequently, making idea time successful requires providing the required resources and assistance, such as mentoring, materials, and tool access. Employees should have a sense of empowerment and encouragement in their artistic pursuits (Ekvall, 1996, 1999). It is thought that an organization's innovative culture has a major role in the success of idea time. Therefore, a culture that encourages risk-taking, open communication, and innovation is more likely to witness successful outcomes from idea time.

2.1.3.7. Management Support

The idea supports the dimension of organizational creative climate measures and deals with how novel concepts are handled. Managers and coworkers are responsive to thoughts and recommendations in a friendly and creative environment. Individuals support one another's endeavors and listen to one another; consequently, new concept possibilities are generated. Positive and productive energy permeates related to the idea support (Ekvall, 1999). Work group support is the third step in the project's stimulation of creativity,

according to Amabile et al. (1996). The findings demonstrated that the participation of working group members who offer constructive criticism and encouragement to one another has an impact on the stimulation of creativity. Members of a creative workgroup are open to new ideas, have a variety of experiences and talents, and work together simultaneously to achieve a shared objective. People in these groups tend to come up with a wide range of unconventional ideas since they can view potential solutions from several angles.

The way organizations that have an innovative environment that supports the way new ideas are dealt with is called idea support (Mathisen, & Einarsen, 2004). Therefore, managers and employees at all levels respond to and support ideas and suggestions with consideration and kindness in an innovative and supportive working environment (Ericsson, 2010). At the same time, in leading organizations, especially those leading in innovation, organization staff support each other's efforts and listen to each other (Ismail, 2005). On this basis, opportunities are created to test new innovative concepts, making the environment constructive and optimistic (Altman, 2000).

2.1.3.8. Trust and Openness

Safety and healthy empathy in relationships within companies are about trust and openness. Therefore, it builds trust and openness, significant aspects of an innovative climate within organizations (Isaksen, & Ekvall, 2010). On this basis, employees feel confident in expressing their thoughts and opinions when there is high confidence. From this perspective, initiatives may be taken without fear of reaction or ridicule in case of failure because there is trust and openness that everyone's opinion is respected. Nevertheless, it is of significant importance for improving direct and honest communication)Palm, 2019).

Openness and trust are essential components of any creative workplace environment, particularly when developing dynamic capacities and

encouraging innovation (Ekvall, 1999; Lin, & Liu, 2012). Effective teamwork requires mutual trust between members of the team and between staff members and management. It permits honest dialogue, the exchange of ideas, and creativity without concern for unfavorable outcomes (Abdullah, Wahab, & Shamsuddin, 2015). Employees who work in an atmosphere of high trust are more willing to take chances and offer creative ideas. Based on that, the fear of failing is also lessened and encouraged by trust (Runco, 2010).

The exchange of best practices and expertise is encouraged in an open organizational climate; this collective knowledge is essential for innovation and ongoing progress. Accordingly, a company may become more flexible and responsive to shifts in the market or industry by being receptive to new perspectives and input (Isaksen & Ekvall, 2010). In addition, openness permits the organization to change course and adapt as necessary. Furthermore, by appreciating many viewpoints and welcoming contributions from all organizational levels, openness fosters diversity and inclusion (Robinson, 2011).

2.1.3.9. Debate

As a dimension of the creative climate, debate entails interactions, disagreements, and collisions between ideas, points of view, backgrounds, and expertise. Many voices are heard in debate organizations, and individuals are eager to present their perspectives. People follow authoritarian tendencies without questioning when there is no debate. Thus, topics and ideas are the main focus of debate (Ekvall, 1999; Lauer, 1994). Various theories and solutions are tested through debate. Accordingly, finding the best answers to issues can be promoted by this technique. Employee engagement and motivation are higher when they perceive that their thoughts are respected and heard (Altman, 2000). The interaction, interchange, and collision of opposing viewpoints, ideas, facts, and experiences characterize a debate. Many people

are eager to voice their opinions, and debating groups cherish their contributions. People who live in places where there are few possibilities for dialogue frequently adopt authoritarian behaviors without thinking twice about them. Because discussion fosters knowledge, acknowledgment, and exchange of differing and competing points of view, it is also frequently linked to a creatively supportive atmosphere (Isaksen and Ekvall, 2010).

According to Ekvall's (1996) research, employees are more likely to speak out and express their thoughts when they work in an environment that encourages dialogue and appreciates their viewpoints. So, employees must have access to coworkers with a variety of abilities and skills if they are to actively seek out creative inspiration. Furthermore, structural processes serve as a forum for discourse, which is best defined as constructive idea comparison.

One essential dimension of a creative environment in an organization is debate. It involves the free interchange of ideas, critical analysis, and productive disagreement, all of which are crucial for promoting originality and creativity (Runco, 2010). Employees are encouraged to think critically and consider concepts from several angles through debate. This may result in a more thorough understanding and reliable solutions. Diverse points of view are also respected and accepted in a healthy discussion. This range of viewpoints might inspire original ideas that might not surface in a more homogeneous setting (Robinson, 2011).

It is believed that in an organization, debate is a potent instrument for promoting innovation, creativity, and effective engagements. Consequently, it may result in more creative ideas, improved problem-solving, and higher employee engagement when handled well. Establishing a constructive and fruitful creative environment requires balancing argument inclusion and respect.

2.1.3.10. Conflict

When interpersonal, emotional, or personal stress exists inside an organization, it is referred to as conflict. In addition, when there is a lot of conflict, people and organizations despise one another, and the atmosphere is similar to that of hostilities. In this context, there may be schemes and traps, as well as backstabbing and gossip (Lauer, 1994). Conflict may negatively impact an organization's creative climate, even though it is a natural and dynamic process that stems from human nature (Altman, 2000). This is particularly true when conflict is unproductive or unpleasant. Conversely, unfavorable confrontation can foster a climate of mistrust that discourages staff members from voicing their thoughts and opinions, eventually stifling creativity (Isaksen & Ekvall, 2010).

Effective cooperation is crucial for creative issue solving since disagreement can strain relationships and decrease team members' motivation to cooperate (Lin, & Liu, 2012). In this respect, clear and honest communication helps lessen the chance of miscommunication and confusion. Thus, managers should ensure that employees feel heard and that their issues are quickly resolved. Also, promoting professionalism and decency in all of the organizations' dealings is essential (Ekvall, 1999). Moreover, conflicts inside businesses have a negative effect on creativity. Discourse-related activities, including gossip, personal conflicts, and interpersonal treachery, are common in an organization where disagreements are prevalent. People and groups are hostile to each other, and the atmosphere may be characterized as hostile.

To manage conflict, Ericsson, (2010) revealed that establish unambiguous expectations for behavior and make sure that everyone abides by them. In addition, establish explicit protocols for handling disputes when they emerge and offer conflict resolution training. Furthermore, stimulating the use of problem-solving techniques and mediation and reminding team members of the shared aims and targets they are pursuing are among the effective tools.

2.1.3.11. Diversity

The term diversity embodies differences among people, particularly in their features, performances, and backgrounds, which lead to differences in behaviors, practices, traditions, and ways of life (Batmomolin et al., 2022). As different as they are, humanity stems from a similar root and base, suggesting that similarities between and within individuals occur. These similarities, however, do not exclude the existence of diversity even within one race or nation alone (Mustafa et al., 2020). Diversity has been a significant subject of emphasis for managers, researchers, and politicians alike since it plays a crucial role in companies in both local and international contexts. Cultural variety is seen as a key differentiator in this sense, emphasizing the distinctive qualities that set each person apart. This idea includes a wide range of hidden talents and attributes in addition to obvious characteristics like age, gender, and ethnicity, all of which add to the total richness and creative potential of an organization and enhance employee engagement (Sultana et al., 2013).

The term cultural diversity also describes the variety and plurality of human cultures, which are distinguished by customs, ideologies, and modes of expression. Even though all people share a common ancestor, cultural variety refers to the distinctions and overlaps that occur both across and within the same groups (Ali et al., 2022). The phrase captures the essence of diversity inside and between cultural groupings, a fact of human existence. Therefore, the complexity and variety of human civilizations are based on the interaction of variation, commonality, and differentiation (Wambui et al., 2013). Akpoviroro et al. (2018) point out that diversity is a unifying and differentiating element, basic to understanding the richness of human experiences. In this regard, Shih et al. (2016), mentioned that diversity relates to the actual or perceived distinctions between individuals based on race, ethnicity, gender,

age, religion, marital status, physical appearance, and other identity-based attributes. These variations in how people view and connect to others shape interpersonal interactions.

For instance, Sales (2010) contended that when diversity receives adequate attention, it improves employee engagement and overall performance in ways that cannot be accomplished in any other way. Researchers and business organizations now use a more inclusive definition of diversity that acknowledges a range of differences that impact how employees interact with their jobs, interact with one another, obtain satisfaction from their work, and identify who they are as people.

2.1.4. Empirical Studies on Creative Climate

In a quantitative review, Hunter et al. (2007) investigated the creativity climate. Scholars contended that the conventional belief is that creativity arises from the interplay between an individual and their environment. Studies on creativity frequently use climate indicators to evaluate situational factors. In the current endeavor, 42 previous research that evaluated the connections between different indices of creative performance and climate variables like support and autonomy were meta-analyzed. The results showed that climatic factors may accurately predict creative performance in a variety of contexts, samples, and criteria. Furthermore, results also showed that the characteristics were outstanding in predicting creative performance in hectic, competitive, high-pressure settings.

Gong et al. (2009) investigated the relationship between employee learning orientation, leadership, and creative climate, as well as the mediating effect of employee creative self-efficacy in a Taiwanese insurance firm. They randomly selected 277 insurance agents to interview for the research. Results showed a favorable relationship between employee creativity and supervisors' ratings of their work performance as well as sales. This research also implies

that managers might profit from employee creativity by choosing creative workers and establishing a supportive creative climate. This suggests that workers are generally more productive when they are part of a supportive SHRM environment and operate in a creative climate.

Iqbal (2011) empirically evaluated the aspects of the creative climate using data from the knitwear industry in Pakistan. To fulfill the objectives of the research, a sample of 415 workers in the Pakistani knitwear industry were given self-administered questionnaires. A total of 353 participants provided usable responses. Of the six creative climate aspects identified by Ekvall, only three had high ratings, while the other three had low scores. Challenge, trust, and conflict were the three aspects of the creative climate that employees felt strongly about. Flexibility, idea support, playfulness & humor, discussion, idea time, and risk were the aspects the Knitwear industry's employees rated poorly. Scholars have investigated creative climate and discovered noteworthy and affirmative correlations among creative climate, personal drive, and innovative results. Additionally, they have backed the broad notion that organizational dynamics and personal responses are both included in the concept of climate.

The creative climate was studied by Barrett, Balloun, and Weinstein (2012) as a crucial success element for 21st-century enterprises. The researchers argued that organizations often miss the internal elements that improve strategy formulation, ease execution, and boost company success. External variables like the economy or competition may not always have as much of an impact on performance as crucial success elements like creative culture, learning orientation, entrepreneurial orientation, market orientation, and organizational adaptability. A strong correlation exists between all five of these parameters and organizational performance and each other. The variables collectively explain thirty percent of the variation in organizational effectiveness. The study also showed how a creative atmosphere moderates

learning orientation and how little of a moderating impact it has on market orientation.

Research on the topic of creative climate as a way to foster creativity was conducted by Péter-Szarka (2012). The researcher pointed out that since the 1950s, the perception of a creative climate has been the focus of much research. The concept of creative climate mostly concentrates on the unique, individual characteristics of creativity. The researcher also mentioned an overview of the new environmental approach to boosting creativity in the professional literature from across the world was given by current research, focusing on earlier organizational psychology results and how well they translate to formal education settings. The findings highlight the necessity of a nurturing environment for an individual's development, and how creative climate influences may foster and even enhance an individual's creative abilities.

The impacts of student participation in a knowledge-building environment on their collaborative learning process and the setting's perceived creative climate were investigated by Hong, Chang, & Chai (2014). To reach the research's main purpose, thirty college students participated in the living technology course, which used knowledge-building techniques. Researchers also mentioned that the primary sources of data are a creative climate questionnaire and online conversations among students. The results show that the students were more cooperative and productive over time, and they also tended to believe that the learning environment was conducive to the formation of new knowledge.

Yström et al. (2015) sought to bridge the knowledge gap by investigating the creative climate in SAFER, an open innovation arena that brings together 26 partner organizations for collaborative innovation. They identified opportunities and challenges in this setting. The researchers noted that it has been suggested that the new paradigm of open innovation fosters creativity by enhancing connectedness across several partners. Still, a small number of

empirical research is examining the impact of this novel approach to innovation organization on the climate of creativity. The study used a mixed methodology that includes qualitative data collection through interviews and a quantitative creative climate questionnaire. The results indicate that the arena's networking and cross-functional meetings help to foster a creative environment, although managing doubts about work identities, information sharing, and knowledge openness can be difficult.

The link between organizational culture, climate for creativity, and innovativeness was studied by Abdullah et al. (2015), who mentioned purposive sampling was used to survey thirty-two small businesses. The connections between the constructs were examined using multiple regression analysis. The findings indicated that organizational innovativeness is strongly correlated with organizational culture and creativity climate. The creative climate and organizational culture are very closely associated. This suggests that both dimensions are essential for enhancing organizational innovation in small businesses. Significant variation in corporate culture attributed to creativity and climate bolsters previous claims that culture and climate are complementary rather than opposing concepts.

In a Swedish hospital context, Palm, (2019) conducted an empirical examination of the relationships between ambidextrous leadership, individual inventive work behavior, and creative team climate for innovativeness. One hundred thirty medical experts from seven different departments in a rural hospital in Sweden made up the sample. The findings showed that, in a Swedish hospital system, ambidextrous leadership positively correlated with a creative team climate. When combined with creative work behavior, the results also showed that ambidextrous leadership significantly harmed the creative team atmosphere. There is more discussion on the effects of ambidextrous leadership in the healthcare industry.

The research on the relationship between innovation and the creative climate conducted by Ortisi (2020) examined how different aspects of the creative climate affected individual innovation behavior. The study was assessed quantitatively, and the method of gathering data was a survey. The regression model is used to utilize the obtained data analysis, such as age, gender, tenure, business line, immigrant, challenge, freedom, trust, conflict, idea support, idea time, discussion, risk-taking, management support, diversity, play/humor, and innovation perception were the 17 independent variables. According to the findings derived from the variables of conflict, discussion, idea support, and taking risks, people's innovative behaviors appear to be positively correlated with a creative climate that presents more challenges.

Abo-Baker et al. (2023) examined the relationship between risk-taking and the creative climate of nursing in Port Said hospitals. To collect empirical data from 291 nurses working in government hospitals in Port Said, descriptive correlational research was developed. Risk-taking and situational viewpoint questionnaires were employed as data-collecting instruments. The results showed that creative climate dimensions and every aspect of risk-taking had a favorable association. Lastly, there are positive significant relationships between nurses' risk-taking and the creative climate.

Fadila & Sawitri (2023) investigated the creative climate as a mediating factor in the association between inventive behavior, management innovation, and empowering leadership in the hotel sector. The results showed the influence of empowered leadership on management innovation and inventive behavior. The results also showed that creativity climate is positively correlated with the model constructs and thus positively mediated in the relationships. Furthermore, researchers mentioned that their conceptual model study will be useful in helping organizations grasp the expected changes in the organizational environment in terms of management innovation.

2.2. THEORETICAL ASPECT OF EMPLOYEE ENGAGEMENT

This part will present the concept of employee engagement and review the concerns raised by earlier studies on the subject. This part also includes how this will be used in the current study. Over the past decade, research on employee engagement has increased significantly, indicating the attention paid to the subject by researchers and organizations; according to Macey & Schneider (2008), a lot of businesses view employee engagement as a key source of competitive advantage because of its apparent capacity to address complex organizational problems like lower attrition and higher productivity. Guest (2014) asserts that employee motivation is the source of research on employee engagement. According to the author, there is now more interest in employee engagement.

Based on that, researchers and organizations have demonstrated the benefits of controlling and addressing employee engagement. Managing the three facets of employee engagement, enthusiasm, devotion, and absorption assists in improving the positive emotions that employees prioritize at work. Based on a review of published research over the last 20 years, HR and other business professionals have become more interested in the results that employee engagement is supposed to provide. The research paints a clear picture of the advantages of having engaged employees, including increased productivity or income, less absenteeism, more productive workers, and improved customer satisfaction (Rama Devi, 2009).

Nonetheless, job participation and engagement are not the same thing. May et al. (2004) claim that job participation is related to one's self-image and arises from a cognitive assessment of the job's capacity to meet needs. Engagement is related to the way people use themselves when doing their jobs. In addition, engagement entails the active application of feelings and actions in addition to thoughts. According to May et al. (2004), people who are deeply engaged in their positions should start identifying with their employment,

suggesting that engagement may be perceived as a precondition to work participation.

A greater emphasis on employee engagement results in better levels of expressed involvement from staff members, which is probably going to improve intended outcomes (Masson et al., 2008). This has enhanced the need for managers to realize that employees require greater attention and that precise engagement is a key component of business success. Because employee engagement is the extension that might explain larger organizational success (Victorin & Westin, 2023). Employee engagement also rises when staff members attend significant management meetings. It is the process of ensuring that employees follow the work principles and ideals of the organization. It is inadequate to hire the best personnel (Hameduddin & Lee, 2021).

Improved employee engagement is related to higher employee morale, which is defined as a worker's disposition, state of mind, and level of job satisfaction. Workplace engagement and motivation are key components of the culture needed to achieve these goals (Maslach et al., 2001). Employees delighted in their jobs are more likely to remain motivated and put in extra effort to meet organizational objectives. To complete their jobs, they work fast and effectively. Increasing staff involvement boosts psychological engagement and morale. Confident workers exhibit higher levels of engagement, delight, and job satisfaction (Kang & Sung, 2017). According to Fletcher et al. (2018), employee engagement entirely mediates the relationship between employee intention to remain and identified training and development. Employee engagement is also highly correlated to remaining in the organization.

Employees attending executive meetings will also benefit from the organization's ability to enlighten and keep them informed of changes. A sense of belonging to the business is facilitated by employee contribution. They thus obtain more dependability, accomplish higher outcomes and take on more responsibility for their work (Arshad et al., 2022). This enhances the ability to

solve problems and think creatively at work. Therefore, organizations must provide their staff members autonomy and room. As a result, the organization remains competitive by doing this to help produce new ideas. Furthermore, it will supply new concepts that will influence the organization (Masson et al., 2008)

Organizations, hence, should shape employees to meet the needs of the organization. Any organization may benefit greatly from the knowledge, skills, and experience of its employees. However, to obtain the most out of it, organizations need to include employees and develop a positive working culture (Alshaabani et al., 2022). It has been demonstrated that when leaders empower their team members, their feeling of self and level of performance typically improves. A stronger ambition for participation can arise from leaders who inspire their staff and provide opportunities for personal growth. Therefore, employees may feel inspired to offer more to the organization with the help of inspiring leadership (Arshad et al., 2022).

2.2.1. Concept and Definitions of Employee Engagement

The concept of employee engagement is relatively new, and human resource (HR) consulting businesses that guide how to establish and exploit it have actively pushed it. Now that academic scholars are gradually entering the debate, both sides are burdened with conflicting and contradictory understandings of what the concept means (Macey, & Schneider, 2008). The concept of employee engagement describes how much a worker identifies with and bonds to a business when they are motivated, enthusiastic, and driven to achieve outstanding outcomes. Furthermore, the concept is focused on three elements: energy, devotion, and absorption. Employee interest is the ability to work with great vigor and be passionate about one's work in easy and tough situations (Victorin & Westin, 2023).

Strong affiliation with one's job and a sense of pride and significance toward it are characteristics of dedication. Lastly, absorption describes workers who are extremely absorbed and focused on their task and find it challenging to step away from it. Employing diversity management techniques is essential for improving employee engagement since the instruments employed demonstrate an organization's concern and support for its staff (Alshaabani et al., 2022).

Each person engaged in the organization puts greater effort into their work. When engaged, workers apply different degrees of emotion and thought processes to carry out their tasks and achieve the required results. Engaged employees demonstrate their genuineness through emotional connection, cognitive awareness, and physical involvement. Meanwhile, disengaged workers separate themselves from their workplace responsibilities (Uddin et al., 2019). The degree of engagement demonstrated by employees or members of the organization in both the organization's daily operations and its long-term goals. People are inherently motivated to contribute positively in a high-stress setting and to find fulfillment and a sense of direction in their work, which requires a substantial amount of work.

Since the concept of employee engagement is so broad, academics regularly discuss and challenge it, which makes it difficult for researchers to comprehend (Meyer, 2013). Consequently, further research is still needed on comprehensive, localized, and deep knowledge of employee engagement. The concept and its practical application differ significantly (Matthews, 2018). As such, employee engagement is becoming more well-known and is currently at the top of employers' lists. Even though engagement has been the subject of several studies, a thorough and in-depth explanation of the phenomena is still missing (McManus & Mosca, 2015).

According to Harter et al. (2002), employee engagement is the feeling of contentment, involvement, and passion for one's work. Employee engagement,

according to Anitha (2014), is the level of commitment and attachment a worker has to the organization and its values. In addition to motivating their peers to accomplish organizational goals, engaged workers accept accountability for their share in achieving corporate objectives. When an employee is engaged, they go above and above the call of duty, striving to do a better-than-average or even excellent job. An employee who is emotionally and intellectually immersed in their organization, respects its values and is dedicated to its goals is said to be engaged.

The concept of employee engagement has experienced substantial improvements in definition, measurement, and conceptualization as it has increased in popularity. There is a considerable gap in academic literature as a result of this bottom-up expansion (Macey & Schneider, 2008). Academic research on the topic was available to practitioners when they searched academic literature for techniques for creating an engaged workforce (Saks, 2006). Employees' capacity to communicate their cognitive, emotional, and bodily reactions to leaders has recently been the definition of engagement (Hameduddin & Lee, 2021).

Many definitions of employee engagement can be found in the literature, driven by study and practice. Folk theory, or the general intuitive notion that individuals, especially leaders within companies, have regarding work motivation, can be recognized by other definitions (Macey & Schneider, 2008). These definitions share the idea that employee engagement is a desired state, has an organizational goal, and implies participation, dedication, passion, excitement, concentrated effort, and energy, including both behavioral and attitudinal components. Such attitudes and actions have their roots in the workplace, and the outcomes are seen to be beneficial to the efficiency of the business (Markos & Sridevi, 2010).

According to Kahn (1992), employee engagement is the decision made by an employee to voluntarily and fully devote their physical, cognitive, and

emotional selves to their work roles in a way that fosters relationships with coworkers, personal presence, and active, full role performances. This choice is made possible by a supportive work environment (Pfeffer, 2015). Many factors, such as identity, leadership style, trust, job design, strategy, and competitive advantage, all fall under the category of leadership influence and, as a result, influence employees' decisions to devote themselves to their jobs. This, in turn, affects employees' willingness to give more or less of themselves to their job roles (Martins and Nienaber, 2018). As a result, academics have proposed that a more comprehensive understanding of engagement, which takes into consideration workforce management in the context of organizational objectives and, eventually, effectiveness, would be a more fruitful approach to researching engagement (Nienaber, 2019; Purcell, 2014).

Several meanings have been offered in scholarly works, such as employee engagement, described by Kahn (1990) as the harnessing of organization members' selves to their work roles. In engagement, individuals use their bodies, minds, and emotions to express and fulfill their roles. Disengagement from one's job can take several forms, including withdrawing from oneself and defending oneself emotionally, cognitively, or physically when performing a role. Thus, engagement, in the words of Kahn (1990), is the act of being psychologically present throughout the occupation and performance of an organizational position. In addition to defining employee engagement as the psychological present, Rothbard (2001) adds that it requires two essential elements: absorption and attention. While absorption means being engrossed in a role and refers to the intensity of one's focus on a role, attention is defined as cognitive availability and the amount of time one spends thinking about a role.

Employee engagement is believed to be the emotional and psychological connection between employees and their work, colleagues, and organization. It extends beyond job satisfaction and comprises the commitment, enthusiasm,

and dedication employees bring to their jobs. Engaged employees are typically more motivated, productive, and satisfied with their work, which can lead to higher job performance and organizational success.

2.2.2. The Importance of Employee Engagement

One of the key components of a successful organization is employee engagement, which may effectively turn challenges into chances for accomplishments and outcomes that positively impact the overall direction of work. In addition, it has a favorable effect on how employees feel about their jobs and the organization. The advantages that accrue to management and staff result in enhanced productivity and job effectiveness (Nienaber, 2019). Workplace productivity is positively impacted by employee engagement. Productivity and efficiency increase with more effective engagement. Every worker at work carries out his assigned duties as effectively as possible. Undoubtedly, a cohesive and linked work team produces excellent outcomes and accomplishments at work. This guarantees improved job performance toward the desired outcome (Nienaber & Martins, 2020).

Employee engagement lowers the weariness rate at work, which is a barrier to productivity that keeps the task from getting done as needed. When job pressures are not adequately managed, fatigue occurs at work. The work of the team is immediately impacted when an individual is overworked at work. At work, fatigue leads to low output, low job satisfaction, low accomplishment, and incapacity to concentrate (Schaufeli & Bakker, 2004).

Employee engagement is important since it keeps workers on board and lowers attrition, contributing to the formation of the most productive and efficient work teams. A higher staff turnover rate hinders the work team's ability to finish tasks on time. Losing an experienced and talented person causes the work team to become less experienced. The team becomes more substantial and more capable of accomplishing the objectives when members interact with

one another (Kompaso & Sridevi, 2010). Another reason why employee engagement is so important is that it fosters increased collaboration and interaction among team members, which enhances overall team performance. it significantly affects improving staff morale. This strengthens each worker's strong sense of significance inside the team. It results in the work team performing at its peak.

The stress of work is reduced and eased by employee involvement. A skilled manager directs them to lessen the stress associated with their work. This is achieved by providing employees with full support at work. Not to mention managing these expectations so well that they serve as incentives for better work. When support is accessible, employees feel more empowered and driven to overcome challenges. The involvement process, which reduces stress at work, makes this possible (Rama Devi, 2009). Workplace absenteeism decreases when employees are engaged. Studies and research have shown that an employee who is disobedient and does not fit in with the team takes more vacation days than an employee who cooperates and works in a cohesive team. This helps to achieve work goals with high performance by lowering the rate of absence from work and boosting creativity in performance (Nauman & Ghafoor, 2023).

Arshad et al. (2022) demonstrate the significance of employee engagement. Employees with greater ambition for their work will be more focused, have more energy, and a stronger feeling of purpose. One method to address diverse, more significantly, personality types is to know how group leaders should behave to boost employee engagement. Above all, employers desire productivity from their staff. It is crucial to press the buttons that can increase productivity as a result. When workers are engaged, they make deliberate choices. They could organize their tasks. They could be more devoted and passionate about what they do. This improves staff development and organizational productivity (Victorin & Westin, 2023).

Since it improves employees' ability to adjust to change management, employee engagement is important. Organizations and employers should be flexible and ready to take on the difficulties of change (Guest, 2014). Thus, organizations should be distinctive to succeed in the competitive and changing world of today; those who can adapt to change are more likely to succeed. When employees are involved in important business decisions, an organization is open to new ideas and viewpoints. Employee engagement helps organizations better foresee changes in the future and learn how to respond to them when they arise (Hameduddin & Lee, 2021).

Additionally, Kang & Sung (2017) emphasizes how important employees are since they are a key element in the organization's progress. Thus employees are viewed as the most significant actors. Employee disengagement increases the likelihood that performance may fall short of expectations. Furthermore, from the viewpoint of the employee, engagement is defined as a psychological state in which a person believes that they are a part of a group or are respected for the job that they have. The requirement for workers to feel like they belong and receive personalized attention is therefore crucial to consider (Shuck, 2010).

2.2.3. The Indicators of Measuring Employee Engagement

Kompaso & Sridevi's (2010) research indicates that Kahn's work served as the inspiration for the early conceptualization of employee engagement. According to Kahn (1990), engagement is the employment of oneself in task behaviors that improve connections with coworkers and customers. It also includes active full-role performances and one's presence (cognitively, emotionally, and physically).

According to Macey & Schneider (2008), as a psychological condition, engagement has historically encompassed one or more of several similar concepts, each of which has come to signify different degrees of passion,

connection, and/or absorption. From an operational perspective, the engagement measures have mainly consisted of a mixed bag of elements that reflect one or more of the four distinct categories: job participation, job satisfaction, organizational commitment, and psychological empowerment. This part provides an overview of each of them concerning the notion of engagement.

One of the primary ways to measure employee engagement is through employee satisfaction surveys. These surveys provide a comprehensive view of how satisfied employees are with their work and can be used to identify areas for improvement (Purcell, 2014). Questions should be carefully designed to include aspects such as work environment, communication with management, opportunities for professional development, and work-life balance. In addition, indicators are used to measure employee engagement (Kahn, 1992; Nienaber, 2019). These include attendance and absenteeism, employee turnover, productivity, and participation in internal activities such as meetings and workshops. These indicators help provide a clear picture of how engaged employees are with the work environment and achieving goals.

Improving an employee's performance and having a management or leader support them is one of the most crucial aspects of employee engagement. Increasing productivity at work should be standard practice (McManus & Mosca, 2015). The majority of research shows that the main factors influencing employee engagement include feeling appreciated by management, having open lines of communication with management, showing management that it cares about employees' well-being, and providing more possibilities for employees to advance (McManus & Mosca, 2015).

However, research suggests that employees do not place much value on compensation and perks (Markos & Sridevi, 2010). This may be the case given that businesses in wealthy nations conducted nearly all of the polls. Were comparable studies conducted in other third-world nations, such as those in

Africa, the priorities of drivers may have been different. As a result, more international polls involving a larger number of nations are required (Meyer, 2013). A manager or leader should always aim to make the organization and each of its team members or employees successful. Managers can help the entire organization increase productivity by fostering a more effective work environment that values ongoing development and learning (Matthews, 2018).

Being productive and focused on work when a hundred things are happening around them is one of the hardest things for employees. Several things, including a propensity for squandering time, outside distractions, and obnoxious coworkers, might cause employees to lose concentration. These elements may have a detrimental effect on general efficiency and productivity (Stensson & Wiklund, 2023).

As Millar (2012) pointed out, there is a need to view employees as independent and less reliant on their employers. However, they can also participate in their growth and involvement. This was recognized by managers and staff alike, as staff members considered their obligation to express what prevents them from feeling involved and what they need to feel engaged. Nonetheless, to find out what's going on and how they might help, managers must speak with and inquire about their staff.

One of the best ways to show that workers are enthusiastic about their jobs is to demonstrate that they are familiar with the organizational culture. Understanding an organization means being able to talk about its values and show how they align with those of the workforce, in addition to being able to manage its business elements (Millar, 2012). When employees are happy and satisfied with their work, it usually indicates that they are driven, excited, and passionate about the work they complete. Employees are motivated to go above and beyond in carrying out their responsibilities because they are truly enthusiastic about what they do (McManus & Mosca, 2015). They consider

work to be both necessary and pleasant, which motivates them to take on new tasks and chances (Shuck, 2010).

When an employee experiences a sense of pride in being a member of the organization, it suggests they will be more engaged in the organization's objectives. This is because the employee is working in a suitable environment and is incentivized to cultivate this sentiment. Employees play a critical role in enhancing organizational performance and collaborating to achieve creativity. A creative environment within the organization is essential for employee engagement (Stensson & Wiklund, 2023).

An employee's engagement increases when they have a positive outlook on their work, which can help them stay motivated and overcome challenges. To participate is to put a great deal of effort into the job. This is accomplished via taking part in events, contributing to conversations, exchanging ideas, and taking the initiative to enhance procedures or results (Rothbard, 2001). The measurement also used to evaluate work satisfaction, the degree to which an employee feels happy to be a part of the organization, culture, or climate, is quite similar to the engagement metrics used in the real practice world, albeit with a different name. Engagement implies activation, but pleasure implies satiation, even if there may be space for both within the engagement construct (Erickson, 2005).

Furthermore, while asking employees to describe their working conditions may be useful in evaluating the state and/or behavioral variables that support engagement, satisfaction surveys do not directly measure engagement. Instead of evaluating involvement directly, these metrics necessitate an inferential jump to engagement. This is significant from a practical standpoint since the guidance the practitioner provides management with about engagement difficulties necessitates a comparable leap of reasoning that is all too obvious to the perceptive executive (Macey & Schneider, 2008; Stensson & Wiklund, 2023).

2.2.4. Empirical Studies on Employee Engagement

Despite the paucity of empirical research on the factors influencing employee engagement, the models of Kahn (1990) and Maslach et al. (2001) provide some plausible antecedents. Although the preconditions for work and the same assumptions are made for both forms of participation organization engagement considering the paucity of prior research. Using a meta-analysis approach, Harter et al. (2002) investigated the link between employee engagement and satisfaction and the business-unit outcomes of client satisfaction, productivity, profit, employee turnover, and accidents at the level of 7,939 business units across 36 businesses. The results showed broadly applicable correlations between these business-unit results and employee engagement and satisfaction at the unit level that were large enough to be extremely useful. Changes in management techniques that boost worker happiness might have the unintended consequence of improving business-unit results, such as profit.

Burnout and its beneficial antipode engagement of employees were studied by Schaufeli & Bakker (2004). A model is evaluated whereby there are differences between predictors and potential outcomes for burnout and engagement. As the researchers mentioned, data from four separate independent occupational samples (a total of 1698) were analyzed simultaneously using structural equation modeling. The findings support the proposed model, which states that burnout and engagement share between 10% and 25% of their variances, that burnout is primarily predicted by job demands and also by a lack of job resources, while engagement is solely predicted by job resources available; that burnout is related to both health issues and turnover intention, while engagement is only related to the latter; and that burnout mediates the relationship between job demands and health problems, while

engagement mediates the relationship between job resources and turnover intention.

According to Macey and Schneider (2008), practitioners who utilize the term in client discussions as well as academic researchers, have differing interpretations of what employee engagement means. The phrase is used in a variety of contexts to describe psychological moods, characteristics, and behaviors as well as their causes and effects, according to the researchers. Based on several pertinent literatures, this study presents several claims on trait engagement, behavioral engagement, and psychological state engagement. Furthermore, it claims the role that leadership and job qualities play as mediators of the interactions between the three components of engagement and as major impacts on behavioral and state involvement. The study's conclusions included ideas for possible antecedents and measuring the three aspects of involvement.

Research by Shuck (2010) explored antecedent and result variables such as work fit, emotional commitment, psychological environment, discretionary effort, desire to leave, and employee engagement. A varied sample of businesses from the service, technology, healthcare, retail, banking, nonprofit, and hospitality sectors were given access to an online self-report survey consisting of six scales. The findings demonstrated a substantial relationship between employee engagement and psychological environment, work fit, and affective commitment. Additionally, there was a significant relationship between employee engagement and intention to leave as well as discretionary effort. According to the findings of the hierarchical regression analysis, employees who reported feeling that the psychological environment at work was favorable were more likely to report greater levels of discretionary effort in the context of the discretionary effort model.

The importance of employee engagement in enhancing performance was examined by Markos & Sridevi (2010). The researchers noted that the concept

of employee engagement is broad and encompasses nearly every aspect of human resource management that has been studied thus far. Employees will not completely participate in their work if human resources are not handled well since this type of mismanagement will cause them to lose interest in their work. The foundation of prior notions like work satisfaction, employee commitment, and organizational citizenship behavior forms the basis of the term employee engagement. Employee involvement is more expensive even though it is connected to and includes these ideas. Compared to the three previous constructs, such as job satisfaction, employee commitment, and organizational citizenship behavior, employee engagement is a better predictor of good organizational performance, demonstrating the two-way link between employer and employee.

Ivani, Muchtar, and Rasyid (2019) examined how employee engagement, perceived organizational support, and organizational justice affected the organizational citizenship behavior of employees in the west Sumatra province's regional secretariat. Four hundred sixty-four respondents served as the study's sample. The findings demonstrated the impact of perceived organizational support and organizational fairness on employee engagement in the engagement regional secretariat of the province of West Sumatra. West Sumatra Province's regional secretariat oversees organizational fairness, perceived organizational support, and employee organizational citizenship conduct.

According to Nienaber & Martins' (2020) analysis, employee engagement has lately come to light as a potentially successful way to increase organizational effectiveness and, in turn, close the performance gap. The strongest employee engagement component or dimensions to raise employee engagement levels and, in turn, organizational success is experimentally demonstrated in this article. The research employed quantitative methodology, more precisely, a survey design with data collection using a questionnaire.

Researchers used regression analysis to forecast how employee engagement characteristics will affect the degree of employee engagement inside companies and on the Internet and social media. The findings show that organizational strategy and implementation, as well as team and organizational commitment, are important determinants of employee engagement. Employee engagement is negatively impacted by social media usage online.

In their study, Stensson & Wiklund (2023) sought to determine the most desired leadership position and employees need to examine further and determine if there is a positive association between the various degrees of employee engagement. The findings demonstrated that there are both positive and evident relationships between employee engagement and the chosen leadership role. The findings also demonstrated that followers had distinct preferences for some leadership responsibilities and characteristics over others. Finally, the results did not reveal a significant correlation between the research participants' most pressing requirements and their level of involvement at work.

Nauman & Ghafoor (2023) evaluated a conceptual model developed from research on the body of literature on these characteristics and proposed links between employee engagement and perceived leader conduct. Presenting a sample of (285) instructors from private schools in Punjab, Pakistan's Gujrat district. An experiment was not used in the quantitative research design. Participants completed a questionnaire that assessed their perceived presence of transformational leadership in the workplace as well as their actual degree of job engagement. After putting all of the scales through reliability testing to assess the measuring capabilities of the different measures, it was discovered that each scale had the proper level of dependability. The outcomes showed a positive relationship between transformative leadership and employee engagement.

In their study, Nordgren & Bjors (2023) examined the topic of quiet quitting, loud consequences, and the managerial role in employee engagement.

Employees who put in the bare minimum of labor at their jobs are generally referred to as quiet quitters, and supervisors appear to be the leading cause of this issue. The results revealed a low to moderate statistically significant association between employee engagement and the three fundamental requirements of the self-determination theory: competence, autonomy, and relatedness. Furthermore, low employee engagement appears to be a reliable indicator of resignation. Additionally, researchers advised managers to adopt a need-supportive management approach to better meet the three fundamental needs of their staff members.

Victorin & Westin (2023) looked into the possibility of developing diversity management by analyzing individuals' personalities to improve employee engagement. By responding to the study question, how could an understanding of diverse personalities improve employee engagement? Seven people at two multinational organizations in Sweden were examined in-depth to gather the subjective reality of a single instance. Additionally, the study used a qualitative research methodology, conducting seven semi-structured interviews before deriving the empirical data through a theme analysis. Using the Five Factor Model (FFM), it has been discovered that there is a relationship between the personalities of the employees and their levels of engagement. The investigation results suggested that the employees' personalities, as opposed to minor differences, affected their degree of involvement.

In the largest industrial hub in Southeast Asia, Achmad et al. (2023) investigated job satisfaction and employee engagement as mediators of the link between talent development and intention to stay among Generation Z workers. Employees who intend to remain in their current role with their current organization for a considerable amount of time are said to have an intention to stay. Purposive sampling was used to gather 342 samples of Generation Z workers from businesses in 15 Bekasi Regency industries, including manufacturing, food, services, electronics, transportation, construction, IT,

communications, and real estate. Software called Smart PLS 3.0 was used to test the data. The results showed that talent development positively and significantly influences the desire to stay, with work satisfaction acting as a stronger mediating factor between talent development and intention to stay than employee engagement.

2.3. THEORETICAL ASPECT OF CREATIVITY

Creativity is an interactive phenomenon that results in the creation of novel and practical items. The results of creativity might be ethereal, like an idea or theory, or physical, like a painting or piece of clothing (Mäkikyrö & Insoll, 2018). In the ever-evolving world of today, an organization's ability to remain creative is essential to its survival as well as giving it a competitive edge (Amabile, 1988). The role that workplace mood plays in either stimulating or inhibiting creativity is a major topic in theories and research on creative performance (George & Zhou, 2002).

Many sides of creativity, including the creative process, the creative personality, and developmental strategies and approaches, have been thoroughly studied in research and theories. Additionally, giftedness models emphasize the importance of creative capacities in intelligent individuals (Sternberg, 2005). These methods are similar in that they center on the person, more especially, the psychological aspects that affect creativity. Environmental influences on activities have gained importance in research recently (Wang et al., 2020).

Researchers acknowledge that creativity is a consequence of complicated processes rather than being in a vacuum interplay of several elements or variables. These elements are external and intrinsic elements that have to do with an individual's innate qualities, including mental capacity, drive, and emotional condition (Barkóczi, 2012). Examples of extrinsic effects are environmental impacts, such as social engagement, noise, and distraction. A

few external variables also have an impact on intrinsic elements; social engagement, for instance, is an extrinsic aspect that can elevate mood, which is inherent (Alexander, Rogelio, & Marine, 2017). Nevertheless, organizational creativity is a multifaceted perception that considers interactions between individuals, teams, and the organization as a whole. It is quite similar to an experiment carried out in chaos theory (McLean, 2005).

Guilford's seminal presentation in 1950 presented the idea of distinguishing between divergent and convergent thinking, and this idea has been the foundation of the area of creativity studies ever since. Guilford claimed that divergent thinking, which entails yielding ideas and considering several possible answers, is directly related to creativity. However, just as crucial to the creative process is convergent thinking, which is identifying the best solution or a single answer (Gyarmathy, 2011); argued that when the parts of the mind come together in a new way to create something unique, it is called creativity.

The componential paradigm of organizational creativity and innovation was modeled by Amabile (1997). She contends that when employees' unique abilities, such as knowledge and creative thinking, align with their innate drives and passions, true creativity can be fully used and increased creativity will naturally lead to innovation. This idea holds that managers should not restrict inventiveness to the departments that labor creatively yet conventionally. The fundamental tenets of the paradigm are that every employee is seen to possess a unique creative capacity and that an organization's work environment may influence its employees' creative behaviors.

When someone engages in this kind of activity, they actively welcome and investigate the ambiguity, vagueness, and uncertainty that may inspire the creation of a new framework or structure rather than rejecting traditional answers. In addition to improving teamwork and problem-solving skills, creativity also raises life satisfaction. Creative people tend to be more

optimistic and persistent while overcoming problems, and their daily creative expression enhances the well-being of both the creative person and their environment (Barkóczi, 2012).

According to Robinson (2011), creativity is the cognitive process of generating original and worthwhile ideas. It necessitates the active use of one's imagination and the production of something new. These ideas suggest that the creative process may be applied to any scientific or professional field, not only the arts or advertising. Through accepting ambiguity, creativity promotes the birth of new ideas and the acceptance of differing viewpoints, and as a result, tolerance, understanding, and teamwork are improved.

2.3.1. Concept and Definitions of Creativity

To better understand the concept and definitions of creativity, one of the variables of the current research, it is first necessary to describe the concepts of creativity and innovation, along with their distinctions. Creativity is the process of generating ideas, whereas innovation is the process of putting these ideas into practice. Throughout literature, innovation and creativity are frequently used interchangeably yet are seen as distinct phases of the same process (Anderson et al., 2014). Technically speaking, creativity is defined as the process of turning new and imaginative ideas into reality to create something new that did not previously exist. Linguistically, creativity is defined as coming up with something unparalleled in quality and perfection, which is an unprecedented innovation (Seidel, 2009).

Accordingly, the steps of developing, adopting, and putting new ideas into practice are included in creative and innovative behaviors (Yuan and Woodman, 2010). While the concepts are sometimes synonymous, creativity and innovation differ entirely. Innovation is the effective application of creative ideas inside a company, whereas creativity is defined as the production of original and effective ideas in any domain (Amabile et al., 1996). Such an

inclusive work atmosphere that welcomes dissenting views and empowers staff to voice concerns about job quality is necessary for the production of creative ideas (Ali Chughtai, 2016).

One definition of creativity is the ability and function of a person to originate or produce novel ideas. In the present competitive environment, employee creativity serves as a purposeful source of innovation for the industrial sector (Zeb et al., 2020). As a result, Zhou and George (2003) argued that many practitioners and scholars had realized how important it was to encourage creative behaviors in their workforce in the fiercely competitive business climate of today.

In the context of organization, creativity is typically understood to be the capacity to develop unique goods, creative solutions, and efficient procedures (Proctor, 2014). Accordingly, it is described as staff members' capacity to provide novel, enhanced, and inventive concepts, goods, and processes with excellent execution potential and content that enhances performance inside an organized process (Koseoglu et al., 2017). In this respect, Seidel (2009) mentioned that when used effectively, creativity is a multifaceted organizational resource that sparks creative movements, propels institutional problem-solving, and builds the basis for novel and exciting products. For those who consistently master its application, this can lead to enormous economic opportunities.

The process of bringing new, inventive concepts to life is called creativity; according to Basadur (2014), creativity is defined as the capacity to observe the world in novel and inventive ways, identify hidden patterns, draw connections between seemingly unrelated occurrences, and help produce unconventional solutions. The two primary phases of creativity are ideation, which is the generation of new ideas, and production, which is converting these ideas into concrete reality.

As indicated by West (2002), the most obvious instances of creativity occur in the early stages of innovation cycles or processes, when team members are expected to produce or suggest ideas in response to the identified need for innovation. They are also likely to demonstrate creative thinking when they suggest modifications and consider their early realization. Since creativity entails forming creative answers to problems encountered at work, it plays a crucial role in the long-term viability and expansion of a company by generating innovative concepts for the creation of brand-new or modified goods, services, and processes. It is challenging for leaders to handle every issue independently when business market issues become more complicated and unexpected (Owens and Hekman, 2012).

Creativity can be defined as a strong intellectual capital and resource-driven imagination to form original and effective ideas that can be used to produce new services or goods or innovative ways of working (Runco and Jaeger, 2012). According to Farmer et al. (2003), creativity may be defined as the generation of original and practical ideas by an individual or small group and is associated with the need for solutions when confronted with difficult circumstances. The capacity to tackle complicated issues is the resultant benefit of business creativity since it boosts productivity. However, the perceived value of creativity influences employee creativity (Amabile et al., 2004; Rego et al., 2012).

Employees are unlikely to put in the extra effort needed to be creative if corporate leadership does not appreciate creative behaviors. Since creativity is the outcome of the successful implementation of creative ideas, individual creativity encourages corporate creativity. The evaluation of creativity is crucial because it influences whether or not workers will exhibit creative behaviors and eventually innovate (Jafri et al., 2016).

Accordingly, creativity is described as staff members' capacity to provide novel, enhanced, and inventive concepts, goods, and processes with excellent

execution potential and content that enhances performance inside an organized process (Sirkwoo, 2015). Where managers continue to be able to encourage, assist, and add to the innovation of those who follow them (Amabile & Pillemer, 2012). Adding to that, managers who demonstrate leadership behavior are expected to encourage and elevate their employees' creativity by acting creatively themselves when the circumstance demands it (Gong et al., 2009). This will encourage followers to act in a similar manner (Basadur, 2014). This may be seen as a type of interaction between a leader and a member that takes place during a certain stage of the relationship and affects several work-related factors, including creativity, job commitment, and job satisfaction (Jyoti & Dev, 2015).

2.3.2. The Importance of Creativity in Business Organizations

Creativity is crucial for growth and innovation in organizations. Creativity goes beyond only coming up with original ideas; it also involves being able to look at things from several perspectives, come up with original solutions to problems, and design effective plans of action that further organizational goals (Basadur et al., 2014) based on that the strategic value of creativity to the organization, and especially to the startup, should be considered.

Creativity in organizations is an important element for achieving success and is considered one of the most important drivers of innovation and change in emerging markets (Koseoglu et al., 2017); creativity supports organizations, including startups, search for new opportunities and identify the current and future needs of a specific market and allows them to develop innovative products and services that meet those needs (Mäkikyrö & Insoll, 2018). It is important to note that business organizations often operate in competitive fields, and their opportunities can be enhanced by taking advantage of creativity; it leads to improving performance and increasing profitability

significantly in organizations and provides them with opportunities for growth, expansion, and spread in local and global markets alike (Anderson et al., 2014).

According to an IBM poll of over 1,500 CEOs from over 60 countries and 33 sectors, the key to helping businesses adapt and effectively navigate this complicated and constantly changing environment is creativity. This poll indicated that people valued creativity more than they did the company's vision, management style, discipline, and rigor. The majority of CEOs polled in the study stated that they believed creativity to be the only thing that could guide them through a challenging business climate full of frequent, drastic changes. Being creative is essential for survival (Zeb et al., 2020; Wang et al., 2020). For more than 50 years of study, several important aspects of creativity in the business and organizational setting have been identified and confirmed (Zahra & George, 2002). The importance of creativity for businesses is increased performance as it facilitates more efficient resource usage and produces outcomes that outperform those of rivals. The ability to swiftly adjust to changes in the business environment is a critical skill for creative firms to survive and thrive (Gong et al., 2009).

Employee motivation comes from creativity as well; when people are motivated to be creative at work, they are more satisfied and productive. Additionally, inventiveness offers novel answers to the problems that companies face, enabling them to successfully navigate through crises (Kasımoglu, & Ammari, 2019). The ability to employ creativity is especially crucial in creative enterprises since it serves as the foundation for the final output. Thus, ideas must be seen as a product in and of themselves, something of value that can be exchanged for material or symbolic capital, as their ultimate goal is to directly benefit from innovation (Sternberg, & Lubart, 2004).

According to Alexander et al. (2017), one of the most crucial elements influencing businesses is creativity. When used effectively, creativity may play a significant role in a company's sustainable competitive advantage, which is

what sets it apart from its rivals over the long haul. Creativity is significant since it involves the processes that result in the creation of original and worthwhile ideas are all included in creativity, and informal definitions of creativity include social and behavioral strategies that people employ to modify their behavior or escape the consequences of doing nothing (West, 2002). Creativity is significant for organizations since it builds a new brand identity by creating a good impression on customers and consumers. In general, it can be said that creativity is an important factor in achieving success and growth in organizations, and therefore, organizations must invest in creativity and develop new and innovative ideas to improve performance and growth in the market.

2.3.3. The Indicators of Measuring Creativity in Organizations

Since achieving goals is a crucial idea in everyday life, generating novel approaches to accomplish goals or objectives is a sign of creativity. This idea seeks to define objectives and accomplish them in a significant and efficient manner (Seidel, 2009; Zeb et al., 2020). According to Amabile (1996) and Mehmood et al. (2020), creativity is the process of making original and innovative ideas inside an organization. In contrast, innovation is the act of putting these creative ideas into practice to produce a positive outcome. Therefore, it makes sense to view creativity as a necessary prerequisite for innovation (Ekvall, 1999). Reaching goals is a multi-step, continuous process that takes a lot of forethought and preparation; thus, achieving goals indicates that employees are creative (Wang et al., 2020).

According to Barrett (2013), creative behaviors are how people may execute their jobs well and help their company succeed. Creativity is also seen as a process that helps people and the organization achieve certain goals. In this respect, Rego et al. (2012) mentioned that depending on the nature and intricacy of the aim, several strategies might be employed to attain it. Setting priorities,

making action plans, and SMART goal-setting are just a few of the many tools and strategies that may be utilized to accomplish objectives. Reaching goals may significantly improve both personal and professional life (Sternberg & Lubart, 2004). The key features of creativity may be used to characterize unique qualities and tendencies toward originality in planning, construction, execution, and continuity. The creative personality is defined by openness and flexibility in thought rather than being blocked off by certain methods. This trait fosters creativity since it looks for several solutions or answers to an issue. It also improves one's capacity to recognize when a solution is ineffective and calls for modification or the pursuit of an alternate course of action (Zeb et al., 2020).

Creative people tend to have inquisitive personalities and use their imagination to come up with answers to queries about various subjects. Examples include attempting to figure out how something works or paying close attention to a building's intricacies. A positive personality is driven to look for answers, details, and questions, whereas a negative personality closes doors and has an inquisitive gaze. Happiness is a necessary quality for creativity because it is the foundation for flexibility and curiosity (Wang et al., 2020).

Several researchers used indicators like looking for new technology, procedures, methods, and service ideas to enhance work to gauge creativity (Jafri et al., 2016). One strategy used by businesses to improve the efficacy and efficiency of their operations is continuous improvement, which enables them to select the best approaches for streamlining operations (Zahra & George, 2002). In the current fiercely competitive business landscape, any corporation hoping to stay in its current position needs to keep delivering high-caliber services and goods through creativity (Robinson, 2011).

In addition to being an excellent source of original ideas, human resources may assess creativity. Two themes characterize creativity in human resources. The first is internal and pertains to management's innovation in handling duties and managing personnel in different teams (Kasımoglu &

Ammari, 2019). Thus, this kind of creativity, which we might refer to as internal creativity in HRM, is restricted to the management and its personnel and serves as a basis for the second kind of creativity, known as external creativity (Alexander et al., 2017). If this is not a logical outcome, human resources must then work to increase creativity among the company's employees as a whole after ensuring the achievement of the highest level of creativity at its internal levels and among its various work teams (Proctor, 2014). Amabile (1998) posits that an individual's creativity is contingent upon knowledge, critical thinking abilities, and intrinsic motivation, as evidenced by the widely accepted componential model. Despite not being part of the model, corporate responsibility and compliance are acknowledged to positively influence the workplace through six management impacts.

Employees in all organizations need to work in a risk-free environment to perform their duties, improve job results, and meet production targets)Owens & Hekman, 2012). Therefore, to provide safety for their workers, organizations must be aware of the various types of workplace risks and implement policies that prevent them (Rego et al., 2012). Nevertheless, employees should not be worried about taking calculated chances; in fact, taking calculated risks is sometimes necessary to improve job results and innovate, and it is one of the ways that businesses may become more creative (Sternberg & Lubart, 2004). The traits that set a creative person apart from someone who only has creative thoughts without acting on them are strong motivation and determination (Ivanov & Glaeske, 2023). The act of turning ideas into reality is a crucial component of creativity, and to carry out an idea, a person needs to be highly motivated, persistent, and able to work through boredom or frustration. Creative people often do not worry about whether their ideas are correct or incorrect since they dare to follow them because they believe in their usefulness in the sector that interests them (Robinson, 2011).

Innovative problem-solving and original ideas are important indicators of measuring creativity. Businesses and their workers deal with a wide range of issues at different phases of their lives (West, 2002; Zeb et al., 2020). These issues differ in scope, significance, and urgency as well as how they are seen and addressed. Even though the same problem keeps coming up, there are times when it needs to be solved differently or require innovative solutions depending on the situation (McLean, 2005). People who work in a risk-taking environment feel more empowered to share their ideas, which increases their readiness to share such ideas with others.

According to Ekvall (1996), employees frequently show signs of risk aversion and there is a relationship between their willingness to take risks and the level of support they receive from their leaders. Thus, it is generally accepted that helping those who engage in risky activities is more important than promoting risk-taking. Moreover, Ekvall (1996) emphasizes and recognizes risk-taking as a climate factor that influences the creative process within companies. Furthermore, he presents an alternative viewpoint on taking risks that involves acknowledging the presence of uncertainty in business endeavors.

Being creative is essential for gaining a competitive edge and for the long-term success and sustainability of a business. Because of this, the organization's ability to gain a competitive edge greatly depends on how well it uses and exploits its current resources (Egbu, 2004). According to Amabile (1996), organizations are progressively considering individuals' unique abilities and creative capacities as essential resources. Thus, people frequently feel pressured to solve problems quickly, which can prevent them from taking the time to fully comprehend the issue at hand and consider their best course of action (Robinson, 2011). As one's duties and responsibilities increase, so does the importance of developing problem-solving skills. In the business world, problem-solving skills are indispensable, and being a skill opens doors for

anyone seeking to develop and apply them in both personal and professional contexts, especially when it comes to creative problem-solving ideas (Mäkikyrö & Insoll, 2018).

Evaluating the idea's operational, financial, and technological viability is necessary to create appropriate strategies and timelines for putting creative concepts into action. Furthermore, recognize possible hazards and create plans for reducing them. Evaluate the concept according to its potential influence and fit with the objectives of the company as well (Jyoti & Dev, 2015). According to Gong et al. (2009), identifying the resources required, people, technology, and money must be done creatively, and team members essential also be assigned tasks according to their areas of competence. The implementation plan assists in recording the project work from start to finish. It goes beyond just listing activities and their deadlines since it also identifies the people doing these tasks (Anderson et al., 2014).

Scholars argue that knowledge generation inside businesses is primarily the responsibility of individuals, a notion that Seidel, S. (2009) highlighted as the primary source of innovation. As a result, businesses depend more on their employees' creative potential than on their tangible assets (Amabile, 1996). In businesses, employees' brain-storied knowledge is frequently disregarded and misused. Therefore, developing creativity is essential to accessing and utilizing this priceless resource. Over time, gaining a sustainable competitive edge has been largely dependent on an organization's ability to successfully leverage the talents and competencies of its workforce (Egbu, 2004). Therefore, it is not enough to rely just on a small group of creative people in leadership positions. Instead, businesses need to make more use of people's ideas within their company (Egbu, 2004; Ekvall, 1996).

2.3.4. Empirical Studies on Creativity

Amabile et al. (1996) investigated the characteristics that are thought to either foster or impede creativity in workplace settings inside organizations. Some things that can foster creativity are being given challenging assignments, support from coworkers, encouragement by the organization and/or superiors, and having enough resources available. However, some things can also stifle creativity, such as administrative roadblocks and task strain. Recent research has investigated novel strategies to enhance creativity in stable company environments. One such strategy is the creative leadership stance, as noted by Sternberg et al. (2004). Facts showing the work system's dynamic character affect creativity to give the organizational learning perspective hope.

George & Zhou's (2002) investigation employed a mood-as-input model to determine the circumstances in which creative performance is favorably correlated with negative moods and negatively correlated with happy moods. The researchers tested their hypothesis among a sample of employees in an organizational unit tasked with creating innovative designs and manufacturing methods. The results revealed that when perceived rewards and recognition for innovative performance were high, as well as when clarity of feelings (a meta-mood process) was high, negative moods were positively related to creative performance. Additionally, the researchers hypothesized and discovered that when sentiments of clarity and creativity were highly valued, cheerful moods were inversely correlated with creative performance.

West (2002) aimed to improve knowledge of how creativity and innovation are implemented in work groups. The researcher synthesized research and theory and suggested that creativity is most likely to arise in the early phases of innovation processes. The effects of task attributes, group diversity of knowledge and skill, outside demands, integrating group processes, and safety inside groups are investigated. The finding showed that creativity is

impeded while innovation adoption is aided by high demands, perceived danger, and uncertainty. In addition, diverse expertise and experience are strong predictors of creativity, but incorporating group procedures and skills is necessary to make it possible to reap the benefits of this variety.

In their research, Kasımoglu & Ammari (2019) examined the effects of four elements of transformational leadership such as idealized influence, intellectual stimulation, inspirational motivation, and individualized consideration, on workplace creativity in Türkiye and Algeria while considering the mediating role that an employee's creative role identity plays. Six hundred eighty-eight managers employed at conglomerate firms in both nations provided the data, which were then analyzed using a two-stage structural equation modeling method for model and hypothesis testing. The results showed that managers' perspectives on the influence of transformational leadership on creativity differed across the two nations; Algerian managers were aware of the connection between an employee's creative role and creativity. Meanwhile, Turkish managers thought each component was effective on its own.

Through the perspective of social learning theory, Mehmood et al. (2020) investigated the role of entrepreneurial leadership in fostering creativity in companies as well as the mediating effects of psychological safety and empowerment. Scholars noted that to address the dynamic shifts of the twenty-first century, a new theory of leadership known as entrepreneurial leadership was established from the body of existing literature on entrepreneurship and leadership. Empirical data was gathered from Pakistan's manufacturing industry, utilizing a sample size of 280 pairs, including managers and workers. By estimating the structural model to match the data using structural equation modeling and confirmatory factor analysis, a two-step analytical approach was used to evaluate the measurement model. The mediation analysis was tested

using the bootstrapping technique. The findings indicated a favorable relationship between employee creativity and entrepreneurial leadership.

Wang et al. (2020) investigated the cross-level moderating role of social media use within teams in the relationship between role stress, work satisfaction, and creativity. The findings of a survey conducted among 359 workers across 56 organizational teams indicate that two social media usage patterns independently influence the associations between role stressors and job satisfaction, as well as the indirect relationships that arise from job satisfaction between role stressors and creativity.

The mechanism by which voice behavior influences the correlation between creativity and ethical leadership was examined by Nazir et al. (2020). The researchers also looked at the relationship between creative workplace environments and ethical leadership and the moderating effects of psychological empowerment. To evaluate the suggested hypotheses of this study, researchers employed a survey questionnaire to gather multi-wave data from 295 employees in the IT industry. The results showed that voice behavior mediates the beneficial correlation between ethical leadership and creativity and that leadership encourages employee creativity. Furthermore, the findings validate the noteworthy moderating function of psychological empowerment in the correlation between voice behavior and leadership. The relationship between voice behavior and creativity was also shown to be positively moderated by an inventive atmosphere.

In their study, Bomin et al. (2020) looked into and developed pathways to creativity. It is concerning that there is currently a lack of information regarding creative employees in sports in the literature, given the benefits of creativity for both individuals and businesses. The study employed a sequential explanatory mixed-methods approach to investigate the creativity of employees. We first used structural equation modeling to examine this architecture quantitatively. After that, we used semi-structured interviews to

conduct a qualitative analysis and draw conclusions on the results of the quantitative strand. Every participant was employed in the United States. The findings showed that while emotional intelligence independently predicted both job engagement and creative behaviors, genuine leadership reduced the creative activities of sports personnel.

Zeb et al. (2020) investigated how team environments of psychological safety and trust function as a mediating factor in the impact of genuine leadership on knowledge sharing and creativity. Three hundred team members and sixty team leaders from several overseas employment promoters' agencies in the Islamabad, Pakistan, region participated in this research. Structural equation modeling was used in confirmatory factor analysis to validate the results among the variables. The study's main conclusions were that, via the mediational role of the team environment (psychological safety and trust), authentic leadership positively predicted knowledge sharing and employees' creativity and that the team environment had an impact on both knowledge sharing and employee creativity.

Ghafoor & Haar (2021) used the resource caravan strategy to study the possible beneficial effects of occupational stress on creativity. It investigated how occupational stress affects psychological capital both directly and indirectly. Lastly, as a boundary condition that affects the creativity connection through work satisfaction, the impact of stress on creativity is examined. Similar impacts were discovered in both studies, which investigated relationships on two samples: (1) an international employee cohort (269) and (2) a New Zealand employee sample (475). Results indicated that psychological capital had an impact on both creativity and work satisfaction, with job satisfaction somewhat moderating this direct effect. The conservation of resources theory, which postulates that people with high psychological capital would have the psychological resources to use stress to their advantage

and exhibit more creative behaviors, is supported by the finding that job stress positively modifies psychological capital toward creativity.

Ivanov and Glaeske (2023) investigated innovation and creativity in a culture related to the digital workplace via a series of case studies that explored how to establish a digital workplace that encourages creativity and innovation. Researchers set out to develop a framework encompassing the essential components of a digital workplace culture to give leaders a tool to foster innovation and creativity. This research has led to developing a framework that outlines the components of an innovative and creative digital workplace culture. Four distinct levels are used to categorize these components. All aspects pertinent at the corporate level are included at the organizational level. The factors that define the culture of a team are found at the team level. A digital workplace culture that fosters creativity and innovation may be achieved at the individual level by providing the components individuals require or can offer.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This study investigates the impact of creative climate dimensions on employee engagement and creativity in the Ministry of Trade and Industry in the Kurdistan Region of Iraq. It also provides recommendations for leaders and policymakers to enhance engagement, creativity, and organizational performance. This chapter describes the research design, data collection, analysis procedures, and considerations for validity, reliability, and ethics to ensure credibility.

The study employs a quantitative, descriptive-analytical approach with a correlational design to explore relationships between creative climate dimensions, employee engagement, and creativity. While descriptive research provides detailed insights, the correlational design identifies the strength and direction of relationships without implying causation. Data collection relies on a structured questionnaire to ensure accurate, unbiased measurement of employee opinions and behaviors.

3.2 DATA COLLECTION

This section deals with the method adopted to select items for gathering information for the current study. This study aims to determine the influence of the creative climate on employee engagement and creativity. Thus, the sample study concluded employee engagement and creativity of the Ministry of Trade and Industry in Kurdistan Region-Iraq. The data has been collected depending on the following steps.

3.2.1 Proportionate Sampling Design

As surveying the whole population is unfeasible, selecting a sample is fundamental to estimating the population parameter. Therefore, the sample should genuinely represent the population. The sample in this study can be defined as a set of potential respondents selected from the population to be surveyed for employees in the Ministry of Trade and Industry in Kurdistan Region-Iraq. In this sampling design, the questionnaire was distributed in different categories as demographic factors (Gender, Age (Years), Marital Status, Educational Background, Years of Experience at this Organization, Position/Role, and Salary). In nonprobability sampling, the samples are not chosen using random processes, so they do not have a known probability of being selected.

3.2.2 Sample Size

A correct estimation of an appropriate sample size for the survey is essential. This is because "sample size is directly related to the accuracy of the sample mean as an estimate of the true population mean"; namely, the results of the survey sample can be generalized to the population. According to, the sample size was important for hypothesis testing and establishing relationships. Namely, it is crucially important to ensure the reliability of the sample value, which is "the closeness with which it can be expected to approximate the relevant population value" (Cohen, 1988). Admittedly, for generalization, survey design aims at establishing a relationship between the population and a sample.

This study employs a simple random sampling technique to select participants from the population of employees in the Ministry of Trade and Industry in the Kurdistan Region of Iraq. The population of this study consists of 2,992 employees working in the Ministry of Trade and Industry in the Kurdistan Region of Iraq. These employees are distributed across 11 general

directorates and the ministry's main offices. The workforce comprises 63.4% men and 36.6% women, with 687 employees holding bachelor's degrees or higher. Their roles span various departments, including the general directorates of trade, industrial development, company registration, planning, financial administration, media, and quality assurance. Using simple random sampling ensures that every employee has an equal chance of being selected, reducing sampling bias and enhancing the generalizability of the results.

The employees also represent diverse geographical distribution across the Kurdistan Region, including the provinces of Erbil (39.3%), Sulaymaniyah (16%), Duhok (16%), and smaller distributions in Zakho, Soran, Garmian, and Kirkuk. This diversity reflects the wide-ranging functions and responsibilities of the Ministry, which plays a critical role in economic growth, industrial development, and trade facilitation within the region. Given this context, the study's population provides a robust foundation for examining how dimensions of creative climate influence employee engagement and creativity. This varied organizational environment captures a broad spectrum of employee perspectives, ensuring a comprehensive analysis of the relationships between the study variables.

Accordingly, the researcher resorted to an inferential statistic test to generate this relationship. G*Power, "a free power analysis program for a variety of statistical tests" (Faul, Erdfelder, & Lang, 2009, p. 1149), is used to calculate an accurate sample size. To calculate the sample size, several assumptions should be made. The researcher estimates the effect size and assumes the level of confidence and margin of error (Faul et al., 2007). Thus, the program is set as shown in Figure 3.1 for conducting the t-test of a priori power analysis.
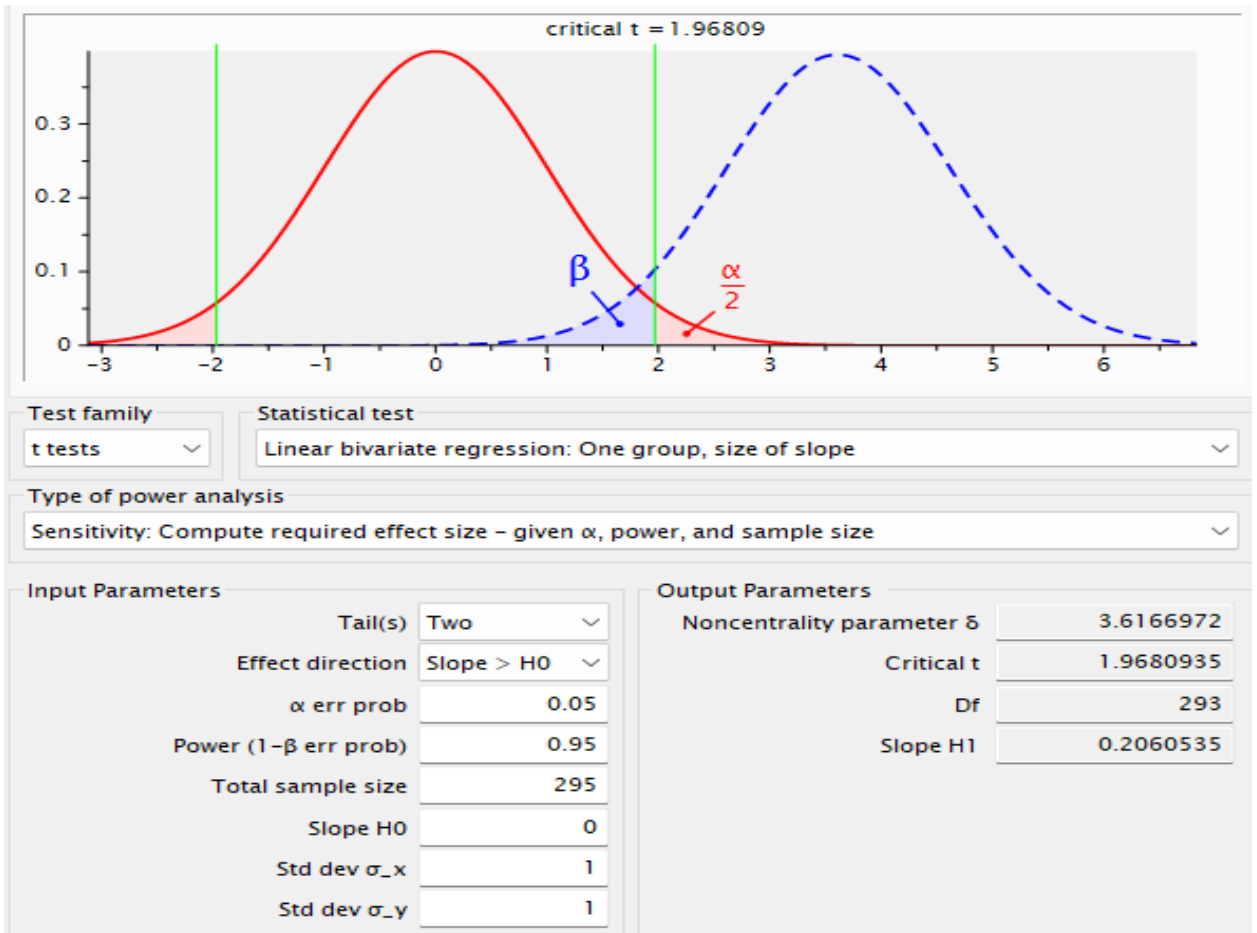
Figure 3. 1: Screenshot of the window of G*Power program

Figure 3.1 shows how the G*Power program was set to calculate the sample size and it provides the following protocol and the result of the calculation.

t tests – Linear bivariate regression: One group, size of slope
Analysis: A priori: Compute required sample size
Input: Tail(s)   = Two
        Effect direction = Slope > H0
        α err prob   = 0.05
        Power (1-β err prob)   = 0.95
        Total sample size   = 295
Output: Non-centrality parameter δ = 3.6166972
        Critical t   = 1.9680935
        Df   = 293
        Slope H1   = 0.2060535

Thus, the sample size is **295** questionnaires.

3.2.3 Instrument and Measurement of Variables

As quantitative research deals with numerical data, the questionnaire is utilized as an instrument for this study. The questionnaire converts qualitative information into quantitative data by assigning value to each response in the items so that it can be analyzed statistically. Before collecting data, respondents should show a willingness to participate in the study by signing the informed consent form attached to the questionnaire on the first page, expressing that they participated in the study voluntarily.

The structure of the questionnaire consists of four sections, including demographic questions, Creative Climate Dimensions, Employee Engagement, and Creativity Dimensions (see Appendix A) This analysis will calculate the mean, standard deviation (SD), and degree of agreement (DA) for study variables, including (67) items segmented into three variables. The arithmetic means for every item from the questionnaire evaluated by the Likert scale (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly Agree = 5). Thus, for ordinal type of data. The data will be collected when the employees have free time to complete the questionnaire.

Table 3. 1: The association of the items on the survey with variables and research questions

Variable Type	Variable Name	Item on Survey
Independent variable	Creative Climate Dimensions	See items 1-42
First Dependent variable	Employee Engagement	See items 43-55
Second Dependent variable	Creativity	See items 56-67

The items of the questionnaire were adopted from previous studies; however, they have been adapted to reflect the study context. In addition, the assistance of experts was sought to decide whether each item is relevant or irrelevant. Tables in the appendix show the questionnaire items and the sources from which they were adopted. For reliability, Cronbach's alpha, one of the most widely used measures of reliability in social and organizational science, is used to measure the correlation between the items. If "alpha values in the

range of 0.60–0.80 are considered optimal," it means that 70%-80% of the scores variance is reliable. The statistical package SPSS is used to calculate the reliability coefficient (Cronbach's alpha) for each variable.

The correlation matrix between the questionnaire items and all variables and their tests was calculated under the level of significance (0.05). The Kaiser-Meyer-Olkin (KMO) test tells us whether enough items are predicted by each variable or factor and measures the Sampling Adequacy, the (KMO) value must be greater than 50% to determine the Sampling Adequacy (Dziuban & Shirkey, 1974). Bartlett's test of Sphericity will be used to test the strength of these correlations between items. The null hypothesis of this test is that there are no correlations between the items. Therefore, the Structural validity of the questionnaire requires that this hypothesis be rejected so that the data is suitable for this analysis (Bartlett, 1937).

EasyFit program is used for the normality test depending on two tests, first, the Kolmogorov-Smirnov (K-S) test is a non-parametric statistical test that assesses whether a sample comes from a specific distribution (for example, normal distribution). It is often used to compare a sample distribution to a theoretical distribution or to compare two samples. The test is based on the maximum difference between the cumulative distribution functions (CDFs) of the observed and expected distributions (Naaman, 2021). Second, the chi-squared (χ^2) test of normality is a statistical test used to assess whether a given sample comes from a normally distributed population. The test is based on comparing the observed distribution of the sample to the expected distribution of a normal (Gaussian) distribution (Ghasemi & Zahediasl, 2012).

3.3 DATA ANALYSIS

Quantitative data analysis is statistically analyzing data that is number-based. Data was collected through a survey of employees in the Ministry of Trade and Industry in Kurdistan Region-Iraq, and the analysis was carried out

using the statistical software SPSS. The type of data collected in this study is categorical data, nominal and ordinal. The data analysis procedures start with sorting the data and coding it.

The statistical method that will be used is inferential statistics, and it is twofold. First, the relationship between variables is examined. The researcher tests the significance to predict that "the differences are real and truly represent the field situation". The mean value is used as a measure of comparison of two groups on a categorical variable. Table 3.2 presents the nature of the research questions, and the statistical test will be used to obtain accurate inferences about the population parameter.

Table 3. 2 The statistical tests related to each research question

Aim the test	Research questions	Statistical test	What the test yields
Relationship between variables	relationship between creative climate dimensions and employee engagement	Z-test	Gain knowledge about the relationship between the variables and the significance test. Test the difference between two correlations.
Relationship between variables	relationship between creative climate dimensions and employee creativity	Z-test	Gain knowledge about the relationship between the variables and the significance test. Test the difference between two correlations.
Difference between the more than means	difference between the level of agreement on employee engagement according to demographic variables	Chi-Square (Kruskal-Wallis for non-parametric tests)	Gain knowledge about the difference in agreement with the employee engagement was tested according to Demographic factors.
Effect the independent variables on the dependent variable.	impact of the overall dimensions of creative climate on employee engagement	F-test Analysis of Variance	Gain knowledge about the effect of the independent variable on the dependent variable and the significance test.

The aim of this research is twofold; first, to explore the relationship (and regression) between creative climate dimensions and employee engagement

and second, to explore the relationship (and regression) between creative climate dimensions and employee creativity and third, to compare the differences in between the level of agreement on employee engagement (and employee creativity) according to demographic variables (Age (Years), Educational Background, Years of Experience at this Organization, Position/Role, and Salary). Thus, to obtain the first and second objectives, linear analysis and ANOVA (Analysis of Variance) are used to examine the relationship (and effect) between the independent variables (overall dimensions of creative climate) and the dependent variables (employee engagement and employee creativity), (Ali & Saleh, 2022).

For comparison of differences in the level of agreement on engagement (and employee creativity employee) according to demographic variables return, the Chi-Square test (Kruskal-Wallis for non-parametric tests) will be used to test the significance of the differences (Omar et al., 2020).

3.4 STUDY HYPOTHESES TEST:

In order to address the research questions and explore the relationships between the dimensions of creative climate and their influence on employee engagement and creativity, a set of research hypotheses has been developed. These hypotheses are based on theoretical frameworks and previous empirical studies that suggest a positive link between creative organizational environments and employee outcomes. By testing these hypotheses, this study aims to provide a deeper understanding of how specific dimensions of creative climate contribute to fostering engagement and creativity among employees in the Ministry of Trade and Industry in the Kurdistan Region of Iraq. The following hypotheses were formulated to guide the empirical investigation and serve as the foundation for statistical analysis.

First hypothesis:

H$_{A1}$: There is a positive relationship between creative climate dimensions and employee engagement

Second hypothesis:

H$_{A2}$: There is a positive relationship between creative climate dimensions and employee creativity

The following sub-hypotheses branch out from the first and second hypotheses:

First sub-hypothesis:

H$_{A1}$: There is a positive relationship between challenge/involvement and employee engagement

H$_{A2}$: There is a positive relationship between challenge/involvement and employee creativity

Second sub-hypothesis:

H$_{A3}$: There is a positive relationship between trust/openness and employee engagement

H$_{A4}$: There is a positive relationship between trust/openness and employee creativity

Third sub-hypothesis:

H$_{A5}$: There is a positive relationship between the perception of freedom in decision-making and employee engagement

H$_{A6}$: There is a positive relationship between the perception of freedom and employee creativity

Fourth sub-hypothesis:

H$_{A7}$: There is a positive relationship between the availability of time for idea generation and Support for creative initiatives and employee engagement

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H$_{A8}$: There is a positive relationship between the availability of time for idea generation and Support for creative initiatives and employee creativity

Fifth sub-hypothesis:

H$_{A9}$: There is a positive relationship between the presence of humour and playfulness in the organisational culture and employee engagement

H$_{A10}$: There is a positive relationship between the presence of humour and playfulness in the organisational culture and employee creativity

Sixth sub-hypothesis:

H$_{A11}$: There is a positive relationship between Conflicts within the Ministry of Trade and Industry and employee engagement

H$_{A12}$: There is a positive relationship between conflicts within the Ministry of Trade and Industry and employee creativity

Seventh sub-hypothesis:

H$_{A13}$: There is a positive relationship between Fostering debates and discussions and employee engagement

H$_{A14}$: There is a positive relationship between Fostering debates and discussions and employee creativity

Eighth sub-hypothesis:

H$_{A15}$: There is a positive relationship between Diversity and employee engagement

H$_{A16}$: There is a positive relationship between Diversity and employee creativity

Ninth sub-hypothesis:

H$_{A17}$: There is a positive relationship between Management support and employee engagement

H$_{A18}$: There is a positive relationship between Management support and employee creativity

Tenth sub-hypothesis:

H$_{A19}$: There is a positive relationship between a willingness to take risks and employee engagement

H$_{A20}$: There is a positive relationship between a willingness to take risks and employee creativity

Eleventh sub-hypothesis:

H$_{A21}$: There is a positive relationship between Employees' perceptions of innovation and employee engagement

H$_{A22}$: There is a positive relationship between Employees' perceptions of innovation and employee creativity

Third hypothesis:

H$_{A1}$: There is a significant difference between the level of agreement on employee engagement according to demographic variables.

H$_{A2}$: There is a significant difference between the level of agreement on employee creativity according to demographic variables.

Fourth hypothesis:

H$_{A1}$: There is an impact of the overall dimensions of creative climate on employee engagement

H$_{A2}$: There is an impact of the overall dimensions of creative climate on employee creativity

CHAPTER FOUR: STATISTICAL ANALYSIS AND DISCUSSION

This chapter presents the statistical analysis conducted to examine the relationships between the dimensions of the creative climate, employee engagement, and creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq. The analysis aims to test the study's hypotheses and address its research questions using quantitative data collected through a structured questionnaire.

The chapter begins by describing the demographic characteristics of the respondents, providing an overview of the sample's composition. It then measures the study variables, including creative climate dimensions, employee engagement, and creativity, using statistical tools to ensure the reliability and validity of the data. Following this, the chapter employs correlation and regression analyses to explore the strength and direction of the relationships among the variables.

The findings of these analyses provide critical insights into how the creative climate impacts employee engagement and creativity, offering empirical evidence to support the theoretical framework and guide recommendations for improving organizational outcomes. Statistical tools such as the Kaiser-Meyer-Olkin test, correlation matrices, and regression analysis are utilized to ensure robustness and accuracy in interpreting the data. This chapter serves as the foundation for drawing conclusions and formulating recommendations in the subsequent chapter.

4.1: STATISTICS DESCRIPTION OF DEMOGRAPHIC FACTORS

The questionnaire was distributed in different categories as Demographic factors (Gender, Age (Years), Marital Status, Educational Background, Years of Experience at this Organization, Position/Role, and Salary). For a sample of (320) researchers in the Kurdistan Region, (295) forms

were valid for analysis. The Demographic factors of the study are summarised in Tables (4.1-4.7).

Table 4. 1: Statistical Description of the Gender

Class	Frequency	Percent
Male	158	53.56
Female	137	46.44
Total	295	100.0

Table (4.1) shows that the study sample included the gender was 53.56% male and 46.44% female. Figure (4.1) illustrates this:
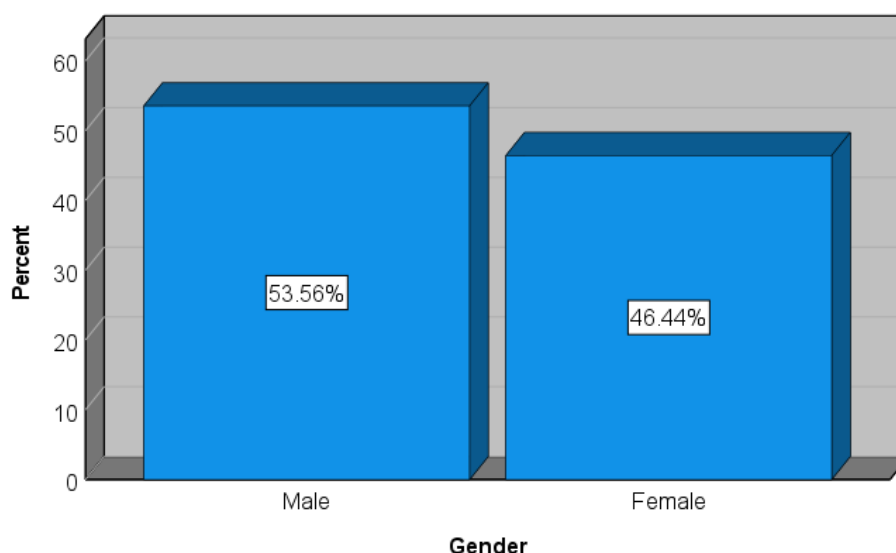
Figure 4. 1: Bar Chart for Gender

Table 4. 2: Statistical Description of the Age (Years)

Class	Frequency	Percent
23-30	36	12.20
31-40	98	33.22
41-50	79	26.78
51 or more	82	27.80
Total	295	100.0

Table (4.2) shows that the study sample that included the age was 12.20% (23-30) years, 33.22% (31-40) years, 26.78% (41-50) years, and 27.80% (51 or more) years. Figure (4.2) illustrates this:
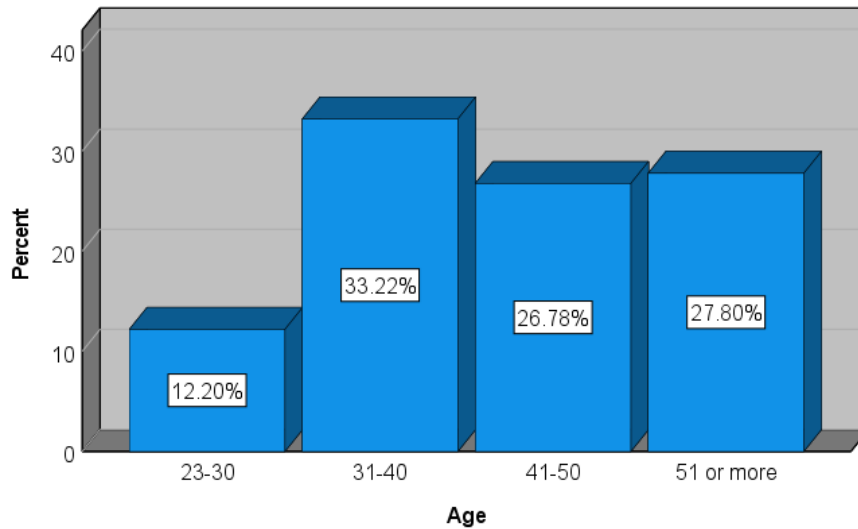
Figure 4. 2: Bar Chart for the Age

Table 4. 3: Statistical Description of Marital Status

Class	Frequency	Percent
Single	63	21.36
Married	232	78.64
Total	295	100.0

Table (4.3) shows that the study sample that included the marital status was 21.36% single and 78.64% married. Figure (4.3) illustrates this:
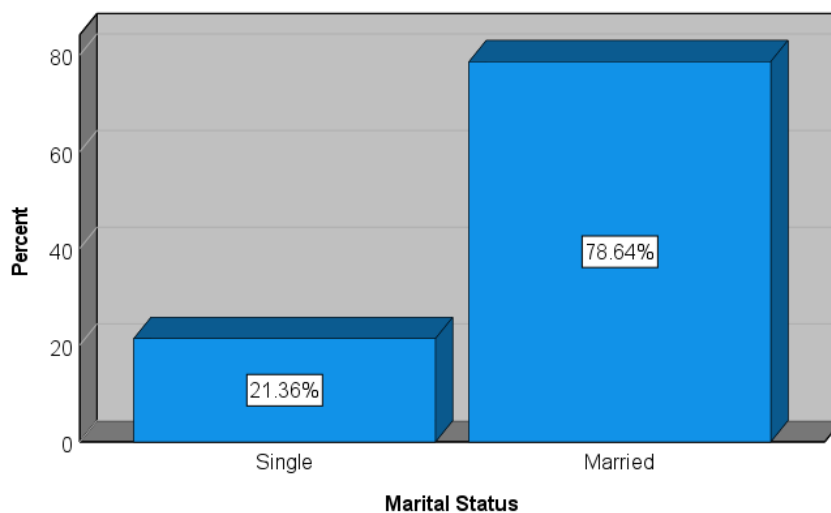
Figure 4. 3: Bar Chart for Marital Status

Table 4. 4: Statistical Description of the Educational Background

Class	Frequency	Percent
High school and below	26	8.81
Diploma	61	20.68
B.Sc.	158	53.56
Postgraduate studies	50	16.95
Total	295	100.0

Table (4.4) shows that the study sample that included educational background was 8.81% high school and below, 20.68% diploma, 53.56% (B.Sc.), and 16.95% postgraduate studies. Figure (4.4) illustrates this:
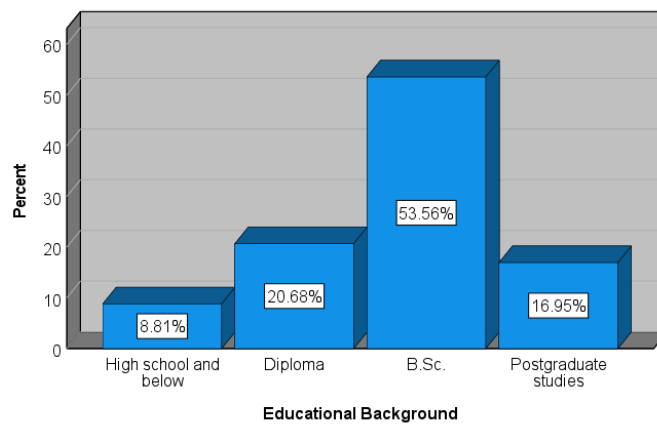
Figure 4. 4: Bar Chart for Educational Background

Table 4. 5: Statistical description of Years of Experience at this Organization

Class	Frequency	Percent
1-5	52	17.63
6-10	37	12.54
11-15	123	41.69
16-20	40	13.56
21 or more	43	14.58
Total	295	100.0

Table (4.5) shows that the study sample that included the years of experience at this organisation was 17.63% (1-5) years, 12.54% (6-10) years, 41.69% (11-15) years, 13.56% (16-20) years, and 14.58% (21 or more) years. Figure (5) illustrates this:
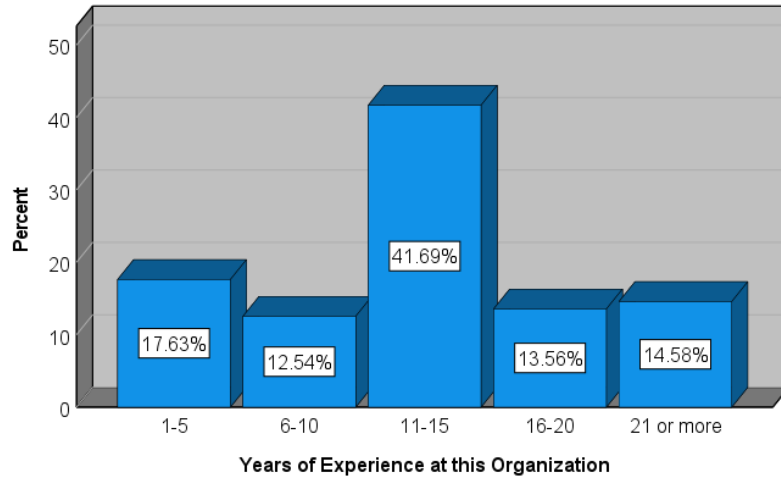
Figure 4. 5: Bar Chart for the Years of Experience at this Organization

Table 4. 6: Statistical Description of Position / Role

Class	Frequency	Percent
Department manager	50	16.95
Unit manager	93	31.53
Employee	152	51.53
Total	295	100.0

Table (4.6) shows that the study sample that included the Position / Role was 16.95% (department manager), 31.53% (unit manager), and 51.53% (employee). Figure (4.6) illustrates this:
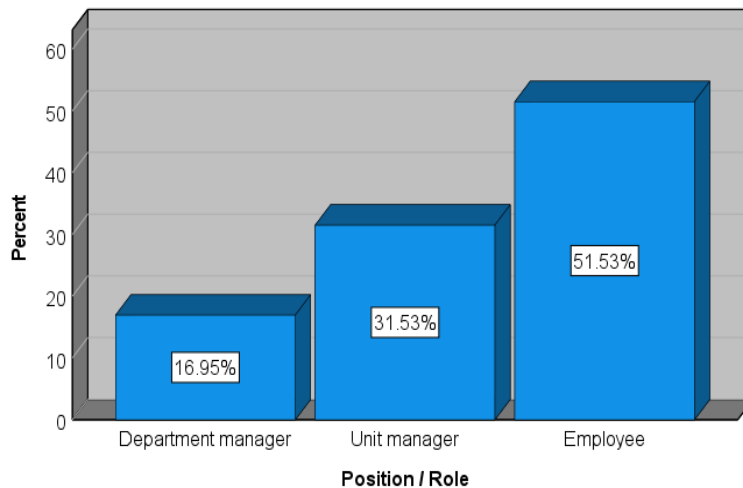
Figure 4. 6: Bar Chart for Position / Role

Table 4. 7: Statistical Description of the Salary

Class	Frequency	Percent
Less than 500,000	68	23.05
501,000 to 1,000,000	141	47.80
1,001,000 to 1,500,000	41	13.90
Greater than 1,500,000	45	15.25
Total	295	100.0

Table (4.7) shows that the study sample that included the salary was 23.05% (Less than 500,000), 47.80% (501,000 to 1,000,000), 13.90% (1,001,000 to 1,500,000), and 15.25% (Greater than 1,500,000). Figure (4.7) illustrates this:
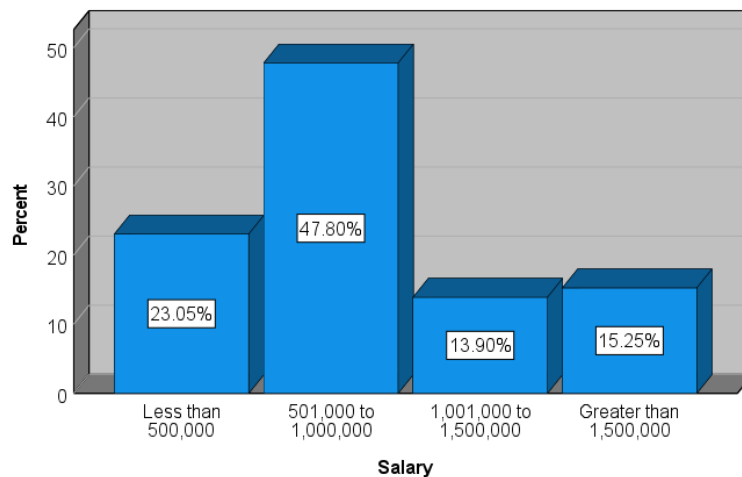
Figure 4. 7: Bar Chart for Salary

4.2: MEASURING STUDY VARIABLES:

This analysis will calculate the mean, standard deviation (SD), and degree of agreement (DA) for study variables, including (67) items segmented into three variables. The arithmetic means for every item from the questionnaire evaluated by the Likert scale (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly Agree = 5), and summarised in the following tables:

Independent variable: Creative Climate Dimensions includes (11) Dimensions for (42) items (X1-X42).

Table 4. 8. Measuring Independent variable

Item	1		2		3		4		5		Mean	SD	DA
	N	%	N	%	N	%	N	%	N	%			
Challenge/ Involvement													
X1	24	8.1	28	9.5	44	14.9	124	42.0	75	25.4	3.671	1.188	73.42
X2	21	7.1	21	7.1	55	18.6	171	58.0	27	9.2	3.549	1.002	70.98
X3	33	11.2	57	19.3	74	25.1	90	30.5	41	13.9	3.166	1.216	63.32
X4	20	6.8	13	4.4	61	20.7	127	43.1	74	25.1	3.753	1.089	75.06
X5	21	7.1	19	6.4	57	19.3	131	44.4	67	22.7	3.692	1.108	73.84
Trust/ openness													
X6	23	7.8	59	20.0	67	22.7	90	30.5	56	19.0	3.329	1.214	66.58
X7	0	0.0	39	13.2	98	33.2	110	37.3	48	16.3	3.566	0.916	71.32
X8	0	0.0	61	20.7	106	35.9	66	22.4	62	21.0	3.437	1.041	68.74
X9	54	18.3	43	14.6	90	30.5	82	27.8	26	8.8	2.942	1.229	58.84
Freedom													
X10	0	0.0	52	17.6	111	37.6	68	23.1	64	21.7	3.488	1.019	69.76
X11	25	8.5	58	19.7	70	23.7	109	36.9	33	11.2	3.227	1.143	64.54
X12	23	7.8	53	18.0	72	24.4	99	33.6	48	16.3	3.325	1.173	66.50
Idea time and support													
X13	33	11.2	65	22.0	65	22.0	83	28.1	49	16.6	3.170	1.261	63.40
X14	42	14.2	53	18.0	76	25.8	118	40.0	6	2.0	2.976	1.111	59.52
X15	0	0.0	74	25.1	75	25.4	92	31.2	54	18.3	3.427	1.057	68.54
X16	20	6.8	83	28.1	77	26.1	108	36.6	7	2.4	2.997	1.008	59.94
X17	33	11.2	69	23.4	93	31.5	78	26.4	22	7.5	2.956	1.116	59.12
Humor/ Playfulness													
X18	23	7.8	62	21.0	86	29.2	95	32.2	29	9.8	3.153	1.104	63.06
X19	20	6.8	69	23.4	65	22.0	101	34.2	40	13.6	3.244	1.155	64.88
X20	23	7.8	49	16.6	64	21.7	121	41.0	38	12.9	3.346	1.135	66.92
Conflicts													
X21	0	0.0	44	14.9	120	40.7	85	28.8	46	15.6	3.451	0.928	69.02
X22	0	0.0	71	24.1	98	33.2	46	15.6	80	27.1	3.458	1.130	69.16
X23	0	0.0	58	19.7	97	32.9	61	20.7	79	26.8	3.546	1.087	70.92
X24	26	8.80	80	27.1	76	25.8	88	29.8	25	8.50	3.020	1.125	60.40
Debates													
X25	25	8.50	64	21.7	118	40.0	54	18.3	34	11.5	3.027	1.097	60.54
X26	36	12.2	61	20.7	93	31.5	72	24.4	33	11.2	3.017	1.179	60.34
X27	21	7.10	46	15.6	130	44.1	66	22.4	32	10.8	3.143	1.042	62.86
Diversity													
X28	27	9.20	51	17.3	86	29.2	92	31.2	39	13.2	3.220	1.156	64.40
X29	22	7.50	26	8.80	59	20.0	140	47.5	48	16.3	3.563	1.095	71.26
X30	34	11.5	47	15.9	79	26.8	113	38.3	22	7.50	3.142	1.134	62.84
X31	21	7.10	42	14.2	76	25.8	149	50.5	7	2.40	3.268	0.979	65.36
Management Support													
X32	27	9.20	69	23.4	77	26.1	88	29.8	34	11.5	3.112	1.162	62.24
X33	25	8.50	60	20.3	79	26.8	122	41.4	9	3.10	3.102	1.035	62.04
X34	37	12.5	44	14.9	82	27.8	85	28.8	47	15.9	3.207	1.240	64.14
X35	0	0.0	94	31.9	78	26.4	82	27.8	41	13.9	3.237	1.049	64.74
Risk Taking													

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Item	N	%	N	%	N	%	N	%	N	%	Mean	SD	DA
X36	26	8.80	60	20.3	63	21.4	102	34.6	44	14.9	3.264	1.197	65.28
X37	25	8.50	51	17.3	94	31.9	92	31.5	33	11.2	3.193	1.113	63.86
X38	0	0.0	65	22.0	120	40.7	73	24.7	37	12.5	3.278	0.946	65.56
X39	0	0.0	67	22.7	115	39.0	83	28.1	30	10.2	3.258	0.923	65.16
Innovation Perception													
X40	0	0.0	57	19.3	120	40.7	83	28.1	35	11.9	3.325	0.920	66.50
X41	0	0.0	54	18.3	76	25.8	102	34.6	63	21.4	3.590	1.019	71.80
X42	0	0.0	56	19.0	96	32.5	89	30.2	54	18.3	3.478	0.999	69.56
Mean	18.81	6.38	54.62	18.51	84.24	28.56	95.95	32.53	41.38	14.03	3.293	1.091	65.86

Table (4.8) shows that the average of the independent variable is equal to (3.293), which is greater than the average agreement for hypothesis (3). The degree of agreement reached 65.86%, which supports the convergent opinions hypothesis about the independent variable items among the sample members. The X4 item (Most people like to contribute to the success of the organization and solve problems) got the highest average agreement, which reached (3.753) with a degree of agreement of 75.06%. It was followed by item (X5 "People have a sincere interest in what they do to improve quality") in second place with a mean of (3.692), and an agreement degree of (73.84) and the rest of the items had lower means of agreement and were close to the mean hypothesised (neutral).

First Dependent variable: Employee Engagement represents the first dependent variable and includes (13) items measured in Table (9).

Table 4. 9. Measuring the First Dependent variable

Item	1		2		3		4		5		Mean	SD	DA
	N	%	N	%	N	%	N	%	N	%			
Y1	18	6.1	8	2.7	26	8.8	115	39.0	128	43.4	4.109	1.083	82.18
Y2	17	5.8	6	2.0	35	11.9	108	36.6	129	43.7	4.105	1.072	82.10
Y3	17	5.8	17	5.8	46	15.6	112	38.0	103	34.9	3.905	1.118	78.10
Y4	16	5.4	39	13.2	39	13.2	105	35.6	96	32.5	3.766	1.194	75.32
Y5	16	5.4	17	5.8	42	14.2	84	28.5	136	46.1	4.041	1.151	80.82
Y6	16	5.4	27	9.2	43	14.6	95	32.2	114	38.6	3.895	1.175	77.90
Y7	19	6.4	25	8.5	50	16.9	86	29.2	115	39.0	3.858	1.209	77.16
Y8	17	5.8	30	10.2	55	18.6	82	27.8	111	37.6	3.814	1.208	76.28
Y9	19	6.4	20	6.8	54	18.3	114	38.6	88	29.8	3.786	1.136	75.72
Y10	18	6.1	25	8.5	48	16.3	89	30.2	115	39.0	3.875	1.196	77.50
Y11	20	6.8	18	6.1	48	16.3	74	25.1	135	45.8	3.970	1.216	79.40
Y12	17	5.8	37	12.5	50	16.9	74	25.1	117	39.7	3.803	1.246	76.06
Y13	17	5.8	23	7.8	74	25.1	78	26.4	103	34.9	3.770	1.176	75.40
Mean	17.46	5.92	22.46	7.62	46.92	15.90	93.54	31.72	114.6	38.85	3.900	1.168	78.00

Table (4.9) shows that the average of the first dependent variable (Employee Engagement) is equal to (3.900), which is greater than the average agreement for hypothesis (3). The degree of agreement reached 78%, with a standard deviation of (1.168), which supports the convergent opinions hypothesis about the first dependent variable items among the sample members.

The Y1 item (I try my hardest to perform well on my job) got the highest average agreement, which reached (4.109) with a degree of agreement of 82.18% with a standard deviation of (1.083). It was followed by item (Y2 "At work, I devote a lot of attention to my job") in second place with a mean of (4.105), a limited standard deviation (1.072) and an agreement degree of (82.1%) and the rest of the items had lower means of agreement and were close to the mean hypothesised (neutral).

Second Dependent variable: Creativity represents the second dependent variable and includes (12) items measured in Table (10).

Table 4. 10. Measuring the Second Dependent variable

Item	1		2		3		4		5		Mean	SD	DA
	N	%	N	%	N	%	N	%	N	%			
Z1	19	6.4	7	2.4	61	20.7	116	39.3	92	31.2	3.864	1.086	77.28
Z2	17	5.8	15	5.1	58	19.7	122	41.4	83	28.1	3.810	1.081	76.20
Z3	18	6.1	35	11.9	62	21.0	95	32.2	85	28.8	3.658	1.187	73.16
Z4	20	6.8	23	7.8	53	18.0	104	35.3	95	32.2	3.783	1.175	75.66
Z5	36	12.2	21	7.1	63	21.4	89	30.2	86	29.2	3.570	1.307	71.40
Z6	22	7.5	17	5.8	60	20.3	110	37.3	86	29.2	3.749	1.157	74.98
Z7	19	6.4	23	7.8	79	26.8	110	37.3	64	21.7	3.600	1.105	72.00
Z8	23	7.8	20	6.8	44	14.9	132	44.7	76	25.8	3.739	1.147	74.78
Z9	18	6.1	24	8.1	64	21.7	91	30.8	98	33.2	3.770	1.173	75.40
Z10	20	6.8	32	10.8	75	25.4	97	32.9	71	24.1	3.566	1.164	71.32
Z11	34	11.5	59	20.0	56	19.0	92	31.2	54	18.3	3.248	1.284	64.96
Z12	28	9.5	41	13.9	73	24.7	102	34.6	51	17.3	3.363	1.196	67.26
Mean	22.83	7.742	26.42	8.958	62.33	21.13	105.0	35.6	78.42	26.59	3.643	1.172	72.87

Table (4.10) shows that the average of the second dependent variable (Creativity Dimensions) is equal to (3.643), which is greater than the average agreement for hypothesis (3). The degree of agreement reached 72.87%, with a standard deviation of (1.172), which supports the convergent opinions

hypothesis about the first dependent variable items among the sample members.

The Z1 item (I try my hardest to perform well on my job) got the highest average agreement, which reached (3.864) with a degree of agreement of 77.28% with a standard deviation of (1.086). It was followed by item (Z2 "At work, I devote a lot of attention to my job") in second place with a mean of (3.810), a limited standard deviation (1.081) and an agreement degree of (76.2%) and the rest of the items had lower means of agreement and were close to the mean hypothesised (neutral).

4.3: TEST RELIABILITY COEFFICIENT AND VALIDITY OF THE QUESTIONNAIRE (CONSISTENCY):

Reliability, a reliable measuring instrument gives you the same measurements when you repeatedly measure the same unchanged objects or events. Also, note that I can never know the reliability of an instrument (a test), because I cannot know the true scores. I can, however, estimate reliability.

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is unidimensional. If, in addition to measuring internal consistency, you wish to provide evidence that the scale in question is unidimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality. Technically speaking, Cronbach's alpha is not a statistical test; it is a coefficient of reliability (or consistency). On this basis, it will be used Cronbach's alpha coefficient.

On the other hand, Content Validity assumes that we can detail the entire population of behaviour (or other things) that operationalization is supposed to capture. Now, consider our operationalization to be a sample taken from that population. Our operationalization will have content validity to the extent that

the sample is representative of the population. To measure content validity, we can do our best to describe the population of interest and then ask experts (people who should know about the construct of interest) to judge how well representative our sample is of that population. To measure the consistency with sincerity (which represents the root of the reliability coefficient) questionnaire and summarized in Table (4.11).

Table 4. 11. Reliability Statistics

Variables	Cronbach's Alpha	Validity	N of Items
Independent	0.791	0.889	42
First dependent	0.968	0.984	13
Second dependent	0.956	0.978	12
All variables	0.953	0.976	67

Table (4.11) shows that the reliability statistics for Cronbach alpha values are (0.791, 0.968, 0.956, and 0.953). Validity values are (0.889, 0.984, 0.978, and 0.976), and they are all greater than 0.60 and 0.80, respectively, which reflects the high reliability of the measuring instrument (Ali & Sinan, 2023). Moreover, it indicates a high level of internal consistency concerning the specified sample.

4.4: THE CORRELATION MATRIX BETWEEN THE QUESTIONNAIRE ITEMS:

The correlation matrix between the questionnaire items and all variables and their tests was calculated under the level of significance (0.05) as in the following Tables (4.12-4.24):

Table 4. 12. Correlation Matrix for the Challenge/ Involvement

		x1	x2	x3	x4	x5
Correlation	x1	1.000	.675	.407	.515	.499
	x2	.675	1.000	.439	.424	.460
	x3	.407	.439	1.000	.357	.316
	x4	.515	.424	.357	1.000	.731
	x5	.499	.460	.316	.731	1.000
Sig. (1-tailed)	x1		.000	.000	.000	.000

x2	.000		.000	.000	.000
x3	.000	.000		.000	.000
x4	.000	.000	.000		.000
x5	.000	.000	.000	.000	

Table (4.12) shows a strong positive correlation and very significant correlation between items of the Challenge/ Involvement because all of the p-values are less than (0.05) significance level.

Table 4. 13. Correlation Matrix for the Trust/Openness

		x6	x7	x8	x9
Correlation	x6	1.000	.248	.289	.359
	x7	.248	1.000	.510	.424
	x8	.289	.510	1.000	.541
	x9	.359	.424	.541	1.000
Sig. (1-tailed)	x6		.000	.000	.000
	x7	.000		.000	.000
	x8	.000	.000		.000
	x9	.000	.000	.000	

Table (4.13) shows a strong positive correlation and a very significant correlation between items of Trust/openness because all of the p-values are less than (0.05) significance level.

Table 4. 14: Correlation Matrix for the Freedom

		x10	x11	x12
Correlation	x10	1.000	.382	.324
	x11	.382	1.000	.627
	x12	.324	.627	1.000
Sig. (1-tailed)	x10		.000	.000
	x11	.000		.000
	x12	.000	.000	

Table (4.14) shows a strong positive correlation and a very significant correlation between items of Freedom because all of the p-values are less than (0.05) significance level.

Table 4. 15: Correlation Matrix for the Idea time and support

		x13	x14	x15	x16	x17
Correlation	x13	1.000	.418	.333	.378	.452
	x14	.418	1.000	.435	.355	.482
	x15	.333	.435	1.000	.503	.604
	x16	.378	.355	.503	1.000	.556
	x17	.452	.482	.604	.556	1.000
Sig. (1-tailed)	x13		.000	.000	.000	.000
	x14	.000		.000	.000	.000
	x15	.000	.000		.000	.000
	x16	.000	.000	.000		.000
	x17	.000	.000	.000	.000	

Table (4.15) shows a strong positive correlation and very significant correlation between items of the Idea time and support because all of the p-values are less than (0.05) significance level.

Table 4. 16: Correlation Matrix for the Humor/ Playfulness

		x18	x19	x20
Correlation	x18	1.000	.560	.539
	x19	.560	1.000	.701
	x20	.539	.701	1.000
Sig. (1-tailed)	x18		.000	.000
	x19	.000		.000
	x20	.000	.000	

Table (4.16) shows a strong positive correlation and very significant correlation between items of Humor/playfulness because all of the p-values are less than (0.05) significance level.

Table 4. 17: Correlation Matrix for the Conflicts

		x21	x22	x23	x24
Correlation	x21	1.000	.241	.241	.191
	x22	.241	1.000	.494	.147
	x23	.241	.494	1.000	.201
	x24	.191	.147	.201	1.000
Sig. (1-tailed)	x21		.000	.000	.000
	x22	.000		.000	.006
	x23	.000	.000		.000
	x24	.000	.006	.000	

Table (4.17) shows a strong positive correlation and very significant correlation between items of the Conflicts because all of the p-values are less than (0.05) significance level.

Table 4. 18: Correlation Matrix for the Debates

		x25	x26	x27
Correlation	x25	1.000	.738	.593
	x26	.738	1.000	.661
	x27	.593	.661	1.000
Sig. (1-tailed)	x25		.000	.000
	x26	.000		.000
	x27	.000	.000	

Table (4.18) shows a strong positive correlation and very significant correlation between items of the Debates because all of the p-values are less than (0.05) significance level.

Table 4. 19: Correlation Matrix for the Diversity

		x28	x29	x30	x31
Correlation	x28	1.000	.506	.147	.381
	x29	.506	1.000	.431	.611
	x30	.147	.431	1.000	.422
	x31	.381	.611	.422	1.000
Sig. (1-tailed)	x28		.000	.006	.000
	x29	.000		.000	.000
	x30	.006	.000		.000
	x31	.000	.000	.000	

Table (4.19) shows a strong positive correlation and very significant correlation between items of the Diversity because all of the p-values are less than (0.05) significance level.

Table 4. 20: Correlation Matrix for the Management Support

		x32	x33	x34	x35
Correlation	x32	1.000	.400	.663	.454
	x33	.400	1.000	.450	.389
	x34	.663	.450	1.000	.472
	x35	.454	.389	.472	1.000
Sig. (1-tailed)	x32		.000	.000	.000
	x33	.000		.000	.000
	x34	.000	.000		.000
	x35	.000	.000	.000	

Table (4.20) shows a strong positive correlation and very significant correlation between items of the Management Support because all of the p-values are less than (0.05) significance level.

Table 4. 21: Correlation Matrix for the Risk Taking

		x36	x37	x38	x39
Correlation	x36	1.000	.582	-.182	-.268
	x37	.582	1.000	-.348	-.257
	x38	-.182	-.348	1.000	.284
	x39	-.268	-.257	.284	1.000
Sig. (1-tailed)	x36		.000	.001	.000
	x37	.000		.000	.000
	x38	.001	.000		.000
	x39	.000	.000	.000	

Table (4.21) shows a strong positive correlation and very significant correlation between items of the Risk Taking because all of the p-values are less than (0.05) significance level.

Table 4. 22: Correlation Matrix for the Innovation Perception

		x40	x41	x42
Correlation	x40	1.000	.622	.422
	x41	.622	1.000	.490
	x42	.422	.490	1.000
Sig. (1-tailed)	x40		.000	.000
	x41	.000		.000
	x42	.000	.000	

Table (4.22) shows a strong positive correlation and very significant correlation between items of the Innovation Perception because all of the p-values are less than (0.05) significance level.

Table 4. 23: Correlation Matrix for the Employee Engagement

		y1	y2	y3	y4	y5	y6	y7	y8	y9	y10	y11	y12	y13
Correlation	y1	1.00	.837	.798	.612	.717	.688	.648	.669	.611	.636	.610	.515	.661
	y2	.837	1.00	.846	.692	.804	.733	.686	.764	.683	.730	.704	.583	.748
	y3	.798	.846	1.00	.656	.770	.746	.722	.738	.664	.650	.658	.507	.654
	y4	.612	.692	.656	1.00	.725	.647	.597	.654	.502	.566	.614	.470	.592
	y5	.717	.804	.770	.725	1.00	.889	.815	.784	.769	.765	.766	.665	.686
	y6	.688	.733	.746	.647	.889	1.00	.870	.775	.771	.707	.731	.657	.665
	y7	.648	.686	.722	.597	.815	.870	1.00	.795	.800	.761	.772	.620	.659
	y8	.669	.764	.738	.654	.784	.775	.795	1.00	.697	.695	.689	.577	.753
	y9	.611	.683	.664	.502	.769	.771	.800	.697	1.00	.811	.783	.691	.658
	y10	.636	.730	.650	.566	.765	.707	.761	.695	.811	1.00	.863	.654	.676
	y11	.610	.704	.658	.614	.766	.731	.772	.689	.783	.863	1.00	.701	.747
	y12	.515	.583	.507	.470	.665	.657	.620	.577	.691	.654	.701	1.00	.735
	y13	.661	.748	.654	.592	.686	.665	.659	.753	.658	.676	.747	.735	1.00
Sig. (1-tailed)	y1		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	y2	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	y3	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	y4	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	y5	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	y6	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	y7	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	y8	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	y9	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	y10	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	y11	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	y12	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	y13	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Table (4.23) shows a strong positive correlation and very significant correlation between items of Employee Engagement because all of the p-values are less than (0.05) significance level.

Table 4. 24: Correlation Matrix for the Creativity

		z1	z2	z3	z4	z5	z6	z7	z8	z9	z10	z11	z12
Correlation	z1	1.00	.778	.689	.673	.587	.696	.627	.665	.659	.691	.446	.625
	z2	.778	1.00	.662	.624	.551	.647	.637	.618	.669	.689	.431	.609
	z3	.689	.662	1.00	.661	.429	.584	.505	.626	.554	.562	.252	.512
	z4	.673	.624	.661	1.00	.665	.788	.695	.765	.783	.677	.432	.710
	z5	.587	.551	.429	.665	1.00	.758	.693	.660	.709	.675	.607	.618
	z6	.696	.647	.584	.788	.758	1.00	.810	.766	.802	.727	.543	.767
	z7	.627	.637	.505	.695	.693	.810	1.00	.741	.756	.724	.631	.623
	z8	.665	.618	.626	.765	.660	.766	.741	1.00	.800	.720	.478	.687
	z9	.659	.669	.554	.783	.709	.802	.756	.800	1.00	.811	.580	.754
	z10	.691	.689	.562	.677	.675	.727	.724	.720	.811	1.00	.675	.732
	z11	.446	.431	.252	.432	.607	.543	.631	.478	.580	.675	1.00	.553
	z12	.625	.609	.512	.710	.618	.767	.623	.687	.754	.732	.553	1.00
Sig. (1-tailed)	z1		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	z2	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	z3	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	z4	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	z5	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	z6	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	z7	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	z8	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	z9	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	z10	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	z11	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	z12	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Table (4.24) shows a strong positive correlation and very significant correlation between items of Creativity because all of the p-values are less than (0.05) significance level.

4.5: THE KAISER-MEYER-OLKIN TEST:

The Kaiser-Meyer-Olkin (KMO) test tells us whether or not enough items are predicted by each variable or factor, and measures the Sampling Adequacy; the (KMO) value must be greater than 50% to determine the Sampling Adequacy.

Bartlett's test of Sphericity will be used to test the strength of these correlations between items. The null hypothesis of this test is that there are no correlations between the items. Therefore, the Structural validity of the questionnaire requires that this hypothesis be rejected so that the data is suitable for this analysis.

Table 4. 25: KMO and Bartlett's test for Creative Climate Dimensions

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.842
Bartlett's Test of Sphericity	Approx. Chi-Square	8812.92
	df	861
	Sig.	0.000

Table (4.25) shows that the KMO value is equal to 84.2%, which is greater than 50%; therefore, the number of items and observations of a sample is sufficient to measure this variable. The Bartlett test, since the chi-squared value (8812.92) is greater than the tabulated value under the significance level (0.05) and the degree of freedom (861), which is equal to (124.342), and the p-value (0.000) is less than (0.05), indicating that the correlation matrix is significantly different from an identity matrix.

Table 4. 26: KMO and Bartlett's test for Employee Engagement

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.939
Bartlett's Test of Sphericity	Approx. Chi-Square	4457.800
	df	78
	Sig.	0.000

Table (4.26) shows that the KMO value is equal to 93.9%, which is greater than 50%, therefore, the number of items and observations of a sample is sufficient to measure this variable. The Bartlett test, since the chi-squared value (4457.800) is greater than the tabulated value under the significance level (0.05) and the degree of freedom (78), which is equal to (99.765), and the p-

value (0.000) is less than (0.05), indicating that the correlation matrix is significantly different from an identity matrix.

Table 4. 27: KMO and Bartlett's test for Creativity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.937
Bartlett's Test of Sphericity	Approx. Chi-Square	3380.899
	df	66
	Sig.	0.000

Table (4.27) shows that the KMO value is equal to 93.7%, which is greater than 50%; therefore, the number of items and observations of a sample is sufficient to measure this variable. The Bartlett test, since the chi-squared value (3380.899) is greater than the tabulated value under the significance level (0.05) and the degree of freedom (66), which is equal to (85.672), and the p-value (0.000) is less than (0.05), indicating that the correlation matrix is significantly different from an identity matrix.

4.6: THE FACTOR ANALYSIS:

Factor analysis can be used to determine the adequacy of the assumed items to measure study variables by calculating the total explained and rotated variance (based on the Virmax method, which means an orthogonal rotation method that leads to an increase in the variance of the square of factor saturations on all items) for this variable based on ten items that measure the size of the variances in all items are calculated on one factor. The value of the latent root is not a percentage of explaining the variance, but it is a measure of the size of the variance used for comparison purposes. According to the Kaiser test, the factor is accepted if the value of the latent root is greater than the correct one. However, if the root value is less than one, the factor is rejected.

The Independent variable (Creative Climate Dimensions), the Total Variance Explained table, shows how the variance is divided among the 42 possible factors. The results of the analysis are summarised in Table (28):

Table 4. 28: Total Variance Explained for the Creative Climate Dimensions

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	12.71	30.251	30.251	6.417	15.277	15.277
2	3.729	8.878	39.129	4.525	10.775	26.052
3	2.789	6.641	45.771	4.237	10.088	36.140
4	2.533	6.030	51.800	2.782	6.624	42.764
5	1.983	4.722	56.523	2.683	6.389	49.153
6	1.759	4.188	60.711	2.521	6.003	55.156
7	1.491	3.551	64.261	2.354	5.604	60.760
8	1.338	3.186	67.447	2.107	5.017	65.778
9	1.185	2.820	70.267	1.886	4.490	70.267
10	.988	2.352	72.619			
11	.899	2.140	74.760			
12	.772	1.837	76.597			
13	.713	1.699	78.296			
14	.707	1.683	79.979			
15	.623	1.484	81.464			
16	.597	1.421	82.885			
17	.564	1.343	84.227			
18	.550	1.309	85.536			
19	.523	1.245	86.781			
20	.471	1.121	87.902			
21	.462	1.101	89.003			
22	.393	.935	89.938			
23	.385	.917	90.856			
24	.366	.873	91.728			
25	.332	.790	92.518			
26	.312	.742	93.260			
27	.299	.712	93.973			
28	.294	.700	94.672			
29	.245	.583	95.255			
30	.237	.565	95.820			
31	.217	.517	96.337			
32	.195	.465	96.802			
33	.192	.458	97.260			
34	.182	.434	97.694			
35	.168	.400	98.094			
36	.157	.374	98.468			
37	.134	.318	98.786			
38	.127	.302	99.088			
39	.111	.265	99.353			
40	.103	.246	99.600			
41	.095	.226	99.826			
42	.073	.174	100.000			

Table (4.28) shows that nine factors have Eigenvalues (a measure of explained variance) greater than (1), which is a common criterion for a factor to be useful (Eigenvalues refer to the variance accounted for, in terms of the number of "questions worth" of variance each explains. So, the first factor explains almost; note that 15.277% of the total variance is explained by the first component after rotation, the second factor explains 10.775% of the total variance after rotation, the third factor explains 10.088% of the total variance after rotation, the fourth factor explains 6.624% of the total variance after rotation, the fifth factor explains 6.389% of the total variance after rotation, the sixth factor explains 6.003% of the total variance after rotation, the seventh factor explains 5.604% of the total variance after rotation, the eighth factor explains 5.017% of the total variance after rotation, and the ninth factor explains 4.49% of the total variance after rotation. When the Eigenvalue is less than (1), the factor explains less information than a single item would have explained. The cumulative Percent of variance among items accounted for by each factor before and after rotation is 70.267% for the variance accounted for by the first nine factors.

Factors are rotated so that they are easier to interpret. Rotation makes it so that, as much as possible, different items are explained or predicted by several underlying factors, and each factor explains more than one question. This is a condition called simple structure. This is the goal of rotation; in reality, this is not always achieved. One thing to look for in the Rotated Matrix of factor loadings is the extent to which simple structure is achieved. It summarised the results in the following table:

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Table 4. 29: Rotated Component Matrix for Creative Climate Dimensions

Item	Component								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
x36	.749								
x20	.749								
x19	.703		.401						
x37	.652							.304	
x29	.641	.418							
x4	.638					.468			
x5	.630	.332				.465			
x31	.630	.407							
x35	-.581				-.332				
x32	.546								.390
x33	.523			.516					
x26		.873							
x24		.703							
x25		.702							
x27		.675						.381	
x28		.666						.316	
x39	-.370	-.589							
x17			.814						
x15			-.694						
x16			.635						
x18	.530		.565						
x14			.513		.360	.361			
x42			-.506				.360		-.397
x8		-.366	-.486	-.359				-.334	
x3				.781					
x7			-.469	-.633					
x9				.563	-.425				
x21				-.525			.514		
x22				-.382	-.654				
x38					-.607				
x30	.420				.605				
x34	.463				.483				.403
x1	.318					.747			
x2		.302		.346		.643			
x6	.326	.345	.335			.515			
x40							.730		
x41			-.434				.675		
x23					-.389		.609		
x13			.381					.677	

x12	.343							.608	
x10				-.355					-.743
x11	.429	.328						.401	.458

Table (4.29) shows that the analysis has sorted the (42) items (x1 to x42) into (9) somewhat overlapping groups of items. The items are sorted so that the items that have the highest loading (not considering whether the correlation is positive or negative) from factor-1 (11 items in this analysis) are listed first, and they are sorted from the one with the highest factor weight or loading (i.e., x36, with a loading of 0.749) to the one with the lowest loading from that first factor (x33 with a loading of 0.523). where every item has some loading from every factor, the loadings less than |.30| are to be excluded from the output, so there are blanks where low loadings exist. (|.30| means the absolute value or value without considering the sign).   Next, factor 2 includes 6 items ranging from highest loading (x26) to lowest (x39). Loadings resulting from an orthogonal rotation are correlation coefficients between each item and the factor (they range from −1.0 through 0 to + 1.0). Factor 3 includes 7 items ranging from highest loading (x17) to lowest (x8). Factor 4 includes (4) items ranging from highest loading (x3) to lowest (x21). Factor 5 includes (4) items ranging from highest loading (x22) to lowest (x34). Factor 6 includes (3) items ranging from highest loading (x1) to lowest (x6). Factor 7 includes (3) items ranging from highest loading (x40) to lowest (x23). Factor 8 includes (2) items ranging from highest loading (x13) to lowest (x12). Finally, factor 9 includes (2) items ranging from highest loading (x10) to lowest (x11).

The first dependent variable (Employee Engagement), the Total Variance Explained table, shows how the variance is divided among the 13 possible factors. The results of the analysis are summarised in Table (30):

Table 4. 30: Total Variance Explained for the among (Employee Engagement)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	9.424	72.493	72.493	9.424	72.493	72.493
2	.849	6.534	79.027			
3	.550	4.232	83.259			
4	.466	3.586	86.845			
5	.395	3.042	89.887			
6	.332	2.551	92.438			
7	.196	1.506	93.944			
8	.189	1.452	95.396			
9	.173	1.327	96.724			
10	.148	1.141	97.865			
11	.105	.804	98.669			
12	.093	.715	99.384			
13	.080	.616	100.000			

Table (4.30) shows that one factor has Eigenvalues (9.424) greater than (1), the factor explains almost, and that explains 72.493% of the total variance. The component matrix is in the following table:

Table 4. 31: Component Matrix for Employee Engagement

Item	Component
	1
y5	.920
y6	.896
y2	.888
y7	.884
y11	.872
y8	.869
y10	.862
y9	.856
y3	.852
y13	.833
y1	.814
y12	.754
y4	.750

Table (4.31) shows that the analysis has sorted the (13) items (y1 to y13) into (1) somewhat overlapping groups of items. The items are sorted so that the items that have the highest loading from the one with the highest factor weight

or loading (i.e., y5, with a loading of 0.920) to the one with the lowest loading from that factor (y4, with a loading of 0.750).

The second dependent variable (Creativity), the Total Variance Explained table shows how the variance is divided among the 12 possible factors. The results of the analysis are summarised in Table (32):

Table 4. 32: Total Variance Explained for the among (Creativity)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	8.202	68.352	68.352	8.202	68.352	68.352
2	.985	8.211	76.562			
3	.578	4.818	81.380			
4	.414	3.448	84.828			
5	.351	2.926	87.754			
6	.320	2.663	90.417			
7	.269	2.244	92.661			
8	.229	1.908	94.568			
9	.210	1.752	96.320			
10	.188	1.571	97.891			
11	.142	1.181	99.072			
12	.111	.928	100.000			

Table (4.32) shows that one factor has Eigenvalues (8.202) greater than (1), the factor explains almost, and that explains 68.352% of the total variance. The component matrix is in the following table:

Table 4. 33: Component Matrix for (Creativity)

Item	Component
	1
z6	.903
z9	.902
z10	.878
z8	.866
z4	.860
z7	.855
z12	.830
z1	.821
z5	.804
z2	.798
z3	.707
z11	.662

Table (4.33) shows that the analysis has sorted the (12) items (z1 to z12) into (1) somewhat overlapping groups of items. The items are sorted so that the items that have the highest loading from the one with the highest factor weight or loading (i.e., z6, with a loading of 0.903) to the one with the lowest loading from that factor (z11, with a loading of 0.662).

4.7: TEST DATA DISTRIBUTION:

Here, test study variables and whether the means have a normal distribution or not through the use of a non-parametric test (Kolmogorov-Smirnov) and a parametric test χ^2 (by using the EasyFit program) which determines the tool and the appropriate test to test the study hypotheses, test the following hypotheses:

H_0 : The means of the questionnaire variables have a normal distribution.
H_1 : The means of the questionnaire variables have a non-normal distribution.

The test results are summarised under the significance level (0.05) in the following table:

Table 4. 34: Test of Normality

Variables	Kolmogorov-Smirnov			Chi-Squared			Result
	Statistic	p Value	Critical Value	Statistic	p Value	Critical Value	
Independent	0.1335	0.000	0.0791	113.72	0.000	15.507	Non-Normal
First dependent	0.1366	0.000	0.0791	69.447	0.000	15.507	Non-Normal
Second dependent	0.1056	0.003	0.0791	29.230	0.000	15.507	Non-Normal

Table (4.34) shows that by using (Kolmogorov-Smirnov) test, the means of all variables do not have a normal distribution since the p-values (0.000, 0.000, and 0.003 respectively) are less than the significance level (0.05), the test statistic (0.1335, 0.1366, and 0.1056 respectively) are greater than the

critical value (0.0791). Using the chi-squared test, the means of all variables do not have a normal distribution since the p-values (0.000) are less than the significance level (0.05), and the test statistic (113.72, 69.447, and 29.230, respectively) are greater than (15.507).

4.8: STUDY HYPOTHESES TEST:

The study included the following hypotheses:

First hypothesis:

H_{A1}: There is a positive relationship between creative climate dimensions and employee engagement

The simple linear correlation coefficient (Pearson correlation coefficient) was calculated between creative climate dimensions and employee engagement and its significance was tested under the significance level of (0.05).

Table 4. 35: The relationship between creative climate dimensions and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.830	25.472	0.000	293	1.960	Significant

Table (4.35) shows a strong positive relationship of 83% between creative climate dimensions and employee engagement. The relationship is very significant because the value of Z (25.472) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, the alternative hypothesis is accepted, and there is a positive relationship between creative climate dimensions and employee engagement.

Second hypothesis:

H$_{A2}$: There is a positive relationship between creative climate dimensions and employee creativity

The simple linear correlation coefficient was calculated between creative climate dimensions and employee creativity and its significance was tested below the significance level of (0.05).

Table 4. 36: The relationship between creative climate dimensions and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.798	22.666	0.000	293	1.960	Significant

Table (4.36) shows a strong positive relationship of 79.8% between creative climate dimensions and employee creativity. The relationship is very significant because the value of Z (22.666) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, the alternative hypothesis is accepted, and a positive relationship exists between creative climate dimensions and employee creativity.

The following sub-hypotheses branch out from the first and second hypotheses:

First sub-hypothesis:

H$_{A1}$: There is a positive relationship between challenge/involvement and employee engagement

The simple linear correlation coefficient between challenge/ involvement and employee engagement was calculated, and its significance was tested.

Table 4. 37: The relationship between challenge and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.643	14.371	0.000	293	1.960	Significant

The results of Table (4.37) show a strong positive relationship of 64.3% between challenge and employee engagement. The relationship is very significant because the value of Z (14.371) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, the alternative hypothesis is accepted, and a positive relationship exists between challenge/involvement and employee engagement.

H$_{A2}$: There is a positive relationship between challenge/involvement and employee creativity

The simple linear correlation coefficient between challenge/involvement and employee creativity was calculated, and its significance was tested.

Table 4. 38: The relationship between challenge and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.599	12.805	0.000	293	1.960	Significant

The results of Table (4.38) show there is a strong positive relationship of 59.9% between challenge and employee creativity. The relationship is very significant because the value of Z (12.805) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, the alternative hypothesis is accepted, and a positive relationship exists between challenge/involvement and employee creativity.

Second sub-hypothesis:

H_{A3}: There is a positive relationship between trust/openness and employee engagement

The simple linear correlation coefficient between trust/openness and employee engagement was calculated, and its significance was tested.

Table 4. 39: The relationship between trust/openness and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.407	7.627	0.000	293	1.960	Significant

Table (4.39) shows a positive relationship of 40.7% between trust/openness and employee engagement. The relationship is very significant because the value of Z (7.627) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293) and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted, and there is a positive relationship between trust/openness and employee engagement.

H_{A4}: There is a positive relationship between trust/openness and employee creativity

The simple linear correlation coefficient between trust/openness and employee creativity was calculated, and its significance was tested.

Table 4. 40: The relationship between trust/openness and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.259	4.590	0.000	293	1.960	Significant

Table (4.40) shows a positive relationship of 25.9% between trust/openness and employee creativity. The relationship is very significant because the value of Z (4.590) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted, and there is a positive relationship between trust/openness and employee creativity.

Third sub-hypothesis:

H_{A5}: There is a positive relationship between the perception of freedom in decision-making and employee engagement

The simple linear correlation coefficient between the perception of freedom in decision-making and employee engagement was calculated, and its significance was tested.

Table 4. 41: The relationship between the perception of freedom in decision-making and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.558	11.510	0.000	293	1.960	Significant

Table (4.41) shows a strong positive relationship of 55.8% between the perception of freedom in decision-making and employee engagement. The relationship is very significant because the value of Z (11.510) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, the alternative hypothesis is accepted and there is a positive relationship between the perception of freedom in decision-making and employee engagement.

H_{A6}: There is a positive relationship between the perception of freedom and employee creativity

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The simple linear correlation coefficient between the perception of freedom and employee creativity was calculated, and its significance was tested.

Table 4. 42: The relationship between the perception of freedom and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.534	10.811	0.000	293	1.960	Significant

Table (4.42) shows a strong positive relationship of 53.4% between the perception of freedom and employee creativity. The relationship is very significant because the value of Z (10.811) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted, and there is a positive relationship between the perception of freedom and employee creativity.

Fourth sub-hypothesis:

H$_{A7}$: There is a positive relationship between the availability of time for idea generation and Support for creative initiatives and employee engagement

The simple linear correlation coefficient was calculated between the availability of time for idea generation and Support for creative initiatives and employee engagement and its significance was tested.

Table 4. 43: The relationship between the availability of time for idea generation and Support for creative initiatives and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.424	8.014	0.000	293	1.960	Significant

Table (4.43) shows a positive relationship of 42.4% between the availability of time for idea generation and Support for creative initiatives and employee engagement. The relationship is very significant because the value

of Z (8.014) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, the alternative hypothesis is accepted, and there is a positive relationship between the availability of time for idea generation, support for creative initiatives, and employee engagement.

H_{A8}: There is a positive relationship between the availability of time for idea generation and Support for creative initiatives and employee creativity

The simple linear correlation coefficient was calculated between the availability of time for idea generation and Support for creative initiatives and employee creativity and its significance was tested.

Table 4. 44: The relationship between the availability of time for idea generation and Support for creative initiatives and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.470	9.115	0.000	293	1.960	Significant

Table (4.44) shows a positive relationship of 47% between the availability of time for idea generation and Support for creative initiatives and employee creativity. The relationship is very significant because the value of Z (9.115) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; there is a positive relationship between the availability of time for idea generation and Support for creative initiatives and employee creativity.

Fifth sub-hypothesis:

H_{A9}: There is a positive relationship between the presence of humour and playfulness in the organisational culture and employee engagement

The simple linear correlation coefficient was calculated between the presence of humour and playfulness in the organisational culture and employee engagement and its significance was tested.

Table 4. 45: The relationship between the presence of humour and playfulness in the organisational culture and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.691	16.363	0.000	293	1.960	Significant

Table (4.45) shows a strong positive relationship of 69.1% between the presence of humour and playfulness in the organisational culture and employee engagement. The relationship is very significant because the value of Z (16.363) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, the alternative hypothesis is accepted and there is a positive relationship between the presence of humour and playfulness in the organisational culture and employee engagement.

H_{A10}: There is a positive relationship between the presence of humour and playfulness in the organisational culture and employee creativity

The simple linear correlation coefficient was calculated between the presence of humour and playfulness in the organisational culture and employee creativity and its significance was tested.

Table 4. 46: The relationship between the presence of humour and playfulness in the organisational culture and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.675	15.660	0.000	293	1.960	Significant

Table (4.46) shows a strong positive relationship of 67.5% between the presence of humour and playfulness in the organisational culture and employee creativity. The relationship is very significant because the value of Z (15.660)

is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; there is a positive relationship between the presence of humour and playfulness in the organisational culture and employee creativity.

Sixth sub-hypothesis:

H$_{A11}$: There is a positive relationship between Conflicts within the Ministry of Trade and Industry and employee engagement

The simple linear correlation coefficient between conflicts within the Ministry of Trade and Industry and employee engagement was calculated, and its significance was tested.

Table 4. 47: The relationship between conflicts within the Ministry of Trade and Industry and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.009	0.154	0.883	293	1.960	Non-Significant

Table (4.47) shows a weak positive relationship of 0.9% between conflicts within the Ministry of Trade and Industry and employee engagement. The relationship is non-significant because the value of Z (0.154) is less than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.883), which is greater than the significance level of (0.05). Therefore, the null hypothesis is accepted and there is no positive relationship between conflicts within the Ministry of Trade and Industry and employee engagement.

H$_{A12}$: There is a positive relationship between conflicts within the Ministry of Trade and Industry and employee creativity

The simple linear correlation coefficient between conflicts within the Ministry of Trade and Industry was calculated, and its significance was tested.

Table 4. 48: The relationship between conflicts within the Ministry of Trade and Industry and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.030	0.514	0.612	293	1.960	Non-Significant

Table (4.48) shows a weak positive relationship of 3% between conflicts within the Ministry of Trade and Industry and employee creativity. The relationship is non-significant because the value of Z (0.514) is less than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.612), which is greater than the significance level of (0.05). Therefore, the null hypothesis is accepted; no positive relationship exists between conflicts within the Ministry of Trade and Industry and employee creativity.

Seventh sub-hypothesis:

H_{A13}: There is a positive relationship between Fostering debates and discussions and employee engagement

The simple linear correlation coefficient between Fostering debates and discussions and employee engagement was calculated, and its significance was tested.

Table 4. 49: The relationship between Fostering debates and discussions and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.469	9.090	0.000	293	1.960	Significant

Table (4.49) shows a positive relationship of 46.9% between Fostering debates and discussions and employee engagement. The relationship is very significant because the value of Z (9.090) is greater than the critical value

(1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; a positive relationship exists between Fostering debates and discussions and employee engagement.

H$_{A14}$: There is a positive relationship between Fostering debates and discussions and employee creativity

The simple linear correlation coefficient between Fostering debates and discussions was calculated, and its significance was tested.

Table 4. 50: The relationship between Fostering debates and discussions and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.444	8.482	0.000	293	1.960	Significant

Table (4.50) shows a weak positive relationship of 44.4% between Fostering debates and discussions and employee creativity. The relationship is very significant because the value of Z (8.482) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; a positive relationship exists between Fostering debates and discussions and Industry and employee creativity.

Eighth sub-hypothesis:

H$_{A15}$: There is a positive relationship between Diversity and employee engagement

The simple linear correlation coefficient between diversity and employee engagement was calculated, and its significance was tested.

Table 4. 51: The relationship between Diversity and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.718	17.657	0.000	293	1.960	Significant

Table (4.51) shows a strong positive relationship of 71.8% between Diversity and employee engagement. The relationship is very significant because the value of Z (17.657) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; there is a positive relationship between Diversity and employee engagement.

H_{A16}: There is a positive relationship between Diversity and employee creativity

The simple linear correlation coefficient between Diversity and its significance was calculated and tested.

Table 4. 52: The relationship between Diversity and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.678	15.788	0.000	293	1.960	Significant

Table (4.52) shows a strong positive relationship of 67.8% between Diversity and employee creativity. The relationship is very significant because the value of Z (15.788) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is

accepted, there is a positive relationship between Diversity and Industry and employee creativity.

Ninth sub-hypothesis:

H$_{A17}$: There is a positive relationship between Management support and employee engagement

The simple linear correlation coefficient between management support and employee engagement was calculated, and its significance was tested.

Table 4. 53: The relationship between Management support and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.430	8.153	0.000	293	1.960	Significant

Table (4.53) shows a positive relationship of 43% between Management support and employee engagement. The relationship is very significant because the value of Z (8.153) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted, and there is a positive relationship between management support and employee engagement.

H$_{A18}$: There is a positive relationship between Management support and employee creativity

The simple linear correlation coefficient between management support and its significance was calculated and tested.

Table 4. 54: The relationship between Management support and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.497	9.804	0.000	293	1.960	Significant

Table (4.54) shows a positive relationship of 49.7% between Management support and employee creativity. The relationship is very significant because the value of Z (9.804) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted, and there is a positive relationship between management support and employee creativity.

Tenth sub-hypothesis:

H_{A19}: There is a positive relationship between a willingness to take risks and employee engagement

The simple linear correlation coefficient between a willingness to take risks and employee engagement was calculated, and its significance was tested.

Table 4. 55: The relationship between a willingness to take risks and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.323	5.842	0.000	293	1.960	Significant

Table (4.55) shows a positive relationship of 32.3% between a willingness to take risks and employee engagement. The relationship is very significant because the value of Z (5.842) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; a positive relationship exists between a willingness to take risks and employee engagement.

H_{A20}: There is a positive relationship between a willingness to take risks and employee creativity

The simple linear correlation coefficient was calculated between a willingness to take risks and its significance was tested.

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Table 4. 56: The relationship between a willingness to take risks and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.313	5.641	0.000	293	1.960	Significant

Table (4.56) shows a positive relationship of 31.3% between a willingness to take risks and employee creativity. The relationship is very significant because the value of Z (5.641) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; a positive relationship exists between a willingness to take risks and employee creativity.

Eleventh sub-hypothesis:

H_{A21}**:** There is a positive relationship between Employees' perceptions of innovation and employee engagement

The simple linear correlation coefficient was calculated between employees' perceptions of innovation and employee engagement and its significance was tested.

Table 4. 57: The relationship between Employees' perceptions of innovation and employee engagement

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.373	6.881	0.000	293	1.960	Significant

Table (4.57) shows a positive relationship of 37.3% between employees' perceptions of innovation and employee engagement. The relationship is very significant because the value of Z (6.881) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative

hypothesis is accepted; there is a positive relationship between employees' perceptions of innovation and employee engagement.

H_{A22}: There is a positive relationship between Employees' perceptions of innovation and employee creativity

The simple linear correlation coefficient was calculated between employees' perceptions of innovation and its significance was tested.

Table 4. 58: The relationship between employees' perceptions of innovation and employee creativity

Correlation Coefficient	Cal. Z	Sig.	DF	Critical Value	Result
0.335	6.086	0.000	293	1.960	Significant

Table (4.58) shows a positive relationship of 33.5% between employees' perceptions of innovation and employee creativity. The relationship is very significant because the value of Z (6.086) is greater than the critical value (1.960) below the significance level of 0.05 and the degrees of freedom (293), and confirmed by the p-value (0.000), which is less than the significance level of (0.05). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted; there is a positive relationship between employees' perceptions of innovation and employee creativity.

Third hypothesis:

H_{A1}: There is a significant difference between the level of agreement on employee engagement according to demographic variables.

The difference in agreement with the employee engagement was tested according to Demographic factors (Age (Years), Educational Background, Years of Experience at this Organization, Position/Role, and Salary). Because the data has no normal distribution, the H-test (Kruskal-Wallis) was used for more than two categories under the significance level of (0.05) as follows:

Age (Years): The study sample included age classes (23-30, 31-40, 41-50, and 51 or more).

Table 4. 59: Difference test for the employee engagement (Age)

Age	Mean	Median	S. D.	Number	χ^2	p-value
23-30	4.3675	4.7692	0.6176	36		
31-40	3.8893	3.8846	0.7164	98	12.712	0.005
41-50	4.0029	4.0000	0.7727	79		
51 or more	3.6069	4.0769	1.4220	82		

Table (4.59) shows that the mean of the employee engagement of class (23-30) is (4.3675) and it is greater than the mean of class (41-50), which is (4.0029), while the class (51 or more) with a lesser mean is equal to (3.6069). The median of classes is (4.7692, 3.8846, 4.000, and 4.0769) respectively. The calculated χ^2 is equal to (12.712), which is greater than its tabular value when the degree of freedom (3) is equal to (7.810). This is confirmed by the p-value, which is equal to (0.005), which is less than the level of significance of (0.05); this means there is a significant difference between the level of agreement on employee engagement according to age variable.

Educational Background: The study sample included Educational Background classes (High school and below, Diploma, B.Sc., and Postgraduate studies).

Table 4. 60: Difference test for the employee engagement (Educational Background)

Educational Background	Mean	Median	S. D.	Number	χ^2	p-value
High school and below	4.1686	4.3846	0.6755	26		
Diploma	4.0240	4.3077	0.5921	61	9.893	0.020
B.Sc.	4.0906	4.0000	0.7221	158		
Postgraduate studies	3.0046	3.0769	1.6056	50		

Table (4.60) shows that the mean of the employee engagement of class (High school and below) is (4.1686) and it is greater than the mean of class

(B.Sc.), which is (4.0906), while the class (Postgraduate studies) with a lesser mean is equal to (3.0046). The median of classes is (4.3846, 4.3077, 4.000, and 3.0769) respectively. The calculated χ^2 is equal to (9.893), which is greater than its tabular value when the degree of freedom (3) is equal to (7.810). This is confirmed by the p-value, which is equal to (0.020), which is less than the level of significance of (0.05). This means there is a significant difference between the level of agreement on employee engagement according to the Educational Background variable.

Years of Experience at this Organization: The study sample included Years of Experience in this Organization's classes (1-5, 6-10, 11-15, 16-20, and 21 or more).

Table 4. 61: Difference test for employee engagement (Years of Experience at this Organization)

Years of Experience at this Organization	Mean	Median	S. D.	Number	χ^2	p-value
1-5	4.5562	4.7692	0.4464	52		
6-10	4.1435	4.3846	0.7673	37		
11-15	3.5860	3.8462	1.1818	123	34.697	0.000
16-20	3.6442	3.3462	0.7463	40		
21 or more	4.0304	4.0000	0.7829	43		

Table (4.61) shows that the mean of the employee engagement of class (1-5) is (4.5562) and it is greater than the mean of class (6-10), which is (4.1435), while the class (11-15) with a lesser mean is equal to (3.5860). The median of classes is (4.7692, 4.3846, 3.8462, 3.3462, and 4.0000) respectively.

The calculated χ^2 is equal to (34.697), which is greater than its tabular value when the degree of freedom (4) is equal to (9.49). This is confirmed by the p-value, which is equal to (0.000), which is less than the level of significance of (0.05). This means there is a significant difference between the level of agreement on employee engagement according to Years of Experience in this Organization's variable.

Position/Role: The study sample included Position/Role classes (Department manager, Unit manager, and Employee).

Table 4. 62: Difference test for employee engagement (Position/Role)

Position/Role	Mean	Median	S. D.	Number	χ^2	p-value
Department manager	4.0692	3.8462	0.8108	50		
Unit manager	4.0902	4.3846	0.7446	93	5.521	0.063
Employee	3.7272	4.0000	1.1414	152		

Table (4.62) shows that the mean of the employee engagement of the class (Unit manager) is (4.0902) and it is greater than the mean of the class (Department manager), which is (4.0692), while the class (Employee) with a lesser mean is equal to (3.7272). The median of classes is (3.8462, 4.3846, and 4.000) respectively. The calculated χ^2 is equal to (5.521), which is less than its tabular value when the degree of freedom (2) is equal to (5.99). This is confirmed by the p-value, which is equal to (0.063), which is greater than the level of significance of (0.05). This means there is no significant difference between the level of agreement on employee engagement according to Position/Role variable.

Salary: The study sample included Salary classes (Less than 500,000, 501,000 to 1,000,000, 1,001,000 to 1,500,000, and Greater than 1,500,000).

Table 4. 63: Difference test for employee engagement (Salary)

Years of Experience at this Organization	Mean	Median	S. D.	Number	χ^2	p-value
Less than 500,000	3.4310	3.9231	1.4676	68		
501,000 to 1,000,000	4.1555	4.3846	0.7028	141	21.720	0.000
1,001,000 to 1,500,000	3.6923	3.6923	0.6761	41		
Greater than 1,500,000	3.9949	3.8462	0.8419	45		

Table (4.63) shows that the mean of the employee engagement of the class (501,000 to 1,000,000) is (4.1555) and it is greater than the mean of the class (Greater than 1,500,000), which is (3.9949), while the class (Less than

500,000) with a lesser mean is equal to (3.4310). The median of classes is (3.9231, 4.3846, 3.6923, and 3.8462) respectively. The calculated χ^2 is equal to (21.720), which is greater than its tabular value when the degree of freedom (3) is equal to (7.810). This is confirmed by the p-value, which is equal to (0.000), which is less than the level of significance of (0.05), this means there is a significant difference between the level of agreement on employee engagement according to Salary.

H_{A2}: There is a significant difference between the level of agreement on employee creativity according to demographic variables.

The difference in agreement with the employee creativity was tested according to Demographic factors and under the significance level of (0.05) as follows:

Age (Years): The study sample included age classes:

Table 4. 64: Difference test for the employee creativity (Age)

Age	Mean	Median	S. D.	Number	χ^2	p-value
23-30	4.1898	4.4167	0.57273	36		
31-40	3.4770	3.5000	0.57459	98	30.429	0.000
41-50	3.7268	3.6667	0.84647	79		
51 or more	3.5213	3.9583	1.39804	82		

Table (4.64) shows that the mean of the employee creativity of class (23-30) is (4.1898) and it is greater than the mean of class (41-50), which is (3.7268), while the class (31-40) with a lesser mean is equal to (3.4770). The median of classes is (4.4167, 3.5000, 3.6667, and 3.9583) respectively. The calculated χ^2 is equal to (30.429), which is greater than its tabular value when the degree of freedom (3) is equal to (7.810). This is confirmed by the p-value, which is equal to (0.000), which is less than the level of significance of (0.05). This means there is a significant difference between the level of agreement on employee creativity according to age variable.

Educational Background: The study sample included Educational Background classes:

Table 4. 65: Difference test for the employee creativity (Educational Background)

Educational Background	Mean	Median	S. D.	Number	χ^2	p-value
High school and below	3.5096	3.2917	0.63610	26		
Diploma	3.8087	3.5833	0.63853	61	14.284	0.003
B.Sc.	3.8296	3.8333	0.74952	158		
Postgraduate studies	2.9217	3.0417	1.54197	50		

Table (4.65) shows that the mean of the employee creativity of class (B.Sc.) is (3.8296) and it is greater than the mean of class (Diploma) which is (3.8087), while the class (Postgraduate studies) with a lesser mean is equal to (2.9217). The median of classes is (3.2917, 3.5833, 3.8333, and 3.0417) respectively. The calculated χ^2 is equal to (14.284), which is greater than its tabular value when the degree of freedom (3) is equal to (7.810). This is confirmed by the p-value, which is equal to (0.003), which is less than the level of significance of (0.05). This means there is a significant difference between the level of agreement on employee creativity according to the Educational Background variable.

Years of Experience at this Organization: The study sample included Years of Experience in this Organization's classes:

Table 4. 66: Difference test for employee creativity (Years of Experience at this Organization)

Years of Experience at this Organization	Mean	Median	S. D.	Number	χ^2	p-value
1-5	4.2997	4.3333	0.41199	52		
6-10	3.9032	3.8333	0.86748	37		
11-15	3.2893	3.5000	1.07226	123	45.869	0.000
16-20	3.3729	3.2500	0.80264	40		
21 or more	3.8895	3.6667	0.78611	43		

Table (4.66) shows that the mean of the employee creativity of class (1-5) is (4.2997) and it is greater than the mean of class (6-10), which is (3.9032), while the class (11-15) with a lesser mean is equal to (3.2893). The median of classes is (4.3333, 3.8333, 3.5000, 3.2500, and 3.6667) respectively. The calculated χ^2 is equal to (45.869), which is greater than its tabular value when the degree of freedom (4) is equal to (9.49). This is confirmed by the p-value, which is equal to (0.000), which is less than the level of significance of (0.05), this means there is a significant difference between the level of agreement on employee creativity according to Years of Experience in this Organization's variable.

Position/Role: The study sample included Position/Role classes:

Table 4. 67: Difference test for employee creativity (Position/Role)

Position/Role	Mean	Median	S. D.	Number	χ^2	p-value
Department manager	3.9083	3.7083	0.88597	50		
Unit manager	3.9176	4.2500	0.75736	93	13.731	0.001
Employee	3.3882	3.5000	1.03357	152		

Table (4.67) shows that the mean of the employee creativity of class (Unit manager) is (3.9176) and it is greater than the mean of class (Department manager), which is (3.9083), while the class (Employee) with a lesser mean is equal to (3.3882). The median of classes is (3.7083, 4.2500, and 3.500) respectively. The calculated χ^2 is equal to (13.731), which is greater than its tabular value when the degree of freedom (2) is equal to (5.99). This is confirmed by the p-value, which is equal to (0.001), which is less than the level of significance of (0.05). This means there is a significant difference between the level of agreement on employee creativity according to Position/Role variable.

Salary: The study sample included Salary classes:

Table 4. 68: Difference test for employee creativity (Salary)

Years of Experience at this Organization	Mean	Median	S. D.	Number	χ^2	p-value
Less than 500,000	3.1495	3.5417	1.35779	68		
501,000 to 1,000,000	3.8647	3.9167	0.71807	141	14.096	0.003
1,001,000 to 1,500,000	3.4390	3.4167	0.70219	41		
Greater than 1,500,000	3.8815	3.5833	0.82237	45		

Table (4.68) shows that the mean of the employee creativity of the class (Greater than 1,500,000) is (3.8815) and it is greater than the mean of the class (501,000 to 1,000,000), which is (3.8647), while the class (Less than 500,000) with a lesser mean is equal to (3.1495). The median of classes is (3.5417, 3.9167, 3.4167, and 3.5833) respectively. The calculated χ^2 is equal to (14.096), which is greater than its tabular value when the degree of freedom (3) is equal to (7.810). This is confirmed by the p-value, which is equal to (0.003), which is less than the level of significance of (0.05), this means there is a significant difference between the level of agreement on employee creativity according to Salary.

Fourth hypothesis:

H$_{A1}$: There is an impact of the overall dimensions of creative climate on employee engagement

Here, the overall dimensions of creative climate (challenge/involvement, trust/openness, freedom, idea time and support, humour/playfulness, conflicts, debates, diversity, management support, risk-taking, and innovation perception) represent the independent variable and the employee engagement represents the dependent variable. The simple linear regression model is estimated and the hypothesis tested and summarised in the following table.

Table 4. 69: The impact of the overall dimensions of creative climate on employee engagement

Model	Coefficients	t	Sig.	F	Sig.	R Square
(Constant)	-3.752	-12.425	0.000	649.467	0.000	0.689
Slope	2.323	25.485	0.000			

Table (4.69) shows that the overall dimensions of creative climate, explain 68.9% (coefficient of determination) of the changes in employee engagement. Linear regression model is appropriate for this data because the F-statistic is equal to (649.467), it is the largest tabulated value under the significant level (0.05) and degrees of freedom (1 and 293) which is equal to (3.92), this is confirmed by the p-value (0.000), which is less than the significance level (0.05).

Since the t-statistic is equal to (25.485) for the coefficient of an independent variable (Slope), and it is greater than the tabulated value under the significant level (0.05) and degrees of freedom (293), which is equal to (1.96), (the p-value is (0.000), which less than the significantly level (0.05)), its therefore significant and contribute to the interpretation of the model (employee engagement), and finally, the null hypothesis is rejected and accept the alternative hypothesis which states that "There is an impact of the overall dimensions of creative climate on employee engagement", The model is as follows:

$$\hat{y}_i = -3.752 + 2.323x_i$$

H$_{A2}$: There is an impact of the overall dimensions of creative climate on employee creativity

Here, the overall dimensions of creative climate represent the independent variable and employee creativity represents the dependent variable. The simple linear regression model is estimated and the hypothesis tested and summarised in the following table.

Table 4. 70: The impact of the overall dimensions of creative climate on employee creativity

Model	Coefficients	t	Sig.	F	Sig.	R Square
(Constant)	-3.503	-11.051	0.000	514.192	0.000	0.637
Slope	2.170	22.676	0.000			

Table (4.70) shows that the overall dimensions of creative climate, explain 63.7% (coefficient of determination) of the changes in employee creativity. Linear regression model is appropriate for this data because the F-statistic is equal to (514.192), it is the largest tabulated value under the significant level (0.05) and degrees of freedom (1 and 293) which is equal to (3.92), this is confirmed by the p-value (0.000), which is less than the significance level (0.05).

Since the t-statistic is equal to (22.676) for the coefficient of an independent variable (Slope), and it is greater than the tabulated value under the significant level (0.05) and degrees of freedom (293), which is equal to (1.96), (the p-value is (0.000), which less than the significantly level (0.05)), its therefore significant and contribute to the interpretation of the model (employee creativity), and finally, the null hypothesis is rejected and accept the alternative hypothesis which states that "There is an impact of the overall dimensions of creative climate on employee creativity", The model is as follows:

$$\hat{z}_i = -3.503 + 2.170 x_i$$

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Table 4. 71: The impact of every dimension of creative climate on employee engagement

Dimension		Coefficients	t	Sig.	F	Sig.	R Square
1	Constant	1.244	6.540	0.000	206.159	0.000	0.413
	Slope	0.745	14.358	0.000			
2	Constant	0.959	2.467	0.014	58.340	0.000	0.166
	Slope	0.886	7.638	0.000			
3	Constant	1.024	4.029	0.000	132.730	0.000	0.312
	Slope	0.859	11.521	0.000			
4	Constant	1.655	5.803	0.000	64.064	0.000	0.179
	Slope	0.723	8.004	0.000			
5	Constant	1.602	10.946	0.000	268.484	0.000	0.478
	Slope	0.708	16.385	0.000			
6	Constant	3.851	11.417	0.000	0.022	0.883	0.000
	Slope	0.015	0.147	0.883			
7	Constant	2.438	14.462	0.000	82.727	0.000	0.220
	Slope	0.477	9.095	0.000			
8	Constant	1.018	6.051	0.000	311.534	0.000	0.515
	Slope	0.874	17.650	0.000			
9	Constant	1.679	6.056	0.000	66.470	0.000	0.185
	Slope	0.702	8.153	0.000			
10	Constant	1.870	5.311	0.000	34.028	0.000	0.104
	Slope	0.625	5.833	0.000			
11	Constant	5.492	23.104	0.000	47.284	0.000	0.139
	Slope	0.460	6.876	0.000			

Table (4.71) shows that every dimension of creative climate, explains (41.3%, 16.6%, 31.2%, 17.9%, 47.8%, 0%, 22%, 51.5%, 18.5%, 10.4%, and 13.9% respectively) of the changes in employee engagement—linear regression models appropriate for this data except for the sixth model, confirmed by the p-values.

The sequence of dimensional influence strength can be arranged according to the interpretation ratio as follows:

8-Dimension (Diversity), 51.5%

5-Dimension (Humor/ Playfulness), 47.8%

1-Dimension (Challenge/ Involvement), 41.3%

3-Dimension (Freedom), 31.2%

7-Dimension (Debates), 22%

9-Dimension (Management Support), 18.5%

4-Dimension (Idea time and support), 17.9%

2-Dimension (Trust/ openness), 16.6%

11-Dimension (Innovation Perception), 13.9%

10-Dimension (Risk Taking), 10.4%

6-Dimension (Conflicts), 0%

Table 4. 72: The impact of every dimension of creative climate on employee creativity

Dimension		Coefficients	t	Sig.	F	Sig.	R Square
1	Constant	1.238	6.413	0.000	164.082	0.000	0.359
	Slope	0.674	12.809	0.000			
2	Constant	1.826	4.574	0.000	21.107	0.000	0.067
	Slope	0.548	4.594	0.000			
3	Constant	0.970	3.857	0.000	117.063	0.000	0.285
	Slope	0.799	10.820	0.000			
4	Constant	1.226	4.539	0.000	82.939	0.000	0.221
	Slope	0.779	9.107	0.000			
5	Constant	1.464	10.086	0.000	245.344	0.000	0.456
	Slope	0.671	15.663	0.000			
6	Constant	3.807	11.625	0.000	0.257	0.612	0.001
	Slope	0.049	0.507	0.612			
7	Constant	2.300	13.840	0.000	71.967	0.000	0.197
	Slope	0.439	8.483	0.000			
8	Constant	1.001	5.798	0.000	248.816	0.000	0.459
	Slope	0.801	15.774	0.000			
9	Constant	1.149	4.439	0.000	96.264	0.000	0.247
	Slope	0.788	9.811	0.000			
10	Constant	1.733	5.050	0.000	31.714	0.000	0.098
	Slope	0.588	5.632	0.000			
11	Constant	5.031	21.455	0.000	36.920	0.000	0.112
	Slope	0.401	6.076	0.000			

Table (4.72) shows that every dimension of creative climate, explains (35.9%, 6.7%, 28.5%, 22.1%, 45.6%, 0.1%, 19.7%, 45.9%, 24.7%, 9.8%, and 11.2% respectively) of the changes in employee creativity—linear regression models appropriate for this data except for the sixth model, confirmed by the p-values.

The sequence of dimensional influence strength can be arranged according to the interpretation ratio as follows:

8-Dimension (Diversity), 45.9%

5-Dimension (Humor/ Playfulness), 45.6%

1-Dimension (Challenge/ Involvement), 35.9%

3-Dimension (Freedom), 28.5%

9-Dimension (Management Support), 24.7%

4-Dimension (Idea time and support), 22.1%

7-Dimension (Debates), 19.7%

11-Dimension (Innovation Perception), 11.2%

10-Dimension (Risk Taking), 9.8%

2-Dimension (Trust/ openness), 6.7%

6-Dimension (Conflicts), 0.1%

4.9: DISCUSSION

This section provides a comprehensive discussion of the study's findings, integrating them with the literature reviewed in Chapter 2 to address the research objectives. The discussion highlights the theoretical and practical implications of the relationships between creative climate dimensions, employee engagement, and creativity within the Ministry of Trade and Industry in the Kurdistan Region of Iraq. The results are compared with prior studies, offering deeper insights into their alignment and deviations, and contextualizing the findings within organizational and cultural frameworks.

Creative Climate and Employee Engagement

The findings of this study demonstrate a strong positive relationship between the overall creative climate and employee engagement. This reinforces Ekvall's (1996) proposition that organizational environments with trust, support, and freedom to experiment create conditions for employees to feel emotionally and behaviorally invested in their roles. Dimensions such as trust/openness, management support, and time for idea generation were found to be key drivers of engagement, affirming Amabile et al.'s (1996) emphasis on supportive managerial behaviors and a culture of openness as critical factors in fostering workplace engagement.

Interestingly, management support emerged as one of the most influential dimensions in driving engagement, consistent with Shah and Ali's (2011) findings that managerial encouragement provides employees with the confidence and resources necessary to take ownership of their roles. In the context of public-sector organizations like the Ministry of Trade and Industry, where bureaucratic structures are prevalent, the role of management support becomes even more pronounced. Supportive leadership mitigates rigid hierarchies, allowing employees to feel valued and motivated, as also noted by Abdullah et al. (2015).

On the other hand, the conflict dimension showed no significant correlation with employee engagement. This result diverges from Western studies, such as those by Isaksen and Ekvall (2010), which suggest that constructive conflict can stimulate engagement through diverse perspectives and problem-solving. In the Kurdish context, workplace harmony and cultural sensitivities toward avoiding confrontation may explain this result. Employees in such settings might perceive conflict, even constructive, as a source of stress or undermining collaboration rather than enhancing engagement. This cultural specificity highlights the need to tailor management practices to the cultural norms and expectations of employees.

Creative Climate and Employee Creativity

The results reveal a strong positive relationship between creative climate dimensions and employee creativity. Key dimensions such as challenge/involvement, playfulness/humor, and trust/openness were positively associated with creativity, echoing findings by Lin et al. (2010) and Amabile et al. (1996), who argued that a supportive and dynamic work environment encourages employees to take intellectual risks and experiment with novel solutions.

The challenge/involvement dimension was particularly impactful, suggesting that employees who perceive their tasks as meaningful and intellectually stimulating are more likely to contribute creatively. This aligns with theories of intrinsic motivation (Amabile et al., 1996) that posit individuals perform most creatively when deeply invested in their work and feel challenged by it.

The absence of a significant relationship between the conflict dimension and creativity supports the argument by Altman (2000) and Lauer (1994) that excessive conflict can stifle creativity by creating a tense and unsupportive environment. In public-sector organizations, where formal structures and protocols dominate, the tolerance for conflict may be lower compared to private-sector organizations, further inhibiting its potential role in fostering creativity.

The freedom in decision-making dimension was found to positively influence creativity but had limited impact on engagement. This dual finding supports Zybartaitė and Dzemyda's (2014) argument that while autonomy encourages employees to innovate by exploring unique approaches, it does not necessarily enhance their emotional connection to their roles. In hierarchical settings such as the Ministry, employees may view decision-making freedom as an opportunity for creativity but may not associate it with their broader engagement with organizational goals.

Cultural and Organizational Context

One of the most significant contributions of this study is its contextual focus on the Ministry of Trade and Industry in the Kurdistan Region of Iraq. The findings add to the global literature by providing insights into how creative climate dimensions function in a public-sector organization in a Middle Eastern context. While many studies, such as those by Abo-Baker et al. (2023) and Amabile et al. (1996), have focused on private-sector organizations in Western contexts, this study highlights the unique challenges and opportunities in public institutions.

For example, the heightened importance of management support and trust/openness in this study reflects the need for strong leadership in hierarchical and centralized environments. Public-sector employees, who often face rigid protocols and limited autonomy, rely heavily on managerial encouragement to feel empowered and creative.

The findings also underscore cultural differences, particularly regarding the role of conflict. Unlike Western contexts where constructive conflict is seen as a driver of innovation (McLean, 2005), the results indicate that conflict is either neutral or detrimental. This may stem from cultural norms in the Kurdish region, where collaboration and harmony are prioritized over open debate or dissent.

Implications for Theory and Practice

The findings contribute to the theoretical understanding of creative climates by demonstrating the nuanced effects of individual dimensions on employee outcomes. They also provide empirical evidence to support the theoretical frameworks outlined by Ekvall (1996) and Amabile et al. (1996), while introducing contextual considerations that expand their applicability.

From a practical perspective, the study highlights the importance of fostering a creative climate tailored to the specific organizational and cultural context. For the Ministry of Trade and Industry, this means emphasizing

dimensions such as trust, managerial support, and meaningful challenges while minimizing unproductive conflicts. Policymakers and organizational leaders should focus on training programs to enhance managerial capabilities, create open communication channels, and design roles that challenge employees intellectually.

The results of this study align with much of the global literature but also reveal context-specific deviations. For example, the positive impact of trust/openness and management support is consistent with studies across cultures (Amabile et al., 1996; Lin et al., 2010). However, the absence of a positive role in conflict and the nuanced role of freedom in decision-making reflect regional cultural norms that differ from Western organizational behaviors. These differences emphasize the need for localized research to understand how cultural and organizational factors shape the implementation and outcomes of creative climates. As Egbu (2004) and McLean (2005) suggest, creativity is not a one-size-fits-all concept; its fostering requires sensitivity to the specific environment in which it operates.

This discussion has explored the relationships between creative climate, employee engagement, and creativity, highlighting the alignment and divergence of findings with existing literature. The results emphasize the importance of contextualizing creative climate dimensions within organizational and cultural frameworks. By addressing these dynamics, the Ministry of Trade and Industry can create a work environment that enhances both employee engagement and creativity, ultimately improving organizational performance. Future research should delve deeper into these contextual nuances to further validate and expand the applicability of these findings.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

The creative climate within an organization is shaped by several key factors. Challenge and involvement keep employees engaged and motivated, while trust and openness promote the free exchange of ideas. Providing freedom, idea time, and support encourages employees to explore new possibilities. A playful environment with humor helps foster creativity, while constructive debates and diversity enrich the creative process by bringing different perspectives. Management support and a culture of risk-taking are essential for sustaining innovation, and how innovation is perceived by employees can greatly influence their willingness to contribute creatively. In the Ministry of Trade and Industry in Kurdistan Region-Iraq, these determinants collectively play a crucial role in driving employee engagement and creativity. The conclusions of this study are summarized in the following key points:

1. It was found that the majority of employees in the Ministry of Trade and Industry in the Kurdistan region are male, which may reflect traditional or historical preferences in some cultures and societies, leading to disparities in employment between men and women. Some families may encourage males to enter certain fields more than females.

2. Most employees in the ministry surveyed fall within middle age groups, which typically possess a combination of youthful energy and professional experience gained over years of work. This balance between energy and experience can contribute to more mature and effective administrative decisions.

3. The majority of employees in the surveyed ministry are married, which may enhance their ability to handle work pressures, as they are experienced in dealing with various challenges and responsibilities in both their personal and professional lives.

4. A large majority of employees hold bachelor's degrees, which enhances the level of competence and professionalism in the institution. They have the theoretical knowledge necessary to achieve work goals innovatively and are often more prepared to deal with technology and modern developments in their fields.

5. The vast majority of the surveyed employees have a total service period ranging from 11 to 15 years, which reflects accumulated professional experience. This allows employees to deeply understand the nature of the work and develop advanced technical and managerial skills. This, in turn, enhances their ability to make informed decisions and solve problems effectively, contributing to organizational stability, loyalty, and sustained good performance over the long term.

6. The results indicate that most employees reflect functional diversity and institutional stability, with the distribution of skills and experience contributing to achieving work goals efficiently. The high number of employees also indicates employee loyalty and reduces turnover, fostering a stable work environment. Additionally, the large workforce provides greater opportunities for training, professional development, and promoting a collaborative work culture.

7. The results show that the majority of employees have salaries ranging between 500,000 to 1,000,000 Iraqi dinars, which plays an important role in their job satisfaction. Employees who feel that their salaries meet their basic needs are more likely to be satisfied, which enhances their loyalty to the organization and reduces turnover.

8. The analysis results reveal a significant positive correlation at high levels between the dimensions of the creative climate and employee engagement on an overall level. This suggests that as the availability of a creative climate increases, employee engagement also rises.

9. The analysis results also indicate a strong positive correlation at high levels between the dimensions of the creative climate and employee creativity on an overall level. This implies that increasing the availability of a creative climate leads to greater employee creativity.

10. The analysis showed a significant positive correlation at high levels between all dimensions of the creative climate, except for the "Conflict" dimension, with employee engagement.

11. The analysis also showed a significant positive correlation at high levels between all dimensions of the creative climate, except for the "Conflict" dimension, with employee creativity.

12. The results of the simple regression analysis demonstrated a significant impact of the overall creative climate on employee engagement, suggesting that a high level of employee engagement can be achieved based on their perceptions of the creative climate within the Ministry of Trade and Industry.

13. The simple regression analysis also demonstrated a significant impact of the overall creative climate on employee creativity, indicating that a high level of creativity can be achieved based on the employees' perceptions of the creative climate in the Ministry of Trade and Industry.

14. The results of the simple regression analysis revealed a significant impact of individual dimensions of the creative climate on employee engagement. The most substantial relationship was with the "Diversity" dimension, which ranked first compared to the other dimensions. The remaining dimensions (Humor/Playfulness, Challenge/Involvement, Freedom, Debates, Management Support, Time and Support for Ideas, Trust/Openness, Innovation Perception, Risk-Taking) followed in respective order.

15. The results of the simple regression analysis also demonstrated a significant impact of individual dimensions of the creative climate on creativity. The most substantial relationship was again with the "Diversity" dimension, which ranked first, followed by the other dimensions (Humor/Playfulness, Challenge/Involvement, Freedom, Debates, Management Support, Time and Support for Ideas, Trust/Openness, Innovation Perception, Risk-Taking) in respective order.

16. The regression analysis showed no significant impact of the "Conflict" dimension on either employee engagement or creativity.

17. Diversity in ideas and cultural backgrounds among employees enhances the creative climate, as teams with members from diverse backgrounds and specializations tend to achieve greater creativity through multiple perspectives and innovative solutions. This also fosters employee interaction and mutual learning, leading to more innovative ideas.

18. Employees who enjoy the freedom to make decisions and experiment with new ideas tend to be more creative. A climate that allows employees to explore new approaches without fear of failure fosters a stimulating environment for creativity. When employees feel free to experiment, they are more engaged with their work and colleagues, leading to higher productivity in generating creative ideas.

19. Continuous support from management is a key factor in fostering a creative climate. When leaders provide ongoing support for new ideas and encourage innovation, it increases employees' willingness to engage and participate in creative initiatives.

20. Allocating time specifically for creativity and thinking away from daily routines allows employees to focus their mental energy on developing new ideas, leading to higher engagement and productivity in idea development and implementation.

21. Employees in a risk-encouraging environment feel confident in trying out their ideas, which increases interaction among colleagues in generating innovative solutions. A climate that encourages calculated risks and the exploration of new ideas without fear of failure promotes creativity. Innovation requires the courage to try new solutions and accept the possibility of failure as part of the process.

22. Mutual trust between employees and management creates a comfortable environment for participation in discussions and collaborative innovation. A climate that relies on open communication and fosters mutual trust enhances employee engagement and contributes to their creativity. When employees feel their ideas will be valued, they are more motivated to contribute.

23. When employees are continuously involved in problem-solving and facing daily challenges, their engagement levels rise, increasing opportunities for innovation. Presenting new and exciting challenges encourages creative thinking and motivates employees to provide innovative solutions.

24. Psychological and moral support from management and colleagues enhances employees' self-confidence. Feeling appreciated encourages employees to propose new ideas, and moral support strengthens bonds among employees, increasing their willingness to contribute creative ideas and enhancing collaboration and teamwork.

5.2 RECOMMENDATIONS AND FUTURE STUDIES

5.2.1. Recommendations:

It is important to focus on several key elements to create a more vibrant and innovative creative climate at the Ministry of Trade and Industry in the Kurdistan Region-Iraq. Cultivating a culture of trust and openness, along with providing opportunities for collaboration and idea generation, can significantly enhance employee engagement and creativity. Emphasizing diversity, encouraging risk-taking, and fostering playful interactions among staff will

also contribute to a more dynamic environment where innovation can thrive. Based on the presented findings, several recommendations can be proposed:

1. Provide effective administrative support through training programs to develop leadership skills to support teams, enhance creativity by guiding and mentoring the team, and establish open communication channels that foster trust and transparency between management and employees.

2. Raise awareness about the importance of diversity in the workplace and how to work with individuals from various backgrounds, contributing to increased collaboration and the generation of innovative ideas.

3. Create a positive and supportive work environment that encourages innovation and creativity by providing suitable workspaces and psychological and social support to help employees collaborate more effectively.

4. Support positive leadership both from top management and high-performing employees. This leadership plays a key role in fostering a creative climate and encouraging innovation within the organization.

5. Implement an effective incentive system that encourages outstanding performance by offering financial and non-financial rewards such as promotions and public recognition of efforts, thereby enhancing positive employee engagement.

6. Establish platforms or organize regular meetings where employees can freely present their ideas and discuss them with the team, fostering an innovative environment.

7. Conduct regular workshops focusing on improving creative skills and critical thinking, helping employees acquire new skills and motivating them to learn from one another.

8. Organize events and activities that promote collaboration and team spirit, along with designing workspaces that encourage team interaction and

communication, enhancing collective creativity and providing a conducive environment for innovation.

5.2.2. Proposed Future Studies:

Future research in the area of creative climate and employee engagement can further explore the specific mechanisms through which various determinants influence innovation within organizations. By examining different sectors and cultural contexts, studies can identify best practices that foster a supportive environment for creativity. Additionally, investigating the long-term effects of implemented strategies on employee engagement and organizational performance will provide valuable insights. This research can inform policymakers and leaders in their efforts to enhance creativity and innovation in the workplace, contributing to overall economic development. The following are proposed directions for future research:

1. The impact of organizational culture on the creative climate.

2. The role of artificial intelligence in the creative climate.

3. The impact of employee creativity on team performance.

4. The effect of remote work on the creative climate.

5. The role of technology in enhancing the creative climate.

6. The impact of leadership styles on the creative climate.

7. The role of training programs on the creative climate and employee engagement.

8. Analysis of psychological factors and their impact on employee creativity.

9. The impact of employee engagement on job satisfaction.

10. The role of cultural diversity in employee engagement.

11. Employee engagement and its effect on mental health.

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APPENDICES

Appendix A

Determinants of Climate Change and their Influence on Employee Engagement and Creativity

A Case Study of the Ministry of Trade and Industry in Kurdistan Region-Iraq

Questionnaire

Dear Sir, Greetings...

This questionnaire forms part of the requirements for the preparation of the thesis (Determinants of Creative Climate and their Influence on Employee Engagement and Creativity: A Case Study of Ministry of Trade and Industry in Kurdistan Region-Iraq). This form is a criterion for the purposes of scientific research, if you prefer the appropriate answer; you will get accurate results that will enhance the achievement of the research objectives. The answers will be used for research purposes only.

With sincere thanks and appreciation

Note:
1. please answer all the phrases without leaving any of them.
2. Please mark (√) in the field that represents your conviction.

Researcher
Master Student

First- Respondent data on the questionnaire:

1- Gender: Male ( ), Female ( ).

2- Age: ( ) Year   Example. 1980

3- Marital Status: Single ( ), Married ( ).

4- Educational Background: High school and below ( ), Diploma ( ),
B.Sc. ( ), Postgraduate studies ( ).

5- Years of Experience at this Organization: ( ) Year.

6- Position/Role: Department manager ( ), Unit manager ( ), Employee ( ).

7- Salary: ≤ 500,000 ( ), 501,000 to 1,000,000 ( ),
1,001,000 to 1,500,000 ( ), > 1,500,000 ( )

Second- Creative Climate Dimensions:

Variable	N	Item	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
Challenge/ Involvement	1	People are well informed about the company's goals and mission					
	2	People are deeply committed to their work					
	3	Atmosphere is stimulating and motivating and filled with energy					
	4	Most people like to contribute to the success of the organization and solve problems					
	5	People have a sincere interest in what they do to improve quality					
Trust/ openness	6	People are open and trust each other					
	7	People do not talk behind each other's backs					
	8	There is no fear of being "stabbed in the back"					
	9	People don't steal each other's ideas					
Free dom	10	People make their own decisions about their work					
	11	People feel free to take individual initiatives					
	12	People tend to define their own work projects					
Idea time and support	13	Time is available to explore new ideas					
	14	People have opportunity to stop work in order to make and test new ideas					
	15	People get support and encouragement when they have new ideas					
	16	People usually accept new ideas					
	17	People generally share their ideas because they are listened to and encouraged					
Hum or/	18	People have fun when they work					
	19	There is a playful atmosphere					
	20	The atmosphere is easy-going and exhibits sense of humor					
Conflicts	21	There are no territorial and power struggles here					
	22	The atmosphere here is not filled with gossip and slander					
	23	It is not common for people to conspire against each other					
	24	There are quite a few people who cannot tolerate each other					
Deb ates	25	Different points of view are expressed					
	26	Possible to discuss different opinions					
	27	Diversity of perspectives is permitted					
Diversit y	28	The organization welcomes diversity					
	29	People have different educational backgrounds					
	30	People come from different territories/cities					
	31	People are used to working in a varied environment					
Manage ment	32	People are supported in their work					
	33	People are encouraged to creatively solve problems in this organization					
	34	Managers understand and help staff to be innovative					

	35	Superiors are a good role model					
Risk Taking	36	People can move forward despite the uncertainty					
	37	People put forward new or untested ideas					
	38	People often venture into unknown areas/fields					
	39	Uncertainty and ambiguity are tolerated					
Inno vatio	40	Innovation is seen as a priority in the organization					
	41	Here I am pushed to be innovative					
	42	The organization is generally perceived as innovative					

Third- Employee Engagement:

N	Employee Engagement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	I try my hardest to perform well on my job.					
2	At work, I devote a lot of attention to my job.					
3	I am enthusiastic and feel energetic at my job.					
4	I am proud to be a part of this organization.					
5	When I am working, I forget everything else around me and dive into my job that I lose track of time.					
6	I am highly engaged in this job and I really "throw" myself into my job.					
7	My job activities are personally meaningful and valuable to me.					
8	I am mentally and emotionally absorbed in my job when I am working.					
9	I have the skills and training I need to complete my work at the level that is expected of me.					
10	I enjoy a challenge while working and I can work for long periods of time.					
11	I feel a sense of fulfillment most of the day.					
12	In my team we finalize a task even if we experience difficulties.					
13	In my team we usually do more than is expected of us.					

Fourth- Creativity Dimensions:

N	Creativity	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	I always suggest new ways to achieve goals or objectives.					
2	I always search out for new technologies, processes, techniques, and service ideas to improve my job.					
3	I am a good source of creative ideas.					
4	I am not afraid to take risks for improving my job results.					
5	Often I have new and innovative ideas and creative solutions to problems.					
6	I exhibit creativity on the job when given the opportunity to.					

7	I develop adequate plans and schedules for the implementation of new ideas.					
8	I always think of other ways to solve problems when I run into obstacles.					
9	I help other people develop new ideas.					
10	I have fresh perspectives on old problems.					
11	There is adequate time available to pursue creative ideas.					
12	I feel inspired by the organization's vision and values to innovate and create.					

Measurement of Creative Climate Dimensions

Dimensions/ Items	Scholar
Challenge/ Involvement	Ekvall, G. (1996)
Trust/ openness	
Freedom	
Idea time and support	
Humor/ Playfulness	
Conflicts	
Debates	Ortisi, G. (2020)
Diversity	
Management Support	
Risk Taking	
Innovation Perception	

Measurement of Employee Engagement Dimension

Dimensions/ Items	Scholar
I try my hardest to perform well on my job.	Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010)
At work, I devote a lot of attention to my job.	
I am enthusiastic and feel energetic at my job.	
I am proud to be a part of this organization.	
When I am working, I forget everything else around me and dive into my job that I lose track of time.	Saks, A. M. (2006)
I am highly engaged in this job and I really "throw" myself into my job.	
My job activities are personally meaningful and valuable to me.	Shuck, B., Reio Jr, T. G., & Rocco, T. S. (2011)
I am mentally and emotionally absorbed in my job when I am working.	

I have the skills and training I need to complete my work at the level that is expected of me.	
I enjoy a challenge while working and I can work for long periods of time.	Nauman, U., & Ghafoor, A. (2023)
I feel a sense of fulfillment most of the day.	
In my team we finalize a task even if we experience difficulties.	Nienaber, H., & Martins, N. (2020)
In my team we usually do more than is expected of us.	

Measurement of Creativity Dimension

Dimensions/ Items	Scholar
I always suggest new ways to achieve goals or objectives.	Zeb, A., Abdullah, N. H., Hussain, A., & Safi, A. (2020)
I always search out for new technologies, processes, techniques, and service ideas to improve my job.	
I am a good source of creative ideas.	
I am not afraid to take risks for improving my job results.	
Often I have new and innovative ideas and creative solutions to problems.	
I exhibit creativity on the job when given the opportunity to.	Nili, F., & Tasavori, M. (2022)
I develop adequate plans and schedules for the implementation of new ideas.	
I always think of other ways to solve problems when I run into obstacles.	Paek, B., Martyn, J., Oja, B. D., Kim, M., & Larkins, R. J. (2022)
I help other people develop new ideas.	
I have fresh perspectives on old problems.	
There is adequate time available to pursue creative ideas.	Scott, S. G., & Bruce, R. A. (1994)
I feel inspired by the organization's vision and values to innovate and create.	

پوخته

ئامانجی ئهم توێژینهوهیه بریتیه له لێکۆڵینهوه له پهیوهندی نێوان ژینگهی کاری داهێنهرانه، بهشداریکردنی فهرمانبهران، و داهێنانی فهرمانبهران له چوارچێوهی وهزارهتی بازرگانی و پیشهسازی حکومهتی ههرێمی کوردستانی عێراق. توێژینهوهکه رێبازێکی وهسفی-شیکاریی گرتهبهر به وهسفکردن و دهستنیشانکردنی رهههندهکانی گۆراوهکانی توێژینهوه و شیکردنهوهی پهیوهندی و کاریگهری نێوان ئهم گۆراوانه و رهههندهکانیان.

کۆمهڵگهی توێژینهوهکه له فهرمانبهرانی وهزارهتی بازرگانی و پیشهسازیی ههرێمی کوردستانی عێراق پێکهاتووه و زانیاریهکان له ٢٩٥ کارمهند له وهزارهت و بهڕێوهبهرایهتیهکان کۆکراونهتهوه. لێکۆڵینهوهکه پرسیارنامه و فۆرمی راپرسی بهکارهێناوه به شێوهیهکی سهرهکی بۆ بهدهست هێنانی زانیاری و داتاکانی بهشی مهیدانی. بهرنامهی (SPSS – Version 22) بهکار هاتووه بۆ راپرسیی ئاماری.

ئهنجامی لێکۆڵینهوهکه ئاشکرای دهکات که پهیوهندیهکی بههێز و پۆزهتیڤ له نێوان ژینگهی کاری داهێنهرانه و بهشداری کارمهندان ههیه له سهر ئاستی گشتی، ههروهها له ئاستی رهگهزهکانی ژینگهی کاری داهێنهرانه، جگه له ره هه ندی " ململانێ" که هیچ پهیوهندیهکی بهرچاوی نهبووه به بهشداری کارمهندان. به ههمان شێوه ئهنجامهکان ئاماژهیان به پهیوهندیهکی بههێز و پۆزهتیڤ دهکات له نێوان ژینگهی کاری داهێنهرانه و داهێنان له ئاستی گشتی، و ههروهها له ئاستی رهگهزهکانی ژینگهی کاری داهێنهرانه ، جگه له "ململانێ" که هیچ پهیوهندیهکی نهبووه له گهڵ داهێنان.

توێژینهوهکه پێشنیاری پێشکهشکردنی پشتگیری کارگێری کاریگهر دهکات له رێگهی بهرنامهکانی راهێنانهوه که ئامانج لێی پهرهپێدانی تواناکانی سهرکردایهتییه بۆ پهروهردهکردنی داهێنان و تیمهکانی پشتیوانی له رێگهی رێنمایی و راهێنهرایهتی. جهخت لهسهر گرنگی دامهزراندنی کهناڵی پهیوهندی کراوه دهکاتهوه که متمانه و شهفافیهت له نێوان بهڕێوهبهرایهتی و کارمهندان دروست دهکات. جگه لهوهش، تیشک دهخاته سهر پێویستی هۆشیاری سهبارهت به گرنگی ههمهجۆریی شوێنی کار و هاوکاری کاریگهر لهگهڵ تاکهکانی پاشخانی جۆراوجۆر، که رۆحی هاوکاری بهرز دهکاتهوه و بیرۆکهی داهێنهرانه بهرههم دههێنێت. ههروهها توێژینهوهکه داوای دروستکردنی ژینگهیهکی کارکردنی ئهرێنی و پشتیوان دهکات که هاندهری داهێنان و نوێکاری بێت لهرێگهی دابینکردنی شوێنی کارکردنی گونجاو و پشتیوانی دهروونی و کۆمهڵایهتی بۆ باشترکردنی هاوکاری کارمهندان. له کۆتاییدا، توێژینهوهکه جهخت لهسهر گرنگی سهرکردایهتی ئهرێنی دهکاتهوه، جا له بهڕێوهبهرایهتی

بالا بێت یان کارمەندانی ئەدای بەرز، وەک هۆکارێکی گرنگ بۆ پێشخستنی کەشوهەوای داهێنەرانە و پەروەردەکردنی داهێنان لەناو رێکخراوەکەدا.

وشە سەرەکیەکان: ژینگەی کاری داهێنەرانە، بەشداری کارمەندان، داهێنەربوون، هەمەجۆریی شوێنی کار، داهێنانی رێکخراوەیی، حکومەتی هەرێمی کوردستان.

دیاریکەرانی ژینگەی کاری داهێنەرانە و کاریگەرییان لەسەر بەشداریکردنی فەرمانبەران وداهێنان: تویژینەوەیەکی شیکاریە لە سەر وەزارەتی بازرگانی و پیشەسازی حکومەتی هەرێمی کوردستان-عێراق.

نامەیەکە

پێشکەشی ئەنجومەنی کۆلێژی تەکنیکی کارگێری هەولێر کراوە لە زانکۆی پۆلیتەکنیکی هەولێر وەکو بەشێک لە پێداویستیەکانی بەدەست هێنانی پلەی ماستەر لە تەکنیکی بەڕێوەبردنی کار.

لەلایەن
ژوان خورشید فیصل
بەکالۆریۆس لە کارگێری کار
ماستەر لە کارگێری کار

بەسەرپەرشتی
د. بەهزاد تاهیر سلیم

اربیل – کوردستان