THE IMPACT OF TRANSFORMATIONAL AND TRANSACTIONAL LEADERSHIP STYLES ON EMPLOYEES' JOB SATISFACTION IN THE ICT GOVERNMENT SECTOR, EGYPT

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ABSTRACT

Leadership is a process of influence between leaders and followers where a leader attempts to influence the behavior of subordinates to achieve organizational goals. Organizational success in achieving its goals and objectives depends on the leaders of the organization and their leadership styles. By adopting the appropriate leadership styles, leaders can affect employee job satisfaction. This study aims to investigate the impact of leadership style (transformational and transactional) on employees' job satisfaction. Data collection was carried out through a mixed-method approach. The quantitative data were collected by using an electronically structured questionnaire with nonprobability convenience sampling to the employees of the ICT sector in Egypt. For the study, 500 questionnaires were delivered to the employees in all different management levels, but 388 respondents successfully completed the questionnaire and returned to the researcher, making the response rate 78%. The Statistical Package for Social Science (SPSS) version 26 IBM is used to conduct various analyses. Whilst semi-structured interview has been chosen to be applied in this study 10 managers used the judgmental sampling strategy. This approach is considered a primary source of data collection. Thematic analysis was selected as a method for analyzing qualitative data. The findings of the study indicate that transformational leadership and transactional leadership were significantly positively related to the employees' job satisfaction in the ICT government sector, in Egypt. Multiple linear regression showed that leadership styles are causing a change in employees' job satisfaction by 43.8%. The results demonstrated that transformational leadership dimensions have partially been supported with respect to employees' job satisfaction. The two dimensions of transformational leadership: idealized influence attributes (IIA), and individualized consideration (1C) were significant and positive effects on employees' job satisfaction, while intellectual stimulation (IS), idealized influence behaviors (IIB), and inspirational motivation (IM) were insignificant with employees' job satisfaction in this study. In addition, the findings showed that the dimensions of transactional leadership: contingent rewards, and active management by exception have fully supported respect for employees' job satisfaction. They have a positive and significant effect on employees' job satisfaction. This implies that transformational and transactional leadership are deemed suitable for managing the ICT government sector in Egypt. The results of the study provide a guideline model that can be used by managers to increase employees' job satisfaction by focusing on transformational and transactional leadership behaviors and this model also can be applied when an organization needs to hire new man-

agers in this sector.

1. Introduction

Leadership is the most important competitive advantage of any organization (Kamel, A. S., 2017). Several leadership styles have been studied in recent years (ASB ABD RAHMAN., 2021). Leadership plays a vital role in developing employee job satisfaction in any organization's success (Al Khajeh, E. H., 2018). The employees who have should hold high job satisfaction so as to perform effectively and pursue organizational interests (Al Khajeh, E. H., 2018). Various researchers have examined the association between leadership and employees' job satisfaction and agreed that leadership creates a significant impact on employees (Thomas, D.M. 2018). Leadership comes in many forms; nevertheless, transformational as well as transactional leadership are proven to be highly significant and most widely used in organizations (Bass, B. 1985; Kamel, A. S., 2017).

Egypt Vision of 2030 represents a foothold on the way towards inclusive development (MPED, 2022). Egypt Vision of 2030 focuses on the economic dimension, highlighting the transparency and efficiency of governmental institutions in managing state resources with transparency, fairness, and flexibility throughout a group of programs, such as Improving the Public Management System Program and Developing the Human Resources of Public Administration Program. The program for improving the public management system focuses on selecting government leaders to transform their organizations into efficient administration systems. The program related to the development of Human Resources of Public Administration seeks to handpick a leadership team who will pioneer the new administrative capital in the future (MPED, 2022). For this reason, it is significant that research on leadership is steered so to aid in various government initiatives that play a vital role in developing the country and society (NTA, 2022).

The transformational leadership style inspires followers by providing moral values and new ideas (Burns, 1978). Transformational leaders support their subordinates to become productive and make efforts to motivate and shape the behavior of their subordinates to achieve the organization's goals effectively, (Al Khajeh, E. H., 2018). On the other hand, the transactional leadership style reflects the leaders' reward or punishment with the followers for performing their tasks and increasing their productivity level at work, (Bektas, C., 2017). Transactional leaders apply strategies to make followers perform in the way they want, and avoid them interfering in the organizational processes (ASB ABD RAHMAN, 2021). Many studies suggest a link between transformational and transactional leadership styles is generally associated with the job satisfaction of employees (Bekele, M. 2021).

Job satisfaction is considered a positive emotional status from the perspective of job or work experience, (Siswanto et al., 2020). More satisfied and happy employees would be more productive and profitable for the organization (Bektas, et al., 2017). Job satisfaction helps to create positive attitudes in employees, boosts their morals, enhances their performance, and creates a respectful relationship with their co-workers (Al-maaitah, D.A., et al., 2021). Job satisfaction is one of the important factors used to predict employees` turnover, productivity levels, employees` commitment, and loyalty (Al-maaitah, D.A., et al., 2021). The level of satisfaction among the employees is generally considered an essential component of organizational success, (Bektas, 2017). According to the theory of transformational and transactional leadership, leaders have a great impact on the way their subordinates complete their work which leads to an increase in the overall job satisfaction of employees (Bektas, 2017). For this reason, this study seeks to assess the impact of both transformational and transactional leadership on employees' job satisfaction in the government ICT sector in Egypt.

2. Research Objectives

1. To examine the relationship between the transformational leadership style and employees' job satisfaction in the ICT government sector in Egypt.
2. To examine the relationship between the transactional leadership style and employees' job satisfaction in the ICT government sector in Egypt.
3. To determine the significant dimensions of the transformational leadership style impact on employees' job satisfaction in the ICT government sector in Egypt.
4. To recognize the significant dimensions of the transactional leadership style impact on employees' job satisfaction in the ICT government sector in Egypt.

3. Study Academic Importance

The impact of transformational and transactional leadership styles on employees' job satisfaction has been covered in many research studies (Mufti, M et al., 2019). However, there are little academic researches that have tackled the impact of transformational and transactional leadership on employees' job satisfaction in the government sector in Arab countries, especially in Egypt (Kamel, A. S., 2017). Therefore, this study is considered significant as it will add insights into the leadership styles that are effective in the Arab world. Moreover, this research study will determine what leadership style is appropriate, adding more knowledge to dimensions of leadership styles that impact employees' job satisfaction in the ICT government sector in Egypt.

The relation between leadership style and employees' job satisfaction in previous studies indicates that transformational leadership style has a strong relationship with job satisfaction, while transactional leadership style has a negative relationship with job satisfaction among employees (Al-maaitah D.A., et.al. 2021). Transformational leadership should be considered suitable for government organizations based on several research studies (Mufti, M et al., 2019). Few studies have explored the importance of the transformational and transactional leadership styles in the government organization; even though some studies hinted that these leadership styles are impactful on different governmental organizational aspects; job satisfaction, organizational commitment, stress, employee turnover, organizational performance, absenteeism level, employee retention, etc. (Al-maaitah D.A., et.al. 2021).

In conclusion, prior research has studied the topic of leadership styles and measured their significance in the private sector and the results showed that the most successful companies have achieved their goals when implementing the transformational leadership style, neglecting the government sector (Mufti, M et al., 2019). In addition, most studies have tested the relationship between transformational, and transactional leadership, and employees' job satisfaction in western countries and the private sector but rarely in Arab countries in the public sector (Mufti, M et al., 2019). For Examples private education sector and particularly at Cihan university-Erbil, Iraq (Jameel, A.S., 2019), The Case of Panafric Global PLC in Ethiopia (Mesfin H., 2020), Primary Health Care Centres in Al-Jouf, Saudi Arabia (Alrwili, A. M., 2022), Ethiopian public universities (Alemu, K., and Getnet, D. 2017), Islamic banks of Pakistan (Malik, Waqas Umer, et al. 2017), Education and Health Science College (Zeleke, B. et al., 2021), universities' guest houses in South-West Nigeria (Folakemi, O., Anthonia, A. A., & Dayo, A. I., 2016), State Islamic University of Maulana Malik Ibrahim Malang, Indonesia (Siswanto et al., 2020), Information Technology Industries: Banten, Indonesia (Sunarsi, D., et. al., 2021), Mobile Telecommunications sector of Ghana (Tetteh, E. N., 2016), retail outlets of Slough, United Kingdom (Asghar, S., 2018). Thus, this study seeks to investigate the impact of transformational and transactional leadership styles on employees' job satisfaction in the ICT sector in Egypt. This topic will fill in the academic gap found in the literature that has been pinpointed.

4. Study Practical Importance

This study gave the insight to see the current practice of leadership style of the ICT government sector in Egypt and identify which leadership style has the most significant effect on the employees' job satisfaction and helps to promote appropriate leadership style for this sector as the following:

- Select talented leaders who will manage the new administrative capital and have the skills of using the new technologies required for employed efficient and effective administration systems among the different government sectors (Sustainable Development Strategy, (MPED, 2022; MCIT,2022).

- Train the youths to qualify them for adequate leadership styles and decision-making will impact significantly the performance of the government sector, especially the ICT sector in Egypt, and their role in developing the country and society toward a digital country (Presidential Leadership Program (NTA, 2022; MCIT, 2022).

- Adopting an appropriate leadership style will support the managers in the government organizations to form a new government structure and minimize the public bureaucracy system to improve the quality of government employees, and productivity and enhance their job satisfaction (Al-maaitah D.A., et.al. 2021).

- In the government sector, managers are working with financial limitations. They cannot give financial rewards to the employees to motivate them without approval, therefore they should select different techniques of motivation to achieve an organization's goals, and especially the salary level of the government sector in comparison with the cost of living is a moderate level (CBE report, 2022).

The findings of this study will benefit decision-makers to identify and develop a better leadership style that maximizes the employees' job satisfaction. Furthermore, the outcomes of this study will benefit the top managers in the government ICT sector for planning future schemes of management development and achieving the job satisfaction of its employees by promoting the appropriate leadership style.

5. Literature Review

5.1. *Transformational leadership*

Transformational leadership is leadership that moves followers to go beyond their lower level of meeting expectations to reach their full potential and to be extraordinary. To inspire and develop followers in this way, leaders must frequently exercise a transformational style of leadership that builds upon does not replace transactional leadership and which consists of four components (the "4 I's"): Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration. Each of these 4 dimensions plays a vital role related to the job satisfaction of employees (Burgess, TP. 2016).

5.1.1. *Dimensions of Transformational leadership*

Bass, Avolio, and colleagues asserted that transformational leaders behave in ways to achieve effective results by employing one or more of the Four I's (Burgess, TP. 2016).

Intellectual Stimulation (IS)–(Thinking outside of the box) refers that leaders stimulate followers to explore new ways of doing things and find new ideas for solving problems compared to methods employed in the past. Leaders encourage their followers to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways (Burgess, TP. 2016). Through intellectual stimulation, leaders stimulate their followers to think outside the box and be creative and encourage risk-taking (Kamel, A. S., 2017).

Individualized Consideration (IC)-(Compassionate leader/Care) focuses on the development of followers. Leaders pay attention to each individual's needs through a range of behaviors include: listening, coaching, mentoring, and teaching, and directly address for achievement and growth. These behaviors positively impact on employees' job satisfaction (Zeleke, B. et al., 2021). A key assumption of individualized consideration is that each employee has different needs and that for any specific employee, those needs will change over time, and based partially on the influence of the leader. The transformational leader understands this and demonstrates genuine concern. When team members feel like their leader genuinely cares about them, they are more likely to perform at their best. This requires the transformational leader to have highly developed emotional skills and lots of empathy (Kamel, A., 2017; Alsayah, Farag, Ali, 2011).

Inspirational Motivation (IM)-(Sharing Vision) refers that leaders adopting this behavior have the ability to strengthen their followers' responses and explain important ideas in simple ways to help them to accomplish the organizational goals (Bass, B.M., & Avolio, B.J., 1994). Leaders with high levels of IM behaviors motivate and inspire their followers by giving challenges and meaning to their works (Burgess, TP. 2016). It lets people know where they are going and encourages them in the journey. People are more confident if they have a good feeling about their future that reflect on their sense of belonging and become more likely to commit to their organization's efforts. Leaders who have IM traits encourage their employees to achieve levels of performance beyond their own expectations by using stories and symbols to communicate their vision and message (Zeleke, B. et al., 2021). The transformational leader communicates optimism about the vision and puts the short-term activities into a larger context. A strong sense of purpose and great inspiration is a big part of obtaining the increased performance of transformational leadership. Everyone feels like they are a part of the vision and that their contributions are essential to fulfill it (Northouse, G. P., 2016).

Idealized Influence (II)-(Role Modeling/Influencing) exhibited by leaders results in them being role models for their employees. II leaders whose employees imitate them because they are trusted and are seen to have an achievable mission and vision (Burgess, TP. 2016). Idealized leaders consider the needs of others before their own personal needs, avoid the use of power for their personal gain, demonstrate high moral standards, and set challenging goals for their employees (Zeleke, B. et al., 2021). Researchers have recently re-conceptualized Idealized Influence into two sub-dimensions, namely idealized influence attributes, and idealized influence behaviors (Kariuki, J. K. 2021). The two sub-dimensions play vital roles. Idealized influence attributes (IIA), explain the actual charisma, where the leader is seen as possessing supernatural traits that are given to the leader by their subordinates, and how the leader is

perceived by the follower as being confident and powerful. Idealized influence behaviors (IIB), explain the role-modeling ability of the leader which is linked with the actions of the leader reflecting his/her values, beliefs, sense of mission, and ethical and moral orientation (Kariuki, J. K. 2021). Idealized influence (II) comes into play when the leader expresses a sense of confidence when making high-impact decisions in the face of threats. II involves the ability of leaders to inspire followers to achieve a specific goal with additional personal effort (Zeleke, B. et al., 2021).

5.2. Transactional leadership

Transactional leadership refers to a task-orientated leadership style, relating to reward-based performance initiatives (Cherry, k., 2016). Leader utilizes power to exercise command and control in order to gain compliance from followers. The leader implicitly clarifies task requirements with associated rewards for compliance or punishment for non-compliance (Cherry, k., 2016). The transactional style of leadership is the kind of leadership that gains acceptance through the use of rewards, praises, and promises and by giving other forms of incentives and compensation that would satisfy followers' immediate needs and enhance immediate performance (Northouse, G. P., 2016). Transactional leadership provides followers with clearness about instructions and standards to keep the status quo and includes care in observing and modifying followers' mistakes to assure short-term achievement (Kamel, A. S., (2017). Transactional leadership boosts followers to recognize their work in terms of strategic way highlighting rules, accountabilities, anticipations, steadiness, avoiding faults, and a physical, short-term strategy. It is focused on results, efficiency, and performance rather than people and relationships. Transactional leadership is often seen as the opposite of transformational leadership (Kamel, A.S., (2017). Although existing literature agrees that the transformational style of leadership is generally more desirable than the transactional style (Bass, B.M., & Avolio, B.J., 1990; Bass, B.M. and Riggio, R., 2006; Locke, E.,1976) assert that this perception could be misleading. According to them, all leadership styles are transactional, although such transactions may not be confined to only immediate performance and rewards. They further added that effective leaders must influence and/or inspire their followers by using a mixture of both immediate and long-term rewards in order to enhance followers' satisfaction with stated organizational outcomes (Tetteh, E.N., 2017). The higher the leadership transactional of the leader, the employee's job satisfaction will increase (Siswanto, S. & Maksum, I., 2020).

5.2.1. Dimensions of Transactional leadership

Contingent Reward refers to how the leader clarifies the role and task requirements for subordinates as well as the performance criteria and the rewards upon accomplishing desired goals. Contingent rewards include for instance bonuses, promotions, recognition, and appreciation (Xenikou, A., 2017). Contingent reward also refers to the extent to which effective transactions and exchanges are set up between leaders and followers. Here, employees or followers are motivated to perform the task on the implicit or explicit agreement between leaders and followers (Aloysius, S.M., 2017).

Active Management by Exception refers to the ability of the leaders to actively monitor the work of followers in an ongoing manner and make sure that subordinates are working up to the set standards (Tetteh, E.N., 2016). The leader steps in and intervenes at an early stage prompted by signs of problems or failure. This intervention will result in negative feedback in form of punishment action or positive feedback in form of rewards and find opportunities how to increase productivity further. Active leaders are proactive therefore anticipate problems and have their eyes on the behavior of the employees, so they can take corrective actions before the problems become serious (Bass, B.M. and Riggio, R., 2006; Northouse, G. P., 2016). The difference between active and passive management- by –exception is the time-related intervention of leaders in solving problems faced by the employees, passive leaders wait until the behavior becomes a problem (Aloysius, S.M., 2017).

5.3. Employees' Job Satisfaction

Employees' job satisfaction is basically how the employee thinks about their jobs as well as the diverse facets of their jobs. It is the degree to which the employee like (satisfaction) or dislike (dissatisfaction) their jobs (Spector, P. E., 1997). Employees' job satisfaction is a pivotal force in public and private organizations, and employees who feel satisfied are less likely to leave their organizations. It is the only way people behave about their work and the different facets of their employment. The critical element of employees' job satisfaction is that it creates the feeling of belonging both to the workplace and to the organizational culture and provides a productive atmosphere (Al Yahyaee, O.R.H., 2021). The job satisfaction of employees and leadership style are the main elements that impact the organization's ef-

fectiveness. Leadership is known as one of the important aspects of job satisfaction among employees. It can fully impact the dedication and motivation of employees (Yalew, F. 2016).

5.4. Relationship between Leadership styles and Employees' Job Satisfaction

Leadership style is an essential determinant of worker job satisfaction. The responses of workers to their leaders will generally depend on the attributes of the employees also as on the qualities of the leaders (Yalew, F. 2016). There are some features of leadership having positive relation to job satisfaction such as interpersonal relations, helping behavior among members of the team, the extent of taking part in decision making, compensation satisfaction, and appraisal system (Yalew, F. 2016). Leadership styles represented in (transformational leadership, and transactional leadership) have statistically significant impacts on employees' job satisfaction (Alrwili, A. M., 2022). The quality of the leader-employee relationship or the lack thereof has a great influence on the employee's self-esteem and job satisfaction (Northouse, G. P., 2016). Leadership determines job satisfaction. It affects employees' motivation and commitment both of which affect the performance of an organization, both in the immediate and longer terms. Therefore, improving leadership and management capability is an issue that no organization wishing to achieve long-term success can ignore (Alemu, K.; Getnet, D. 2017). Leadership style is an important element that ensures leader and subordinates' emotional, and individual job satisfaction and led significantly to grow an organization, (Jameel, A.S. 2019). In the choice of leadership style, transformational leadership has been reported to be positively related to job satisfaction in various sectors of the organization as compared to other styles of leadership such as transactional and laissez-faire (Yalew, F. 2016).

Job satisfaction of employees is directly influenced by transformational leadership will further have an impact on the retention of the employee (Malik, Waqas Umer, et al. 2017). Employees' job satisfaction is higher in organizations whose leaders use visionary and transformational leadership styles (Alrwili, A. M., 2022). The performance of the organization depends on transformational leaders those influence employee job satisfaction levels, and overall employee morale (Malik, Waqas Umer, et al. 2017). Transformational leadership style enhances the employees to perform other activities not just the planned. Transformational leaders transform their followers' emotions, values, and goals for specific performance based on their talent (Alemu, K., and Getnet, D. 2017). Transformational leadership leaders are supporting and motivate their employees to achieve human needs as well it is essential to promote employee satisfaction (An, S. H. et al, 2019). Successful transformational could improve job satisfaction and organizational performance. As well as the transactional leader's effects on job satisfaction among employees. Transformational leaders create an exchange relationship with their followers. They give incentives to their followers who perform better and punish those who don't work well. Transformational leaders provide promotions to increase their followers' salaries which can be considered incentives, as well as decreases in pay and firing, which can be regarded as penalizing (Mesfin, H., 2020).

6. Research Design

This study is considered descriptive research. Descriptive research, also known as statistical research, explains the phenomena as they exist in the current context. It examines the what, where, and when of a phenomenon as well as describes the nature of a demographic segment, without focusing on "why" a particular phenomenon occurs (Creswell, J. W., 2014). This investigation aims to make careful observations and draw detailed documentation of a phenomenon of interest. The current study seeks to identify and obtain information on the characteristics of the particular issue and answers the questions, of what, who, where, how, and when.
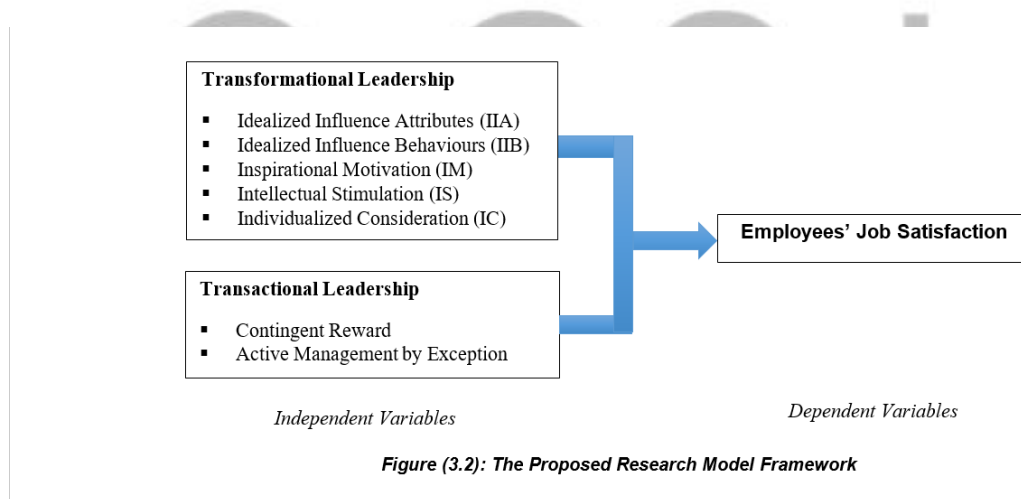
A correlational research design is utilized to describe the variables and to assess the connections between the independent variable, leadership style (transformational & transactional), and the dependent variable employees' job satisfaction (Leedy, P. D., & Ormrod, J. E., 2018); the study seeks to clarify if and to what degree a relationship exists; the investigator reports the correlation coefficient and the p-value to determine the strength of the relationship. This study seeks to collect data from the population with minimum interference. Research on minimal interference suggests that the researcher does not play around with the research setting, research variables, or the assessment of the variables (Creswell, J. W., 2014). The participants of this study are to be interviewed or given an administrated questionnaire to fill out without any deliberate influence of distractions, guidance, influence, or interference from the researcher. The participants of this study are to partake in the study in the natural environment.

This study is a field study conducted in a non-contrived setting. A field study is a study carried out in the natural environment with minimal interference from the researcher (Kumar, R., 2018). The researcher seeks to conduct the data

collection in the natural environment as the studied population operates in their daily routine. The most adequate unit of analysis for this study is individuals (Dolma, S., 2010). This research seeks to study the impact of leadership on employees; and employees' job satisfaction in the ICT government sector in Egypt. The researcher plans to look at the data gathered from each individual separately and treat each employee's response as an individual data source. Participants are not dedicated to a specific management level in this study. The researcher seeks to develop empirical evidence to aid in understanding how to better apply leadership in organizations sot to build employees' satisfaction. In this study, a cross-sectional time horizon is selected. The research collects the needed information from the given sample of the population (employees from the ICT sector) at only one point in time, making this study a cross-sectional study (Crossley J. & Jansen D., 2021). The quantitative research starts from November 2021 to January 2022; the qualitative research starts from February 2022 to March 2022.

7. Research Conceptual Framework

Based on the proposed research model, this study shows there is a relationship between leadership styles (as independent variables) and employees' job satisfaction (as a dependent variable). The framework shows that there are two leadership styles (transformational and transactional leadership style) that are assumed predictors of employees' job satisfaction. Transformational and transactional leadership styles are originally developed by Bass, B.M. (1985), identifying that both leadership styles come in various elements; transformational leadership elements include (1) Idealized Influence Attributes (IIA), (2) Idealized Influence Behaviors (IIB), (3) Inspirational Motivation (IM), (4) Intellectual Stimulation (IS), and (5) Individualized Consideration (IC); the transactional leadership elements include (1) Contingent Reward and (2) Active Management by Exception. Early research concludes that transformational and transactional leadership contribute to the accomplishments of organizational goals and objectives. In addition, research shows that leadership styles communicate and distinguish organizational cultures (Bass, B.M., & Avolio, B.J., 1990).

Transformational Leadership
- Idealized Influence Attributes (IIA)
- Idealized Influence Behaviours (IIB)
- Inspirational Motivation (IM)
- Intellectual Stimulation (IS)
- Individualized Consideration (IC)

Transactional Leadership
- Contingent Reward
- Active Management by Exception

Employees' Job Satisfaction

Independent Variables   *Dependent Variables*

Figure (3.2): The Proposed Research Model Framework

8. Research Hypotheses

<u>*Hypothesis One*</u>: There is a positive significant relationship between transformational leadership and employees' job satisfaction in the ICT government sector in Egypt.

Hypothesis 1a: There is a positive significant relationship between transformational leadership dimension intellectual stimulation (IS) and ICT governmental employees' job satisfaction.

Hypothesis 1b: There is a positive significant relationship between transformational leadership dimension individualized consideration (IC) and ICT governmental employees' job satisfaction.

Hypothesis 1c: There is a positive significant relationship between transformational leadership dimension inspirational motivation (IM) and ICT governmental employees' job satisfaction.

Hypothesis 1d: There is a positive significant relationship between transformational leadership dimension idealized influence attributes (IIA) and ICT governmental employees' job satisfaction.

Hypothesis 1e: There is a positive significant relationship between transformational leadership dimension idealized influence behaviors (IIB) and ICT governmental employees' job satisfaction.

Hypothesis Two: There is a positive significant relationship between transactional leadership and employees' job satisfaction in the ICT government sector in Egypt.

Hypothesis 2a: There is a positive significant relationship between transactional leadership dimension contingent reward and ICT governmental employees' job satisfaction.

Hypothesis 2b: There is a positive significant relationship between transactional leadership dimension active management by exception and ICT governmental employees' job satisfaction.

9. Research Methodolgy

The deduction research approach is selected in this study's research investigation. Deductive research flows from generic to specific; it begins with a theory, then it develops hypotheses, which are to be tested via data collection and analysis. The study employed the explanatory sequential mixed method in a sequential manner to study this phenomenon. The research starts with the quantitative research approach to test the research model and hypotheses that came about from the theory and literature review. Once the hypotheses-testing and empirical insights emerge through the statistical analyses, the researcher begins the qualitative research. The qualitative inquiry is sought to gain an in-depth understanding of social phenomena (the impact of leadership on employee satisfaction). In this study, the researcher seeks to use the Survey research strategy. The survey research aids in the collection of information from a sample of individuals through their responses to questions to describe the studied phenomenon in a thorough and comprehensive manner (Sekaran, U., & Bougie, R., 2016). In this study, the survey research is to use both quantitative research strategies (using questionnaires with numerically rated items) and qualitative research strategies (using interviews with open-ended questions) to explain the current social and psychological research topic. The survey method is conducted online using Google Form to reach the employees so as to describe their attitudes and behavior toward different leadership styles and their job satisfaction. The Google form link is distributed to the participants of this study through email, WhatsApp messages, and social media (Facebook, LinkedIn) to accelerate the collection of the data (Bryman, A. 2012).

In this study, the researcher collects data through a mixed research approach. Quantitative research is through a structured approach and qualitative research is through a semi-structured approach. Quantitative data was collected by using Self-Administrated Questionnaires that consist of a series of closed-ended questions. It is called self-administered as the respondents fill it in themselves, without the help of the researcher (Sekaran, U., & Bougie, R., 2016). Self-Administrated Questionnaire helps to reach respondents faster and helps to test the study's hypothesis and the existing theories. The goal of the study is to investigate which types of leadership styles (transformational and transactional leadership) will influence the employees' job satisfaction in the ICT government sector in Egypt. In the administrated questionnaires, the questions are formulated from the review of relevant literature to provide valuable insight into the objectives of the study.

This study's questionnaire consists of five main sections. Section one contains an introduction about what the research is about and the procedures for answering the questionnaire. In addition, the introduction mentions that the researcher is to maintain the confidentiality of the data collected; it informs respondents that their identities and responses will be treated with a high level of privacy. The second section of the questionnaire contains general questions like; the name of employees' workplaces, numbers of their working years, and their management level. The third section of the questionnaire assesses the leadership styles, using the scale MLQ 5X-Short form which contains 28 items with a five-point Likert scale developed by Bass, B.M., & Avolio, B.J. (1994). The fourth section assessed employees' job satisfaction, using the scale JSS form, which contains 17 items with a five-point Likert scale developed by Spector (1997). The last section contains the socio-demographic questions (age, gender, income, marital status, residence, and education).

The questionnaire is available in both English and Arabic language to suit the preference requests of the employees in the ICT government sector in Egypt. It was necessary to translate it into Arabic as it was intended to be answered by Egyptians who are working in the public sector and the level of their English was not such as to allow them to understand and answer the questions in English. The translation process was conducted by using a back-translation method in order to ensure that all the terminology, vocabulary, and language used in the English edition were translated in a way easily comprehensible to the Egyptian respondents.

10. Population and Sampling

In this study, the target population includes the ICT sector in Egypt. The ICT government sector is selected in this

study because it plays a pivotal role in the framework of the sustainable development strategy: Egypt vision 2030 and the administrative reform plan toward the digital transformation, which needs appropriate leaders to manage the direction and the change that is occurring to achieve this digital goal (MCIT, 2022). In addition, according to Bekele M., (2021), the public sector is facing various market change that is impacting and making current business model change. The ICT sector is in the current digital transformation era, and therefore, to manage employees during transition, which might lead to an uncertain environment and continuous changes, talented leaders are strongly needed.

Due to the difficulty of developing a reasonable sampling plan for the entire target population, the accessible population is made up of a population of Egyptian employees. Asking employees about management and leadership is important in research as it gives employees the opportunity to voice their opinions about day-to-day experiences within the team environment. Employee responses are usually based on their overall perceptions of the leaders and managers with whom they interact. This provides useful insights to the researcher in order to measure employee perceptions about the effectiveness of leaders and managers (Zhu, Q., & Wang, P., 2019).

The sampling strategy for this study is the nonprobability convenience sample method. This method is used to contact governmental ICT employees. This sampling design is chosen for many reasons. First, the sampling is selected in a non-systematic process that did not guarantee equal chances for each participant in the target population, thus suggesting the adoption of non-probability sampling methods for this study (Creswell, J. W., 2014). Second, it provides researchers to collect data quickly where time is a constraint, cost-effectiveness; it allows researchers to generate more samples with less or no investment and in a brief period, and fewer rules to follow; it doesn't require going through a checklist to filter members of an audience. Here, gathering critical information and data becomes uncomplicated. Third, is the lack of access to a list of the population being studied (Trochim, W. et al., 2016). There are two approaches to sampling procedures: probability sampling and nonprobability sampling. Probability sampling involves random selection, allowing you to make strong statistical inferences about the whole group. Non-probability sampling involves non-random selection based on convenience or other criteria, allowing you to easily collect data (Sekaran, U., & Bougie, R., 2016). Convenience sampling (also known as grab sampling, accidental sampling, or opportunity sampling) is a type of non-probability sampling that involves the sample being drawn from that part of the population that is close to hand (Trochim, W. et al., 2016). The sample in this study was Egyptian employees who are working in government entities that are affiliated with the ICT sector in Egypt. The sample size of this study is 388. This sample size is appropriate to develop conclusions that can be generalized to a population of 10,000 and above (KREJCIE, R.V.; MORGAN, D.W., 1970).

Adopting the convenience sampling strategy in the study provided some advantages such as (a) simplicity of sampling which also provided an economic way of sampling to expedite data collection, and (b) ready availability of participants to obtain eligible participants readily available from the research gateway platforms to help quickly reach the sample size. On the other hand, the convenience sampling strategies do not give an accurate representation of the whole population being studied due to the inherent bias of this sampling technique. And, the results of the study cannot be generalized to the entire population of the study, thus leading to a low external validity of the study (Trochim, W. et al., 2016). Such a limitation is not problematic for this study because the nature of this study is correlational, which is not a study of the proportions of the target audience but an examination of the correlation between variables (Creswell, J. W., 2014).

11. Ethical Issues: Quantitative Research Approach

According to Bless, C Higson-Smith, C Sithole, L. (2019), the ethical rights of a participant are the "right to privacy; participation is voluntary; anonymity; and confidentiality". According to De Vos, A.S., et al. (2011), the term ethics means "preferences that influence behavior in human relations". Therefore, the researcher in this study seeks to review the ethical procedures of research so move morally, properly, and virtuously in the investigation. In this study, the researcher ensures that the information collected from the respondents is voluntary, and the identity of the survey respondents is kept to the highest confidential level. Furthermore, once this research study is completed, all information relating to all participants will be completely destroyed by deleting all documentation that would identify any of the participants. In order to assure anonymity, no data are collected or stored in combination with a participant's name or any other form of personal identification. The data is held within the electronic survey location for analysis with no indication of its specific source. Once the data collection is completed, the data will move to a secure PC owned by the researcher, the survey's link will close, and all references to the study will remove from the Internet to ensure data confidentiality and privacy (Denscombe, M., 2014; Nardi, P., 2018).

12. Data Analysis and Results

This research study will implement a correlation and a multiple regression analysis to test the hypotheses and investigate and determine the relationship between transformational and transactional leadership styles, and employees' job satisfaction in the ICT government sector in Egypt. The deployment of the two statistical methods in the study will facilitate the understanding of the relationship between the independent (transformational & Transactional leadership styles) and dependent variables (employees' job satisfaction). Furthermore, the confidence level of the dual statistical methods will provide a realistic assessment of the data analysis in terms of the relationship between the independent and dependent variables in the ICT government sector in Egypt (Frankfort-Nachmias, C., & Leon-Guerrero, A., 2018).

In this study, the questionnaire was placed on Google Form, and the link was posted on various social media platforms that contained employees from the ICT sector (LinkedIn, WhatsApp, and Facebook). The link was opened 500 times; nevertheless, 388 questionnaires were completed and returned to the researcher, making the response rate 78%. The Statistical Package for Social Science (SPSS) version 26 IBM is used to conduct various analyses.

In this study, the descriptive statistics in the form of frequency distribution tables and percentages illustrate the demographics of the participants and various introduction questions regarding their opinions towards their organizations. Cronbach's Alpha was used to determine the reliability of the questionnaire to confirm the dependability of the scale used to measure the variables. Factor analysis was used for its validity. The hypotheses for this study were evaluated using inferential statistics in the form of Pearson correlation analysis to identify the strength, direction, and significance of the variables in the hypotheses. Multiple regression analysis was used to test the hypotheses in this study and to ascertain the strongest relationship between variables that were measured.

12.1. Frequency Analysis

Table 4.1 Respondents Socio-demographic Traits (Respondents' Profiles)

Data	Characteristic	Frequency	Percentage
Age	35 – less than 50	228	58.8
	20 – less than 35	125	32.2
	50 – less than 65	35	9.0
	Total	388	100.0
Highest completed level of education	Bachelor Degree	229	59.0
	Master Degree	114	29.4
	Doctorate Degree	39	10.1
	High School	4	1.0
	Other	2	.5
	Total	388	100.0
City of residence	Cairo	189	48.7
	Giza	113	29.1
	Other	55	14.2
	Alexandria	31	8.0
	Total	388	100.0
Gender	Male	271	69.8
	Female	117	30.2
	Total	388	100.0
Marital Status	Married	275	70.9
	Single	93	24.0
	Divorced or Separated	15	3.9
	Widowed	5	1.3
	Total	388	100.0
Number of children	Two	128	33.0
	None	112	28.9
	More than two children	105	27.1
	One	43	11.1
	Total	388	100.0
Average monthly income in Egyptian Pounds	Above 10,000	152	39.2
	2,000 – less than 5,000	115	29.6
	5,000 – less than 10,000	113	29.1
	Less than 2,000	8	2.1
	Total	388	100.0

Source: Developed by the researcher

In this study, the respondents came from different socio-demographic backgrounds. Based on Table 4.1 which il-

lustrates the frequency analysis, the analysis shows the age range that participated in this study the majority were adults between 35 to less than 50 *age* category who represent 228(58.8%) of the sample, followed by respondents 125(32.2%) between 20 to less than 35 age category, and the rest 35 (9%) respondents were between 50 to less than 65 age category of this study. This might indicate the organization has a significant maturity level in terms of age amongst its employees and this could help in implementing its objectives.

Regarding the *highest completed level of education*, the analysis shows that most of the respondents have a bachelor's degree which represented 229 (59%) of the sample, followed by employees who earned a master's degree which represented 114 (29.4%) of the respondents, while a doctorate degree represented 39(10.1%) of the employees. In this study, only 4 respondents hold a high school education level which represented (1.0%), and the remaining 2(0.5%) of the respondents have other education levels in this study. This is an indication of the organization acquired well-skilled employees by recruiting university graduates that contribute positively to achieving its objectives.

In terms of the *city of residence*, the analysis shows that the majority of the respondents in this study were a resident of Cairo representing 189 (48.7%), followed by the Giza governorate which represents 113(29.1%) of the sample. While the respondents were residents of Alexandria representing 31(8.0%) in this study, and the rest 55(14.2%) respondents represented other cities. This is an indication of the ICT sector attracted employees from different governorates who have the required skills to cope with the basic needs of this sector.

The *gender* composition all participants responded to the questions and from the total of 388 respondents 271(69.8%) were male and 117(30.2.9%) were female. This distinctly indicates the number of female employees is by far less than male employees at different managerial levels.

According to *marital status*, out of the total respondents, 275 (70.9%) of the respondents were married, while 93 (24.5%) were single. Also, 15 (3.9%) of the respondents in this study were divorced or separated and the remaining 5(1.3%) of the respondents were widowed in this study. This indicates that the majority of respondents in this sector have families which reflects the high level of stability at work in the ICT government sector.

In terms of the *number of children*, the respondents who have two children represent 128 (33.0%) in this study, while 112(28.9%) of respondents are without children. 105 (27.1%) of respondents have more than two children, and the rest 43 (11.1%) of respondents have one child in this study.

Regarding *average monthly income in Egyptian pounds*, and from all participants of 388 respondents, 152(39.2%) were getting income above 10,000 EGP per month in the ICT government sector, followed by 115(29.6%) between 2,000-less than 5,000 EGP of the sample, while 113 (29.1%) of the respondents get income between 5,000-less than 10,000 EGP in this study, and the remaining 8 (2.1%) of the respondents gained less than 2,000 EGP in the ICT government sector. The results indicated that the majority of respondents who work in this sector were gaining above 10,000 EGP which reflects how the level of salaries seemed in this sector and how this sector attracted talented employees with specific knowledge and experience matching its goal. It paid good salaries to encourage them to be vital members of the ICT sector in Egypt.

Table 4.2 Respondents Socio-demographic Traits (Respondents' Profiles)

Data	Characteristic	Frequency	Percentage
What organization do you work for?	Other government entities	219	56.4
	NTI	80	20.6
	MCIT	42	10.8
	WE	33	8.5
	ITIDA	7	1.8
	NTRA	4	1.0
	ITI	3	.8
	Total	388	100.0
How many years have you been working in this organization?	11 years to 20 years	120	30.9
	1 year to 5 years	94	24.2
	6 years to 10 years	71	18.3
	More than 20 years	64	16.5
	Less than one year	39	10.1
	Total	388	100.0
Where do you stand in the organization?	Middle management	217	55.9
	Lower/operational level management	87	22.4
	Top management	54	13.9
	Other	30	7.7
	Total	388	100.0

Source: Developed by the researcher

The organizations where the respondents work, and from all participants of 388 respondents 219 (56.4%) were work in other government entities are affiliated with the ICT sector, while 169(43.6%) were working in organizations also under the umbrella of ICT government sectors such as (ITI, ITIDA, MCIT, NTI, NTRA, WE). When it comes to the number of years of work experience of all participants who responded to this study. The results explored that 120(30.9%) of the respondents worked for the organization between 11-20 years, 94(24.2%) of the respondents worked between 1-5 years, 71(18.3%) of the respondents worked 6-10 years, 64 (16.4%) of the respondents worked more than 20 years, and 39 (10.1%) of the respondent worked less than one years. The described job positions/occupations of all respondents in this study, and from all participants of 388 respondents 217(55.9) were seniors/executives, 87(22.4%) were juniors/ operational level management, 54(13.9%) were top management, and 30 (7.7%) were non-managerial professional employees. It indicates there is a high level of experts selected in this sector represented as managers or leaders with different leadership styles applied at work.

12.2. Reliability Analysis

Table 4.4: Reliability Statistics of all variables in this study

Variables	Cronbach's Alpha (α)	No. of Items
Transformational Leadership	.963	20
Transactional Leadership	.898	8
Employees' Job Satisfaction	.763	17
Transformational Leadership Dimensions	**Cronbach's Alpha (α)**	**N of Items**
Idealized Influence Attribute (IIA)	.841	4
Idealized Influence Behavior (IIB)	.870	4
Inspirational Motivation (IM)	.920	4
Intellectual Stimulation (IS)	.897	4
Individual Consideration (IC)	.835	4
Transactional Leadership Dimensions	**Cronbach's Alpha (α)**	**N of Items**
Contingent Reward	.877	4
Active Management by Expectation	.863	4

Source: Developed by the researcher

The study results revealed that the transformational leadership scale with 20 items (α=.963) and the transactional leadership scale with 8 items ((α=.898) were found reliable. Similarly, employees' job satisfaction scale with 17 items was also found reliable (α=.763). When it comes to the scales that measure the dimensions of transformational leadership, they were all reliable; the idealized influence attribute (IIA) scale with 4 items (α=.841), the idealized influence behavior (IIB) scale with 4 items (α=.870), the inspirational motivation (IM) scale with 4 items (α=.920), the intellectual stimulation (IS) scale with 4 items (α=.897), and individual consideration (IC) scale with 4 items (α=.835). When it comes to the scales that measure the dimensions of transactional leadership, they were all reliable; the contingent reward scale with 4 items (α=.877), and the active management by exception scale with 4 items (α=.863) were found reliable.

12.3. Validity Analysis

In this study, the research conducted Face validity. Face validity considers how suitable the content of a test seems to be on the surface. It's similar to content validity, but face validity is a more informal and subjective assessment (Middleton, F., 2019). The researcher made academics look over the questionnaire to give their opinion and make adjustments to confirm the instrument's effectiveness.

The researcher also tested the convergent validity, by using a Kaiser-Meyer-Olkin (KMO) test to assess the sampling adequacy of data used for Factor Analysis.

Table 4.5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.961
Bartlett's Test of Sphericity	Approx. Chi-Square	12598.288
	df	990
	Sig.	.000

Source: Developed by the researcher

Table 4.6: AVE and CR Test

N	10
Average Variance Extracted (AVE)	0.5662
Composite Reliability (CR)	0.9287

Source: Developed by the researcher

The study result in table 4.5 showed KMO equal to .961 which is greater than 0.5, this refers to the fact that data is valid to use factor analysis. As is seen in table 4.6, the Average Variance Extracted (AVE) is greater than 0.5, which means that the factors should explain at least half the variance of their respective indicators (Sekaran, U., & Bougie, R., 2016).

In this study, the researcher conducted another approach to statistically testing validity as well. Accordingly, the maximum level of validity is equal to the square root of the reliability coefficient. What this means is that the validity of a test is constrained by how reliable it is. This validity is called the questionnaire's validity test, which was carried out using the Pearson Product Moment Correlation in SPSS or correlation value between the variables or the variable with a total score, which is also known as the p-value (2-tailed) to calculate the variable and if p-value < 0.01 then the question/instrument is valid while if the p-value > 0.01, then the question/instrument is not valid. In this study, the significant value was obtained by the p-value (2-tailed) of 0.000 < 0.01.

Table 4.7: Validity Statistics of Variables

Variables		Transformational Leader	Transactional Leadership	Employees Job Satisfaction	Total
Transformational Leadership	Pearson Correlation	1	.810**	.651**	.962**
	Sig. (2-tailed)		.000	.000	.000
	N	388	388	388	388
Transactional Leadership	Pearson Correlation	.810**	1	.604**	.879**
	Sig. (2-tailed)	.000		.000	.000
	N	388	388	388	388
Employees Job Satisfaction	Pearson Correlation	.651**	.604**	1	.809**
	Sig. (2-tailed)	.000	.000		.000
	N	388	388	388	388
Total	Pearson Correlation	.962**	.879**	.809**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	388	388	388	388

Source: Developed by the researcher
**Correlation is significant at the 0.01 level (2-tailed).

Based on the count value obtained for transformational leadership equal .962, transactional Leadership equal .879, and employees' job satisfaction equal .809 higher than the critical value at 386 DF (.01) Sig level** = 0.128339 then the

items are highly significant. Also, it can be calculated to be item 1 which is valid, thus the results show a significant correlation with the total score indicating that the items are valid. The following result in table 4.7 is the validity of the scales:

12.4. Multiple Regression Analysis

Multiple regression analysis (MRA) is a multivariate statistical technique that is used for studying the relationship between a single dependent variable and several independent variables (Chatfield, C., 1995). It provides a method to predict the changes in the dependent variable in response to changes in more than one independent variable. Hence, it allows the researcher to determine the relative importance of each predictor as well as to ascertain the collective contribution of the independent variables (Sekaran, U., & Bougie, R., 2016). Multiple regression is an extension of simple linear regression. The researcher used multiple regression to test the research hypothesis.

12.4.1. Multiple Regression Adjusted R^2

R-squared is a statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable or variables in a regression model while the adjusted R-squared is a modified version of R-squared that has been adjusted for the number of predictors in the model. The adjusted R-squared increases when the new term improves the model more than would be expected by chance. It decreases when a predictor improves the model by less than expected. Typically, the adjusted R-squared is positive, not negative. It is always lower than the R-squared (Potters, C. & Eichler, R., 2022).

Table 4.12: Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.664 [a]	.441	.438	.39355	1.946

a. Predictors: (Constant), Transactional Leadership, Transformational Leadership
b. Dependent Variable: Employees Job Satisfaction
Source: Developed by the researcher

According to the analysis shown in table 4.12, R-square shows a total variation in the dependent variable that could be explained by the independent variables. A value greater than 0.5 shows that the model is effective enough to determine the relationship. In this study, the value is .441. The adjusted R^2 tells us that the model accounts for 43.8% of the overall leadership styles of transformational and transactional leaders in job satisfaction. This means that the independent variable contributes to 43.8% of the dependent variable and the remaining percent is predicted by other factors other than the two leadership styles in this study.

12.4.2. Analysis of Variance (ANOVA)

Table 4.13: ANOVA [a] with Overall Leadership Styles

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.972	2	23.486	151.637	.000[b]
	Residual	59.630	385	.155		
	Total	106.602	387			

a. Dependent Variable: Employees' Job Satisfaction (EJS)
b. Predictors: (Constant), Transformational Leadership, Transactional Leadership
Source: Developed by the researcher

Table 4.14: ANOVA ᵃ with the Sub-Dimensions of the Leadership Styles

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.494	7	6.785	43.620	.000ᵇ
	Residual	59.108	380	.156		
	Total	106.602	387			

a. Dependent Variable: Employees' Job Satisfaction (EJS)
b. b. Predictors: (Constant), Active Management by Exception, Idealized influence attributes (IIA), Intellectual Stimulation (IS), Individualized Consideration (IC), Inspirational Motivation (IM), Contingent Reward, and Idealized Influence Behaviours (IIB).
Source: Developed by the researcher

ANOVA is used to test whether there are any statistically significant differences between the means of more independent variables (Tredoux, C. and Durrheim, K., 2002). In this study when assessing the overall leadership styles of transactional leadership and transformational leadership, as it is shown in table 4.13, the model with these two leadership styles in this study was significant, with an ANOVA of 0.000. When testing the model, with the sub-dimensions of the leadership styles, as shown in table 4.14, the model illustrated significance, with an ANOVA of 0.000 is less than 0.05.

12.4.3. Multiple Regression P-Value (Hypothesis Testing)

Table 4.15: Coefficients Analysis of Variables Overall

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.851	.085		21.867	.000
	Transformational Leadership	.269	.037	.471	7.247	.000
	Transactional Leadership	.133	.039	.222	3.419	.001

a. Dependent Variable: Employees' Job Satisfaction
Source: Developed by the researcher

Based on the outcome of table 4.15, illustrates that both transformational and transactional leadership significantly impact employees' job satisfaction as both p-values are below 0.05. (Transformational leadership sig value is 0.000, and Transactional leadership sig value is 0.001). Nevertheless, due to the beta coefficient outcome, when both leadership styles are presented, transformational leadership (beta coefficient =0.471) is a stronger contribution to job satisfaction than transactional leadership (beta coefficient =0.222). Therefore, the following hypothesis is supported:

Hypothesis One: Transformational leadership has a positive effect on employees' job satisfaction in the ICT government sector in Egypt.

Hypothesis Two: Transactional leadership has a positive effect on employees' job satisfaction in the ICT government sector in Egypt.

In this study, the researcher assesses each leadership style's dimension separately. The aim is to see which traits, attributes, characteristics, or behaviors found in leaders can be the cause of the employee's level of job satisfaction. Therefore, each hypothesis (hypothesis one and hypothesis two) had several sub-hypotheses. Table 4:16 illustrates the outcome of the hypothesis testing.

Table 4.16: Co-efficient ª of Variables' Dimensions

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.857	.089		20.774	.000
	Idealized influence attributes (IIA)	.126	.032	.235	3.926	.000
	Idealized Influence Behaviours (IIB)	.005	.043	.009	.108	.914
	Inspirational Motivation (IM)	.044	.038	.090	1.185	.237
	Intellectual Stimulation (IS)	.038	.038	.076	1.011	.313
	Individualized Consideration (IC)	.090	.034	.176	2.618	.009
	Contingent Reward	.121	.036	.231	3.358	.001
	Active Management by Exception	.066	.028	.119	2.394	.017

a. Dependent Variable: Employees' Job Satisfaction
Source: Developed by the researcher

Hypothesis One: There is a positive significant relationship between transformational leadership and employees' job satisfaction in the ICT government sector in Egypt. This hypothesis is partially supported as some of the sub-hypotheses were significant and others were insignificant.

Hypothesis 1a: There is a positive significant relationship between transformational leadership dimension intellectual stimulation (IS) and ICT governmental employees' job satisfaction. This hypothesis is not supported with a p-value equal to .313. The results show that the relationship between the variables is insignificant with a p-value of more than 0.05 (β = .076, p >0.05).

Hypothesis 1b: There is a positive significant relationship between transformational leadership dimension individualize consideration (IC) and ICT governmental employees' job satisfaction. This hypothesis is supported with a p-value equal to .009. The results show that the relationship between the variables is significant with a p-value of less than 0.05 (β = 0.176, p < 0.05).

Hypothesis 1c: There is a positive insignificant relationship between transformational leadership dimension inspirational motivation (IM) and ICT governmental employees' job satisfaction. This hypothesis is not supported with a p-value equal to .237. The results show that the relationship between the variables is insignificant with a p-value of more than 0.05 (β = 0.090, p >0.05).

Hypothesis 1d: There is a positive significant relationship between transformational leadership dimension Idealized Influence Attributes (IIA) and ICT governmental employees' job satisfaction. This hypothesis is supported with a p-value equal to .000. The results show that the relationship between the variables is significant with a p-value of less than 0.05 (β = 0.235, p <0.05).

Hypothesis 1e: There is a positive insignificant relationship between transformational leadership dimension Idealized Influence Behaviours (IIB) and ICT governmental employees' job satisfaction. This hypothesis is not supported with a p-value equal to .914. The results show that the relationship between the variables is insignificant with a p-value of more than 0.05 (β = 0.009, p > 0.05).

Hypothesis Two: There is a positive significant relationship between transactional leadership and employees' job satisfaction in the ICT government sector in Egypt. This hypothesis is supported and the sub-hypotheses were significant.

Hypothesis 2a: There is a positive significant relationship between transactional leadership dimension contingent reward and ICT governmental employees' job satisfaction. This hypothesis is supported with a p-value equal to .001. The results show that the relationship between the variables is significant with a p-value of less than 0.05 (β = 0.231, p < 0.05).

Hypothesis 2b: There is a positive significant relationship between transactional leadership dimension active management by exception and ICT governmental employees' job satisfaction. This hypothesis is supported with a p-value equal to .017. The results show that the relationship between the variables is significant with a p-value of less than 0.05 (β = 0.119, p < 0.05).

12.4.4. Multiple Regression Beta Coefficient

A standardized beta coefficient in multiple regression compares the strength of each independent variable's effect to the dependent variable. The higher the absolute value of the beta coefficient, the stronger the effect. According to this study the variables that have the highest impact on employees' job satisfaction in the ICT government sector in Egypt are; Idealized influence attributes (IIA) with β = .235, followed by Contingent Reward with β = .231, followed by Individualized Consideration (IC) with β = .176, and finally Active Management by Exception with β = .119.

12.4.5. Summary of Hypothesis Testing

Table 4.17: Summary of Hypothesis Testing

Hypothesis	Hypothesis Outcome
There is a positive significant relationship between transformational leadership and employees' job satisfaction in the ICT government sector in Egypt.	Partially Supported
• There is a positive significant relationship between transformational leadership dimension intellectual stimulation (IS) and ICT governmental employees' job satisfaction.	Not Supported
• There is a positive significant relationship between transformational leadership dimension individualize consideration (IC) and ICT governmental employees' job satisfaction.	Supported
• There is a positive significant relationship between transformational leadership dimension inspirational motivation (IM) and ICT governmental employees' job satisfaction.	Not Supported
• There is a positive significant relationship between transformational leadership dimension Idealized Influence Attributes (IIA) and ICT governmental employees' job satisfaction.	Supported
• There is a positive significant relationship between transformational leadership dimension Idealized Influence Behaviours (IIB) and ICT governmental employees' job satisfaction.	Not Supported
There is a positive significant relationship between transactional leadership and employees' job satisfaction in the ICT government sector in Egypt.	Fully Supported
• There is a positive significant relationship between transactional leadership dimension contingent reward and ICT governmental employees' job satisfaction.	Supported
• There is a positive significant relationship between transactional leadership dimension active management by exception and ICT governmental employees' job satisfaction.	Supported

Source: Developed by the researcher

13. Academic Contribution

Several literature studies have been conducted on the impact of transformational and transactional leadership styles on employees' job satisfaction in various sectors either public or private in western countries. But there is little academic research that has tackled the effect of transformational and transactional leadership on employees' job satisfaction in the ICT government sector in Arab countries, especially in Egypt (Al-maaitah D.A., et al., 2018). Therefore, this study has contributed academically by adding insights into the leadership styles that are effective in this context. This study has contributed by illustrating that in the ICT sector in Egypt, both transformational leadership and transactional leadership are effective and can impact employees' level of satisfaction in their jobs.

This study has contributed academically by illustrating various perspectives that management holds in the ICT sector related to leadership and employees' job satisfaction. With the several themes that emerged in the study, it will fill the academic gap founded in the literature regarding the effect of transformational and transactional leadership on employees' job satisfaction in the ICT government sector in Arab countries, especially in Egypt, which is insufficient (Al-maaitah D.A., et al., 2018). This study has contributed academically by illustrating the following themes: Transformational leadership is common in the ICT sector; Managers believe that is important to try to satisfy their employees to improve their productivity even though their obstacles; Managers seek employee satisfaction to improve work outcomes; Managers believe in the effectiveness of motivating and inspiring employees to increase job satisfaction; Managers believe in skills development and personal growth to satisfy employees; Most managers provide supplementary compensation to increase further employees' satisfaction; Most managers believe in the importance of financial acknowledgment; Disciplinary system leads to accurate employee behavior within the organization; Most top management required leaders to give acknowledgment; finally, Most managers believe leadership style enhances employees' job satisfaction.

Many studies that have explored and sought to examine leadership styles in organizations usually focus on the overall practices of the styles of the leader (Asghar S., 2018). Research shows that each leadership style holds certain behavior traits that distinguish the leader. Nevertheless, existing research on this matter is insufficient (Al Yahyaee O.R.H, 2021). Therefore, this study conducted literature reviews to discover the main behaviors that are illustrated by both transformational and transactional leadership. Then, this study sought to test its significance in the ICT sector in Egypt. This study has contributed academically by filling the gap in the literature regarding each leadership style and the needed behavior to be effective in the organization. The findings found that transformational leaders contribute to impact job satisfaction through two behavior dimensions: individual consideration (IC), and idealized influence attributes (IIA). While the other behavior dimensions: inspirational motivation (IM), intellectual stimulation (IS), and idealized influence behaviors (IIB) are not significant. When it comes to transactional leadership both behaviors which they are known for, contingent rewards, and active management by exception are significant in the ICT sector in creating job satisfaction among employees.

When assessing the leadership styles this research used Multifactor Leadership Questionnaire (MLQ) scale and when assessing employees' job satisfaction this research used Job Satisfaction Survey (JSS) scale. These scales were the Multifactor Leadership Questionnaire (MLQ) 5X-Short instrument developed by Bass, B.M., & Avolio, B.J. (1994) and the Job Satisfaction Survey (JSS) instrument that was developed by Spector, P. E. (1997). These scales were tested many times in western contexts. Therefore, this study contributed academically by verifying the validity the reliability of these scales in international contexts specifically in the Egyptian context. Modification has been made so these scales could assess the variables in Egypt in a valid manner.

14. Practical Contribution

This empirical study identifies which leadership styles: Transformational and Transactional has the most significant effect on the employees' job satisfaction and helps to determine the appropriate leadership style for applying and managing the ICT government sector in Egypt. This study has contributed practically by illustrating various insights related to effective leadership. With this knowledge, it can be implemented in the organization's business model, training, and other strategies related to human resources.

The finding of this study contributes to providing a guideline model to top management containing which behaviors of leadership should be followed when hiring managers in the ICT government sector in Egypt. Top management must

focus on specific behaviors related to both leadership styles: transformational and transactional leaders for managing this sector. Where the findings showed that the application of both leadership styles leads to enhancing the performance of the organization and increasing satisfaction among employees at work.

This study contributed practically by developing empirical evidence that can help decision-makers in this sector identify the required skills and traits for recruiting talented managers who should employ high-tech administrative systems to achieve high performance and productivity. These individuals who are to be employed, if they are to be transformational leaders they have to focus on they must focus on showing employees idealized influence attitudes (IIA) that encompass behaviors that explain the actual charisma, where the leader is seen as possessing supernatural traits. As well, leaders should articulate a compelling vision, and instill pride, trust, pleasure, self-importance, and esteem in followers to believe in what they do to get their work done. In addition, leaders who should provide individualized consideration (IC) behaviors, should try to attend to each employee's needs and seek to mentor, coach, or guide to the employees while they work. This behavior requires leaders to seek to listen to the concerns and needs of each employee and provides support and is empathic with each person's situation and background. These behaviors from the leader are to lead to employees being more satisfied at their jobs. Furthermore, new recruiters, if they are to be transactional managers they have to focus on showing employees contingent reward and active management by exception traits. This can be done through having regular meetings to discuss employee progress so as to give them recognition, leaders have to clarify well the set policies, standards, and roles that are required to accomplish the assigned tasks, leaders have to form applicable compensation criteria, and followers must be aware of and link it with their performance at work for instance: bonuses, promotions, or penalties. The contingent reward is an exchange agreement between leaders and managers then it should be an effective relationship to motivate followers to accomplish their tasks well that will impact positively on their satisfaction at work. According to the second behavior of transactional leadership styles active management by exception, the leaders should be supportive and proactive, not reactive. They have to actively monitor the work of followers in an ongoing manner and make sure that subordinates are working up to the set standards. They have to interfere before the problems become serious and anticipate solving problems and have their eyes on the behavior of the employees.

This study contributed practically by showing that organizations need to support adopting an appropriate leadership style that helps managers in government organizations to form a new government structure and minimize the public bureaucracy system to improve the quality of government employees, and productivity and enhance their job satisfaction.

This study contributed practically by developing empirical evidence that can be used in minimizing the obstacles that managers faced in the government sector in regard to creating job satisfaction among employees. This study shows that job satisfaction is not only based on financial rewards and some organizations face financial limitations. They cannot change the financial rewards system that is controlled and monitored by very restricted roles and standards. Therefore, managers should select different techniques of motivation to achieve an organization's goals, and especially the salary level of the government sector in comparison with the cost of living is moderate level.

15. Recommendations

Based on the results of this research, several recommendations are made to improve the leadership style in the ICT sector so that it can allow employees to be more satisfied with their jobs. When it comes to transformational leadership significant behaviors that create job satisfaction among employees, it was: idealized influence attitudes (IIA), and individualized consideration (IC) behaviors. Therefore, it is recommended that leaders who seek to be transformational in style should focus on showing employees idealized influence attitudes (IIA). The idealized influence attitudes transformational leadership behavior refers to the perception of a leader by the followers which is linked with (charisma, pride, self-importance, pleasure, and confidence). Therefore, leaders should be seen as possessing supernatural traits by their followers. They should articulate a compelling vision, pleasure, self-importance, and esteem, instill pride in followers and build trust to believe in what they do to get their work done. In addition, leaders in the ICT government sector should talk about the most important values and beliefs then the followers want to emulate them.

In addition, leaders that seek to be transformational in style should focus on showing employees individualized consideration (IC) behaviors. They have spent time coaching, mentoring, and teaching followers for achievement and growth. Leaders should promote self-development to enhance their performance. They have to treat team members as individuals and identify their differing needs and abilities. Listen to others' concerns and demonstrates genuine care about them. Leaders try to inspire followers to achieve a specific goal with develop their strengths by using additional personal effort. They have also to develop high emotional skills and lots of empathy, and encourage two-way communi-

cation with each team member to avoid any ambiguous information that could impact their performance at work that will affect directly on their satisfaction.

When it comes to transformational leadership insignificant behaviors that do not create job satisfaction, it was: idealized influence behaviors (IIB), inspirational motivation (IM), and intellectual stimulation (IS). Therefore, it is recommended that leaders try to implement these behaviors accurately so that they can have a positive impact on employees' job satisfaction in the ICT government sector. To improve these behaviors, leaders should show employees these behaviors. According to idealized influence (IIB) behaviors; leaders should focus on how they have been seen as role models. They have to go beyond their self-interest for the greater good of the organization. They should display a sense of power and confidence, and encourage collective awareness based on goals and missions to get the work done. When it comes to transformational inspirational motivation (IM) behaviors, the leaders in the ICT public sector should focus on talking optimistically about the future and articulate a compelling vision of the organization by using stories and symbols to communicate their vision and message. They should identify what needs to be accomplished, and express confidence that goals will be achieved. Leaders have to motivate team-spirit and encourage their employees to achieve levels of performance beyond their own expectations. These traits will increase the level of commitment of employees toward the organization and satisfy them. Researcher in this study found that if leaders focus on intellectual stimulation (IS) behavior in this study it will reflect on the level of employees' job satisfaction. The researcher recommends that leaders should encourage their followers to be innovative and creative by exploring new ways of doing things, and finding new ideas for solving problems. They have to stimulate their followers to seek different perspectives and avoid non-traditional thinking. Leaders suggest new ways of looking at completing assignments and taking risks under their supervision.

When it comes to transactional leadership behaviors, researchers recommended that Leaders that seek to be transactional leaders in style should focus on showing employees contingent reward and active management by exception traits. This can be done with the following suggested behaviors: having regular meetings to discuss employee progress so as to give them recognition. Leaders have to clarify well the set policies, standards, and roles that are required to accomplish the assigned tasks. Leaders have to form applicable compensation criteria and followers must be aware of and link it with their performance at work for instance: bonuses, promotions, or penalties. The contingent reward is an exchange agreement between leaders and managers then it should be an effective relationship to motivate followers to accomplish their tasks well that will impact positively on their satisfaction at work. According to the second behavior of transactional leadership styles active management by exception, the leaders in the ICT government sector should be supportive. They have to be proactive, not reactive. They have to actively monitor the work of followers in an ongoing manner and make sure that subordinates are working up to the set standards. They have to interfere before the problems become serious and anticipate solving problems and have their eyes on the behavior of the employees. Although, most of the empirical studies reported a positive association between transformational leadership and job satisfaction among employees whereas transactional leadership studies revealed positive or negative associations. The findings of this research conducted in the ICT government sector in Egypt revealed that transactional leadership practices are also necessary to attain employees' job satisfaction.

16. Research Limitations

This study was limited related to data constraints. The study is limited to the examination of two leadership styles, transformational, and transactional leadership, neglecting other leadership styles that exist and could affect the level of job satisfaction among employees. In addition, this study is limited to focusing on leadership style impact on employees' job satisfaction nevertheless, other variables could exist that impact employees' job satisfaction significantly, such as; organizational culture, human resource practices, digital transformation, organization voice, etc.

This study concentrated only on the ICT government sector therefore, the conclusion of this study cannot be generalized to the ICT private sector or organizations in different fields. When conducting qualitative research the focus is on the manager's perspective neglecting the employees' point of view. Employees' points of view are needed to confirm if these certain behaviors are significant to employees' job satisfaction. This study also is a cross-section study, longitudinal study could have been a beneficial illustration of the impact or cause and effect on employees' job satisfaction. This study used a convenience sample because the sample frame is not available which limited the conduction of the probability sampling. Finally, this study focuses on the ICT government sector in Egypt neglecting other countries to clarify the different leadership effects on employees' job satisfaction.

17. Directions for Future Research

The limitations associated with this study have led the researcher to propose several directions for further research: researchers have to select other leadership styles that could affect the level of job satisfaction among employees, whereas this study has examined only two leadership styles, transformational, and transactional leadership. Future researchers should conduct more studies in this field to discover other independent variables that would affect the employees' job satisfaction such as; organization culture, human resource practices, digital transformation, organization voice, etc., as this study only focuses on two independent variables which are transformational leadership and transactional leadership.

In addition, future studies should focus on the ICT private sector in Egypt, by doing so, the results obtained can be used to do the comparison of findings between the ICT public and private sectors in Egypt. Furthermore, the current study focuses on the perspective of managers when conducting the qualitative analysis to confirm if certain behaviors of leadership are significant to employees' job satisfaction, and does not take into consideration the employees' point of view which should be included in future studies. The researcher also should use longitudinal studies in future studies which could have been beneficial in illustrating the impact or cause and effect on employees' job satisfaction.

In this study, the researcher used a non-probability convenience sampling strategy because of the lack of access to a list of the population being studied. Accordingly, for future studies, they have to use probability sampling involving random selection to allow them to make strong statistical inferences about the whole group. Finally, it would seem a logical continuation to make a comparative study between Egypt and other Arab countries. It might be the case that other countries in the region may generate different results and benefits regarding leadership behaviors and their relation to employees' job satisfaction, hence, such study deserves further investigation.

18. Conclusion

It has been assumed that employees' job satisfaction can easily be affected by different factors within the organizations; leadership style is one of the most important factors (Cahyono Y. et al., 2020; Al Yahyaee O.R.H., 2021; Alrwili A. M., 2022). Therefore, this study aimed to show the relationship between leadership style and employees' job satisfaction. This study was implemented in the ICT government sector in Egypt as the current ministry is seeking to hire talented employees into becoming leaders according to their public statements (MICT, 2022). This study focuses on the employees at different management levels working in this sector.

Based on the literature, and theories of leadership, the researcher in this study uses using Bass and Avolio's leadership model to measure the relationship between leadership styles and employees' job satisfaction in the ICT public sector. In this study the independent variables were transformational leadership with its five dimensions: Intellectual Stimulation (IS), Individualized Consideration (IC), Inspirational Motivation (IM), Idealized Influence Attributes (IIA), and Idealized Influence Behaviors (IIB); and transactional leadership with its two dimensions: Contingent rewards, Active management by exception. These independent variables were assumed to affect employees' job satisfaction (the dependent variable). Transformational leadership style and transactional leadership style are considered opposite behaviors when it comes to dealing with employees; nevertheless, if a leader applies both styles in their management system, it can lead to significant results in employees' job satisfaction (Alrwili A. M., 2022).

Previous studies on transformational and transactional leadership and employees' job satisfaction give a mixture of outcomes. All empirical studies reported positive associations between transformational leadership and job satisfaction whereas transactional leadership studies revealed positive or negative associations. Transactional leadership practices are also necessary to attain organizational goals (Aloysius, S.M., 2017).

The quantitative data were collected by using an electronically structured questionnaire with nonprobability convenience sampling to the employees of the ICT sector in Egypt. For the study, 500 questionnaires were delivered to the employees in all different management levels, but 388 respondents successfully completed the questionnaire and returned to the researcher, making the response rate 78%. The Statistical Package for Social Science (SPSS) version 26 IBM is used to conduct various analyses. When assessing the leadership style during the quantitative research, it was measured by Multifactor Leadership Questionnaire (MLQ) instrument. This instrument contained 28 items; 20 items for measuring transformational and 8 items for measuring transactional leadership.

Based on the quantitative research of 388 respondents' analysis that emerged from the SPSS program, the hypothesis testing results showed that: transformational leadership and transactional leadership were significantly positively related to the employees' job satisfaction in the ICT government sector, in Egypt. The transformational leadership style was positive and significant with a standardized (β = .471, and p=0.000 p < 0.05). The transformational leadership dimensions

have partially been supported with respect to employees' job satisfaction. The two dimensions of transformational leadership: Idealized influence attributes (IIA) with a standardized (β = .235, and p=0.000 p < 0.05), and individualized consideration (1C) with a standardized (β = .176, and p=0.009 p < 0.05) were significant and positive effects on employees' job satisfaction, while intellectual stimulation (IS) with a standardized (β = .076, and p=0.313 p > 0.05), Idealized influence behaviors (IIB) with a standardized (β = .009, and p=0.914 p > 0.05), and Inspirational motivation (IM) with a standardized (β = .090, and p=0.237 p > 0.05)were insignificant with employees' job satisfaction in this study. Transactional leadership style also was positive and significant with a standardized (β = .222, and p=0.001 p < 0.05) in the ICT government sector in Egypt. The finding also revealed that transactional leadership dimensions have fully supported respect for employees' job satisfaction. The two dimensions of transactional leadership: contingent rewards with a standardized (β = .231, and p= .001 p < 0.05), and active management by exception with a standardized (β = .119, and p=0.017 p < 0.05) have a positive and significant effect on employees' job satisfaction. Thus, this implies that transformational and transactional leadership are deemed suitable for managing the ICT government sector in Egypt. Both leadership styles have a positive and significant effect on employees' job satisfaction in this sector. Multiple linear regression showed that leadership styles are causing a change in employees' job satisfaction by 43.8%.

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20. References

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