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Healthcare Sector**

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# Can Servant Leadership Enhance Institutional Excellence: Evidence from The Egyptian Healthcare Sector

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## ABSTRACT

This study seeks to examine the relationship between servant leadership practices and institutional excellence in the Egyptian healthcare sector. The study was applied on four different hospitals in Cairo, Qalyubiyya, and Sharqia governorates representing three different types of hospitals which are university hospitals, teaching/educational hospitals, and public hospitals

Results showed significant relationship between all servant leadership dimensions except organizational responsibility and institutional excellence. In addition, the researcher found significant differences between respondent's responses within the four selected Egyptian hospitals based on their job title, differences were skewed more towards doctors rather than nurses & pharmacists. The study recommends in order to increase institutional excellence level in Egyptian hospitals, hospital managers need to improve their cognitive & conceptual skills, personal values, emotional containment, and empowerment practices.

**Key Words:** Servant Leadership, Institutional Excellence, Organizational Responsibility, Emotional Healing, Empowerment.

## ملخص البحث :

تهدف هذه الدراسة إلى دراسة العلاقة بين تطبيق ممارسات القيادة الخادمة ومستوي التميز المؤسسي داخل القطاع الصحي في مصر. تم تطبيق هذه الدراسة على أربعة مستشفيات في محافظات القاهرة والقليوبية والشرقية تمثل ثلاثة أنواع مختلفة من المستشفيات وهم المستشفيات الجامعية والمستشفيات التعليمية والمستشفيات العامة. أظهرت نتائج الدراسة وجود علاقة معنوية بين كافة أبعاد وممارسات القيادة الخادمة بإستثناء المسؤولية التنظيمية والتميز المؤسسي. كما وجد الباحث أيضا فروق معنوية بين إستجابات المبحوثين وفقا للمسمى الوظيفي الخاص بهم وجاءت هذه الفروق في صالح الأطباء فالأطباء هم أكثر المجموعات الوظيفية موافقة على معنوية العلاقة بين تطبيق ممارسات القيادة الخادمة وتحقيق التميز المؤسسي يليهم هيئة التمريض ثم الصيادلة. أوصت الدراسة بضرورة إتقان المديرين داخل المستشفيات المصرية بتطبيق أبعاد وممارسات القيادة الخادمة مثل الاحتواء العاطفي، القيم الشخصية، والتمكين من أجل تحقيق أعلى مستويات التميز المؤسسي .

الكلمات المفتاحية: القيادة الخادمة، التميز المؤسسي، المسؤولية التنظيمية، الإحتواء العاطفي، التمكين.

## 1. Introduction

The need for efficient management has become one of necessities for modern organizations (Anderson, 2016). Managers inside all organizations need continuously to upgrade themselves rather than acting as mere practitioners of power. Modern organizations are in need for more than being managed; they need to be led in such a sound way to strengthen relations between leaders and subordinates. As a matter of fact, efficient leadership has become the criterion which determines the success of any organization (Dahleez & Ghali, 2018).

Sarwar et al. (2021) insists that Servant leadership emerged as a result of managerial changes & developments, as well as the administrative requirements of the modern era. Servant leadership is a special leadership style that discriminated from other styles through a group of basic dimensions and variables such as conceptual skills, empowerment, putting subordinates first, and behaving ethically.

As known, Leadership aimed at influencing others through directing their efforts in order to achieve what the leader aspires to (Kaifi, 2012). Leadership represents the process of influencing both individuals and groups to direct their efforts towards achieving organizational objectives. The concept of servant leadership firstly appeared in 1977; the concept mainly centered around giving priority to care, considering needs of others, treating employees ethically, efficient cooperation & communication, listening, and empathy. Servant leaders never prioritize their own objectives but rather they care about subordinates (Yahaya & Ebrahim, 2016).

Hospitals are among the most critical organizations in the society (Fletcher, 2017; Smith & Bhavsar, 2021). The healthcare sector in any country play a crucial role in the social development process. Recently and after COVID-19 pandemic, the pressures on all healthcare service institutions have increased and become unprecedented (Malak et al., 2022).

With respect to Egypt, there are many types of hospitals, all these types of hospitals are considered as vehicle of providing distinguished medical services to Egyptian citizens. They don't only provide healthcare services but they also aim to provide medical education, training, and scientific researches. Regarding university

hospitals, Egyptian University hospitals have witnessed recently a great boom emerging from the dedication provided by their medical teams as well as the high-level services provided through them to all citizens. These hospitals are affiliated to the Supreme Council of University Hospitals<sup>1</sup>. Number of university hospitals was 88 hospitals in 2014, and reach 115 hospitals in 2023, with an increase of 27 hospitals, at a total investment cost of 16 billion Egyptian pounds.

Educational/Teaching hospitals on the other hand operates in Egypt under the supervision of the general authority for hospitals & educational institutes, currently the authority consists of 14 educational\teaching hospitals and 9 specialized institutes all over Egypt. The authority support cooperation & integration between different hospitals & specialized institutes and the Egyptian ministry of health in order to achieve Egyptian Vision 2030<sup>2</sup>. From this point of view, the researcher concluded that; it is necessary to study the level of institutional excellence

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<sup>1</sup> The Supreme Council of University Hospitals considered as the controlling entity that govern the activities of university hospitals in Egypt. University hospitals doesn't provide healthcare services only to Egyptian citizens, but its goal is to provide medical education, training and scientific research carried out by its staff. The responsibility of the Supreme Council of University Hospitals rests mainly on the Minister of Higher Education and Scientific Research, who is assisted by the membership of the Secretary of the Supreme Council of Universities, the executive directors of the hospitals and seven members of the deans of the faculties of medicine. The number of hospitals and medical centers in government universities, which fall under the umbrella of the Supreme Council of University Hospitals, has reached 115 hospitals and medical centers all over Egypt on 2023.

<sup>2</sup> According to Egypt's vision 2030, the Egyptian ministry of health seeks to ensure that all Egyptians enjoy a safe & healthy life through implementing integrated healthcare system characterized by availability, quality, and nondiscrimination. This integrated healthcare system should improve healthcare indicators by achieving comprehensive health & prevention coverage for all citizens even for those who aren't financially able to pay for healthcare services.

in the Egyptian hospitals due to their vital and effective role not only on the health level of Egyptian citizens, but also on the performance level of medical staff.

Institutional excellence is a state of administrative creativity; it helps to achieve sustainability & continuous improvement. European Foundation for Quality Management (EFQM)<sup>3</sup> defines institutional excellence as a globally recognized practical framework that supports organizations in managing change as well as improving performance.

According to the European Model for Institutional Excellence<sup>4</sup>, institutional excellence can be represented in terms of three main dimensions which are orientation, implementation, and findings.

## **2. Theoretical Framework & Literature Review.**

Servant leadership has gained a great deal of acceptance in organizations since it is viewed as a promising solution for creating efficient, principled, and employee-focused leadership cadres (Aboramadan et al., 2020). Servant leadership is a source of institutional excellence, whether on the level of governmental or private organizations, since excellence has many clues and ways, one of these clues

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<sup>3</sup> The EFQM Excellence Model was introduced at the beginning of 1992 as the framework for assessing applications for The European Quality Award. It is a widely used organizational framework in Europe and has become the basis for a series of national and regional Quality Awards. The EFQM model's is used as a management system that encourages the discipline of organizational self-assessment. The EFQM Excellence Model is a practical tool to help organizations to do this by measuring where they are on the path to Excellence; helping them understand the gaps; and stimulating solutions.

<sup>4</sup> Launched by the European Foundation for more than 30 years, the European model is one of the main frameworks to help institutions to enhance their competitiveness and achieve excellence and ambitious visions.

is a method of servant leadership (Franco & Antunes, 2020). Greenleaf was the first who use the term "servant leader" particularly in 1970 (Eva et al., 2019).

## 2.1 Servant Leadership in Literature.

In recent decades, many theories have emerged, focusing on interests of workers as an entry for the interests of the organization. One of these theories was servant leadership, which prioritized care, service delivery, ethical behavior, and cooperation through effective communication. Its motto is "The servant leader is a servant first." To clarify further, the leader does not serve, but the servant is the one who leads. Thus, whoever automatically serves in the end is the one who leads.

The concept of servant leadership is too hard to define since it is multidimensional, rich in its appearance as well as extensive in its implications. A great number of reliable studies such as (Hoch et al., 2018) have confirmed the fact that there is no consensus among researchers regarding the definition of servant leadership.

(Ghasemy, 2021; Latif & Marimon, 2019; Andersen, 2018; Muthia & Krishnan, 2015) defined servant leadership as a new type of leadership model that serves others as a first priority, the skills of influencing subordinates in order to work enthusiastically to achieve specific goals. It is a leadership approach characterized by leader's altruism; an altruistic & ethical leadership approach that requires leaders to pay attention to needs of their subordinates, empathize with them, and take care of them by ensuring that they become more informed, free, and independent.

Due to the lack of consensus among researchers on a unified definition of servant leadership, they also differed in defining its characteristics. In this study, the researcher rested on a great number of related studies such as (Irfan et al., 2022;

Sarwar et al., 2021; Latif et al., 2020; Baykal et al., 2018). By reviewing the above-mentioned studies, the researcher was able to extract a set of characteristics that mark servant leader. Examples of these characteristics are: serving employees, caring for them, achieving their interests, meeting their needs & requirements, taking into account their feelings, altruism, inclusion, motivation, inspiration, education, role modeling, delegation of authority, good listening, honesty, integrity and trust.

Through reviewing previous studies (Abdulmuhsin et al., 2021; Iqbal et al., 2020; Y. H. Lee, 2019), the researcher could identify the most important outcomes of servant leadership on the level of individuals. An important outcome of servant leadership lies in its ability to enhance individuals' well-being. Moreover, it can bring about some kind of balance between individuals' professional lives as well as their personal and family lives. It can also promote their sense of self-fulfillment and help in achieving their goals.

In sum, servant leadership literature ( Ma et al., 2021; McCallaghan et al., 2020; Cottey & McKimm, 2019; S. Y. Lee et al., 2015;) commonly ended with identifying seven dimensions of servant leadership which are helping subordinates to grow & succeed, empowerment, putting subordinates first, behaving ethically, cognitive & conceptual skills, emotional healing, and finally creating value for the community.

## **2.2 Institutional Excellence in Literature.**

Excellence is a holistic & comprehensive concept that receive considerable attention lately. According to (Wasfi, 2023; Kok & McDonald, 2015) institutional excellence signifies the uniqueness of the organization's superiority over the

performance of other similar institutions in its field. It seeks to upgrade the organization, highlight it, and raise its status compared to its peers.

(AlMujaini et al., 2019) defined Institutional excellence as organization's endeavor to make the best use of critical opportunities that are preceded by effective strategic planning and commitment to a common vision prevailed by clarity of purpose, adequacy of resources, and keenness on performance. Based on (Sendjaya, 2015; Naser & Al Shobaki, 2017; Gómez et al., 2017), institutional excellence can be seen as organization's pursuit to make use of strategic-planned opportunities. It can also be represented in the constant pursuit of developing and sustaining provision of new values to clients & owners by anticipating and meeting their needs, then doing the best to maintain positive competitive performance.

According to, Bakr & Daoud (2019), Abbas (2018), Ahmad (2017), Institutional Excellence falls under four different types, which are:

- 1- Leadership Excellence: Which includes Initiative, creativity, cooperation and career commitment. Distinguished leaders have a direct impact on excellence. This is done by developing capabilities of individuals as well as encouraging them to be more creative.
- 2- Human Excellence: Which includes Performance, achievement, participation and responsibility.
- 3- Excellence in Service Provision: which includes Dependability, responsiveness, empathy and security.
- 4- Strategic Excellence: which includes Plans for developing institutional performance as well as evaluating implementation

According to the European Foundation for Quality "EFQM" <sup>5</sup>, basic requirements of institutional excellence are creating sustainable future, developing organizational capacity, harnessing creativity & innovation, leading with vision, inspiration & integrity, management with agility, succeeding through talents, and sustaining outstanding results. That's to say, excellent organizations are those organizations that focus on individuals, embraces corporate development, follow management by facts principle, and bear social responsibility (Elsakaan et al., 2021; Zayas-Ortiz et al., 2015).

### **2.3 Recent studies that have dealt with servant leadership & institutional excellence.**

Pillay & Kikasu (2024) examine works of literature on leaderships styles, with a focus on servant leadership that reflects to be a key approach to enforcing and executing effective public administration, good governance, achievable policies, and sustainable public service delivery in Africa. They argue that; Ethical leadership, service orientation, sustainable development, accountability, transparency, prioritizing the needs and well-being of others, are among several key components of the main frame of servant leadership that can engender effective good governance and sustainable public service delivery in Africa. They recognize that; Servant leadership can be mirrored as a valuable approach for effective good governance and sustainable public service delivery in developed countries, most African countries are facing several challenges when endeavoring to practice or implement

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<sup>5</sup> EFQM (2020). Retrieved from: <https://www.efqm.org/index.php/efqm-model/>.

EFQM (2017). EFQM Global Excellence Award. Retrieved from: <http://www.efqm.org/>

servant leadership style. Unfortunately, servant leadership, with its emphasis on collaboration and empowerment of citizens, most often clashes with authoritarian and traditional norms, making it difficult for emerging democratic leaders to adopt and practice efficiently this approach. This paper ends with suggesting effective approaches\tools that could reinforce the confidence of emerging democratic leaders to workout efficiently with servant leadership style.

Mignenan et al. (2022) carried out research with network of youth organizations in Chad. results showed that the credibility and human warmth of the servant leader promote the adherence and commitment of employees in the process of social entrepreneurship. The passion for the excellence of servant leaders is a real lever for the performance of social entrepreneurship. However, the passion for excellence contributes little to social entrepreneurship. But it is above all agile, autonomous and committed human capital that increases performance in social entrepreneurship. They insist that servant leaders want to listen to people before making decisions, seek to enable subordinates to advance to their full potential by minimizing themselves and exalting others, promote those who protest by contributing to success, and are willing to retire for someone more qualified.

Irfan & Naveed et al. (2022) insists that, the role of leadership in an organization's parameters has been enhanced especially in an uncertain environment. Corporations are making continuous efforts to be sustainable and excellent in their performance. The purpose of this study is to measure the impact of servant leadership on organizational behavior when work capacity mediates this relationship from a cross-cultural perspective. They create a three-variable survey

containing thirty-one items to collect statistics on 329 employees in the Pakistan, China, and Saudi Arabian corporate sectors. It was a structured, quantitative study. Cross-section procedures have been implemented to gain experience. The conclusions of the study show that; employee competence is an intermediary between servant leadership and organizational performance. Servant leaders make a positive difference in an organization's excellence. This study suggests the practical importance of servant leadership and employee competency in the cross-cultural corporate sector. This study influenced the concept of servant leadership in corporate philosophy.

Al-Awadi (2020) aimed to know the role of knowledge management in achieving institutional excellence in Kuwaiti international companies. The study focused on organizational knowledge management, functional knowledge management, client knowledge management as independent variables, and institutional excellence as a dependent variable. Results proved significant relationship between organizational knowledge management and institutional excellence in Kuwaiti international companies. It also became clear that there is a relationship between managing functional knowledge and institutional excellence in Kuwaiti international companies.

Luo & Zheng examine the relationship between servant leadership and proactive behaviors. They argue that proactive behaviors are driven by intrinsic motivation. Further, they propose three psychological constructs to clarify the underlying mechanisms of servant leadership on employees' proactive behaviors: Job autonomy, leader-member exchange and role breadth self-efficacy. Using a

sample of 227 leader-employee dyads from two companies, the empirical results show that: 1) Servant leadership had positive effects on individual task proactivity and team member proactivity; 2) The relationship between servant leadership and individual task proactivity was mediated by job autonomy and role breadth self-efficacy, while leader-member exchange and role breadth self-efficacy mediated the influence of servant leadership on team member proactivity

Al Hila & Al Shobaki (2017) aims to indicate the role of servant leadership in achieving Excellence Performance from the perspective of workers in technical colleges. The study tool was a questionnaire applied to a simple random sample, 120 survey were distributed and 111 were collected back with a response rate of (92.5%). The results of the study showed the followings: the presence of a statistically significant relationship at the level of ( $\alpha < 0.05$ ) between the servant leadership and achieve Excellence Performance in technical college's governorates of Gaza Strip. There are statistically significant differences at ( $\alpha < 0.05$ ) among respondent's responses about Servant Leadership and achieve Excellence Performance in technical colleges governorates of the Gaza Strip due to Faculty variable, and in favor of (the University College of Science and Technology), while there are no significant differences due to the qualification and years the service.

## 2.4 Commenting on Research Literature & Identifying Research Gap:

Table (2)

Literature Findings	Current Research	Research Gap
<p>After reviewing academic literature, the researcher had reached many conclusions; as follows:</p> <ul style="list-style-type: none"> <li>- Helping subordinates to advance is one of servant leadership dimensions that has a major role in maximizing the level of quality of services provided.</li> <li>- Servant leadership has a positive impact on job performance. Most Successful organizations are those that apply and adopt servant leadership style.</li> <li>- There is a growing concern about the relationship between servant leadership &amp; organizational performance. Existence of Servant leaders enhances organizational commitment.</li> <li>- Servant leadership with its seemingly lofty appeal is often met with a suspicion and cynicism.</li> <li>- A servant leadership development initiative may start with the servant leader but it is also oriented towards empowering the leader to better serve others because servant leaders exist not for their sake but for the sake of others.</li> </ul>	<p>In this study, the researcher deals with servant leadership and its impact on institutional excellence, specifically in the Egyptian healthcare sector. This will be carried out through:</p> <ul style="list-style-type: none"> <li>- Evaluating the current status of applying servant leadership in Egyptian hospitals and identifying its impact on institutional excellence.</li> <li>- Analyzing the impact of all servant leadership dimensions and identifying the relative impact of each of these dimensions on institutional excellence.</li> <li>- Identifying the most important factors that help in applying\activating servant leadership in the Egyptian hospitals, while clarifying main obstacles that might prevent such optimal application.</li> <li>- Standing on the most important steps and procedures that help in applying servant leadership in the Egyptian healthcare sector.</li> </ul>	<p>After reviewing academic literature and after identifying the main purpose of this research, research gap can be expressed as follows:</p> <ul style="list-style-type: none"> <li>- Scarcity of studies that have dealt with servant leadership and its impact on institutional excellence in Egyptian healthcare sector; this study is considered as the first study to be applied on different types of Egyptian hospitals including Egyptian public hospitals, university hospitals, and educational/teaching hospitals.</li> <li>- Through this study the researcher will end up with group of sound recommendations to ensure optimal application of servant leadership practices within the Egyptian healthcare sector after testing level of significance that might exist between servant leadership &amp; institutional excellence.</li> </ul>

### 3. Pilot Study & Formulating Research Problem

lately, attention to institutional excellence has become a global phenomenon among specialists & researchers. Improving institutional excellence level is one of the strongest priorities that contemporary development organizations seek to achieve (saleem, 2020). In point of fact, health services have witnessed an improvement in the level of their quality<sup>6</sup> due to benefiting from technological advancements as well as increasing level of health awareness among citizens.

In order to define research problem and in order to clarify research objectives, the researcher conduct some personal interviews<sup>7</sup> in order to identify to what extent different dimensions of servant leadership are applied within Egyptian healthcare sector and accordingly to recognize whether there is some sort of impact of these practices on institutional excellence level. Different questions were asked & discussed with doctors, nurses and pharmacists. The researcher noticed large discrepancy between respondents regarding their interpretation and understanding of servant leadership & institutional excellence concepts. Responses and viewpoints of respondents can be represented in the following table:

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<sup>6</sup> World Health Organization (WHO). World Health Statistics 2023. Geneva: WHO; 2023.

<sup>7</sup> In this regard, the researcher chose a random sample of Thirty individuals working in the Egyptian healthcare sector specifically in Badr University Hospital, Banha University Hospital, Al-Ahrar Teaching Hospital, and One-Day Surgery Hospital. Fifteen doctors were selected (ten doctors, three consultants, and two specialists), five pharmacists, and ten nursing staff members, noting that there was no prior arrangement in the process of selecting the sample items, but rather they were chosen randomly.

Table (3)

<b>Badr University Hospital - Cairo</b>	<b>Banha University Hospital - Qalyubiyya</b>	<b>Al-Ahrar Teaching Hospital - Sharqia</b>	<b>One-Day Surgery Hospital - Cairo</b>
<ul style="list-style-type: none"> <li>- Respondents agreed that manager deals with employees with a great deal of fairness and transparency.</li> <li>- Respondents agreed that managers are keen to encourage employees to participate and volunteer in various social initiatives.</li> <li>- Respondents agreed that managers are keen to develop competencies through effective training programs.</li> </ul>	<ul style="list-style-type: none"> <li>- Respondents agreed that the hospital has a relative shortcoming in following the policy of empowerment.</li> <li>- Respondents agreed that managers are keen to conduct effective planning process for future needs.</li> <li>- Respondents agreed that managers are keen to spread the culture of excellence among employees.</li> </ul>	<ul style="list-style-type: none"> <li>- Respondents agreed that solution to work problems provided by senior management is done through stereotypical traditional methods, in addition to the existence of a relative deficiency in applying the culture of emotional containment or emotional healing.</li> <li>- Respondents agreed that Managers are keen to spread the principles of initiative and flexibility.</li> </ul>	<ul style="list-style-type: none"> <li>- Respondents agreed that that the hospital has modern technical equipment and devices that enable it to provide great value to society and to all patients.</li> <li>- Respondents agreed that the hospital has a relative interest in emotional containment and most managers care about subordinate's interests.</li> </ul>

After conducting the pilot study, the researcher has reached the following conclusions:

- 1- There is a large discrepancy between respondents in different hospitals regarding their interpretation and understanding to servant leadership concept.
- 2- Some hospitals in the Egyptian healthcare sector apply to some extent some basic dimensions of servant leadership although they don't know that these practices fall under servant leadership concept.
- 3- Egyptian hospitals apply to some extent some of the basic dimensions of servant leadership approach such as cooperation, professional commitment, responsibility sharing, developing institutional performance and implementation evaluation.

4- Respondents agreed that institutional excellence is a very important objective that hospitals management should strive and make utmost effort in order to achieve and reach it.

5- Based on respondent's responses, the researcher wasn't able to determine whether there is a relationship between applying servant leadership practices and achieving institutional excellence in the Egyptian healthcare sector.

#### 4. Research Problem

Current research examines a problem most of Egyptian hospitals suffers from (Mostafa & El-Motalib, 2018). This problem can be expressed in terms of a noticeable discrepancy level of applying some servant leadership practices in the Egyptian hospitals, in addition to the variation in the level of quality of healthcare services provided by Egyptian hospitals whether these hospitals are public, university or educational hospitals. Consequently, the main problem of this research stemming from volatility & discrepancy that exists between Egyptian hospitals with respect to their degree of applying servant leadership practices. This research also tries to identify whether there is a significant relationship between applying servant leadership practices and institutional excellence level in the Egyptian hospitals. In the light of this explanation, research problem can be expressed in the following questions:

1- What is the current status of applying servant leadership practices in the Egyptian healthcare sector?

2- What is the current status of institutional excellence in different types of Egyptian hospitals operating in the Egyptian healthcare sector?

3- Can servant leadership practices affect level of institutional excellence in the Egyptian healthcare sector?

4- Can personal & functional differences between employees' inside Egyptian hospitals affect their awareness regarding servant leadership practices and its implications on institutional excellence level?

### 5. Research Hypotheses:

In light of research literature & pilot study; hypotheses of this research were formulated as follows:

**First Main Hypothesis:** There is a statistical significant relationship between servant leadership practices and level of institutional excellence in the Egyptian healthcare sector.

From this main hypothesis the following sub-hypotheses were formulated:

**First Sub-hypothesis:** There is a statistical significant relationship between organizational responsibility dimension and level of institutional excellence.

**Second Sub-hypothesis:** There is a statistical significant relationship between cognitive and conceptual skills dimension and level of institutional excellence.

**Third Sub-hypothesis:** There is a statistical significant relationship between personal values dimension and level of institutional excellence.

**Fourth Sub-hypothesis:** There is a statistical significant relationship between emotional healing dimension and level of institutional excellence.

**Fifth Sub-hypothesis:** There is a statistical significant relationship between empowerment dimension and level of institutional excellence.

**Sixth Sub-hypothesis:** There is a statistical significant relationship between providing value to society dimension and level of institutional excellence.

**Second Main Hypothesis:** There are no statistical significant differences between respondent's responses according to personal & occupational factors on their opinions regarding servant leadership practices and its impact on firm's level of institutional excellence.

From this main hypothesis the following sub-hypotheses were formulated:

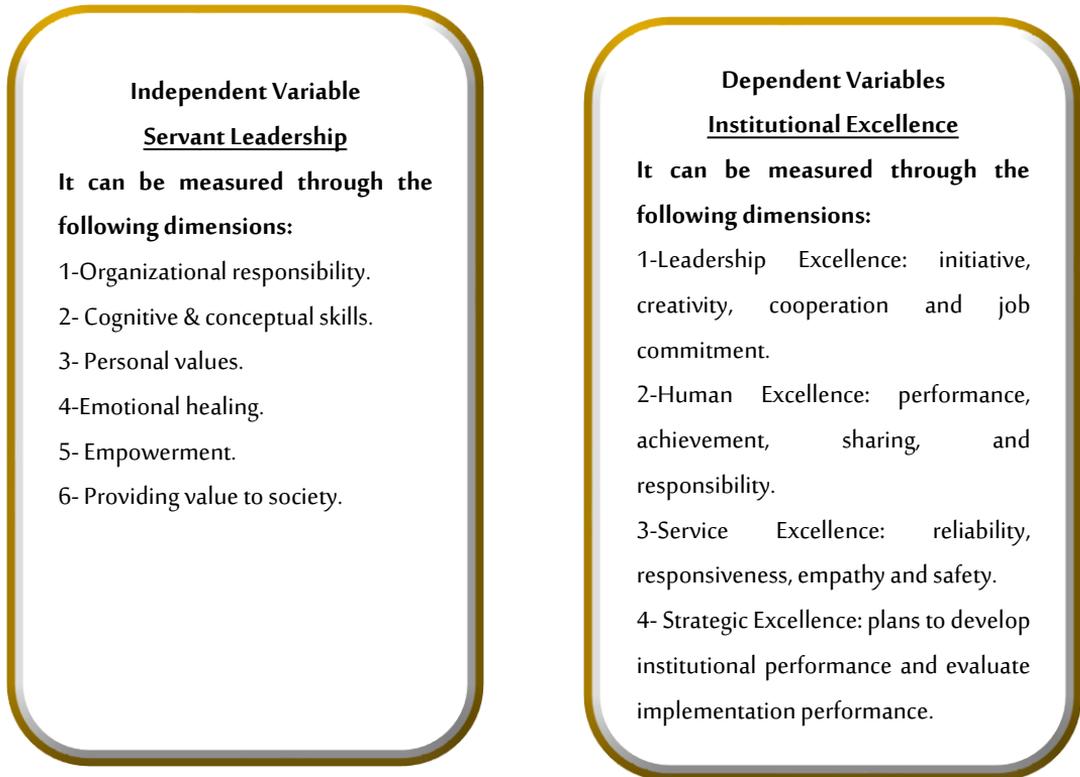
**First Sub-hypothesis:** There are no statistical significant differences between respondent's responses within Egyptian hospitals according to Job title.

**Second Sub-hypothesis:** There are no statistical significant differences between respondent's responses within Egyptian hospitals according to managerial level.

**Third Sub-hypothesis:** There are no statistical significant differences between respondent's responses within Egyptian hospitals according to type of hospital.

## 6. Research Model

In the light of research hypotheses mentioned earlier, and based on work of (Mcquade et al., 2021; Asaad & Abdelkarim, 2020; Hashim et al., 2020; Saleem, 2020; Sendjaya et al., 2019; Aziz et al., 2018; Cai et al., 2018; Mohamed et al., 2018; Sousa & Dierendonck, 2017; Yang et al., 2017; Yigit & Bozkurt, 2017) research model can be expressed in the following figure:

**Figure (1)**

## 7. Research Objectives

Based on research problem and hypotheses stated earlier, basic objectives of this research can be expressed as follows:

1- Identify to what extent do medical staff employees (doctors, nurses, and pharmacists) are aware of servant leadership practices applied within their hospitals.

2- Identify whether there is a significant relationship between different dimensions of servant leadership practices (organizational responsibility, cognitive & conceptual skills, personal values, emotional healing, empowerment and providing value to society) and institutional excellence level in the Egyptian healthcare sector.

3- Identify obstacles that might exist when applying servant leadership practices within Egyptian healthcare sector, as well as presenting proposals to handle such obstacles.

4- Coming up with proposed framework that will benefit Egyptian hospitals towards optimal application of servant leadership practices in such a way that enhance institutional excellence level.

## 8. Research Significance

### First: Scientific Significance of the Research:

Current research derives its scientific significance from the importance of its topic. The Egyptian health sector plays a vital and critical role in achieving Egypt's Vision 2030<sup>8</sup>. Having reviewed previous researches, current study is considered as

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<sup>8</sup> Egypt Vision 2030 is a unified long-term political, economic, and social vision. It is a national agenda launched in February 2016 by the Egyptian Government and unveiled by the Egyptian president. It was developed in alignment with the United Nations Sustainable Development Goals (SDGs). The vision consists of eight main national goals to be met by 2030 that are in line with the United Nations Sustainable Development Goals (SDGs), and the Sustainable Development Strategy for Africa 2063. The sixth pillar of the social dimension of this vision is totally related to healthcare sector, according to Egypt's vision 2030 "All Egyptians enjoy a healthy, safe, and secure life through an integrated, accessible, high quality, and universal healthcare system capable of improving health conditions through early intervention, and preventive coverage. Ensuring protection for the vulnerable, and achieving satisfaction of citizens and health sector employees. This will lead to prosperity, welfare, happiness, as well as social and economic

one of relatively recent studies to be applied on university hospitals and educational/teaching hospitals in Egypt. It is one of recent studies in the Egyptian health sector that address servant leadership practices and its impact on organizational excellence in different types of Egyptian hospitals especially after COVID-19 pandemic. In light of researcher's knowledge, no recent studies have focused on measuring the impact of servant leadership practices on institutional excellence level in university hospitals, and teaching/educational hospitals.

### **Second: Practical Significance of the Research:**

This research derives its practical importance from results & recommendations expected to be generated after its completion. Through these results, the researcher can suggest a typical model to support servant leadership practices implementation in the Egyptian healthcare sector so as to enhance & improve institutional excellence level of different types of Egyptian hospitals, the matter which is totally consistent with Egypt's Vision 2030 as well as with the Egyptian Orientation Initiative for Institutional Excellence<sup>9</sup> (Egypt Award for Government Excellence).

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development, which will qualify Egypt to become a leader in the field of healthcare services and research in the Arab world and Africa”.

<sup>9</sup> The Egyptian Orientation for Institutional Excellence issued an Egyptian Government Excellence Award in 2019 in order to encourage governmental agencies toward achieving highest levels of institutional excellence. Accordingly, it recommends a set of steps to guide Egyptian Governmental agencies towards best practices, this guide includes:

a) Vision, which includes the formation of an efficient and effective administrative apparatus that applies the concepts of governance and contributes, in turn, to achieving sustainable development in line with Egypt's Vision 2030 to upgrade Egypt into the ranks of developed countries.

## 9. Research Limits

This research was conducted within the following limits:

**Theoretical limits:** This research is limited to examining the concept of servant leadership as well as the impact of applying its practices on enhancing the level of institutional excellence in the Egyptian healthcare sector.

**Human limits:** This research is limited to studying & analyzing the concept of servant leadership as well as the impact of applying its practices on enhancing the level of institutional excellence within the Egyptian healthcare sector from the viewpoint of workers inside the Egyptian hospitals under study including doctors, nurses, and pharmacists. The reason for choosing workers inside Egyptian hospitals to analyze through them the research variables is that; servant leadership practices are applied among all employees inside all managerial levels within Egyptian hospitals, so through those internal employees & workers the extent of applying servant leadership practices and its impact on institutional excellence can be evaluated and analyzed.

**Time limits:** This research was conducted during 2023.

**Application limits:** Due to the difficulty of applying this research on all types of Egyptian hospitals, this research was applied on three different types of hospitals within the Egyptian healthcare sector which are university hospitals (affiliated to public universities), teaching/educational hospitals (affiliated to the General

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b) Mission, which involves spreading the culture of excellence & quality within state's administrative apparatus to achieve client satisfaction, develop quality of government services, improve quality of life, and support institutional competitiveness. This will lead a quantum leap in institutional performance and developing human capabilities.

Authority for Hospitals and Educational Institutes) and public hospitals (affiliated to the Egyptian Ministry of Health).

## **10. Research Population/Sample & Data Collection Methods**

Research population consists of all workers and employees (medical staff) who are working in different types of Egyptian hospitals including doctors, nurses, and pharmacists. The reason for choosing healthcare sector turns to its vital role in providing healthcare services to all Egyptian citizens. University hospitals and educational/teaching hospitals were specifically selected due to their vital role in educating and training medicine & nursing school's students. Also, these hospitals provide all healthcare and treatment services to all Egyptian citizens in different governorates.

Due to the difficulty of collecting research data from all different types of Egyptian hospitals, the researcher selects only three types of hospitals operating inside the Egyptian healthcare sector; these three types of hospitals are University Hospitals, Teaching/Educational Hospitals, in addition to Public Hospitals. University Hospitals were represented in this research by two hospitals only which are Badr University Hospital (belongs to Helwan University-Cairo governorate) and Banha University Hospital (belongs to Banha University-Qalyubiyya governorate). Teaching/Educational Hospitals were represented in this research by Al-Ahrar Teaching Hospital only (located in Zagazig city-Sharqia governorate). Finally, Public hospitals were represented in this research only by One-Day Surgery Hospital (Cairo governorate-Nasr City).

Based on the previous explanation, research sample will consist of four different hospitals representing three different types of Egyptian hospitals. This can be represented as follows:

Table (4)

University Hospitals	Teaching/Educational Hospitals	Public Hospitals
1- Badr University Hospital - Cairo governorate. 2- Banha University Hospital - Qalyubiyya governorate.	1- Al-Ahrar Teaching Hospital - Sharqia governorate.	1- One-Day Surgery Hospital - Cairo governorate.

In the following section, the researcher will provide detailed information about each hospital as follows<sup>10</sup>:

### (1) Badr University Hospital - Cairo Governorate

The beginning was in 2013 when Dr. Hazem El-Beblawy, former Prime Minister, issued Resolution No. 889 of 2013, transferring the affiliation of Badr

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<sup>10</sup> Data about the four selected Egyptian hospitals was collected from official websites of hospitals, annual reports published by ministry of health, ministry of higher education & scientific research, and supreme council of university hospitals.

central hospital from Cairo governorate to Helwan university, in preparation for the university's establishment of a new Faculty of Human Medicine at that time, and since then Badr Hospital was Affiliated to Helwan university.

In 2013, Badr Hospital started with 100 beds, and 3 operating rooms equipped at the highest level, a cardiac catheterization unit, a kidney unit consisting of 12 machines, 10 incubators for newborns, and blood bank department The hospital was equipped with latest radiology equipment, intensive care departments, as well as upper and lower gastrointestinal endoscopy unit and respiratory endoscopy. Currently, the hospital built on total area of 60,000 square meters, the area of the ground floor is 28,500 meters, it contains 1,000 beds. Badr University Hospital considered as a treatment interface for all patients in Badr City and neighboring cities for performing sensitive and accurate surgical operations. Average number of surgeries performed in 2023 reached 1,500 cases, while average number of laparoscopic surgeries has reached 42 cases per month. The outpatient clinics receive more than 13,000 patients/month, as well as 110,000 emergency patients annually, in addition to performing 250 operations and 80 catheterizations/month.

## **(2) Banha University Hospital - Qalyubiyya Governorate**

Before the establishment of Banha University Hospital, clinical training for students and deputies of Banha faculty of medicine was carried out in Banha Teaching Hospital until the first building of the university hospital was built in 1981 which includes all clinical departments and outpatient clinics. During 2023, the daily number of visitors in banha university hospital reached 3,000 citizens.

State's investments in Banha university hospital over the past 3 years amounted to more than 500 million pounds. The new Banha University Hospital will be built on an area of 9,033 square meters, with a capacity of 450 beds, using the latest scientific methods, whether constructional or medical. Statistics show that, about 1,254 patients visited the catheterization unit at the university hospital for diagnostic and therapeutic catheterization during 2022, and 1,480 patients from received diagnostic and therapeutic catheterization during 2023.

### **(3) Al-Ahrar Teaching Hospital - Sharqia Governorate**

Al-Ahrar teaching hospital located in the southeast of zagazig city on an area of 15 acres. Its foundation stone was laid in 1974 during the era of the late president anwar sadat, to provide distinguished medical services to Sharqia, Ismailia, Port Said, and Suez governorates. The hospital provides its services for a total number of population exceeding 12 million citizens. The Hospital operates with a capacity of 450 beds, frequency rates reached 118,288 cases during 2023, in addition to 250,736 cases in outpatient clinics. The radiology department also received 112,000 cases during 2023, in addition to performing more than 5,000 endoscopic cases, 115,197 surgeries, 146 open-heart surgeries, and 213 cardiac catheterizations.

On 2023, the general authority for hospitals & educational institutes announced the start of trial operation of the oncology center at the hospital at a total cost of 150 million pounds.

### **(4) One-Day Surgery Hospital - Cairo governorate**

The hospital began in 1999, with all specialties. Since starting its operations, hospital administration made a great effort to establish an effective work system within the hospital through following a fixed system of personnel affairs, financial

affairs, and patient's entry and exit, which contributed to reaching high level of excellence among hospitals in Cairo governorate. During 2023 the hospital succeeds to attract huge investments that contributed to expanding the scale of medical services provided by the hospital, these investments were attracted through excellence of the medical services provided to patients. The volume of these investments amounted to more than 60 million pounds in the last four years.

Reasons behind selecting exclusively these four hospitals can be represented as follows:

1- The researcher faced many difficulties in obtaining necessary data to conduct this research, the idea was originally aimed to conduct a comparative study between university hospitals affiliated to government universities and those affiliated to private universities, but the researcher faced great difficulty in obtaining information from these university hospitals. Accordingly, the researcher settled on these four hospitals mentioned previously, as the researcher didn't face any difficulties in obtaining research data from these hospitals.

2- Within the limits of the researcher's knowledge; there is no Egyptian applied study that neither analyzes the extent of applying servant leadership practices in these types of selected hospitals nor measuring their level of institutional excellence.

3- Both selected university hospitals (Badr University Hospital and Banha University Hospital) were similar in operational and functional characteristics as both Helwan university and Banha university have only one university hospital, unlike Cairo University or El-Mansoura University.

4- Rapid increase in growth rate of services provided by the four selected hospitals recently especially during COVID-19 pandemic since 2020. All selected hospitals have played a vital and effective role in implementing strategies formulated by the Egyptian ministry of health in order to confront Covid-19 pandemic risks.

In the light of the previous discussion, research population can be represented in the following table:

**Table (5) Research Population**

Numbers of Employees & Workers in selected Egyptian Hospitals				
	Doctors	Pharmacists	Nurses	Total
One-Day Surgery Hospital	٢٠٣	٩٧	١٥٣	٤٥٣
Al-Ahrar Teaching Hospital	٢١٦	٨٦	١٧٩	٤٨١
Badr University Hospital	١٦٦	٧٠	٣٨٠	٦١٦
Banha University Hospital	٢٢٤	٩٢	٢٨١	٥٩٧
<b>Total</b>	<b>٨٠٩</b>	<b>٣٤٥</b>	<b>٩٩٣</b>	<b>٢١٤٧</b>

According to sample size equation<sup>11</sup>, a stratified random sample with a confidence level of 95% was selected as the number of medical staff workers in the four selected hospitals reached 2147 respondents until the end of 2023. Research sample reached 326 employees from all occupational categories (doctors, nurses, and pharmacists) in the four selected hospitals. 124 employees will represent doctors (38%), 52 employees will represent pharmacists (16%), and 150 employees will represent nursing staff (46%). In the light of these numbers, research sample can be represented in the following table:

**Table (6) Research Sample**

Numbers of Employees & Workers in selected Egyptian Hospitals				
	Doctors	Pharmacists	Nurses	Total
One-Day Surgery Hospital	٣١	١٥	٢٣	٦٩
Al-Ahrar Teaching Hospital	٣٣	١٣	٢٧	٧٣
Badr University Hospital	٢٦	١١	٥٧	٩٤
Banha University Hospital	٣٤	١٣	٤٣	٩٠

<sup>11</sup> Thompson, Steven K. (2012), Sampling, Third Edition, John Wiley & Sons.

<b>Total</b>	١٢٤	٥٢	١٥٠	٣٢٦
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In this research the researcher relies on Survey form (Questionnaire) in order to collect necessary data to study and analyze research variables. Survey is very suitable tool for seeking opinions and points of views on specific concepts/issues, it has been used by the researcher in this research in order to collect primary data from the research sample. Questionnaire with a five Likert scale was formulated, revised, edited, reformulated, and then distributed on research sample in order to collect necessary data. Likert is a psychometric and unidimensional scale from which respondents pick the best option representing their views on a topic/issue.

The researcher distributed about 350 questionnaires in the four selected hospitals under research<sup>12</sup>, data was collected through field visits and Google Forms lists, about 310 questionnaires were retrieved, 16 of them were excluded due to their incompleteness, so the total number of correct responses reached 294 questionnaires<sup>13</sup> with a total response rate of 90%.

## 11. Statistical Analysis & Testing Hypotheses

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<sup>12</sup> When distributing survey forms (questionnaires) on research sample, the researcher was keen to hold personal conversations with doctors, nurses, and pharmacists in order to answer some of their inquiries & questions. The aim of these personal conversations was to a) clarify and explain objectives of the research, b) emphasize the importance of obtaining the required data, c) obtain some additional information from respondents whenever possible, and d) get some data that cannot be obtained directly from the questionnaire.

<sup>13</sup> These 294 questionnaires were collected from the four selected hospitals under research as follows:

55 questionnaires were collected from One-Day Surgery Hospital - Cairo governorate.

59 questionnaires were collected from Al-Ahrar Teaching Hospital - Sharqia governorate.

97 questionnaires were collected from Badr University Hospital - Cairo governorate.

83 questionnaires were collected from Banha University Hospital - Qalyubiyya governorate.

As mentioned before, the researcher throughout this research will study and analyze respondents of research sample regarding to what extent do servant leadership practices are applied within selected Egyptian hospitals, furtherly, the researcher will recognize the impact of servant leadership practices on institutional excellence levels in selected hospitals. This will be done through testing research hypotheses through utilizing a number of statistical techniques that are consistent with research hypotheses and collected data. Primarily, research hypotheses will be tested through using Statistical Package for Social Sciences (SPSS) and analysis of momentum structures (AMOS) which includes reliability & validity tests, descriptive statistics for study variables, multiple regression, analysis of variance (ANOVA), and structural equation modelling.

### 11.1 Reliability & Validity Tests

Reliability means "the extent to which the scale is stable and doesn't contradict itself". To verify the stability of the study scale, Cronbach's Alpha coefficient will be used. While, validity means that the study tool measures what it was designed to measure (Cho & Kim, 2015). The following table represent reliability coefficient & validity coefficient for the study variables.

**Table (7) Reliability and validity coefficients for the study variables and its dimensions**

Variables	Items	Cronbach's Alpha coefficient	Validity Coefficient
<b>Independent variable:</b> Servant Leadership	24	0.948	0.974

Variables		Items	Cronbach's Alpha coefficient	Validity Coefficient
Dimensions	<b>Organizational responsibility.</b>	4	0.892	0.944
	<b>Cognitive and conceptual skills.</b>	4	0.89	0.943
	<b>Personal values.</b>	4	0.865	0.930
	<b>Emotional healing.</b>	4	0.915	0.957
	<b>Empowerment.</b>	4	0.856	0.925
	<b>Providing value to society.</b>	4	0.874	0.935
<b>Dependent Variable: Institutional Excellence</b>		16	0.937	0.968
Dimensions	<b>Leadership excellence</b>	4	0.872	0.934
	<b>Human excellence</b>	4	0.834	0.913
	<b>Service excellence</b>	4	0.766	0.875
	<b>Strategic excellence</b>	4	0.836	0.914
<b>Total</b>		40	0.973	0.986

Source: SPSS outputs

It is clear from the previous table that, value of the Cronbach's Alpha coefficients for all study variables and its dimensions exceeds 0.7, which is acceptable and reflects high level of stability and internal consistency for research data. On the other hand, validity coefficient for each variable exceeds 0.8, and this value is considered acceptable and high as well. That's to say, the value of the Cronbach's Alpha coefficients and validity coefficients indicates an acceptable research tool that fits for its purpose.

## 11.2 Distribution of the Research Sample

In this section the researcher will present research data based on some personal & functional factors for workers (medical staff) who works in the four types of selected hospitals. Regarding Management level, majority of research sample belong to Middle management level, their number reached 125 member representing 42.5% of the sample size. Regarding job title, about half of the sample size members hold the position of Doctor, their number reached 136 doctor representing 46.3%. Nursing staff members reached 114, representing 38.8%, Pharmacists reached 44 members, representing 15% from the sample size. Regarding the Age stage of research sample, about two third of sample size members belong to Less than 30 years' stage, their number reached 193 members representing 65.6%. Members belonging to age stage from 30 to less than 40 years' stage reached 80 members. Members belonging to age stage from 40 to less than 50 years, reached 18 members representing about 6.1%. Regarding years of experience about half of the sample size has Less than 5 years of experience, their number reached 143 members, representing 48.6%. Members with years of experience between 5 and 10 years reached 125, representing 42.5% from the research sample.

Regarding which hospital do research sample belong/affiliated to, about one third of research sample size belong to Badr University Hospital, their number reached 97 members, representing 33%. Members belonging to Banha University Hospital reached 83 members representing 28.2%. Members belong to Al-Ahrar Teaching Hospital reached 59 members representing 20.1%. Finally, members belong to One-Day Surgery Hospital reached 55 members, representing 18.7%.

### 11.3 Descriptive Statistics for Research Variables

In this section, the researcher will discuss some statistical measures (Ross, 2017) for questions asked to measure each of research variables. This will be done in order to know the general trend of different dimensions of research questionnaire that might relate Servant Leadership & Institutional Excellence in the four selected Egyptian hospitals.

### **11.3.1 Servant Leadership**

Sample members' opinions regarding the first (Organizational responsibility), second (Cognitive and conceptual skills), third (Personal values), and sixth (Providing value to society) dimension of servant leadership represent agreement, this evidenced by mean values that was between 3.4 & 4.19 and by small values of standard deviation which indicates low dispersion between sample members' opinions. General trend for these four dimensions (1&2&3&6) was agreement with a mean value of 3.556 & 3.592 & 3.802 & 3.590 respectively.

Sample members' opinions regarding the fourth dimension of servant leadership (Emotional healing) and the fifth dimension of servant leadership (Empowerment) falls between agree and quite agree, this evidenced by mean values that was between 2.6 & 4.19. General trend for these two dimensions was quite agree with a mean value of 3.390 & 3.425 respectively. Finally, the overall mean of all questions related to Servant Leadership variable as a whole represents agreement with a mean value of 3.559.

### **11.3.2 Institutional Excellence**

Sample members' opinions regarding the first (Leadership Excellence), third (Service Excellence), and fourth (Strategic Excellence) dimensions of Institutional

Excellence falls between agree and quite agree, this evidenced by mean values that was between 2.6 and 4.19. General trend for these dimensions (1&3&4) was agreement with a mean value of 3.468, 3.452, and 3.429, respectively. Regarding the second dimension of institutional excellence (Human excellence), it is clear that sample members' opinions represent agreement, this evidenced by mean values that was between 3.4 & 4.19. General trend for this dimension was quite agreement; the mean value reached 3.527. Finally, the overall mean of all questions related to Institutional Excellence variable as a whole represents agreement with a mean value of 3.469.

#### **11.4 Testing Research Hypotheses**

As mentioned before, this research builds up basically on two main hypotheses; (1) There is no statistical significant relationship between servant leadership practices and level of institutional excellence in the Egyptian healthcare sector, (2) there are no statistical significant differences between respondent's responses according to personal & occupational variables on their opinions regarding servant leadership practices and its impact on Firm's level of institutional excellence. Furtherly, the first main hypothesis was divided into six sub-hypotheses and the second main hypothesis was divided into three sub-hypotheses.

##### **11.4.1 Simple Linear Regression Analysis**

Simple linear regression analysis is used to test the relationship between one independent variable and one dependent variable. It has been confirmed that, the

assumptions for using this analysis have been met (Normality of probability distribution of the residuals, Homoscedasticity, No Autocorrelation).

**Table (11): Results of testing sub-hypotheses of the first main hypothesis**

Independent variables (Six Dimensions of Servant Leadership)	Coefficients $\beta_i$	F- test		T- test		Coefficient of determination $R^2$	The multiple correlation coefficient R
		F- statistic	P- value (Sig.)	t- statistic	P- value (Sig.)		
<b>Organizational responsibility.</b>	.520	285.535	.000	16.898	.000	.494	.703
<b>Cognitive and Conceptual Skills.</b>	.585	339.551	.000	18.427	.000	.538	.733
<b>Personal Values.</b>	.656	263.488	.000	16.232	.000	.474	.689
<b>Emotional Healing.</b>	.649	591.934	.000	24.330	.000	.670	.818
<b>Empowerment.</b>	.558	302.474	.000	17.392	.000	.509	.713
<b>Providing value to society.</b>	.698	472.616	.000	21.740	.000	.618	.786

Source: SPSS outputs

### 1- First dimension of servant leadership (Organizational Responsibility)

With respect to overall significance, results of F-test indicates significance of regression model as a whole, where P-Value (Sig.) = 0.00 is less than 0.05, thus we

accept the hypothesis as the model is significant. Considering coefficient of determination  $R^2$ , value of  $R^2 = .494$ , which means that organizational responsibility explain about 49.4% of the changes that occur in institutional excellence level, and the rest of the percentage is due to random error. Regarding correlation coefficient  $R$ , the value of  $R = .703$ , which indicates existence of strong correlation between the organizational responsibility and institutional excellence.

Value of  $\beta_1 = .520$ , which indicates existence of positive relationship between Organizational responsibility and institutional excellence. Result of t-test indicates significant relationship as the P-value (Sig.) = .000 is less than (0.05). In the light of these results, the researcher will accept the first sub-hypothesis derived from the first main hypothesis.

## **2- Second dimension of servant leadership (Cognitive & conceptual skills)**

With respect to overall significance, results of F-test indicates significance of regression model as a whole, where P-Value (Sig.) = 0.00 is less than 0.05, thus we accept the hypothesis as the model is significant. Considering coefficient of determination  $R^2$ , the value of  $R^2 = .538$ , which means that cognitive and conceptual skills explain 53.8% of the changes that occur in institutional excellence, and the rest of the percentage is due to random error. Regarding correlation coefficient, value of  $R = .733$ , which indicates the existence of a strong correlation between cognitive and conceptual skills and institutional excellence.

Value of  $\beta_2 = .585$ , which indicates existence of a positive relationship between Cognitive and conceptual skills and institutional excellence. Result of t-test indicates

significant relationship as the P-value (Sig.) = .000 is less than (0.05). In the light of these results, the researcher will accept the second sub-hypothesis.

### **3- Third dimension of servant leadership (Personal values)**

With respect to overall significance, results of F-test indicates significance of regression model as a whole, where P-Value (Sig.) = 0.00 is less than 0.05, thus we accept the hypothesis as the model is significant. Considering coefficient of determination, value of  $R^2 = .474$ , which means that personal values explain 47.4% of changes that occur in institutional excellence, and the rest of the percentage is due to random error. Regarding correlation coefficient, value of  $R = .689$ , which indicates the existence of an intermediate correlation between Personal values and institutional excellence.

Value of  $\beta_3 = .656$ , which indicates existence of positive relationship between Personal values and institutional excellence. Result of t-test indicates significant relationship as the P-value (Sig.) = .000 is less than (0.05). In the light of these results, the researcher will accept the third sub-hypothesis derived from the first main hypothesis.

### **4- Fourth dimension of servant leadership (Emotional healing)**

With respect to overall significance, results of F-test indicates significance of regression model as a whole, where P-Value (Sig.) = 0.00 is less than 0.05, thus we accept the hypothesis as the model is significant. Considering coefficient of

determination, value of  $R^2 = .670$ , which means that emotional healing explain 67% of changes that occur in institutional excellence, and the rest of the percentage is due to random error. Regarding correlation coefficient, value of  $R=.818$ , which indicates existence of strong correlation between Emotional healing and institutional excellence.

Value of  $\beta_4 = .649$ , which indicates the existence of a positive relationship between Emotional healing and institutional excellence. Result of t-test indicates significant relationship as the P-value (Sig.) = .000 is less than (0.05). In the light of these results, the researcher will accept the fourth sub-hypothesis derived from the first main hypothesis.

#### **5- Fifth dimension of servant leadership (Empowerment).**

With respect to overall significance, results of F-test indicates significance of regression model as a whole, where P-Value (Sig.) = 0.00 is less than 0.05, thus we accept the hypothesis as the model is significant. Considering coefficient of determination, value of  $R^2 = .509$ , which means that Empowerment explain 50.9% of changes that occur in institutional excellence. Regarding correlation coefficient  $R$ , the value of  $R=.713$ , which indicates existence of strong correlation between Empowerment and institutional excellence.

Value of  $\beta_5 = .558$ , which indicates the existence of a positive relationship between Empowerment and institutional. Result of t-test indicates significant relationship as the P-value (Sig.) = .000 is less than (0.05). In the light of these results, the researcher will accept the fifth sub-hypothesis derived from the first main hypothesis.

## 6- Sixth dimension of servant leadership (Providing value to society).

With respect to overall significance, results of F-test indicates significance of regression model as a whole, where P-Value (Sig.) = 0.00 is less than 0.05, thus we accept the hypothesis as the model is significant. Considering coefficient of determination, value of  $R^2 = .618$ , which means that Providing value to society explain 61.8% of changes that occur in institutional excellence. Regarding correlation coefficient, value of  $R=.786$ , which indicates existence of strong correlation between providing value to society and institutional excellence. Value of  $\beta_6 = .698$ , which indicates existence of positive relationship between providing value to society and institutional excellence. Result of t-test indicates significant relationship as the P-value (Sig.) = .000 is less than (0.05). In the light of these results, the researcher will accept the sixth sub-hypothesis.

### 11.4.2 Multiple Linear Regression Analysis.

Multiple linear regression analysis (Silhavy et al., 2017) is used to test relationship between independent variables (all dimensions of servant leadership at the same point of time) and one dependent variable (institutional excellence). Assumptions for using this type of analysis have been met (Normality of probability distribution of residuals, no autocorrelation, no multicollinearity, Homoscedasticity). Multiple linear regression equation can be represented as follows:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + e_{it}$$

Where:

$y$ : reflect level of institutional excellence (dependent variable).

$x_1$ : Organizational responsibility (First dimension of independent variable).

$x_2$ : Cognitive & conceptual skills (Second dimension of independent variable).

$x_3$ : Personal values (Third dimension of independent variable).

$x_4$ : Emotional healing (Fourth dimension of independent variable).

$x_5$ : Empowerment (Fifth dimension of independent variable).

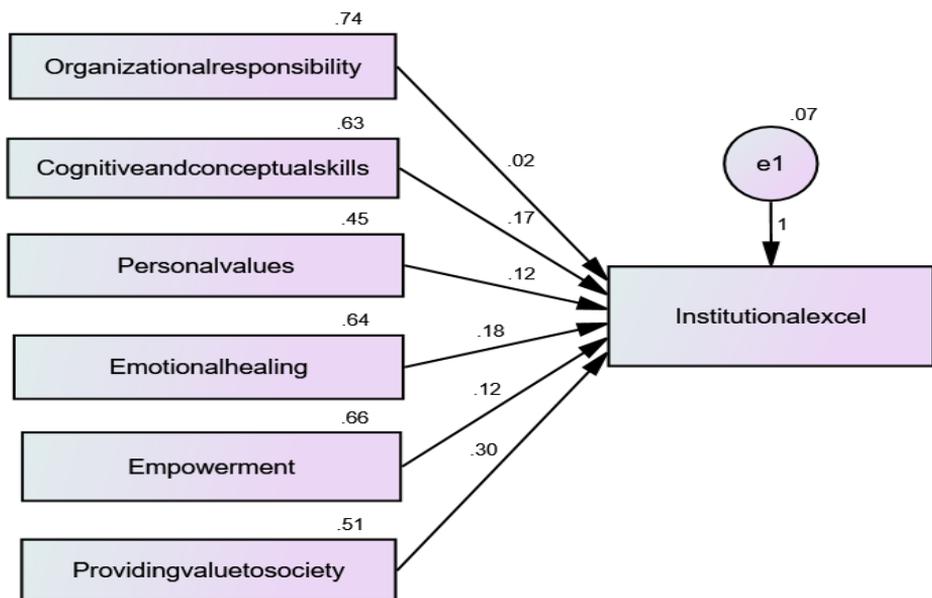
$x_6$ : Providing value to society (Sixth dimension of independent variable).

$\beta_0$ : represents the regression constant, and  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  represents the regression coefficient.  
 $e_{it}$ : represents random error.

Table (12) Results of multiple regression for the first main hypothesis

Independent variable	Coefficients $\beta_i$	Beta	F- test		T- test		Coeff. of determination $R^2$	multiple correl. Coeff. R
			F- stat	P- value (Sig.)	t- stat	P- value (Sig.)		
Organizational Responsibility	.017	.023	219.131	.000	.574	.566	.821	.906
Cognitive & Conceptual Skills	.173	.217			4.937	.000		
Personal Values	.117	.123			3.499	.001		
Emotional Healing	.185	.233			4.608	.000		
Empowerment	.116	.149			3.973	.000		
Providing Value to Society.	.299	.336			8.913	.000		

As shown above; results of F-test indicate significance of regression model as a whole, where P-Value (Sig.) = 0.00 is less than 0.05, thus we accept the hypothesis as the model is significant. Considering coefficient of determination  $R^2$ , the value of  $R^2 = .821$ , which means that servant leadership practices with all of its six dimensions explain about 82.1% of changes that occur in institutional excellence level in the Egyptian hospitals, and the rest of the percentage is due to random error. Regarding correlation coefficient, value of  $R = .906$ , which indicates existence of strong correlation between servant leadership practices with all of its six dimensions and institutional excellence level. Based on these results, conceptual framework can be illustrated in the following figure.



Based on beta coefficient values, significant independent variables can be represented in the following sequence/order based on their level of relative importance:

- 1- Providing value to society (Sixth dimension of independent variable).
- 2- Emotional healing (Fourth dimension of independent variable).
- 3- Cognitive & conceptual skills (Second dimension).
- 4- Empowerment (Fifth dimension of independent variable).
- 5- Personal values (Third dimension of independent variable).

### **Significance of independent variables $\beta_i$ :**

Value of  $\beta_1 = .017$ , indicates existence of positive relationship between organizational responsibility (independent variable) and institutional excellence (dependent variable), T-test result indicates that this relationship is non-significant, as the P-value (Sig.) = .566 which is more than (0.05). On the other hand, value of  $\beta_2 = .173$ , indicates existence of positive relationship between cognitive & conceptual skills (independent variable) and institutional excellence (dependent variable), T-test result indicates that this relationship is significant, as the P-value (Sig.) = .000 which is less than (0.05). Consequently, value of  $\beta_3 = .117$ , indicates existence of positive relationship between personal values (independent variable) and institutional excellence (dependent variable), T-test result indicates that this relationship is significant, as the P-value (Sig.) = .001 which is less than (0.05).

Regarding value of  $\beta_4 = .185$ , this value indicates existence of positive relationship between Emotional healing and institutional excellence, T-test result indicates that this relationship is significant, as the P-value (Sig.) = .000 which is less than (0.05).

Also, value of  $\beta_5 = .116$ , indicates existence of positive relationship between empowerment and institutional excellence, T-test result indicates that this relationship is significant, as the P-value (Sig.) = .000 which is less than (0.05). Finally, value of  $\beta_6 = .299$ , indicates existence of positive relationship between providing value to society and institutional excellence, T-test result indicates that this relationship is significant, as the P-value (Sig.) = .000 which is less than (0.05).

Based on these results, the researcher will accept the first main hypothesis of this research which states that "There is a statistical significant relationship between servant leadership practices and level of institutional excellence".

#### 11.4.3 Analysis of Variance Test (ANOVA).

In order to test this second main hypothesis with its three derived sub-hypotheses, the researcher will conduct analysis of variance test (ANOVA), it was confirmed that assumptions of using this test (normality & homogeneity of variance) were met (Taber, 2014).

**Table (13) testing the first sub-hypothesis of the second main hypothesis**

Variable	Classes	Mean	S.D	F- test	
				F- statistic	P-value (Sig.)
Servant Leadership	Nursing staff	3.4897	.54881	6.312	.002
	Pharmacist	3.3142	.94983		
	Doctor	3.6797	.58245		

Since p-value (sig.) equals to .002 which is less than (0.05), therefore there is a significant difference between respondent’s responses within Egyptian healthcare sector according to Job title on their opinions regarding servant leadership practices & its impact on Firm’s level of institutional excellence. Differences are skewed towards doctors. Based on these results, the first sub-hypothesis derived from the second main hypothesis will be rejected as there is a statistical difference between respondent’s responses according to Job title.

Regarding the second sub-hypothesis, ANOVA test results for the second sub-hypothesis can be represented in the following table:

**Table (14) Testing second sub-hypothesis of the second main hypothesis**

variable	Classes	Mean	S.D	F- test	
				F- statistic	P-value (Sig.)
Servant Leadership	Senior management	3.5378	.66430	.315	.730
	Middle management	3.5832	.61699		
	Junior management	3.8261	.12298		

Since p-value (sig.) equals to .730 which is more than (0.05), therefore there is no significant difference between respondent’s responses within Egyptian healthcare sector according to managerial level on their opinions regarding servant leadership practices and its impact on firm’s level of institutional excellence. Based on these results, the second sub-hypothesis derived from the second main hypothesis will be accepted.

Regarding the third sub-hypothesis, ANOVA test results for the third sub-hypothesis can be represented in the following table:

**Table (15) Results of testing 3<sup>rd</sup> sub-hypothesis of the 2<sup>nd</sup> main hypothesis**

Variable	Hospital	Mean	S.D	F- test	
				F- statistic	P-value (Sig.)
Servant Leadership	One-Day Surgery Hospital	3.4933	.67238	.926	.429
	Al-Ahrar Teaching Hospital	3.6640	.70036		
	Badr University Hospital	3.5034	.68501		
	Banha University Hospital	3.5657	.54872		

Since the p-value (sig.) equals to .429 which is more than (0.05), therefore there is no significant difference between respondent's responses within Egyptian healthcare sector according to the type of hospital they belong to on their opinions regarding servant leadership practices and its impact on firm's level of institutional excellence. Based on these results, the third sub-hypothesis derived from the second main hypothesis will be accepted.

## 12. Findings & Recommendations.

When testing the relationship between each dimension of servant leadership solely on organizational excellence through simple linear regression, the researcher found positive relation between each dimension of servant leadership and institutional excellence level in the four selected Egyptian hospitals. (Den Hartog & Belschak, 2017; Farrington & Lillah, 2019; Newman et al., 2017).

On the other hand, when testing the relationship between all six dimensions of servant leadership combining together on institutional excellence level through multiple linear regression, the researcher found positive significant relation between all servant leadership dimensions except organizational responsibility dimension and institutional excellence level. That's to say, multiple linear regression results indicate strong correlation between all servant leadership dimensions and institutional excellence, however the first dimension of servant leadership (organizational responsibility) was the only dimension that have no significant impact on institutional excellence, P-value (Sig.) =.566 which is more than (0.05).

Based on their level of relative importance, significant dimensions of servant leadership can be represented in the following sequence/order:

**First:** The sixth dimension of servant leadership which is providing value to society comes in first place. In other words, providing value to society was found to be the first and most important servant leadership dimension that affect institutional excellence level in the four selected Egyptian hospitals. Reason for this turns back to the vital and effective role that hospitals play towards the Egyptian society, as all hospitals whether public, educational or university hospitals play an active role in preserving health and safety of Egyptian citizens. In light of Egypt's Vision 2030,

Egyptian hospitals recently realized the importance of their ethical role in spreading healthcare awareness among Egyptian citizens, most hospitals continuously develop mechanisms & action plans that centered around how to deliver medical information to all citizens and urge the whole society to adopt healthy habits.

In addition to the medical and therapeutic services provided by Egyptian hospitals, most hospitals launch new initiatives continuously as part of their charitable tendency and social responsibility programs. Hospitals are part of Egyptian society and therefore has duties towards Egyptian citizens to link them with all their health care activities by adopting programs, awareness campaigns and annual initiatives. Institutional excellence of Egyptian hospitals lies here; hospitals excellence appears in their vital & critical role in developing & modifying citizen's mentality towards healthcare issues, this will have a great impact on changing citizen's daily behaviors and habits.

**Second:** The fourth dimension of servant leadership which is emotional healing comes in second place. In other words, emotional healing or emotional Containment was found to be the second most important servant leadership dimension that affect institutional excellence level in the four selected Egyptian hospitals. Reason for this turns back to positive feelings & attitudes generated within medical staff as a result of performing emotional healing practices by managers inside the Egyptian hospitals. Through performing these practices, medical staff can acquire moral support, avoid negative feelings, resolve personal problems, and get

motivated to handle work load. All these Positive manifestations will consequently lead to achieving high level of institutional excellence.

**Third:** The second dimension of servant leadership which is cognitive and conceptual skills come in the third place. In other words, cognitive and conceptual skills was found to be the third most important servant leadership dimension that affect institutional excellence level in the four selected Egyptian hospitals. Reason for this turns back to wisdom and distinction that managers will enjoy when performing practices of this servant leadership dimension. Through performing these practices managers can deal effectively with work problems in creative & innovative ways, can provide effective assistance & support, can negotiate effectively to resolve conflict between employees, and can act proactively in different issues & cases. All these aspects will contribute positively in achieving high level of institutional excellence in the four selected Egyptian hospitals.

**Fourth:** The fifth dimension of servant leadership which is Empowerment comes in the fourth place (penultimate). In other words, Empowerment was found to be the fourth most important servant leadership dimension that affect institutional excellence level in the four selected Egyptian hospitals. This servant leadership dimension will affect significantly the level of institutional excellence in the four selected Egyptian hospitals because through performing practices of this servant leadership dimension (Empowerment), medical staff inside Egyptian selected hospitals will enjoy high level of flexibility to deal with their own problems, will take urgent decisions by themselves without turning back to their managers, will enjoy more power & independence, and will be involved in decision making/taking processes.

**Fifth:** The third dimension of servant leadership which is Personal values comes in fifth and last place. In other words, Personal values was found to be the last servant leadership dimension that significantly affect institutional excellence level in the four selected Egyptian hospitals. From the researcher point of view, this occur because this dimension of servant leadership (personal values) combines together fourth and fifth dimensions of servant leadership (emotional healing and empowerment). That's to say, practicing servant leadership dimension related to personal values will result from practicing initially servant leadership dimensions of emotional healing and empowerment. Through performing practices of this servant leadership dimension (personal values), medical staff inside Egyptian selected hospitals will feel how valuable and grateful their managers are, they will fell continuously that their managers deal with them in such transparent & fair manner, also they will feel well treatment that characterized by great deal of humility and good listening.

Based on these results, the researcher will accept the first main hypothesis of this research as all dimensions of servant leadership were found to have significant positive impact on institutional excellence level except the first dimension of servant leadership (organizational responsibility) was found to have non-significant impact on institutional excellence in the four selected Egyptian hospitals.

ANOVA test results show that; no significant difference between respondent's responses within the four selected Egyptian hospitals based on respondent's managerial level and type of hospital they affiliated to. That's to say, no significant differences were found between respondent responses with respect to their managerial level or type of hospital they work for. All respondents from

different hospitals in different managerial levels agreed that, servant leadership practices can significantly affect institutional excellence level in their hospitals.

However, the researcher found significant difference between respondent's responses within the four selected Egyptian hospitals based on respondent's job title. Differences were skewed towards doctors rather than nurses & pharmacists. In other words, doctors in different hospitals in all managerial levels are the most occupational group that agrees that, servant leadership practices are applied within their hospitals and consequently affect their institutional excellence level. From the researcher viewpoint, differences are skewed towards doctors rather than nurses & pharmacists because doctors are considered as one of professional work groups that interact mostly with different social segments and different age stages. Doctors represent their hospitals and even represent the Egyptian healthcare sector as a whole, they are the cornerstone of the Egyptian healthcare sector due to the vital role they perform. Unlike other occupational groups, doctors have broader & more comprehensive vision regarding the Egyptian healthcare system, this occurs due to the volume of work and tasks they perform compared to other occupational groups.

In the light of research results shown previously, the researcher recommends all hospitals operating in the Egyptian healthcare sector to be careful in applying & following servant leadership practices within their hospitals as through these practices their level of institutional excellence will be maximized. The researcher recommends all hospitals to pay attention to qualify & train their administrative staff with the aim of preparing a generation of leaders who are capable of creating differentiation & excellence within their hospitals through following & applying

servant leadership practices. Also, all hospitals operating in the Egyptian healthcare sector must educate their staff about importance of institutional excellence concept through various mechanisms & methods.

After testing research hypotheses, the researcher rejects the first sub-hypothesis derived from the first main hypothesis, as no significant effect was found to exist between the first dimension of servant leadership (organizational responsibility) and institutional excellence. Therefore, the researcher recommends future researchers to study reasons behind this rejection. Researcher also recommends future researchers to focus on studying servant leadership practices impact on institutional excellence through expanding research sample by adding hospitals administrative employees along with medical staff employees (doctors, pharmacists, and nursing staff). Furtherly, comparing new results with results achieved in this current study. Finally, researcher recommends future researches to focus on studying the impact servant leadership practices on institutional excellence in other types of hospitals other than those types selected in this current research, other types of hospitals might include university hospitals affiliated to private universities, private hospitals, specialized hospitals, armed forces & police hospitals, furtherly, comparing new results with results achieved in this research.

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