Analyzing the Relationships between Servant Leadership, and Employee Satisfaction: An Applied Study on Petroleum Sector Companies in the Arab Republic of Egypt

Extracted from a PHD Thesis titled:

A Proposed Framework for Analyzing the Relationships among Servant Leadership, Employee Satisfaction, and Organizational Commitment

An Applied Study on Petroleum Sector Companies in the Arab Republic of Egypt

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Abstract

Purpose: This research aims to analyzing and examine the impact of Servant Leadership on Employee Satisfaction on the petroleum sector in Egypt.

Design/methodology/approach: The research sample consisted of 384 employees of oil and gas companies in Egypt. To test the hypotheses of the study, using the Statistical Package for Social Sciences (SPSS V26) for both descriptive and inferential statistics, and (Smart PLS 3.2.7) for SEM-PLS modeling to test the significance of the model.

Findings: The results of the research concluded that there is a significant positive effect of servant leadership on Employee Satisfaction. It suggests that leaders in the petroleum industry could benefit from a better understanding and application of servant leadership principles to increase Employee Satisfaction, which could lead to improved performance.

Keywords: Servant Leadership, Employee Satisfaction, Petroleum industry in Egypt.

1. Introduction

In order for organizations to achieve their goals efficiently and effectively, they require conscious and responsible leaders who take on the main responsibility of leading the group. Servant leadership, which focuses on serving others' needs, helping them grow and develop, and working towards the common interests of individuals and organizations, has become an effective leadership theory. Servant leaders prioritize the satisfaction of their subordinates and choose to use their skills to bring change and growth to the organization and its employees. Employee satisfaction is crucial for individual performance and stability in both job and life, which ultimately contributes to the achievement of the organization's goals.

This study is concerned with analyzing the relationships between the following two variables:

- Direct relationship between servant leadership and job satisfaction.

2. Literature review

This literature review aims to summarize and analyze the results of various studies conducted to explore the relationship between servant leadership, employee satisfaction, and organizational performance. The review includes ten studies from different countries, each with a unique purpose and methodology. The studies use different data collection techniques and data analysis methods, but they all focus on the concept of servant leadership and its impact on employee satisfaction and organizational performance.

Drury (2004) conducted a study in Ghana to demonstrate that servant leadership characteristics can be measured in an organization. The results of the study showed a positive and substantial relationship between the perception of servant leadership and job satisfaction. However, there was a statistically significant but small inverse relationship between servant leadership and organizational commitment.

Jones (2011) conducted a study in the USA to determine the role of servant leadership in establishing a participative business culture focused on profitability, employee satisfaction, and empowerment. The study found

that servant leadership enhances profits through reduced turnover and increased organizational trust. Additionally, employee satisfaction increases in organizations where leaders see themselves as servants first.

Ding et al. (2012) conducted a study in China to detect the relationship of servant leadership between employee loyalty by empirical studies through 186 samples. The study found that servant leadership is significantly positively correlated with employee loyalty, and employee satisfaction plays a mediating role. The results suggest that to improve employee loyalty, managers should not only develop their servant leadership style but also take into consideration individual needs to improve psychological satisfaction.

David (2012) conducted a study in the USA to determine the role of servant leadership in ensuring a participative business culture along with profitability, employee satisfaction, and empowerment. The results of the study showed that servant leadership enhances profits through reduced turnover and increased organizational trust. Additionally, employee satisfaction increases in organizations where leaders see themselves as servants first. The study also highlighted the implications of promoting servant leadership among larger segments of leaders to increase employee morale, commitment to organizational effectiveness, concern for client satisfaction, and social responsibility.

Guillaume (2013) conducted a study in the USA to examine the impact of servant leadership on job satisfaction at a private university in Atlanta, Georgia. The research found that servant leadership contributed to a satisfied workforce.

McCann (2014) conducted a study in the USA to determine the degree that leaders in community hospitals were perceived as servant leaders and the level of employee satisfaction at these rural community hospitals. The study found that servant leadership and employee satisfaction are strongly correlated. Additionally, servant leadership has a significant correlation between intrinsic satisfaction and HCAHPS scores.

Kaur (2018) conducted a study in Punjab, India, to examine servant leadership as the antecedent to employee engagement, mediated by job

satisfaction. The study found a positive relationship between servant leadership, employees' engagement, and satisfaction.

Aprian Wahyu (2019) conducted a study to understand the role of servant leadership and organizational climate against OCB with job satisfaction as a mediator. The results of the study indicated that job satisfaction significantly influences OCB. Additionally, servant leadership significantly influences OCB through job satisfaction or directly, while organizational climate can affect OCB indirectly through job satisfaction first.

Lindquist (2019) conducted a study in Uganda to examine if a relationship existed between perceived servant leadership behaviors of fire and emergency service leaders and employee job satisfaction in fire and emergency services personnel. The study found a statistically significant relationship between servant leadership and employee job satisfaction in fire and emergency services personnel.

Joko et al. (2019) conducted a study in Indonesia to analyze the influence of servant leadership and breakthrough leadership on organizational performance with employee satisfaction as an intervening.

3. Problem Statement

Exploratory Study:

The researcher conducted a survey by interviewing 50 of the managers and officials of some Oil and Gas companies in Egypt. The personal interview with the directors of Petroleum companies was held from 1/5/2019 to 25/5/2019 to achieve the following objectives:

- Managers' recognition of the concept and importance of servant leadership.
- Managers' recognition of the level of job satisfaction.
- Identification and formulation the problem of study clearly.
- Identification and formulation the study hypotheses.
- Helping the researcher in determining the variables of the study.

The researcher used two types of data as follows:

Type I: Published secondary data:
1. Previous studies that reveal the relationship between servant leadership and job satisfaction.
2. References and periodicals related to business management.
3. Reports of oil companies in Arab Republic of Egypt.
4. Petroleum sector's index from the research department in Arab Republic of Egypt.

Type II: Primary data:

Through the exploratory study, by conducting a survey on sample of (50) individual managers and employees of the chosen petroleum companies, the researcher found the following negative phenomena:

   i. - Weak knowledge of leaders in petroleum companies with the concept and importance of servant leadership and its job satisfaction.

  ii. - Low level of satisfaction of the chosen managers due to many factors like security and stability in the work.

Throughout the findings of the previous studies, this study seeks to fill the research gap in this area by answering the following questions:

- Is servant leadership variable the determinant of the level of satisfaction of employees?

4. Objectives

This study aims to achieve the following objectives:

1- Determine if the employees in the petroleum sector are aware of servant leadership, and employee satisfaction.
2- Construct a proposed framework that explains the nature of the relationship between servant leadership and employee.
3- To provide a set of recommendations to activate applying the principles of servant leadership to increase the level of job

satisfaction, which results in improving the performance of petroleum companies.

5. Importance

a. Practical importance:

The Egyptian Petroleum Sector is one of the most significant contributors to the Egyptian economy, as it accounts for a large portion of the country's exports and government revenue. The sector includes the exploration, production, refining, and distribution of oil and gas products.

Egypt has significant oil and gas reserves, and the Egyptian Petroleum Sector plays a crucial role in meeting the energy needs of the country and the wider region. The sector has also been a significant source of employment and job creation in Egypt, providing opportunities for skilled and unskilled workers alike.

Given its economic and strategic importance, it is essential to understand the factors that contribute to the success of the Egyptian Petroleum Sector. Studying the relationship between servant leadership and employee satisfaction can help identify best practices for leadership and management that can improve employee morale, engagement, and productivity. This, in turn, can lead to better outcomes for the sector, including increased efficiency, improved performance, and enhanced innovation.

b. Scientific importance:

By reviewing the previous studies related to the subject of the study, the researcher shows that there is absence of studies that have been applied to the sector of study. Therefore, the researcher aims to fill this gap to improve administrative leaders' performance in one of the most important economic sectors in Egypt, whether in the field of oil production or marketing.
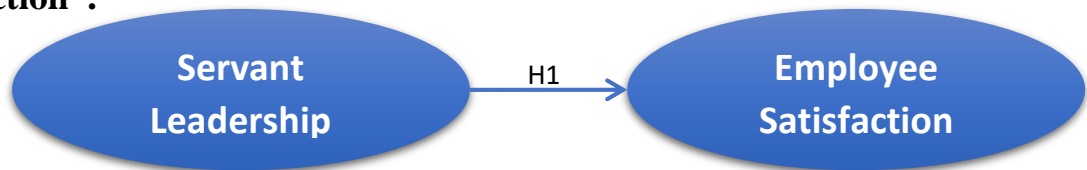
6. Limitations

1. Studying the Petroleum Sector Companies In The Arab Republic Of Egypt
2. Studying the following servant leader dimensions (predilection, wisdom, Emotional support, Regulatory agency, and Persuasion)
3. Studying the following Job Satisfaction dimensions (Satisfaction with tangible returns and additional benefits, promotions' policies, colleagues, the content of the work, supervision, and General satisfaction)
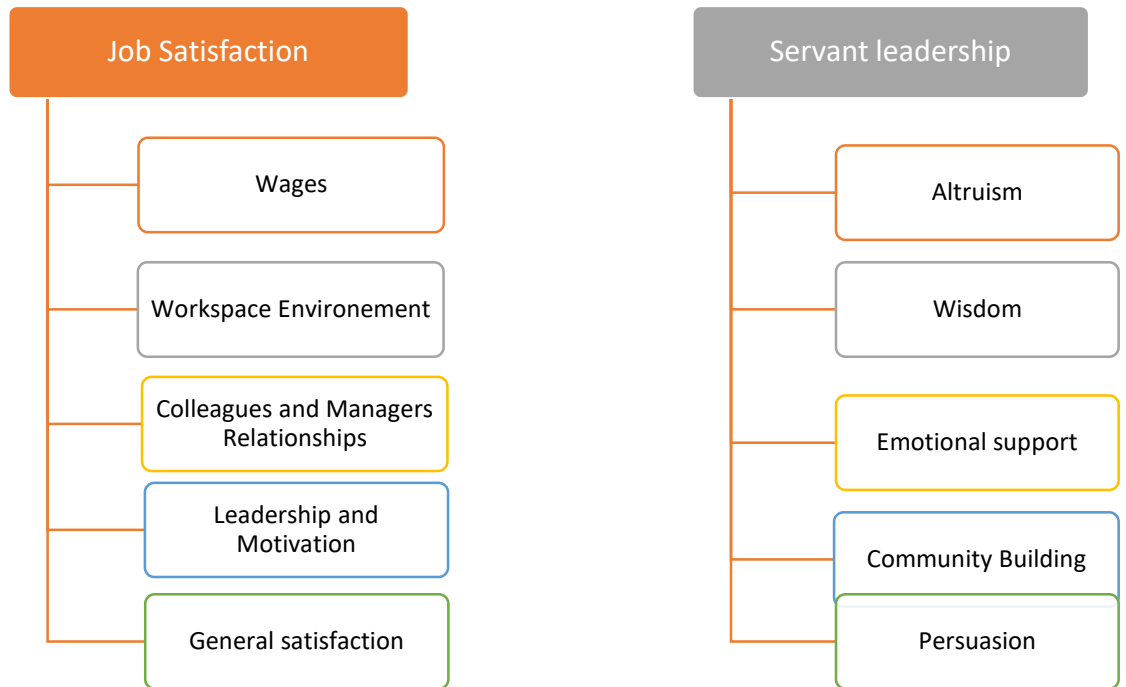
7. Hypothesis

Based on problem and objectives of the study, and what discussed in previous studies, the researcher aims to achieve the validity of the following hypothesis:

"There is significant relationship between servant leadership and employee satisfaction".

Figure 1: Direct Impact Model between Servant Leadership, Employee Satisfaction

Job Satisfaction		Servant leadership
Wages		Altruism
Workspace Environement		Wisdom
Colleagues and Managers Relationships		Emotional support
Leadership and Motivation		Community Building
General satisfaction		Persuasion

8. Variables:

Figure 2: Study Variables

9. Research Method and Design:

a. Research Population and Sample

The society of the study is all the units that have the characteristics to be studied (Bazaarah, 1992). In this study, companies operating in the petroleum sector in the Arab Republic of Egypt can be clarified by the following table:

43

Table 1: Population and Sample Size

No	Company	No of Employees	Sample size
1	General petroleum company	3734	21
2	Suez Oil Processing Company	5963	33
3	Cairo Oil Refining	4831	27
4	Nasr Petroleum	5208	28
5	Amreya Petrolem Refining Company	4053	22
6	Alexandria Petroleum Company	5204	29
7	PETROBEL – Balaeim Petroleum	2165	12
8	Badr El Din Petroleum	2983	16
9	Agiba Petroleum Company	9881	54
10	Petro Gulf Misr	8210	45
11	House Gas	5021	28
12	Master Gas	3732	21
13	Petroleum Arrows	2831	16
14	Cairo Gas	3018	17
15	Regas - Gas Regions	2686	15
	Total	69520	384

$$n = P * Q \left(\frac{Z}{E}\right)^2$$

Where P is the ration of event in the population, given it equals 50%, Q = 1 – p, Z is the standard value of the normal distribution, given it equals 1.96 at the significant level 95% and E is the value of error in the results, given it equals 5%

b. Types, Sources of Data and Method of Collection:

For the purposes of analysis in this study, it is necessary to obtain much data from the companies operating in the petroleum sector in the Arab Republic of Egypt, as well as data about Egyptian petroleum sector and conducting many interviews with each of the board members, managers, and employees.

Statistical Methods Used:

The analysis of this thesis was done using the Statistical Package for Social Sciences (SPSS V26) for both descriptive and inferential statistics, and (SmartPLS 3.2.7) for SEM-PLS modeling. The study is conducted in four sections; the first one provides the respondents' demographics, and the preliminary data analysis is provided in section two; this includes screening for missing data, finding outliers, testing data normality, and investigating common method bias. While section three presents the relative importance index with the associated ranking criteria. Finally, in section four, the application of PLS-SEM is presented in seven stages: specifying the structural model, specifying the measurement model, data collection and examination, path model estimation, assessing the measurement model, assessing the structural model, and interpretation of the results.

10.   Theoretical Background
10.1 Servant leadership:

We Are All Leaders: We Are All Servants: The Messenger of Allah (PBUH) said: "all of you are shepherds and each of you is responsible for his flock".

Servant-leadership is a new leadership model that emphasizes increased service to others, a holistic approach to work, promoting a sense of community, and sharing power in decision-making. Leadership remains a topic of interest in management, and while there is no global definition of leadership, it generally involves directing and controlling a group's activities. Successful leadership requires skills and ability, which can be developed through education, training, and self-study. Various leadership theories have been suggested, including early theories that focused on qualities that distinguished leaders from followers, and contemporary theories that describe leaders based on traits or how influence and power are used to achieve organizational objectives. Some contemporary researchers in the field of leadership include Northouse, Greenleaf, and Bass.. (Laura, Jon, & Zachry, 2016).

Leadership Theories

Leadership theories have evolved from focusing on traits to behaviors, contingency theories, and contemporary approaches such as servant leadership theory, transactional and transformational theories. The Great Man Theory suggests great leaders are born, while Trait Theory proposes that certain attributes make people suited for leadership. Behavioral Theory asserts that leaders are made, not born, and Participative Theory emphasizes group participation in decision-making. Contingency Theory considers environment-related variables while Situational Theory suggests leaders choose actions based on circumstances. Transactional Theory focuses on rewards and penalties while Transformational Theory emphasizes relationships between leaders and followers. Skills Theory emphasizes acquired skills and abilities in leadership. Servant Leadership Theory prioritizes serving others to help them reach their full potential, which is important for organizational ethical standards.(Rose, Gloria, & Nwachukwu, 2015).

Servant leadership theory:

"…The great leader is seen as servant first…" – Robert K. Greenleaf

The nature of servant-leadership theory is captured by this brief quote, a fragment of a phrase from an article published in 1970. From humble origins, servant leadership has gained growing popularity in recent decades, and is now commonly applied in the workplace, illustrating its potential as a realistic and theoretical approach to organizational management, a simple, but deep and powerful term. (Greenleaf, The Leadership Theory Of Robert K Greenleaf, 2005).

Characteristics of a Servant Leader

Larry's Ten Characteristics of a Servant-Leader include:

- Listening: Servant leaders actively listen to others and seek to understand their perspectives.
- Empathy: Servant leaders are able to put themselves in others' shoes and consider their unique experiences.

- Healing: Servant leaders recognize the importance of healing broken relationships and helping others overcome psychological injuries.
- Awareness: Servant leaders are self-aware and aware of the ethical and value-based issues in their organizations.
- Persuasion: Servant leaders use persuasion rather than positional authority to make decisions and achieve results.
- Conceptualization: Servant leaders are skilled at imagining great dreams and envisioning a better future for their organizations.
- Foresight: Servant leaders have the ability to anticipate the likely outcomes of a situation based on past experiences and present circumstances.
- Stewardship: Servant leaders view their role as holding something in trust for others and seek to serve the greater good of society.
- Commitment to the Growth of People: Servant leaders are deeply committed to the personal and professional growth of their employees.
- Building Community: Servant leaders recognize the importance of creating a sense of community within their organizations and foster strong relationships among team members.

Examples for servant leaders:

Servant leadership is a leadership style that prioritizes the needs of followers and serves them before oneself. It extends beyond the organization to include stakeholders and customers. The concept of serving others is a hallmark of servant leadership. The Prophet Muhammad (PBUH) is an example of a servant leader who listened, empathized, and helped his followers. Other examples include Martin Luther King Jr., Nelson Mandela, Mahatma Gandhi, and Mother Teresa. In the business world, companies such as FedEx, Marriott, and Starbucks adopt a servant leadership philosophy that prioritizes taking care of employees to provide the best service to customers. Servant leadership emphasizes serving and bettering people rather than bossing them around.. (Corbin, 2017), (Keith, 2020), (Simon, 2020).

Employee Satisfaction

There are multiple definitions of job satisfaction. Deroiste et al. (2018) define it as the pleasurable emotional state resulting from the appraisal of one's job achieving or facilitating one's values. Lofquist and Dawis (1991), as cited by Ali (2016), define it as an individual's positive affective evaluation of the target environment resulting from an individual's requirements being fulfilled by the environment. Agbozo and Owusu (2017) suggest that job satisfaction determines the physiological, emotional, psychological, and overall environmental conditions that affect employees and influences performance. Wood and Ogbonnaya (2018), as cited by Vieira (2019), define job satisfaction as the degree to which one feels positively or negatively about their jobs, based on a subjective evaluation of work-specific factors. (Vieira, 2019).

Importance of Employee Satisfaction

Employee satisfaction is a top priority for HR in any company. It goes beyond just salary and recreational activities, as employees need to feel that their needs are being understood and met by their employers. Satisfied employees are more committed to the organization and are more likely to be innovative and efficient, resulting in increased performance. Additionally, employee satisfaction leads to lower burnout and turnover rates, as well as improved retention, which reduces the cost of hiring new employees. Dissatisfaction at work can spill over into personal life, highlighting the importance of job satisfaction. From an employee perspective, job stability, career growth, rewards and recognition, and new opportunities are important for satisfaction. From an employer perspective, satisfied employees are more productive and contribute more to the company, leading to growth and reduced attrition.

Factors Influencing Employee Satisfaction

This part discusses the various factors that affect employee satisfaction and how they are classified into four main categories. The first category, organizational factors, includes factors such as salaries and wages, promotions, and company policies. The second category, work environment factors, includes factors such as supervision, work groups, and

working conditions. The third category, work itself, includes factors such as job scope, variety of work, and freedom and autonomy. The final category, personal factors, includes personality traits, age, seniority, and tenure. These factors have a consistent correlation with employee satisfaction, and their understanding can help organizations improve job satisfaction among their employees. (Ibrahim, et al., 2012):

Theories of Employee Satisfaction

This section discusses various theories that explain employee satisfaction and how they relate to human motivation theories. The theories discussed include Maslow's Hierarchy of Needs, Process Theory, Herzberg's Motivator-Hygiene Theory, Reference Group Theory, Discrepancy Theory, and the Dispositional Approach. Maslow's theory suggests that human needs form a hierarchy (Saul, 2020). , while Process Theory sees employee satisfaction as determined by the needs, values, and expectations, individuals have about their job (iEduNote, 2020). Herzberg's theory suggests that satisfying "motivating" factors and basic "hygiene" factors are necessary for job satisfaction (Deroiste, Juliet,Hassard, Seifert, Tom, & Thomas, 2018). Reference Group Theory suggests that employees compare their inputs and outputs from their job to others (Ventatesh, 2018). . Discrepancy Theory suggests that satisfaction comes from what employees feel is important, while the Dispositional Approach suggests that employee satisfaction is closely related to personality (UKEssays, 2018) . These theories provide insights into what motivates employees and what factors contribute to their job satisfaction.

Overall, these theories provide insights into what motivates employees and what factors contribute to their job satisfaction.

11.   Data Analysis and Model Implementation

Based on the collected data from the list of respondents, the section reports the demographic characteristics of the respondents in the study. The study had 54% male and 46% female respondents. The respondents' age was divided into four categories, with 22% being less than 30 years old, 44% between 30 and 40 years old, 24% between 40 and 50 years old, and 10% over 50 years old. In terms of experience, 17% had less than five

years, 25% had between 5 and 10 years, 24% had between 10 and 15 years, and 34% had over 15 years of experience. In terms of education, 4% had a high school or equivalent, 5% had an intermediate diploma, 28% had a bachelor's degree, and 62% were postgraduates. The study had respondents with different job positions, including 28% employees, 16% heads of department, 16% deputy general managers, 10% general managers, and 31% with other job positions.

The paper conducted various Data Preliminary Examination techniques, which include evaluating Outliers, Missing Data, Normality, and conducting a Common Method Bias Test.

The Relative Importance Index (RII) was used to assess the relative importance of different quality factors. Chen et al. (2010) established a table that was used to determine the importance levels from the RII. The results from the RII are presented in table (2) along with their corresponding rankings and importance levels. The ranking table shows that 76 items were identified as having "High-Medium" importance levels, which are crucial in the selection of the constructs. These "High-Medium" importance indicators have RII ranging from 0.790 to 0.602.

Table 2: Importance Levels

Importance Levels	Abbreviation	Range
High	H	$0.8 < RII < 1.0$
High-Medium	H-M	$0.6 < RII < 0.8$
Medium	M	$0.4 < RII < 0.6$
Medium-Low	M-L	$0.2 < RII < 0.4$
Low	L	$0.0 < RII < 0.2$

Table 3: Ranking criteria for the selection of items

Variable	Dimension	Item	Mean	RII	Ranking by category	Overall ranking	Importance level
Servant Leadership	Altruism	Q25	3.32	0.664	2	50	H-M
		Q26	3.5	0.700	1	29	H-M
		Q27	3.17	0.634	3	65	H-M
		Q28	3.17	0.634	3	65	H-M
	Wisdom	Q29	3.56	0.712	1	22	H-M
		Q30	3.55	0.710	2	24	H-M
		Q31	3.46	0.692	3	33	H-M
		Q32	3.4	0.680	5	41	H-M
		Q33	3.44	0.688	4	36	H-M
	Emotional Support	Q34	3.3	0.660	2	56	H-M
		Q35	3.27	0.654	4	60	H-M
		Q36	3.28	0.656	3	59	H-M
		Q37	3.35	0.670	1	48	H-M
	Community Building	Q38	3.59	0.718	4	20	H-M
		Q39	3.63	0.726	2	18	H-M
		Q40	3.65	0.730	1	15	H-M
		Q41	3.5	0.700	5	29	H-M
		Q42	3.6	0.720	3	19	H-M
	Persuasion	Q43	3.48	0.696	2	31	H-M
		Q44	3.4	0.680	4	41	H-M
		Q45	3.38	0.676	5	45	H-M
		Q46	3.44	0.688	3	36	H-M
		Q47	3.51	0.702	1	27	H-M
Employee Satisfaction	Wages	Q48	3.13	0.626	3	71	H-M
		Q49	3.31	0.662	1	51	H-M
		Q50	3.01	0.602	4	75	H-M
		Q51	2.73	0.546	7	79	M
		Q52	2.94	0.588	6	78	M
		Q53	3.01	0.602	4	75	H-M
		Q54	3.31	0.662	1	51	H-M
	Workspace and Environment	Q55	3.26	0.652	3	63	H-M
		Q56	3.15	0.630	4	68	H-M
		Q57	3.29	0.658	2	57	H-M
		Q58	3.42	0.684	1	38	H-M
	Colleagues	Q59	3.4	0.680	5	41	H-M

and Managers Relationships	Q60	3.37	0.674	7	47	H-M
	Q61	3.41	0.682	4	40	H-M
	Q62	3.31	0.662	8	51	H-M
	Q63	3.21	0.642	9	64	H-M
	Q64	3.38	0.676	6	45	H-M
	Q65	3.58	0.716	3	21	H-M
	Q66	3.84	0.768	1	4	H-M
	Q67	3.64	0.728	2	17	H-M
Leadership and Motivation	Q68	3.51	0.702	1	27	H-M
	Q69	3.33	0.666	3	49	H-M
	Q70	3.15	0.630	8	68	H-M
	Q71	3.17	0.634	7	65	H-M
	Q72	3.31	0.662	4	51	H-M
	Q73	3.46	0.692	2	33	H-M
	Q74	3.27	0.654	5	60	H-M
	Q75	3.07	0.614	9	72	H-M
	Q76	3.27	0.654	5	60	H-M
Overall Satisfaction	Q77	3.56	0.712	5	22	H-M
	Q78	3.48	0.696	7	31	H-M
	Q79	3.69	0.738	2	10	H-M
	Q80	3.74	0.748	1	5	H-M
	Q81	3.42	0.684	8	38	H-M
	Q82	3.55	0.710	6	24	H-M
	Q83	3.68	0.736	3	12	H-M
	Q84	3.67	0.734	4	14	H-M

The results show that eight items were identified as "Medium" importance levels which are considered of second importance for the selection of its constructs. These "Medium" importance indicators have RII in the range of 0.594–0.414.

The study uses Structural Equation Modeling (SEM) to analyze the model and find relationships between variables. Partial Least Square analysis of SEM (PLS-SEM) is applied in this study, which is suitable for more realistic settings in social science research. PLS-SEM is a technique similar to covariance-based SEM that tests both the measurement model and path to develop more realistic assumptions.

Convergent Validity

The convergent validity assesses the correlation between variables measuring a construct using outer loadings and the average variance extracted (AVE). AVE represents the grand mean of the squared loadings of the indicators measuring a construct, and a value of 0.5 or higher is considered significant. However, AVE values less than 0.5 are acceptable if the CR values exceed 0.6. The study established convergent validity through AVE, which is reported in table (4), in accordance with the aforementioned guidelines.

Table 4: Reliability of measurement model analysis

Construct	AVE	Remark
Altruism	0.829	
Colleagues and Managers Relationships	0.679	
Community Building	0.804	
Emotional Support	0.878	
Leadership and Motivation	0.74	Convergent Validity attained
Overall Satisfaction	0.6	
Persuasion	0.832	
Wages	0.631	
Wisdom	0.84	
Workspace and Environment	0.708	

Descriptive statistics

After establishing the reliability and validity of the variables, it's time to provide some descriptive statistics and multiple correlations between the selected constructs. The descriptive statistics for Servant Leadership were given in table (5), it was observed that between Servant Leadership dimensions, Community Building was found to have the largest average while Altruism has the lowest mean. Between Altruism items, Q26 has largest mean the lowest deviation. Between Wisdom items, Q30 has largest mean and Q29 has the lowest deviation. Between Emotional Support items, Q37 has largest mean and both Q34 and Q36 have the lowest deviation. Between Community Building items, Q40 has largest mean and the lowest

deviation. Finally, between Persuasion items, Q47 has largest mean and the lowest deviation.

The descriptive statistics for Employee Satisfaction were given in table (6) , it was observed that between Employee Satisfaction dimensions, overall Satisfaction was found to have the largest average while Wages has the lowest mean. Between Wages items, Q49 has largest mean and Q52 has the lowest deviation. Between Workspace and Environment items, Q57 has largest mean and the lowest deviation. Between Colleagues and Managers Relationships items, Q66 has largest mean and Q67 has the lowest deviation. Between Leadership and Motivation items, Q68 has largest mean and Q73 has the lowest deviation. Finally, between Overall Satisfaction items, Q80 has largest mean and Q84 has the lowest deviation.

Table 5: Descriptive statistic for Servant Leadership

			Item	Mean	SD
Altruism		Q25	My manager puts my interests first.	3.30	1.205
		Q26	My manager does everything he /she can help me and others.	3.50	1.160
		Q27	My manager sacrifices his/her own interests to meet my needs.	3.18	1.317
		Q28	My manager goes beyond his job duties to fulfill my needs.	3.19	1.314
			Altruism	**3.294**	**1.138**
Wisdom		Q29	My manger seems alert to what is happening.	3.56	1.130
		Q30	My manager is good at anticipating the consequence of decisions.	3.57	1.212
		Q31	My manager has great awareness of what is going on.	3.46	1.205
		Q32	My manager seems in touch with what's happening.	3.39	1.168
		Q33	My manager seems to know what is going to happen.	3.46	1.184
			Wisdom	**3.489**	**1.081**
Emotional Support		Q34	My manager is one I would turn to if I had personal problems.	3.31	1.264
		Q35	My manager is good at helping me with my emotional issues.	3.27	1.306
		Q36	My manager is talented at helping me to heal emotionally.	3.29	1.264
		Q37	My manager is one that could help me mend my hard feelings.	3.35	1.268
			Emotional Support	**3.304**	**1.195**
Community Building		Q38	My manager believes that the organization needs to play a moral role in society.	3.59	1.150
		Q39	My manager believes that our organization needs to function as a community.	3.63	1.145

54

	Q40	My manager sees the organization for its potential to contribute to society.	3.65	1.086
	Q41	My manager encourages me to have a community spirit in the workplace.	3.51	1.264
	Q42	My manager is preparing the organization to make a positive difference in the future.	3.60	1.202
	Community Building		**3.597**	**1.048**
Persuasion	Q43	My manager offers compelling reasons to get me to do more effort.	3.48	1.283
	Q44	My manager encourages me to have "big dreams" about the organization.	3.40	1.322
	Q45	My manager is very persuasive.	3.38	1.332
	Q46	My manager is very good at convincing me to do things.	3.44	1.263
	Q47	My manager is talented when it comes to persuading me.	3.51	1.246
	Persuasion		**3.441**	**1.174**
	Total Construct		**3.425**	**1.055**

Table 6: Descriptive statistic for Employee Satisfaction

		Item	**Mean**	**SD**
Wages	Q48	Wages correspond to the effort made by the workers in the organization.	3.13	1.304
	Q49	Wages are determined according to clear principles and criteria.	3.31	1.250
	Q50	The wages of the workers are proportional to the requirements of the cost of living.	3.01	1.336
	Q51	The current system of wages is fair.	2.73	1.367
	Q52	The current wage is proportional to that of colleagues working in other sectors.	2.95	1.212
	Q53	The wages systems achieve a minimum level of welfare for the employees.	3.03	1.346
	Q54	I have been rewarded for my good performance.	3.27	1.313
	Wages		**3.062**	**1.035**
Workspace and Environment	Q55	The current system of promotions is fair.	3.25	1.299
	Q56	The current wage is proportional to that of colleagues working in other sectors.	3.15	1.357
	Q57	The administration is seriously concerned with the promotion of workers at work.	3.30	1.215
	Q58	The promotion systems achieve a minimum level of welfare for the employees.	3.19	1.355

		Workspace and Environment	**3.223**	**1.092**
Colleagues and Managers Relationships	Q59	There is a high level of cooperation between colleagues at work.	3.42	1.197
	Q60	There is an effective communication pattern between the various departments of the business.	3.37	1.116
	Q61	Coworkers encourage each other to do the job well.	3.42	1.172
	Q62	The work atmosphere is characterized by harmony and teamwork	3.31	1.231
	Q63	The workload is distributed equally among every person at work.	3.20	1.261
	Q64	There are positive solutions to the problems that are associated with dealing with colleagues at work.	3.38	1.112
	Q65	Co-workers share information and knowledge resources.	3.58	1.103
	Q66	There is relationship between psychological comfort with colleagues and job satisfaction.	3.86	1.084
	Q67	Human relationship between colleagues at work is satisfying.	3.63	1.051
		Colleagues and Managers Relationships	**3.464**	**0.944**
Leadership and Motivation	Q68	The administration deals with workers in a humanitarian manner.	3.51	1.145
	Q69	The administration informs the employees of the program and development plans.	3.35	1.275
	Q70	Administration involved workers in the process of decision-making.	3.15	1.305
	Q71	Management provides the right climate for innovative and creative activities for employees.	3.18	1.324
	Q72	The administration works to spread the spirit of cooperation between workers in organizing administrative affairs.	3.31	1.291
	Q73	Management is characterized by the ability to manage emergency crises at work.	3.48	1.138
	Q74	Management can solve employees' problems successfully.	3.26	1.202
	Q75	The administration encourages workers to practice union and political work.	3.09	1.259
	Q76	Management considers the feelings of employees and personal circumstances.	3.27	1.299
		Leadership and Motivation	**3.29**	**1.074**
cti on	Q77	The area of work is comfortable and safe.	3.56	1.263
	Q78	The available equipment works properly.	3.48	1.204

Q79	My work gives me a feeling of personal accomplishment.	3.69	1.117
Q80	I am satisfied with my current job.	3.75	1.234
Q81	The work environment (stress, frustration) is manageable.	3.42	1.244
Q82	The climate at the workplace is comfortable in terms of temperature and humidity.	3.55	1.157
Q83	The job has a low risk of accident.	3.69	1.170
Q84	The job takes place in an environment free from health hazards (e.g., chemicals, fumes, etc.).	3.59	1.064
Overall Satisfaction		**3.591**	**0.909**
Total Construct		**3.326**	**0.893**

Multiple correlation analysis

The Pearson product-moment correlation coefficient was calculated to determine the strength and the direction of the relationship between the selected constructs.

Table 7: Correlation between the Dimensions of Servant Leadership

		Altruism	Wisdom	Emotional Support	Community Building	Persuasion
Altruism	Correlation	--				
	N	127				
Wisdom	Correlation	.811***	--			
	P-value	<.001				
	N	127	127			
Emotional Support	Correlation	.840***	.879***	--		
	P-value	<.001	<.001			
	N	127	127	127		
Community Building	Correlation	.782***	.908***	.875***	--	
	P-value	<.001	<.001	<.001		
	N	127	127	127	127	
Persuasion	Correlation	.791***	.829***	.861***	.873***	--
	P-value	<.001	<.001	<.001	<.001	
	N	127	127	127	127	127

Correlation coefficients marked with three stars (***) were significant at 0.001, i.e., 99.9% confidence level, correlation coefficients marked with two stars (**) were significant at 0.01, i.e., 99% confidence level, coefficients marked with one star (*) were significant at 0.05, i.e., 95%

confidence level, and finally coefficients NOT marked were not significant at 0.05, i.e., P-values were greater than 0.05. Table (7) shows the matrix of Pearson correlation coefficients between the dimensions of Servant Leadership. The results show that all relationships were significant strong positive relationships and were ranged from (0.782) to (0.908). Furthermore, Table (8) shows the matrix of Pearson correlation coefficients between the dimensions of Employee Satisfaction. The results show that all relationships were significant moderate positive relationships and were ranged from (0.438) to (0.658).

Table 8: Correlation between the Dimensions of Employee Satisfaction

		Wages	Workspace and Environment	Colleagues and Managers Relationships	Leadership and Motivation	Overall Satisfaction
Wages	Correlation	--				
	N	127				
Workspace and Environment	Correlation	.750***	--			
	P-value	<.001				
	N	127	127			
Colleagues and Managers Relationships	Correlation	.681***	.823**	--		
	P-value	<.001	<.001			
	N	127	127	127		
Leadership and Motivation	Correlation	.673***	.753**	.821**	--	
	P-value	<.001	<.001	<.001		
	N	127	127	127	127	
Overall Satisfaction	Correlation	.628***	.704**	.750**	.650**	--
	P-value	<.001	<.001	<.001	<.001	
	N	127	127	127	127	127

The table shows the matrix of Pearson correlation coefficients between the dimensions of Employee Satisfaction. The results show that all relationships were significant positive relationships and were ranged from moderate relationship (0.628) to strong relationship (0.823).

Table 9: Bivariate correlations between the main constructs

		Servant Leadership	Employee Satisfaction
Servant Leadership	Correlation	--	
	N	127	
	N	127	
Employee Satisfaction	Correlation	.727***	--
	P-value	<.001	
	N	127	127

Of particular interest is the correlation between the main constructs of this study. It is also observed from table (9) that there is a significant positive strong relationship between Servant Leadership and Employee Satisfaction since ($r(127) = .727, P < 0.001$).

Collinearity

This section discusses collinearity, which is the high correlation between two or more independent variables that can create interpretation issues in statistical analysis. The variance inflation factor (VIF) is a measure used to assess collinearity, with a VIF value of 5 or higher indicating high collinearity. Table (10) shows that all VIF values are below the cutoff point, indicating that collinearity between independent variables does not exist in this study.

Table 10: Variance inflation factors

Path	**VIF**	**Remark**
Model Results		*No problem exists*
Servant Leadership -> Job Satisfaction	1	

Testing the Hypothesis

The study tested the null hypothesis (H0) which states that there is no significant relationship between servant leadership and job Satisfaction. The alternative hypothesis (H1) states that there is a significant relationship between the two constructs. The results revealed that Servant Leadership also yielded a significant direct effect on Employee Satisfaction construct since ($\beta = 0.486, t = 5.063, P < 0.001, 95\% \ CI$ for $\beta = [0.288, 0.666]$), consequently, we reject H0 in favor of H1 and as a result the second hypothesis is confirmed.

Table 11: Results of Hypothesis testing

Path	β	t-value	P-value	95% CI		Decision
				LL	UL	
H2: *Servant Leadership -> Employee Satisfaction*	0.486	5.063	0.000	0.288	0.666	Supported

12. Conclusion and Future Work

In conclusion, leadership is crucial for achieving organizational goals and ensuring efficiency and effectiveness in the workplace. Servant leadership is one of the most effective leadership styles, where the leader prioritizes the needs and development of their subordinates, fostering teamwork and empowerment. Employee satisfaction is essential for individual performance and organizational success, and servant leadership plays a significant role in increasing job satisfaction.

The literature review highlighted the relationship between servant leadership, employee satisfaction, and organizational performance, based on ten different studies conducted in various countries. The exploratory study conducted in Egypt found that leaders in the petroleum sector had weak knowledge of the concept of servant leadership, and the selected managers had low levels of job satisfaction.

Therefore, the study aims to fill the research gap by exploring the relationship between servant leadership and employee satisfaction in the petroleum sector in Egypt. The study has three objectives, including determining employees' awareness of servant leadership and job satisfaction, constructing a proposed framework to explain the relationship between servant leadership and employee satisfaction, and providing recommendations to improve the performance of petroleum companies.

In future work, researchers could expand the scope of the study to include other sectors in Egypt or other countries to generalize the results. Additionally, researchers could explore other dimensions of servant leadership and job satisfaction to provide a more comprehensive understanding of the relationship between the two concepts. Finally, researchers could investigate the impact of implementing servant

leadership principles on organizational performance to determine its effectiveness.

ملخص البحث:

الهدف: يهدف هذا البحث إلى تحليل وقياس أثر القيادة الخادمة على الرضا الوظيفي في قطاع البترول في مصر.

أسلوب البحث: بلغت عينة البحث 384 مفردة أو موظفًا في شركات النفط والغاز في مصر. كما اعتمدت الباحثة على الحزمة الإحصائية للعلوم الاجتماعية (SPSS V26) لكل من الإحصاء الوصفي والاستنتاجي، و (Smart PLS 3.2.7) لنمذجة SEM-PLS لاختبار معنوية النموذج.

النتائج: توصلت نتائج البحث إلى أن هناك تأثير إيجابي ذو دلالة إحصائية بين القيادة الخدمية والرضا الوظيفي. وهي تشير إلى أن القادة في صناعة البترول يمكن أن يستفيدوا من فهم وتطبيق أفضل لمبادئ القيادة الخدمية لزيادة الرضا الوظيفي، مما قد يؤدي إلى تحسين الأداء.

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