



**THE IMPACT OF TRAINING, DEVELOPMENT,  
EMPLOYEE MOTIVATION, AND EMPLOYEE  
SATISFACTION ON EMPLOYEE PRODUCTIVITY  
(AFIELD STUDY IN MINISTRY OF  
AGRICULTURE IN LIBYA)**

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**THE IMPACT OF TRAINING, DEVELOPMENT, EMPLOYEE  
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## TABLE OF CONTENTS

TABLE OF CONTENTS .....	1
THESIS APPROVAL PAGE .....	5
DECLARATION .....	6
FOREWORD.....	7
ABSTRACT .....	8
ÖZ .....	9
ARCHIVE RECORD INFORMATION .....	10
ARŞİV KAYIT BİLGİLERİ .....	11
SUBJECT OF THE RESEARCH.....	12
PURPOSE AND IMPORTANCE OF THE RESEARCH .....	12
METHOD OF THE RESEARCH .....	12
HYPOTHESIS OF THE RESEARCH / RESEARCH PROBLEM .....	13
POPULATION AND SAMPLE (IF AVAILABLE) .....	13
SCOPE AND LIMITATIONS / DIFFICULTIES .....	13
1. INTRODUCTION.....	14
1.1. Background Of Study .....	14
1.2. Problem Statement Of Study .....	16
1.3. Study Question .....	17
1.4. Study Objectives .....	18
1.5. Study Signification .....	18
1.5.1. Significance To Theory .....	18
1.5.2. Significance To Practice .....	19
1.6. Study Scope .....	19
1.7. Key Terms Defmition.....	19

1.8. Thesis Organization .....	21
<b>2. LITERATURE REVIEW .....</b>	<b>23</b>
2.1. Introduction.....	23
2.2. Background Of Ministry Of Agriculture Libya .....	23
2.2.1. Foundation and Early Efforts .....	24
2.2.2. Italian Colonization and Its Impacts .....	24
2.2.3. The Drive for Self-Sufficiency .....	25
2.2.4. The Oil Boom and Shift in Focus.....	25
2.2.5. The Green Revolution and Gaddafi's Era .....	25
2.2.6. Challenges of Water Scarcity .....	25
2.2.7. Post-2011 Turmoil and Its Impact .....	25
2.2.8. Modernization and Sustainable Practices .....	26
2.2.9. Supporting Rural Communities .....	26
2.2.10. Looking Forward.....	26
2.3. Employee Productivity .....	26
2.4. Training.....	27
2.5. Development .....	31
2.6. Employee Satisfaction .....	33
2.7. Concept Of Motivation.....	34
2.8. Employee Motivation.....	36
2.9. Hypothesis Formulation.....	37
2.9.1. The Relationship Between Training and Employee Productivity .....	37
2.9.2. The Relationship Between Development and Employee Productivity .....	38
2.9.3. The Relationship Between Employee Satisfaction and Employee Productivity .....	38
2.9.4. The Relationship Between Employee Motivation and Employee Productivity .....	39
2.10. Underpinning Theories.....	40
2.11. Study Framework .....	44
2.12. Summary .....	45
<b>3. METHODOLOGY .....</b>	<b>46</b>
3.1. Introduction.....	46
3.2. Study Design.....	46

3.3. Population and Sample.....	47
3.3.1. Sample Size Determination .....	48
3.3.2. Sample Techniques.....	49
3.4. Elements of Analysis .....	50
3.5. Data Collection Method .....	50
3.6. Measurement of Instruments.....	51
3.6.1. Employee Productivity .....	51
3.6.2. Training .....	52
3.6.3. Development .....	53
3.6.4. Employee satisfaction .....	53
3.6.5. Employee motivation .....	54
3.7. The Technique of Data Analysis .....	55
3.7.1. Reliability Analysis.....	55
3.7.2. Descriptive Statistics .....	56
3.7.3. Correlation Analysis .....	57
3.8. Summary .....	57
4. CHAPTER 4 .....	58
<b>RESULTS AND FINDINGS.....</b>	<b>58</b>
4.1. Introduction.....	58
4.2. Response Rate And Demographic Profile.....	58
4.2.1. Response Rate.....	58
4.2.2. Respondents Demographic Characteristics .....	59
4.3. Reliability Analysis .....	61
4.4. Factor Analysis .....	62
4.5. Descriptive Finding.....	63
4.6. Pearson Correlation Analysis .....	70
4.7. Hypothesis Testing Result of Direct Relationship of Variables.....	72
4.8. Summary Of Findings .....	75
4.9. Conclusion .....	76
<b>DISCUSSION AND CONCLUSION.....</b>	<b>78</b>
Recapitulation of the Study .....	78
The Relationship Between the Construct Variables.....	78
Training .....	78

Development.....	79
Employee Satisfaction .....	79
Employee Motivation .....	79
Theoretical Contributions .....	80
Managerial Implications .....	80
Limitations .....	82
Study Determinants.....	83
Recommendations For Further Research .....	84
Conclusion.....	85
REFERENCES.....	87
LIST OF TABLES.....	99
APPENDIX A .....	101
RESEARCH QUESTIONNAIRES .....	101
SECTION A: Demographic .....	102
SECTION B: Employees Productivity .....	104
SECTION C: Training.....	105
SECTION D: Development.....	106
SECTION E: Employee satisfaction .....	107
SECTION F: Employee motivation .....	108
APPENDIX B .....	109
SPSS Results .....	109
Regression of Training .....	110
Regression of EMPLOYEE Motivation.....	114
CURRICULUM VITAE .....	116

## THESIS APPROVAL PAGE

I certify in my opinion that the thesis presented by Amnah Masoud ALI entitled “THE IMPACT OF TRAINING, DEVELOPMENT, EMPLOYEE MOTIVATION, AND EMPLOYEE SATISFACTION ON EMPLOYEE PRODUCTIVITY (AFIELD STUDY IN MINISTRY OF AGRICULTURE LIBYA)” is well suited in terms of scope and quality as a thesis for a Master of Science degree.

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This thesis is accepted by the examining committee with a unanimous vote in the Department of Business Administration as a Master of Science thesis.

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## **DECLARATION**

I thus affirm that this thesis is the product of my study and that all information presented has been acquired and elucidated in adherence to the institution's academic guidelines and ethical principles. Furthermore, I must affirm that all assertions, findings and that are not original to this thesis and have been appropriately credited and referenced verbatim.

I acknowledge and assume full responsibility for any moral and legal repercussions arising from detecting actions that contradict the statement above without imposing any temporal limitations.

**Name Surname:** Amnah Masoud ALI

**Signature.....:**



## **FOREWORD**

The first and most important thing I am grateful for is God who has blessed me with health and the ability to complete my education.

I have been bestowed with good health and the capacity to successfully pursue my educational endeavors.

I want to extend my heartfelt gratitude to my supervisor, Dr. Akram Al-Hamad, for his unwavering commitment and investment of time and effort in providing guidance and support to me. The acquisition of knowledge played a pivotal role in the successful culmination of my thesis. The present study is an outcome of the individual's bravery and assistance in the form of significant guidance and suggestions. Ultimately, I want to extend my appreciation to my familial support system, particularly my paternal and maternal figures and my siblings, for consistently providing me with unwavering support and providing me throughout my most challenging occasions and aiding my academic pursuits. I want to express my profound appreciation and gratitude to the benevolent nation of Turkey, its government, citizens, and leadership for their compassionate approach and affection. May divine protection shield them from any form of adversity. I want to express my sincere appreciation and gratitude to the Deanship of Scientific Study and Graduate Studies staff and the Karabuk University library for their invaluable assistance in procuring reference materials despite the various challenges encountered throughout my academic pursuits.

## **ABSTRACT**

This study delves into the profound effects of training, development, employee motivation, and satisfaction on employees' productivity within the Ministry of Agriculture in Libya, specifically within the Janzour Municipality, aiming to shed light on the pivotal role these human resource management practices play in enhancing organizational performance in the public sector. The study adopts a quantitative approach, employing regression analysis to scrutinize the relationship between these variables and employee productivity, thereby providing empirical evidence from an industry often overlooked in academic investigations. The findings reveal significant positive correlations between training, development, employee motivation and satisfaction, and productivity. Specifically, the results indicate that targeted training and development initiatives can improve productivity by equipping employees with the necessary skills and knowledge. Furthermore, the study underscores the importance of motivational and job satisfaction as indispensable components of a productive workplace. By focusing on the Ministry of Agriculture in Libya, specifically within the Janzour Municipality, the study offers insights into the challenges and opportunities of implementing effective human resource practices in contexts characterized by resource constraints and institutional challenges. It contributes to the theoretical understanding of how training, development, motivation, and satisfaction influence productivity in the public sector. Additionally, it provides practical implications for policymakers and managers in similar settings, suggesting that focusing on these areas can significantly improve employee productivity.

**Keywords:** **Training;** Development; Employee Satisfaction; Employee Motivation; Employee Productivity; Ministry of Agriculture Libya.

## ÖZ

Bu çalışma, Libya'daki Tarım Bakanlığı içinde, özellikle Janzour Belediyesi'nde, çalışanların verimliliği üzerindeki eğitim, gelişim, çalışan motivasyonu ve memnuniyetinin derin etkilerini araştırarak, bu insan kaynakları yönetimi uygulamalarının kamu sektöründe örgütsel performansı artırma konusundaki kritik rolünü aydınlatmayı amaçlamaktadır. Çalışma, bu değişkenler ile çalışan verimliliği arasındaki ilişkiyi incelemek için regresyon analizini kullanarak nicel bir yaklaşım benimsemekte ve akademik araştırmalarda sıklıkla göz ardı edilen bir endüstriden ampirik kanıtlar sağlamaktadır. Bulgular, eğitim, gelişim, çalışan motivasyonu ve memnuniyeti ile verimlilik arasında önemli pozitif korelasyonlar ortaya koymaktadır. Özellikle, sonuçlar hedeflenen eğitim ve gelişim girişimlerinin, çalışanlara gerekli beceri ve bilgileri sağlayarak verimliliği artırabileceğini göstermektedir. Ayrıca, çalışma, motivasyonun ve iş memnuniyetinin, üretken bir iş yerinin vazgeçilmez bileşenleri olduğunu vurgulamaktadır. Libya'daki Tarım Bakanlığı'na, özellikle Janzour Belediyesi'ne odaklanarak, çalışma, kaynak kısıtları ve kurumsal zorluklarla karakterize edilen bağlamlarda etkili insan kaynakları uygulamalarını hayata geçirmenin zorlukları ve fırsatları hakkında içgörüler sunmaktadır. Eğitim, gelişim, motivasyon ve memnuniyetin kamu sektöründe verimliliği nasıl etkilediğine dair teorik anlayışa katkıda bulunmaktadır. Ek olarak, benzer ayarlarda politika yapıcılar ve yöneticiler için pratik sonuçlar sağlayarak, bu alanlara odaklanmanın çalışan verimliliğini önemli ölçüde iyileştirebileceğini önermektedir.

**Anahtar Kelime:** Eğitim, Gelişim, Çalışan Memnuniyeti, Çalışan Motivasyonu, Çalışanların Verimliliği, Libya Tarım Bakanlığı.

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## ARŞİV KAYIT BİLGİLERİ

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## **SUBJECT OF THE RESEARCH**

The Impact of Training, Development, Employee Motivation, and Employee Satisfaction on Employee Productivity (Afield Study in Ministry of Agriculture Libya).

## **PURPOSE AND IMPORTANCE OF THE RESEARCH**

This study aims to explore and quantify the influence of critical human resource management practices on employees' productivity within a vital sector of the Ministry of Agriculture Libya. Amidst the unique challenges posed by a post-conflict environment and the transition towards a developing economy, understanding how training, development, motivation, and satisfaction enhance employee performance becomes crucial. This study not only aims to fill a significant gap in the existing literature on HRM practices in post-conflict and developing countries but also seeks to provide actionable insights for policymakers, HR professionals, and managers in the public sector, such as (the Ministry of Agriculture Libya). By pinpointing the most effective strategies to boost productivity, the research promises to guide improvements in organizational performance (Ministry of Agriculture Libya), thereby contributing to the broader economic and social rebuilding efforts in Libya. Its importance extends beyond public circles, offering a practical roadmap for leveraging human capital as a cornerstone of organizational success in challenging contexts.

## **METHOD OF THE RESEARCH**

The study employed a quantitative methodology, utilizing structured questionnaires to collect data from 162 employees of the Ministry of Agriculture in Libya. Statistical tools, including Pearson correlation analysis, multiple regression analysis, and descriptive statistics, were applied to analyze the collected data comprehensively. This approach examined the relationships between training, development, employee motivation, employee satisfaction, and productivity. The selection of participants was strategic to ensure a representative sample, facilitating an in-depth understanding of HR practices' influence within this governmental sector (Ministry of Agriculture in Libya).

## **HYPOTHESIS OF THE RESEARCH / RESEARCH PROBLEM**

The research hypothesizes that training, development, employee motivation, and satisfaction significantly impact employee productivity within the Ministry of Agriculture in Libya. It aims to explore how these human resource management practices influence productivity levels. It addresses the problem of identifying effective practices to enhance employee productivity in the Libyan public sector amidst challenges like resource limitations and institutional constraints.

## **POPULATION AND SAMPLE (IF AVAILABLE)**

The population comprises employees of Libya's Ministry of Agriculture, with a sample size of 162 respondents selected for the study.

## **SCOPE AND LIMITATIONS / DIFFICULTIES**

This study primarily encompasses the Ministry of Agriculture in Libya, specifically within the Janzour Municipality. It focuses on the impact of HRM practices on employee productivity within a specific public sector context. Limitation of the study's geographical and organizational may restrict generalizability. Difficulties involve collecting data in a politically unstable region, potentially affecting participant responses and research outcomes.

# 1. INTRODUCTION

## 1.1. Background Of Study

Current firms are seeing intense rivalry in a dynamic technical and commercial landscape. Globalization and evolving client demands have increased the problems faced by commercial companies. Organizations must provide training and development opportunities for their staff to address these difficulties. According to Wendy (2021), organizations need to address training needs related to the changing and expanding globalization of the sector, multiple national perspectives, and a multicultural workforce. Individuals were equipped with the necessary skills, knowledge, and abilities to do their assigned tasks effectively, which is why training was believed to enhance productivity significantly. Increased investment in training to improve productivity considerably in a dynamic environment facing ongoing pressure to maintain a competitive edge in the market necessitates continuously enhancing staff skills, knowledge, aspects, and attitudes (Arwab & Ali, 2022).

East and Africa (2011) define human resource management as the process aimed at maximizing an organization's use of its human resources. An integrated strategy is needed to handle several elements of workers, including improving technical and interpersonal skills, fostering innovative thinking, and developing leadership abilities. Organizations with high productivity prioritize workforce development as a fundamental aspect of their corporate culture.

The most prevalent approach to achieving these objectives is via training and development. Armstrong (2006) states that training and development aims to enhance employees' skills and competencies to boost their performance and facilitate their growth within the organization to meet future human resource requirements. Drummond (2000) defines training as imparting knowledge and skills to help individuals perform their current jobs effectively, while development focuses on preparing employees for future organizational roles. Development involves adapting to new positions, duties, or criteria.

Training and development are essential for companies to enhance quality and address the demands of global competitiveness and societal shifts. Human resource



management involves providing training and development, among several other responsibilities. Several studies and investigations have recognized the pivotal contribution of employees as a valuable and expensive resource for sustaining elevated levels of performance, and it is imperative to optimize their influence toward achieving the goals and ambitions of their respective organizations (Arwab & Ali, 2022; Okpara, 2022; Ahmad, 2014).

Cole (2015) provided the following proposals. Training is a learning activity focused on acquiring particular information and abilities for a job or task. The necessity for training arises from the requirements of the work and the organization. Okpara (2022) defined training as a structured method of behavior to advance corporate objectives. It entails enhancing an employee's skills to the extent that they can do their existing work in a manner that enhances organizational performance. Cole (2015) defines development as any action focusing on future demands and emphasizing professional advancement above current performance.

Organizational development aims to enhance employees' conceptual and human abilities to prepare them for future roles. It focuses on instructing employees in broader skills to help them advance in their careers and prepare them for the future. Human resource development Muo (2007) states that some unskilled and talented individuals in society need training or retraining to execute specific tasks. Workforce development aims to provide the necessary human resources for optimal performance inside the company.

Training and development should be seen as an investment that generates returns and advantages for businesses and workers rather than just a chance for growth. Tahir et al. (2014) state that training and development activities are conducted to contribute to the company's ultimate purpose and benefit both the organization and its personnel. Training and development inside the firm result in increased profitability and foster a more favorable attitude towards profit orientation. Training and development enhance work knowledge for people and aid in aligning with the organization's aims.

## 1.2. Problem Statement Of Study

Given the pivotal role of human resources in achieving organizational success, particularly in sectors critical to national development like agriculture, there is a growing interest in leveraging training, development, employee motivation, and satisfaction to boost employee productivity. The Ministry of Agriculture in Libya, operating within the unique context of a post-conflict developing nation, presents an ideal case for examining these dynamics. The alignment of human resource practices with the distinct needs and challenges of such an environment is crucial. Smith and Abdullah (2015) underscore the importance of contextualizing human resource management (HRM) practices to enhance productivity, suggesting variability in training, motivation, and satisfaction initiatives across different cultural and economic contexts.

The interplay between employee development and productivity, thoroughly documented in the literature, reveals its complexity and dependency on organizational and environmental factors. Johnson (2017) elaborates on the nuanced impacts of development programs, asserting their alignment with employee career aspirations and organizational goals as vital for boosting productivity. Similarly, employee motivation and satisfaction serve as critical mediators between HR practices and productivity, with Williams (2018) highlighting the significance of understanding both intrinsic and extrinsic motivators, especially in post-conflict economies where conventional motivators might fall short.

Furthermore, the specific efficacy of training programs in enhancing productivity within agricultural ministries has been addressed, with Brown and Green (2019) demonstrating a notable positive correlation between meticulously designed training initiatives and employee output. Their analysis advocates customizing training programs to the agricultural sector's unique skill and knowledge requirements, emphasizing the importance of ongoing evaluation and adaptation to ensure their effectiveness.

Despite the agricultural industry's significant contribution to Libya's gross national product and its employment of a substantial portion of the population, the Ministry of Agriculture faces employee performance errors, potentially affecting the quality of agricultural services and its reputation. These issues are compounded by

management's lack of awareness regarding the importance of employee training, satisfaction, motivation, and development. The existing gap in understanding the impact of HRM practices on employee productivity within Libya's Ministry of Agriculture underscores the necessity for focused research. Such research should aim to provide empirical evidence to guide the development of HR policies and practices that are both theoretically sound and pragmatically effective in enhancing employee productivity within this distinctive context.

This situation is further complicated by the Ministry's current shortfall in emphasizing the development of its human resources, leading to poor staff productivity. According to Heemskerk & Koopmanschap (2012), and supported by Ahmad (2014), there is an urgent need for the Ministry to provide relevant training, satisfaction, motivation, and development measures. Becker and Everett (2011) connect performance to various aspects of the completed task, while Okonmah (2019) points out the failure of organizations to achieve their objectives due to ineffective workforce development policies. This delineates the critical need for an investigation to determine the relationship between employee productivity at the Ministry of Agriculture in Libya and the facets of training, development, satisfaction, and motivation, thus aiming to bridge these identified gaps and enhance the sector's efficiency and output.

### **1.3. Study Question**

The study questions were formulated from the abovementioned problem: employee productivity data. The following study questions were developed.

1. Does training affect employee productivity?
2. Does development affect employee productivity?
3. Does employee satisfaction affect employee productivity?
4. Does employee motivation affect employee productivity?

## **1.4. Study Objectives**

The study objectives are formulated based on the problem mentioned above statements on the factors that could enhance the employee's productivity:

1. To investigate the effect of training on employee productivity.
2. To investigate the effect of development on employee productivity.
3. To investigate the effect of employee satisfaction on employee productivity.
4. To investigate the effect of employee motivation on employee productivity.

## **1.5. Study Signification**

The significance of this study is viewed from two different but integrated perspectives: The significance to theory and the significance to practice.

### **1.5.1. Significance To Theory**

The study contributes to theoretical foundations in organizational behavior and human resource management. It offers an empirical exploration within a unique cultural and institutional context, potentially enriching existing theories on motivation, job satisfaction, and productivity. Examining these constructs in the Libyan Ministry of Agriculture provides a deeper understanding of how motivational theories, such as Maslow's hierarchy of needs, Herzberg's two-factor theory, or Vroom's expectancy theory, apply in public sector settings, especially in developing countries. Furthermore, this study could bridge the gap between Western-centric organizational theories and their applicability in different cultural contexts, offering a more global perspective. The findings from this study could lead to the development of new models or refining existing theories, ensuring they are more inclusive and representative of diverse workforce environments; this has profound implications for academic study and the practical application of management strategies in similar organizational settings worldwide.

### **1.5.2. Significance To Practice**

This study provides actionable insights for the Libyan Ministry of Agriculture, aiding in developing tailored strategies to enhance employee motivation and satisfaction, thereby improving productivity. It offers practical tools for managers to foster a more engaged and efficient workforce, which is crucial for enhancing the ministry's overall performance and service delivery.

### **1.6. Study Scope**

This study explores employee motivation, satisfaction, training, and development dynamics and their collective impact on employee productivity within the context of the Libyan Ministry of Agriculture. It specifically seeks to discern and evaluate the determinants influencing employee motivation and satisfaction, the extent of training and development within public sector entities, and their consequential effects on productivity levels. The investigation is circumscribed to the Ministry of Agriculture in Libya, thus providing a concentrated examination of its distinctive organizational culture, work milieu, and employee interactions within this governmental framework. Adopting a quantitative research approach, the study employs survey methodologies to accrue data from a stratified sample of employees across diverse departments, aiming for a representative overview. The temporal span of the study is deliberately chosen to encompass a substantial period, facilitating the acquisition of comprehensive and pertinent data. Anticipated outcomes of this research include insightful revelations into efficacious human resource management strategies that could be adopted by the Ministry of Agriculture, with potential extrapolation and applicability to akin public sector organizations within Libya or comparable environments.

### **1.7. Key Terms Definition**

- 1. Employee productivity** is closely linked to individual goal achievement. Performance measurement is a challenging subject for managers. Measuring performance is akin to performance assessment. Performance evaluation evaluates employees' performance and offers guidance on improving their

effectiveness. Some organizations base employee compensation on their performance metric scores. Various elements are considered during such exercises. Arguably, the most significant aspect is the efficiency in completing specified duties and the correctness and timeliness of their delivery (Coole, 2012).

2. **Training** is a structured process of enhancing individuals' knowledge, skills, and abilities to perform specific tasks more effectively and efficiently. It involves learning activities to develop competencies and behaviors needed for better job performance. Training can be technical or soft skills-oriented and is often tailored to meet specific job requirements or organizational goals. It plays a crucial role in professional development, equipping employees with the tools and understanding necessary for their current roles and future career growth (McDowall & Saunders, 2010).
3. **Development** refers to the expansive process of an individual's continuous growth and improvement in their career or personal capabilities. Unlike training, which is more task-specific, development focuses on broader skills and competencies that enhance overall performance, leadership, and potential. It encompasses a range of activities like mentoring, education, and experiential learning aimed at building more profound knowledge, strategic thinking, and advanced skills. Development is a long-term process integral to career progression and personal fulfillment (Oshionebo, 2003).
4. **Employee satisfaction** refers to the level of contentment and positivity that employees feel towards their jobs and work environments. It encompasses various factors such as job security, work-life balance, compensation, recognition, and the nature of the work itself. Satisfied employees typically demonstrate higher morale, better performance, and increased organizational loyalty. Employee satisfaction is organizational loyalty to maintaining a productive, engaged workforce, and it significantly impacts an organization's overall success and workplace culture (Jacqueline et al., 2007).
5. **Employee motivation** is the energy, commitment, and creativity that a company's workers bring to their jobs. The driving force leads employees to engage in their work enthusiastically and persistently. Motivation is influenced by a combination of intrinsic factors, like personal growth, job satisfaction, and

the desire to achieve, as well as extrinsic factors, such as pay, benefits, and workplace environment. Compelling employee motivation can lead to increased productivity, better quality of work, and higher overall workplace morale. Understanding and fostering employee motivation is crucial for any organization aiming to maximize employee potential and achieve its objectives (Kreitner & Kinicki, 1998; Ramlall, 2004).

## **1.8. Thesis Organization**

**Chapter 2:** This chapter examines the study's literature review and the discoveries of several professors and studies. This text encompasses the subjects' definitions, interpretations, and arguments and the outcomes of their comprehensive research. The study formulates hypotheses regarding the potential influence of specific contextual factors on elucidating the matter under investigation. The research's broad conceptual framework illustrates the conceptual model and guiding hypothesis.

**Chapter 3** outlines the conceptualization and planning process of the entire data-gathering operation. This section comprehensively describes the study approach and methodologies used as the study framework. The study also delineated the sampling methodology employed to choose the respondents and the sample composition that constituted the study participants. In addition, the study outlined their methods for data collection and specified the equipment that will be employed for this purpose.

**Chapter 4** Focuses on applying descriptive statistics to analyze the demographic section, regression model, correlation test, normality test, and measurement of essential and relevant customer responses. The primary purpose of this study, which is explained in this chapter, is to achieve this by using these methods and considering the promising outcomes.

**Chapter 5:** Focuses on the results, findings, recommendations, and proposals derived from the study analyses. The initial component of this chapter comprises the intended outcomes that assist the study in accomplishing the study objective. Subsequently, the study focus shifted towards ideas and

proposals that have the potential to enhance services and promote study progress in the future.



## **2. LITERATURE REVIEW**

### **2.1. Introduction**

This chapter aims to investigate the factors influencing employee productivity working for the Ministry of Agriculture in Libya and better understand what is happening among these factors. The primary focus of this chapter is on the relevant literature, such as the influence that training and development, employee satisfaction, and employee motivation have on the employee's productivity. In addition, the dependent variable (which is employee productivity). Within the context of the employee productivity process at the Ministry of Agriculture in Libya, this chapter generally discusses the definitions of variables, hypotheses, theoretical frameworks, and theories.

### **2.2. Background Of Ministry Of Agriculture Libya**

The Ministry of Agriculture in Libya is pivotal in the country's economy and food security. Libya's agricultural sector has faced numerous challenges historically due to its arid climate and limited water resources. The Ministry has been instrumental in implementing policies and programs to promote sustainable agriculture, enhance food production, and ensure efficient use of natural resources. Despite these efforts, the sector has struggled with issues like outdated farming techniques, limited access to modern technology, and dependency on food imports.

In recent years, the Libyan government, through the Ministry of Agriculture, has been focusing on revitalizing the agricultural sector. This initiative aims to reduce the nation's reliance on imported food and foster self-sufficiency. Key strategies include developing irrigation projects, introducing modern farming practices, and supporting study and development in agriculture. The Ministry also plays a vital role in guiding and supporting farmers, helping them improve crop yields and quality.

However, the effectiveness of these strategies heavily relies on the performance and productivity of the employees within the Ministry. The workforce is crucial in executing policies and programs to enhance the agricultural sector. Therefore,

employee motivation and satisfaction within the Ministry become critical factors that can significantly impact the success of these initiatives. The employees' motivation levels and job satisfaction can directly influence their productivity, which in turn affects the overall performance of the Ministry.

Given this context, the "The Impact of Employee Motivation, Employee Satisfaction, and on Employees' Productivity in the Ministry of Agriculture Libya" study is timely and relevant. It seeks to explore the dynamics within the Ministry, focusing on how employee motivation and satisfaction affect productivity. The findings of this study could provide valuable insights for the Ministry's management, potentially leading to improved strategies for employee engagement and productivity enhancement. This, in turn, could contribute to the Ministry's broader goal of revitalizing Libya's agricultural sector and achieving national food security (Libyan Ministry of Agriculture, 2023).

### **2.2.1. Foundation and Early Efforts**

The Ministry of Agriculture in Libya established post-independence in 1951, embarked on a journey to modernize and develop the agricultural sector. Initially, the focus was on overcoming the limitations of Libya's arid climate and enhancing food security. Efforts included introducing modern farming techniques and expanding irrigated lands to reduce dependency on food imports (El-Hawat, 2016).

### **2.2.2. Italian Colonization and Its Impacts**

During the Italian colonization in the early 20th century, significant steps were taken towards agricultural modernization, including crop diversification and infrastructure development. These early efforts laid the groundwork for subsequent agricultural policies and demonstrated the sector's potential for growth (Baldinetti, 2004).

### **2.2.3. The Drive for Self-Sufficiency**

Following independence, the Libyan government prioritized self-sufficiency in food production. The Ministry of Agriculture led initiatives to improve irrigation methods and introduce modern agricultural practices, reflecting a broader vision for national development (St John, 2008).

### **2.2.4. The Oil Boom and Shift in Focus**

The discovery of oil fundamentally transformed Libya's economy, leading to a shift in focus towards the burgeoning oil sector. Despite this, the Ministry of Agriculture continued to support rural communities and ensure food security, although with diminished emphasis compared to the oil industry (Vandewalle, 1998).

### **2.2.5. The Green Revolution and Gaddafi's Era**

Under Muammar Gaddafi, Libya witnessed ambitious projects to transform the country into an agrarian society. The most notable was the Great Man-Made River project, designed to address water scarcity and support agriculture. These initiatives marked a significant agricultural sector investment period (Vandewalle, 1998).

### **2.2.6. Challenges of Water Scarcity**

Water scarcity has always been a significant challenge for Libyan agriculture. The Ministry of Agriculture has undertaken various projects to manage this issue, focusing on sustainable water use and introducing drought-resistant crops (Khalifa & Van der Zaag, 2015).

### **2.2.7. Post-2011 Turmoil and Its Impact**

The 2011 revolution brought about political instability, severely impacting the agricultural sector. The Ministry faced challenges in maintaining agricultural productivity amid infrastructure damage and lack of investment. Efforts to stabilize and revitalize the sector became paramount (Elmogherbi et al., 2017).

### **2.2.8. Modernization and Sustainable Practices**

The Ministry of Agriculture has recently focused on adopting sustainable agricultural practices, recognizing the importance of environmental conservation and efficient resource use. Initiatives have included promoting organic farming and improving irrigation techniques (Ahmed & El-Zubi, 2014).

### **2.2.9. Supporting Rural Communities**

Supporting rural communities has remained a core objective of the Ministry, with policies aimed at enhancing the livelihoods of those dependent on agriculture. This includes providing smallholder farmers access to markets, financial services, and technical support (Elmogherbi et al., 2017).

### **2.2.10. Looking Forward**

The Ministry of Agriculture in Libya stands at a crossroads, navigating through ongoing political instability while striving to achieve food security and sustainable development. The future direction will likely involve a continued focus on modernization, water resource management, and supporting rural economies, ensuring the agricultural sector's resilience and productivity (Mezran & Varvelli, 2018).

## **2.3. Employee Productivity**

Chien and Chang (2020) suggest that employee productivity is closely connected to individual goal achievement, and performance measurement is challenging for managers. Measuring performance is akin to performance assessment. Performance evaluation evaluates a particular employee's performance and offers guidance on how they might improve their effectiveness. Some organizations base employee compensation on their performance metric scores. Various elements are considered during such exercises. One of the most significant factors is likely the speed and precision in completing specified duties and the capacity to deliver them effectively (James, 2022). Depending on them in such situations might harm the

employee. Coole states that emotions are subjective, not objective, and so should not be used to decide employee compensation.

Kim et al. (2019) defined productivity as measuring an individual's work accomplishments after their effort. They feel that production is an individual occurrence. Specific environmental elements will significantly impact performance. Herti states that evaluating people's performance via different assessments benefits the business. Assessments and evaluations may potentially have a detrimental impact on the person. Herti notes that influential private sector firms use different work measurement and assessment techniques. Hatch (2018) provides an example of specific firms that have consistently achieved outstanding performance. He attributes the success of these firms to their exceptional organizational culture. Performance measurement is integral to corporate culture. Company architecture and sophisticated human resource management procedures, such as realistic job preview tactics and employee assessment, are considered integral components of company culture (Armstrong & Taylor, 2020).

Managers at all organizational levels are focused on enhancing productivity, as stated by (Mohammed & Gana, 2022). The corporate culture should foster collaboration and teamwork across the firm hierarchy. The manager should incentivize employees using effective leadership strategies to create an organizational culture where individuals align their interests with the company's goals. Managers should determine the organizational culture where employees align their interests with the company's get dignity and happiness from their job, leading to enhanced productivity, morale, and a sense of pride in belonging to the firm (Raverkar, 2021).

## **2.4. Training**

Silikale and Khamphai (2023) said that the increased emphasis on training in recent years is due to heightened competition and the success of firms prioritizing employee development. Additional studies have shown that technological advancements, automation, mechanization, evolving work environments, and organizational shifts have prompted employers to recognize that their businesses' success depends on their employees' skills and capabilities. This realization

necessitates significant and ongoing investment in training and development (Adege, 2020).

Moreover, due to human resource management ideas like organizational commitment and quality movement, top management teams have recognized the growing significance of training, employee development, and long-term education. These ideas need meticulous planning and a heightened focus on personnel growth (Salas-Vallina & López-Cabrales, 2021). Deep literary analysis views training as enhancing an individual's skills, knowledge, exposure, and capacities. As defined by Naqvi and Khan (2013), training is a structured enhancement of the knowledge, abilities, and attitudes required for employees to perform well in a given task and function in subordinate roles. Training improves workers' skills by motivating and organizing them effectively, which impacts the organization's success. As defined by Karim and Latif (2019), training is a method used to improve employees' skills, knowledge, capacities, and perspectives, leading to enhanced performance in the workplace. He also states that training enhances the organization's productivity. Training enhances workers' productivity, impacting the organization's performance and efficiency (Madavi et al., 2022).

Alemayehu (2021) asserts that the primary impact of training on employees and organizational performance is enhancing the quality and quantity of the organization's output, boosting profitability, ensuring organizational stability, reducing risks, cutting costs and expenses, enhancing organizational management, and positioning the organization as a national and international entity. These goals may be accomplished by systematically modifying and upgrading behavior, skills, and abilities to align with future career requirements successfully. Adege (2020) reported that 44% of European workers get job-related technical skills training, while 33% receive information technology (IT) skills training. 18% of workers received sales training, 25% received people development skills training, 21% received management skills training, and 15% received leadership skills development in the preceding year. Training is considered the primary method for improving an individual's productivity and conveying organizational objectives to personnel. Therefore, it must be methodical, well-organized, and efficient.

The success of training programs hinges on the precise identification of training needs. Tailoring each training session to align with the specific needs of the organization and its employees is crucial. This process should commence only after a thorough assessment of training requirements. Evaluating these programs' effectiveness is achievable by identifying training needs (Randeniya & Lu, 2019). It involves delineating the gap between existing levels of knowledge, skills, performance, and the desired competencies to identify areas of alignment. Determining the areas that present challenges makes it possible to determine how training can effectively address these issues.

Training should be tailored to meet the performance development requirements of workers and align with their job descriptions. The employee and the company must collaborate to identify the workers' areas of ignorance. McConnell (2004) advocates for a collaborative approach between workers and their organizations to identify training requirements and for employees to participate in establishing training objectives. Employee involvement will bolster support for the training programs and boost morale. Company management and employees must have collaborative duties in the employee training and development process and be involved and participating. Following the requirements assessment, it is essential to establish and articulate the training goals effectively. That is, identifying individuals requiring training and specifying the required training.

The training is then created and executed correctly; training programs must be meticulously created and executed after identifying training requirements and goals. At this step, the organization must meticulously construct the training program to align with the predetermined collective requirements. Effectively planned training programs are more inclined to provide positive outcomes and meet business objectives. San (2023) argues that training programs should be tailored to meet the specific requirements of each profession, including individual, vocational, and organizational demands, based on a study of available research. Training programs incentivize workers to enhance their performance and capacities, thus boosting company productivity (Lee, Rosenberger & Sharma, 2020). Training should be tailored to meet the unique requirements and goals of the company (Blanchard & Thacker, 2023).

Training programs undergo comprehensive assessment to see whether goals have been achieved, as stated by Phillips (2016). The evaluation system assesses participant reactions to the training, the extent of their learning, and their ability to apply the training to their jobs. If employees' subsequent performance improves compared to before the training, it positively impacts their performance; otherwise, it does not.

A thorough examination of the literature reveals that the effectiveness of training programs relies on the training techniques used by the company. The most frequently utilized training methods are on-the-job training, off-the-job training, orientation and induction, technical training programs, foundation training programs, refresher training programs, health and safety training programs, promotional and advancement training programs, remedial training programs, and laboratory training programs. Taye (2021) categorizes training and development techniques as either behavioral (On-the-job methods such as orientations, job instruction training, apprenticeships, internships, assistantships, job rotation, and coaching) or cognitive (Off-the-job methods like lectures, computer-based training, games, and simulations). These factors have a significant impact on the performance of workers and the competitiveness of the firm.

When choosing training methods, it is crucial to consider factors that significantly impact the effectiveness of training programs (Blanchard & Thacker, 2023). These factors include training objectives, cost, duration, location, frequency, method suitability, content, delivery style, applicability, trainer's expertise, and employee motivation to learn and apply. Mahbuba Sultana (2013) states that the trainer's job is evolving from just imparting skills to being an active communicator who strives to achieve training and corporate goals. The trainer plays a crucial role in translating knowledge into practical application. One obstacle to effectively delivering training to workers is inadequate training material and delivery style.

Accidents and mistakes are less likely to happen when individuals do not possess the necessary knowledge and abilities for a particular profession. Increased staff training reduces the likelihood of workplace accidents and enhances employee proficiency. Employees are more likely to advance when they gain skills and improve efficiency via training. They become more qualified for advancement. They prove to



be a valuable resource for the company. Enhanced productivity is achieved via training, improving staff efficiency and effectiveness. Proficient personnel demonstrate high levels of both quantity and quality in their performance. Efficient use of time, money, and resources is achieved by adequate staff training (Ozkeser, 2019).

## **2.5. Development**

Human resource development focuses on cultivating a highly skilled staff to facilitate the organization's continuous growth. This can only be accomplished by effectively and methodically implementing personnel training and development programs. Employees are consistently encouraged to enhance their job skills, which boosts employee motivation and retention. A well-trained and developed personnel will undoubtedly be a tremendous addition to the firm, increasing their efficiency and effectiveness in performing their jobs. Training is an educational process that may bring about beneficial changes and achieve the organization's goals. It enhances the employee's capacity to perform the task effectively and with exceptional quality (Hee, Qin, Kowang, Husin & Ping, 2019).

Development refers to learning opportunities specifically created to facilitate the growth of personnel. Development does not focus mainly on skills. It offers broad information and attitudes that will benefit employers in higher positions. Development initiatives often rely on individual motivation and determination. Participation in development activities, such as those offered in management development programs, is often optional. The development offers valuable insights into the corporate environment, management principles, human relations, industry analysis, and other relevant areas, which are beneficial for enhancing firm management (Khanra, Kaur, Joseph, Malik & Dhir, 2022). Development programs are structured to assist workers in enhancing their personal and professional skills, knowledge, attitudes, and behavior to enhance their performance in specific tasks inside the firm (Karim & Latif, 2019).

Ekpo (2021) believes workforce development is tailored to each organization's needs. This is mainly determined by the level of organizational staff required or job specifications. It involves aligning a nation's available human resources with a company's goals and direction. Human resources development aims to provide human resources essential for optimal business performance (Piwowar-Sulej, 2021). It aims to

provide workers with new approaches or skills related to their job performance (Lawal, 2021). Adeniyi (1995) identified personnel development approaches as including work rotation, self-improvement, self-assessment, and understudy.

An understudy is beneficial for succession planning as it facilitates a seamless transfer of responsibilities when an officer departs from a schedule or the company. Job rotation is when employees switch organizational roles to develop skills in various areas. Self-development refers to an individual's efforts to enhance their knowledge and skills through independent study and practical experience, separate from the organization's involvement. Self-assessment involves recognizing personal strengths and striving to enhance and develop present initiatives to contribute to more satisfying organizational progress (Abid, Arya, Arshad, Ahmed & Farooqi, 2021).

Additional approaches to workforce development encompass orientation, on-the-job training, in-service training, committee/work group method, vestibule training method, apprenticeship, coaching/mentoring, job rotation, committee membership, particular assignment, programmed instructions, simulation, special courses, professional bodies membership, business games, and part-time programs (Alshawafi, 2020). Additional employee development approaches include career planning, mentorship, job training, and competence courses, including technical training and professional certifications to enhance workers' and future job performance. It requires a positive and welcoming environment in firms that motivates people to improve themselves cost-efficiently to achieve their present and future goals. Individual development programs should be structured to fulfill particular goals that enhance individual and organizational performance, regardless of the technique utilized. Several phases in the management development process should be highlighted within this framework (Moullin et al., 2020).

The steps involve assessing organizational goals, analyzing current management resources, identifying individual requirements, creating and executing development initiatives, assessing program effectiveness, gauging the influence of training on participants' work quality, and delivering feedback outlining the overall advantages for employees and the organization. Human resource management requires creativity in developing and implementing staff development programs (Nisar et al., 2021).

Aswathappa (2000) proposed that for the training and development function to succeed and achieve all anticipated outcomes, it must go beyond focusing on procedures and conventional responsibilities. The author outlines strategic options for training and development in organizations, suggesting that the selection of a strategy should be informed by an understanding of the organization's requirements, management and staff attitudes, and available resources. This strategic perspective may help evaluate present initiatives and future planning.

## **2.6. Employee Satisfaction**

Employee satisfaction is undeniably a crucial priority in the service business. It is a complex construct influenced by several factors. Employee satisfaction comprises fundamental aspects, motivational factors, and productivity considerations. Fundamental elements are the essential prerequisites that lead to discontent. Excitement elements influence customer satisfaction, whereas performance variables contribute to satisfaction only in conditions of excellent performance (Woratscheke et al., 2020).

Employee satisfaction is directly linked to service quality and customer satisfaction, which impacts business profitability. High service quality positively influences customer satisfaction. In addition, the firm's profitability has a significant non-recursive impact on employee satisfaction. Employee happiness significantly impacts a company's profitability, operational effectiveness, and the quality of products and services. Employee happiness is crucial for achieving quality and profitability in the service business. Employee satisfaction affects the quality of work in the sector via a satisfaction-quality-profit cycle. Employee happiness is crucial for achieving quality and profitability in the service business, as Yee (2008) stated.

Empowering employees is an excellent method for gratifying and granting them empowerment, resulting in increased job satisfaction. Empowering employees leads to increased customer satisfaction. Job happiness contributes to client satisfaction, ultimately resulting in organizational success (Al-Ali et al., 2019). Employee satisfaction is synonymous with work satisfaction. Job happiness is a crucial aspect of job organization. Both of them are closely correlated. Thus, it is essential to preserve work satisfaction to ensure staff remain engaged. When evaluating job

happiness, it is crucial to evaluate job rotation, work technique, issue-solving, and goal setting.

Employee age, marital status, and work experience might also impact job satisfaction (Topchyan & Woehler, 2021). Individual job variables might impact workers' perceptions of their work environment. The connection between employee happiness and financial success could be obscured by the effect of customer satisfaction (Reidhead, 2020).

## **2.7. Concept Of Motivation**

"motivation" is derived from the Latin word "movere." The word "movere" means to move. Therefore, it generates an image of progress, motivating us to work diligently and reach our objectives (Prayetno & Ali, 2020). Jeffrey S. Nevid, a psychology professor, described motivation as elements that activate, guide, and maintain goal-directed action. Motives are the underlying reasons for the conduct, representing the needs or desires that influence behavior and provide a rationale for our actions. We do not directly see a motivation; instead, we deduce its existence from the conduct we watch (Nevid, 2013).

The concept of "motivation" is multifaceted and may be defined in several ways based on different viewpoints. It conveys the most genuine definition that serves as motivation (Elliot & Sommet, 2023). It is an action or procedure that provides an individual with a rationale for behaving in a particular manner or a justification for their recurring behaviors, requirements, and wishes (Abdulrahman et al., 2023). It succinctly explains the motivation behind a person's actions.

From an organizational perspective, motivation is "the total of the processes that impact the stimulation, direction, and sustenance of behaviors pertinent to work environments." Employee motivation is crucial in driving effort and action towards work-related tasks, such as an employee's desire to exert energy to attain a shared objective or reward. Motivated employees demonstrate passion, desire, and a strong resolve to complete job responsibilities (Hajjali et al., 2022).

Motivation is "psychological forces that determine the direction of a person's behavior in an organization, a person's level of effort, and a person's level of

persistence" (Jones & George, 2008). Motivation is a phrase that psychologists coined. However, according to Jones and George (2008), motivation has three key components: direction, intensity, and persistence. Although motivation may be broad, it is essential to note that these components are not interchangeable.

Direction is an objective that compels a person to act to accomplish it. A person selects a goal either consciously or unintentionally. Various internal and external elements impact a person's goal selection, with the ultimate aim being the most optimal choice among viable options. Intensity refers to the degree of resolve and effort exerted by a person in pursuing a goal, including the extent of their endeavor, the use of resources such as time, money, and energy, and the mental or physical exertion involved in the goal achievement process. Persistence is the capacity of a person to sustain motivation in the presence of challenges (Cervone, 2020). Motivation is essential for success. An individual who is motivated is inclined to exert more significant effort in doing a task, resulting in a satisfactory outcome. Achieving objectives leads to employee satisfaction happiness, and fosters a good work attitude in the company.

The notion also discusses the categorization of motivation into intrinsic (internal) motivation and extrinsic (external) motivation (Elizabeth & Ena, 2019). Intrinsic motivation arises from an individual's drive to explore new experiences and push their limits. The desire to acquire information, investigate self-values, and develop capacities is referred to as eagerness to learn (Wang, 2023). If a person has the intrinsic motivation, it indicates they do the task with pleasure and delight. These individuals have a proclivity for being fully committed to their profession, carrying out tasks enthusiastically and eagerly, aiming for optimal outcomes and personal satisfaction while consistently enhancing their competencies and talents (Rosdaniati & Muafi, 2021).

Extrinsic motivation involves engaging in activities to get specific results. Both internal and external causes may influence extrinsic motivation. It often arises from external influences rather than internal ones, such as the person. The primary concern is where to get extrinsic motivation and how an individual may maintain it (Nguyen et al., 2019). Extrinsic motivation may be influenced by contests, evaluations, external incentives, or punishment (Jeong & Han, 2023).

## **2.8. Employee Motivation**

Employee motivation has been defined differently in numerous academic areas, such as management, psychology, and associated sciences. Motivation, as stated by Kreitner (1998) and Ramlall (2004), originates from the Latin term "movere," which translates to "to move." Butkus and Green (1999) said that motivation comes from the term "motivate," which involves moving, pushing, or persuading someone to behave to fulfill a desire.

Mol (1992) distinguished between the concepts of "movement" and "employee motivation." Mol (1992) defined movement as the act of doing work for compensation, whereas motivation is an employee's voluntary engagement and choice to perform a task. Employee motivation is when a person decides to achieve desired goals and initiates behaviors to get them. Lindner (2004) views motivation as a psychological process providing purpose and direction for behavior.

According to Robbins (2017), Employee motivation is the readiness to put significant effort toward achieving corporate objectives, influenced by the extent to which the work fulfills personal needs. Robbins (2017) defines a need as an internal condition that causes specific outcomes to seem appealing, and an unmet need generates tension that triggers drive in a person. Baron (1983, in Mol, 1992) described employee motivation as a series of processes that include a force that energizes actions and guides them toward reaching particular objectives. The text suggests that motivation may impact performance and vice versa, especially when incentives are involved. Carraher et al. (2006) suggest that firms should implement a robust compensation structure to retain top workers, with rewards directly tied to their output. Baron (1983) suggests that firms might gain advantages by establishing complete incentive programs emphasizing formal reward regulations.

Raza and Shah (2017) defined employee motivation as encouraging employees to work individually or in groups in a manner that yields optimal outcomes. Motivation is a broad phrase that encompasses urges, wants, needs, wishes, and related influences. Raza and Shah (2017) observed that when workers inspire their subordinates, they try to fulfill their impulses and desires to influence the subordinates to perform in a certain way.

## **2.9. Hypothesis Formulation**

### **2.9.1. The Relationship Between Training and Employee Productivity**

Goldin and Katz (2020) define productivity as a resource inherent in individuals. It is a non-physical kind of human capital that may increase the organization's profits. Training to enhance employees' productivity is considered an investment in human capital. The knowledge and skills gained through education and training are essential to employees and significantly impact their productivity. Shrouf et al. (2020) performed a study that integrated economics, strategy, and psychology principles to evaluate how organizations use human resources to enhance employee productivity and organizational success. The study's results indicate that providing internal training to specific staff members directly impacts their labor productivity, especially during economic downturns when the company has to withstand recessionary pressures. Studies show that internal training was more advantageous during the post-recession era as employees who received training showed more flexibility and adaptability to changes, resulting in increased profitability for the company. The study proves the connection between productivity and training when integrated with the company plan.

Pross, (2019). conducted a study on Finnish companies to analyze the return on investment (ROI) of strategic inputs such as study and development (R&D) and information technology (IT). They aimed to assess and compare the productivity outcomes of these strategic activities with those achieved via the labor inputs of skilled human capital. The findings indicate that skilled employees significantly impacted profitability, but the returns from study and development were little. The study concludes that investing in workers' training leads to increased organizational competency and accelerated productivity development. The writers seem to repeat Goldin and Katz's (2020) human capital theory, which states that training spending is an investment in human capital.

**H1:** Training positively impacts the employee productivity.

## **2.9.2. The Relationship Between Development and Employee Productivity**

Laing (2021) investigates the influence of training and development on employee performance and productivity. The study demonstrated a significant correlation between training and development and employee performance. The training and development of employees have enhanced organizational welfare and contributed to the prosperity of countries prioritizing national-level training and workforce development (Firman, 2021). Employees are a vital asset to the firm. The organization's success depends on the employee's performance; organizations allocate significant funds to staff development (Al-Kassem, 2021).

Elsafty and Oraby (2022) investigated how training impacts employee retention; the study concluded that training positively impacts an organization's performance and strategic direction, affecting employee retention and the expansion of human capital. Insufficient investment in training activities is due to certain firms seeing training as a costly risk. Hussain and Khan (2020) said that training and development programs are crucial in all organizations. Programs boost employee performance, refresh knowledge, develop interpersonal skills, and prevent management obsolescence in the workplace. Bustinza and Baines (2019) assert that firms greatly benefit from implementing staff development programs. Companies implementing a structured training and development program for workers will benefit from increased profitability and competitiveness in the labor market.

**H2:** Development positively impacts the employee productivity.

## **2.9.3. The Relationship Between Employee Satisfaction and Employee Productivity**

According to Shadare and Olaniyan (2021), employee productivity is influenced by various factors, including intellectual and physical abilities, qualifications, experience, training, organizational culture, reward systems, career advancement opportunities, co-worker behavior, authority and responsibility, workload, and organizational structure.



Shakeel (2021) defines quality as assessing an employee or business unit's performance in completing given tasks and the correctness or effectiveness of the finished output. Greater employee work satisfaction leads to decreased task completion time. As to Khan et al. (2021), workers who are content with their employment are likely to be more productive. They often strive to attain a certain degree of creativity and productivity. The statement may encapsulate job happiness and performance: "The productivity of a content worker is greater" (Fan, 2023).

One of the most challenging aspects of work satisfaction is how it relates to productivity (Toscano & Zappalà, 2020). Job satisfaction results in increased productivity, organizational commitment, and improved physical and mental well-being, enhancing mood, skill acquisition, and potential job advancement (Ali & Anwar, 2021).

Anitha and Pragadeeswaran (2016) suggest that the cost of work produced may indicate an employee's productivity and is affected by job satisfaction. (Makambe & Matlhape, 2022).

Quantity refers to the volume of work completed by an employee or a labor unit. Quantitative measurements may be represented by the number of items manufactured or services delivered or as a broad result of an inquiry (Hanson & Sigman, 2021). work happiness and productivity may have distinct causal paths. Variables like investment in technology primarily influence productivity, whereas variables like equitable pay contribute to work satisfaction (Diab-Bahman & Al-Enzi, 2020).

**H3:** Employee satisfaction positively impacts the employee productivity.

#### **2.9.4. The Relationship Between Employee Motivation and Employee Productivity**

Employee motivation and its development are contingent upon their essential resources. Employee and manager competencies are vital in creating an inspiring work environment. Several factors highlight the significance of employee motivation. The primary reason is that management cannot achieve the organization's objectives without a motivated workforce. Most organizations aim to gain from individuals that

are favorably motivated towards their tasks (Maan, Abid, Butt, Ashfaq, & Ahmed, 2020).

Highly motivated employees are more productive. Motivation is directly linked to productivity. Motivated personnel are more engaged and inclined to work hard. Moreover, they operate efficiently, resulting in increased productivity. Higher productivity may arise from a motivated staff in certain conditions. Employees often assume that intrinsic and extrinsic incentives are contingent upon their performance. The benefits are dispersed equitably among the workers based on their productivity. An unfair distribution does not convince workers of a strong connection between effort and rewards (Ali & Anwar, 2021).

Each firm has its unique strategy to streamline production and increase efficiency using fewer resources. Enhancing productivity is crucial for a company's long-term success. Managers may enhance profitability by improving efficiency, which leads to reduced expenditures and conservation of resources. Moreover, enhancing organizational efficiency may be accomplished via an engaged staff. When a firm is booming and making sufficient cash, it may provide improved remuneration, benefits, and working conditions to its workers, enhancing their motivation more effectively. Consequently, staff may enhance their productivity (Kwarteng et al., 2023).

**H4:** Employee motivation positively impacts the employee productivity.

## **2.10. Underpinning Theories**

**Training Theories:** The boundaries between training, education, and development have grown less clear recently (Qin & Chiang, 2019). Public enterprises are increasingly providing education to workers to assist them in acquiring new technologies and skills, blurring the lines between training and conventional education. The ongoing academic debate on the curriculum of MPA and PhD programs exemplifies the nature of these arguments.

De Sario et al. (1994) define training as learning experiences that aim to improve the work performance of individual employees in the short term or long term. Training is considered a component of a continuous developing process. Training

should align with the company goal, as suggested by (Eurich, 1985; Fischer, 1989; Latham, 1988). Local governments must align their training efforts with the organizational objective, local budget, and execution when planning.

Some writers propose seeing training as an investment choice (Eurich, 1985) that needs serious evaluation. Training activities should be evaluated based on their impact on individual job performance rather than as standalone occurrences that may or may not benefit the business.

McGehee and Thayer (1961) are often credited as the authors of the first textbook on training in organizations. They proposed a tripartite method to identify the appropriate training and development programs to be introduced, which includes organizational assessments, task analyses, and person analyses. Organizational studies concentrate on the organization's capacity to facilitate training. Task analyses concentrate on the competencies, skills, talents, and other human traits necessary for the agency's tasks. Analyzing individuals focuses on determining the distinctive qualities specific to each person.

Trainers and managers can access diverse instructional media for designing training and development activities (Olaosebikan & Epetimehin, 2019). Various teaching strategies, including lectures, case studies, simulations, role-play exercises, and small-group discussions, may be used. Trainees should actively participate in the learning process, regardless of the specific approach. They should be allowed to apply their knowledge and abilities in a setting that closely mirrors the natural employment environment. Participants should also be provided with comments.

**Development Theories:** The concept of development has been a challenge for political scholars throughout history. Different academics, such as Amartya Sen, Todaro, and Coralie Bryant, have provided distinct meanings and interpretations. According to Todaro and Smith (2012), development is a complex process involving significant transformations in social structures, public attitudes, national institutions, economic advancement, reduced inequality, and eradicating extreme poverty. Scholars have proposed hypotheses on how development occurs and what factors might hinder it. The theories mentioned include Modernization theory, Dependency theory, and Feminist theory (Scott, 2021).

The modernization hypothesis discusses two primary types of societies in the world: traditional and modern civilizations. Theorists contend that traditional cultures are constrained by norms, beliefs, and values that impede their progress. Hence, they must embrace a contemporary lifestyle focused on amassing cash and industrializing.

This approach aims to enhance the quality of life in underdeveloped countries by providing contemporary technology and economic strategies to help them achieve primary and secondary needs. A modernization theorist, Rostow (1990), suggested rapid mechanisms for transitioning traditional civilizations toward development. These stages include preparation for take-off, take-off, drive to maturity, and the time of mass consumption. The transitional route mechanisms propel traditional communities towards progress. The theory posits that a society's norms, values, and beliefs may influence the social transformation within that community (Siregar, 2022).

The idea contains faults that need to be addressed despite its merits. The thesis focuses only on third-world nations' economic and tangible industrial development. The idea does not include Amartya Sen's (1996) perspective on development, which posits that growth involves enhancing individuals' freedoms. According to Sen (2014), growth involves independence, liberty, and the self-esteem of humanity, which the ideology overlooks. The modernization idea suggests that third-world countries should adopt the development methods of advanced nations. It overlooks the reality that a single system cannot be universally applied to all nations because of their varied historical and cultural backgrounds.

Finally, Wallerstein (2019) noted that the idea results in reliance on and exploitation of third-world nations. The ideology overlooks third-world nations' social and cultural framework and enforces ethnocentric methods on the impoverished for development (Hanson-DeFusco et al., 2024). The dependence hypothesis contradicts the modernization idea. The fundamental argument is that the continuous growth of industrialization in wealthy nations contributes to underdevelopment in poor countries by exploiting the economic excess of the latter.

Frank A. Gunder (2023) conducted a thorough investigation that effectively refuted the modernization thesis's unsubstantiated, non-historical, and ethnocentric claims (Froning, 1998). Frank A. Gunder highlighted the economic disparities between industrialized and developing nations, the internal inequities within peripheral

countries, and the exploitation of economic excess by developing countries during colonialism (Frank & Andre, 2023). The idea emphasizes that progress is primarily influenced by economic and social structures and processes rather than cultural values (Inglehart, 2020; Halog & Anieke, 2021).

**Employee Motivation Theories:** Various theories have been proposed to analyze the aspects influencing employee motivation in firms. The ideas are significant since they provide explanations for employee motivation. Correctly applying these theories might result in better-motivated workers and higher firm productivity (McCullagh, 2005).

Before the 1960s, scholars such as Abraham Maslow, George Homans, Frederick Herzberg, and B.F. Skinner developed foundational theories of motivation. Maslow's Hierarchy of Needs theory, Homans' work in 1950, Herzberg's two factor theory in 1959, and Skinner's Reinforcement theory in 1953 have significantly advanced the understanding of motivation. These theoretical contributions can be categorized into instrumentality, content, and process theories.

Armstrong (2010) states that motivation theory aims to create value by ensuring that the value generated from employees' work output exceeds the costs associated with its production, as Fikirini (2022) echoes. Motivating employees to dedicate their entire effort is pivotal for enhancing organizational performance.

Mullin's (2010) motivation framework explores various employee motivation theories, including those proposed by Skinner (1953; Maslow, 1954; Herzberg, Mausner & Snyderman, 1993; Vroom, 1964; Locke & Latham, 2004; Adams, 1965). These theories aim to reveal the underlying factors that drive workers' behavior and provide managers and employees with insights into fostering inspiration and increasing workplace motivation (Koch et al., 2019).

**Employee satisfaction Theories:** Employee satisfaction refers to the feeling of accomplishment or pleasure that people get from their work, and it is connected to employee growth and welfare. Positive connections with coworkers, self-regulation of vacation time, and sufficient resources indicate employee contentment. An organization's performance significantly relies on the degree of employee job satisfaction. This also pertains to all establishments (Khan & Iqbal, 2020a, 2020b).

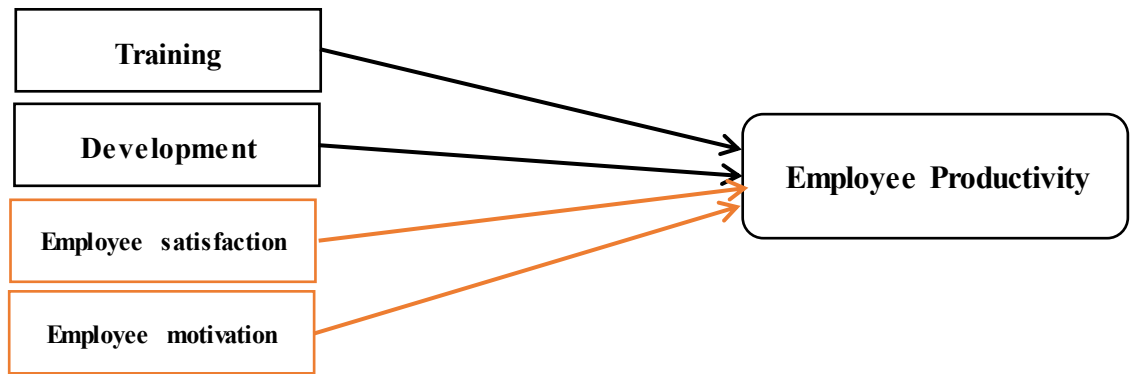
Studies have shown that individuals who are satisfied with their occupations exhibit higher production levels, enhancing the firm's overall productivity.

Employee satisfaction has three components: intrinsic, extrinsic, and general reinforcement factors (James, 2020). Factors such as work performance, use of talents, self-efficacy, authority, and activity should be included in evaluating intrinsic employee happiness (James, 2020). Career progression, company strategy, supervisor relationships, remuneration, and acknowledgment influence external happiness. Employee happiness combines intrinsic and extrinsic characteristics (Khan et al., 2021). Several studies indicate a correlation between employee happiness and productivity.

Employee satisfaction has been a focal point in the work and organizational literature. Many experts believe employee happiness directly impacts labor market behavior, including productivity, effort, absenteeism, and turnover. Employee satisfaction is a crucial measure of personal well-being and a reliable predictor of workers' intentions to quit a job (Khan & Iqbal, 2021).

### **2.11. Study Framework**

The study framework for "The Impact of Training, Development, Employee Motivation, and Employee Satisfaction on Employee Productivity" examines the direct and indirect effects of these four critical HR practices on productivity. It integrates theories of human capital development and motivational psychology to assess how training and development contribute to skill enhancement while employee motivation and satisfaction influence engagement and performance, as shown in Figure 1.



**Figure 1: Research Model**

## **2.12. Summary**

In this chapter, the investigation delves into employee motivation, employee satisfaction, training, and development, assessing their combined impact on employee productivity within the Ministry of Agriculture in Libya. Moreover, it encompasses an exhaustive review of historical and contemporary empirical studies pertinent to the study's quintessential variables: training, development, employee satisfaction, employee motivation, and employee productivity. A nuanced interpretation is offered following a thorough examination and discussion of these critical variables, which forms the foundation for hypothesizing in response to the research inquiries. The theoretical framework invoked, including Maslow's Hierarchy of Needs, Herzberg's Two-Factor Theory, Vroom's Expectancy Theory, Adams' Equity Theory, and Skinner's Reinforcement Theory, serves as the underpinning for the "Theory of Five Variables." This framework aims to connect individual theories and the comprehensive structural relationships among the variables explored.

## **3. METHODOLOGY**

### **3.1. Introduction**

The preceding chapter, which encompasses the literature review, delineates research concerning the impact of employee motivation, satisfaction, training, and development on employee productivity. Within the ambit of this study, the variables scrutinized entail employee motivation, satisfaction, training, and development and their influence on employee productivity. To fulfill the objectives of this research, questionnaires were employed as the primary instrument for data collection. Furthermore, this chapter aims to furnish a comprehensive overview of the research methodology, encompassing the research design, sampling strategy, data collection instruments, and the methods employed to test the research hypotheses.

### **3.2. Study Design**

The study design is the architectural blueprint for conducting research, outlining the systematic process essential for gathering meaningful data and information to construct or respond to research questions. It delineates a comprehensive strategic plan detailing the organization and approach of the investigation, effectively serving as a roadmap for navigating through the complexities of the research endeavor (Kumar, 2019).

A quantitative research methodology has been adopted for this investigation, which is recognized as the most suitable approach for the study's aims and objectives. Quantitative research is predicated on examining variables that can be quantified into numerical data, enabling extrapolation of findings to a more extensive population base. Mahajan (2020) notes that this approach is advantageous for its capacity to organize and quantify data systematically, thereby simplifying the processes of collection, analysis, and interpretation concerning the research topic.

The essence of quantitative studies lies in their structured approach to understanding phenomena, relying on numerical data to establish empirical relationships. This methodology facilitates an objective assessment of outcomes



grounded in statistical analysis, which is critical for validating theories and hypotheses within the scope of the study. Creswell (2017) elaborates that this approach involves identifying and analyzing specific variables and encompasses rigorous assessment, observation, and theoretical scrutiny.

Furthermore, the quantitative methodology is characterized by its potential to generalize findings to broader populations, offering significant contributions to the field by enabling the drawing of inferences that extend beyond the immediate study sample (Bryman, 2016). This ability to infer broader applicability of results is integral to advancing knowledge within a given discipline, as it provides a basis for comparison, replication, and further study.

The chosen study design and quantitative methodology provide a structured and empirical framework through which this research seeks to uncover nuanced insights. Through systematic data collection and analysis, this study aims to contribute to the body of knowledge by establishing clear, objective findings that either support or refute the initial hypotheses (Kothari, 2004).

### **3.3. Population and Sample**

This section explains the projected population size and the determination of the sample size for the study. The focus is on elaborating on the sample frame and techniques to enhance understanding of the issue.

The phrase "population" in study refers to the total number of individuals, events, or other subjects studied (Bougie & Sekaran, 2019). Creswell (2012) defines a population as a group possessing comparable features and characteristics that a study may see and analyze. The population is the comprehensive group from which the sample is selected, including departments, organizations, and individuals to whom the survey results will be applied. The Ministry of Agriculture in Libya is crucial to the country's economy and international influence in the agriculture sector (Sadeg & Al-Samarrai, 2021).

### 3.3.1. Sample Size Determination

The adequacy of the sample size is critical to yielding precise estimations of the population attributes and deriving valid conclusions within the research (McMillan & Schumacher, 2014). Bougie and Sekaran (2019) emphasize the importance of a sufficiently large and comprehensive sample size to reflect the essential characteristics of the population under study accurately. Such a sample size is integral to achieving a study's successful outcomes. This approach draws upon the foundational principle highlighted by Krejcie and Morgan (1970) concerning the selection of an appropriate sample size.

In the context of the Ministry of Agriculture in Janzour, within the Greater Tripoli Municipalities, it is reported that there are approximately 200 employees (Ministry of Agriculture in Janzour, 2022). Following the sample size determination guidelines provided by Krejcie and Morgan (1970), 162 participants were chosen for this research. This selection is predicated on ensuring that the sample is representative enough to facilitate a comprehensive evaluation of the critical characteristics of the population at large, thereby underpinning the validity and reliability of the study's findings, as shown in Figure 2.

N	S	N	S	N	S
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10 000	370
150	108	750	254	15 000	375
160	113	800	260	20 000	377
170	118	850	265	30 000	379
180	123	900	269	40 000	380
190	127	950	274	50 000	381
200	132	1000	278	75 000	382
210	136	1100	285	1 000 000	384

**Figure 2:** Sample size calculation.

Source: (Sekaran & Bougie, R. (2016)

### 3.3.2. Sample Techniques

Jawale (2012) articulates that adopting a sampling design in social science research presents advantages and challenges. It facilitates time and cost efficiency by obviating the need for exhaustive analysis and testing across every hypothesis, as it focuses on a select number of units or population segments for study. The data gathered through a sampling technique underpins the analysis, contributing to the reliability of the research outcomes. The flexibility and adaptability inherent in sampling are especially valuable in addressing subjects that involve distinct individual transactions, which may not be comprehensively captured through a census approach. In these instances, sampling emerges as the sole viable research methodology. Moreover, a sampling plan's administrative practicality is notably enhanced compared to more complex sampling frameworks, as it accommodates organizational oversight over the entire population census.

The merit of simple random sampling lies in its ability to give every element in the population a chance of selection that is proportional yet independent of others. This foundational principle is applicable across various probability sampling techniques, establishing simple random sampling as the cornerstone for other random sampling methods. Among probability sampling strategies, simple random sampling is recognized for its simplicity, not necessitating prior knowledge about the population's demographic specifics. Its straightforward nature and minimal bias risk render it a widely adopted method in research endeavors.

According to Jawale (2012), the critical multiples approach is ideal for specific reasons. The random selection process is the least biased approach for generating estimates of population parameters due to its inherent structure. Random samples are likely to be representative of the whole population. Errors in the sample should include components that accurately reflect the variations seen in the whole random population. Sampling enables the development of causal relationships by randomly assigning participants and extending findings from the sample to the target population. Here are the drawbacks of random sampling:

- It is necessary to populate the accounting system completely
- It is time-consuming to assign a unique designation to each member of the population.

In this study, a simple random sample method was used to ensure a more precise representation of the whole population, as stated by Bougie and Sekaran (2019). A simple random sample in statistics is a subset of individuals selected randomly from a larger population, where each person has an equal chance of being chosen. The use of a simple random sample may generate an unbiased sample. Simple random sampling is the most basic kind and is often included in more complex sample methods.

### **3.4. Elements of Analysis**

Elements of the analysis refer to entities being examined under a given case study. In The human resource management study, elements of the analysis are divided into the organization, the community, and the individual (Kumar , 2019).

This study's main objective is to investigate the impact of training, development, employee motivation, and employee satisfaction on employees' productivity at the Ministry of Agriculture in Libya (Janzour Municipality, under the Greater Tripoli Municipalities).

### **3.5. Data Collection Method**

Data collection within a survey can employ multiple methodologies. For this research, primary data for statistical analysis was acquired through a questionnaire distributed among employees of the Ministry of Agriculture in Libya, specifically within the Janzour Municipality, part of the Greater Tripoli Municipalities. This approach enabled the research to ascertain that the Ministry of Agriculture's workforce in the Janzour Municipality is over 200.

The study employed quantitative methods to corroborate the findings and facilitate an understanding of the outcomes. Recognizing the advantages of efficiency and anticipated high participation, the study utilized a Google Form to collect survey responses. This digital method was selected for its capability to streamline the data collection process and optimize response rates.

### 3.6. Measurement of Instruments

This study used primary data. The primary data is collected by a survey questionnaire sent to select respondents who would primarily answer the critical study questions of this study. Descriptive data were collected from publications, journals, newspapers, and online sources. Descriptive data is utilized chiefly to comprehend phenomena, identify study gaps, and assist the study in constructing literature reviews and enhancing study frameworks.

This study uses data instruments to collect information and analyze the studied subject to arrive at a definitive conclusion. The questionnaire is used as the data collecting instrument in the current investigation. The questionnaire used for data collection in this study is a close-structured questionnaire designed by the study, requiring respondents to answer one of five items. The 5-Likert Scale creates specific questions and limits the response alternatives.

The current study activity is using and adapting a measurement approach based on previous relevant investigations (Churchill & Churchill, 1999). The study model consists of five variable definitions—the Influence of (training, development, employee motivation, and employee satisfaction) on employees’ productivity. The study will apply five measures, as indicated in Table 1, illustrating the five Likert scale.

**Table 1:** The five likers.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

**Source:** Adapted from (Qiao, Xiong, & Li (2023).

#### 3.6.1. Employee Productivity

It is closely linked to individual goal achievement. Performance measurement is a challenging subject for managers. Measuring performance is akin to performance assessment. Performance evaluation evaluates employees' performance and offers guidance on improving their effectiveness. Some organizations base employee

compensation on their performance metric scores. Various elements are considered during such exercises. Arguably, the most significant aspect is the efficiency in completing specified duties and the correctness and timeliness of their delivery (Elliot, 2009; Coole, 2012).

**Table 2:** Employee Productivity Scale Items.

Ser.	Attributes
1	This employee always completes the duties specified in his/her job description.
2	This employee meets all the formal performance requirements of the job.
3	This employee fulfills all responsibilities required by his/her job.
4	This employee never neglects aspects of the job that he/she is obligated to perform.
5	This employee often creates new ideas for improvements.
6	This employee generates original solutions to problems.

**Source:** Adapted from (Buée et al., 2002; Mujtaba Abubakar et al., 2013).

### 3.6.2. Training

It is a structured process of enhancing individuals' knowledge, skills, and abilities to perform specific tasks more effectively and efficiently. It involves learning activities to develop competencies and behaviors needed for better job performance. Training can be technical or soft skills-oriented and is often tailored to meet specific job requirements or organizational goals. It plays a crucial role in professional development, equipping employees with the tools and understanding necessary for their current roles and future career growth (McDowall & Saunders, 2010).

**Table 3:** Training Scale Items.

Ser.	Attributes
1	Our organization conducts extensive training programs for its employees in all quality aspects.

2	Employees in each job will generally go through training programs every year.
3	Training needs are identified through a formal performance appraisal mechanism.
4	There are formal training programs to teach new employees the skills they need to perform their jobs.
5	New knowledge and skills are imparted to employees periodically so that they can work in teams.

**Source:** Adapted from (Lam, Nguyen, & Tran, 2021)

### 3.6.3. Development

Refers to the expansive process of an individual's continuous growth and improvement in their career or personal capabilities. Unlike training, which is more task-specific, development focuses on broader skills and competencies that enhance overall performance, leadership, and potential. It encompasses a range of activities like mentoring, education, and experiential learning aimed at building more profound knowledge, strategic thinking, and advanced skills. Development is a long-term process integral to career progression and personal fulfillment (Oshionebo, 2003).

**Table 4:** Development Scale Items.

Ser.	Attributes
1	Employee development increases the trainee's morale.
2	Employee development helps maintain skills and knowledge.
3	Employee development creates scope for internal promotions.
4	development courses achieve the aims of the organization.
5	The development courses enhance the level of employees in the organization.

**Source:** Adapted from (Lam, Nguyen, & Tran, 2021).

### 3.6.4. Employee satisfaction

Refers to the level of contentment and positivity that employees feel towards their jobs and work environments. It encompasses various factors such as job security,

work-life balance, compensation, recognition, and the nature of the work itself. Satisfied employees typically demonstrate higher morale, better performance, and increased organizational loyalty. Employee satisfaction is organizational loyalty to maintaining a productive, engaged workforce, and it significantly impacts an organization's overall success and workplace culture (Jacqueline et al., 2007).

**Table 5:** Employee satisfaction Scale Items.

Ser.	Attributes
1	A Happy employee is a productive employee.
2	The living conditions of workers improve job productivity.
3	High salary encourages employee productivity.
4	A low standard of living affects employee productivity.
5	Due to low salaries, unhappy employees led to low job satisfaction and productivity.

**Source:** Adapted from (Lam, Nguyen, & Tran, 2021).

### 3.6.5. Employee motivation

Motivation is fundamentally meant to facilitate behavioral alteration. It is a force that enables an individual to act toward a particular objective (Shahzadi & Khanam, 2014).

**Table 6:** Employee Motivation Scale Items

Ser.	Attributes
1	I feel a sense of personal satisfaction when I do this job well.
2	My opinion of myself goes down when I do the job poorly.
3	I take pride in doing my job as well as I can.
4	I feel unhappy when my work is not up to my usual standard.
5	I like to look back at a day's work with a sense of job well done.
6	I try to think of ways to do my job effectively.

**Source:** Adapted from (Lam, Nguyen, & Tran, 2021).



### 3.7. The Technique of Data Analysis

Data analysis involves examining, cleaning, inspecting, transforming, and modeling data to uncover crucial information, draw inferences, and help decision-making. The study will use SPSS version 26.0 for data analysis in the study assignment. SPSS version 26.0 has aspects like reliability testing and correlation analysis that are appropriate for analyzing the data in this investigation.

#### 3.7.1. Reliability Analysis

Assessing dependability is the first stage in the validation testing procedure (Wells & Wollack, 2003). Reliability analysis is used to assess the internal consistency of measurement items. The Cronbach alpha reliability coefficients are computed particularly for the new dimension to evaluate and test items. The alpha coefficient of Cronbach assesses the internal consistency of the questionnaire questions (Cronbach, 1951). Cronbach's alpha ranges from 0 to 1, with a value close to 1 suggesting high consistency (Wells & Wollack, 2003). Standardized tests with high stakes need internal consistency coefficients above 0.90, whereas those with lesser stakes may accept values between 0.80 and 0.85. The suggested reliability coefficient is 0.70 or above (Lehman et al., 2005; Wells & Wollack, 2003). The study by Bougie and Sekaran (2019) indicates that a reliability analysis of 0.60 is considered poor, while a value of 0.80 is considered acceptable. Table 7 provides a summary of the reliability coefficients of the items acquired.

**Table 7: Summary of Reliability Coefficient**

<b>Reliability coefficient</b>	<b>Remarks</b>
Less than (0.60)	Poor
(0.70)	Acceptable
(0.80)	Good
(0.90) and more	Excellence

**Sources** (Bougie & Sekaran, 2019).

### 3.7.2. Descriptive Statistics

Descriptive statistical analysis is employed to elucidate the collective perspectives of respondents across various sections of the questionnaire, encapsulating frequency, mean, percentages, and standard deviation as outlined by Cavana et al. (2001). This form of statistics is particularly valued for its precision in representing attributes such as individuals, groups, organizations, or scenarios' behaviors, opinions, abilities, beliefs, and knowledge. Such characteristics are pivotal in the present research, which delves into organizational behavior and the empirical validation of a theoretical framework. As part of descriptive statistics, calculating the mean, median, and standard deviation from interval data plays a crucial role, a process detailed by Wen (2006). The mean score alongside the standard deviation is instrumental in identifying the predominant trend and the variability within the data distribution.

In this study, using the Likert scale to evaluate the outcomes related to the measurements of variables necessitates a nuanced interpretation of the mean scores. Oliveira et al. (2012) provide a framework for this interpretation, where scores ranging from 5.00 to 7.00 are categorized as high, indicating the measured variable's presence. Scores between 3.00 and 4.99 are considered moderate, suggesting an intermediate level of the variable's manifestation. Meanwhile, values from 1.00 to 2.99 are classified as low, reflecting a lesser degree or absence of the variable's characteristics. This categorization aids in the detailed analysis and understanding of the data collected, offering insights into the levels at which various phenomena are observed within the study's context, as shown in Table 8.

**Table 8:** Summary of Descriptive Analysis.

<b>Mean score</b>	<b>interpretation</b>
1.00 – 1.99	Low
2.00 – 3.49	Moderate
3.50 – 5.00	High

**Source:** (Oliveira et al., 2012)

### **3.7.3. Correlation Analysis**

Referring to a previous study by Sekeran et al. (2001). Correlating the variation in one variable with another set allows for evaluation. The relevant statistical procedure involves identifying correlations between two variables (Bewick et al., 2003). As per Hair et al. (2007) Furthermore, the R-value of the correlation coefficient addresses three distinct objectives:

1. The purpose is to determine whether the correlation coefficient is statistically significant.
2. To determine the degree of correlation.
3. To determine whether the correlation between the variables is positive or negative.

A score of 1.0 implies a 100% positive correlation in research. Alternatively, a complete negative correlation is represented by -1 (Coakes et al., 2010).

### **3.8. Summary**

This chapter outlines the comprehensive methodology adopted for the execution of this research, from the development of the questionnaire to the data collection. It delineates the study's design and the methodological approach, detailing each step from inception to execution. Furthermore, it encapsulates a review of the analytical tools explicitly adapted for this study. Upon completion of data collection through the questionnaire, the study will employ SPSS version 26.0 for the analysis and interpretation of the collected data. This chapter also provides an in-depth explanation of the study's design, measurement strategies, data collection methodologies, and data analysis techniques, elaborating on the organization and procedural flow of each component involved in the research process.

## **4. CHAPTER 4**

### **RESULTS AND FINDINGS**

#### **4.1. Introduction**

The present chapter is divided into three sections, which are as follows: the first section gives a discussion of the characteristics of the demographics of the respondents, and the second section gives a presentation of the psychometric properties of the measurement scales that are used in the study, specifically the Cronbach's Alpha Reliability Test. In conclusion, the third part examines the hypotheses developed for the study.

#### **4.2. Response Rate And Demographic Profile**

One of the most important aspects to consider while attempting to explain the consequences of the study results is the rate of response, as well as the demographic profile of the respondents. On account of this, the rate of response and the respondents' profiles (demographic characteristics) are shown and analyzed in the current section.

##### **4.2.1. Response Rate**

The current research investigated the productivity of employees working for the Ministry of Agriculture in Libya (Janzour Municipality). The Ministry of Agriculture in Janzour Municipality was chosen to receive the questionnaires because, among the several ministry categories in Libya, it is one of the most promising possibilities regarding employee productivity.

Following a month of online data collection and through Google Forms involving the distribution of 200 questionnaires in the Ministry of Agriculture in Libya (Janzour Municipality), 162 questionnaires were retrieved, while the remaining (38) were unreturned or incomplete.

**Table 9:** Summary of questionnaires distributed

Libya	Total	Present (%)
Distributed questionnaires	200	100
Usable questionnaires	162	81
Unreturned/incomplete questionnaires	38	19

#### 4.2.2. Respondents Demographic Characteristics

In table 9, the demographic characteristics of the respondents are shown. These profiles include gender, age, academic term, area of study, and anticipated final.

**Table 10:** Frequency and percentage of demographic information

		Frequency	Percent
<b>Gender</b>	Male	98	60.5
	Female	64	39.5
	<b>Total</b>	<b>162</b>	<b>100.0</b>
<b>Age</b>	21-30	9	5.6
	31-40	39	24.1
	41-50	50	30.9
	More than 50	64	39.5
	<b>Total</b>	<b>162</b>	<b>100.0</b>
<b>Education Level</b>	Diploma	38	23.5
	Bachelor	67	41.4
	Masters	34	21.0
	PhD	23	14.2
	<b>Total</b>	<b>162</b>	<b>100.0</b>
<b>Occupation Status</b>	CEOs	47	29.0
	Operation Manger	16	9.9
	HR. Mangers	45	27.8
	Support Staff	15	9.3

	Other Workers	39	24.1
	<b>Total</b>	<b>162</b>	<b>100.0</b>
	1-3 years	9	5.6
<b>Experience</b>	4-6 years	19	11.7
	7-10 years	32	19.8
	Above 10 years	102	63.0
	<b>Total</b>	<b>162</b>	<b>100.0</b>
<b>Monthly Income</b>	600-799 LYD	12	7.4
	800-999 LYD	24	14.8
	Above 1000 LYD	126	77.8
	<b>Total</b>	<b>162</b>	<b>100.0</b>

Table 10 provides a comprehensive demographic and professional profile of 162 individuals, detailing their characteristics across various categories such as gender, age, education level, occupation status, work experience, and monthly income. In the gender category, the group comprises 98 males, accounting for 60.5% of the total, and 64 females, making up 39.5%; this shows a slightly higher representation of males in the sample. Age-wise, the group is diversified. The youngest age group, 21-30 years, includes 9 individuals (5.6%), indicating a more miniature representation of the younger demographic. The 31-40 age group has 39 individuals (24.1%), suggesting a moderate presence. The largest age groups are 41-50 years and those above 50 years, with 50 (30.9%) and 64 (39.5%) individuals, respectively, indicating that most of the sample is over 40. The education level of the group varies. Those with a Diploma make up 23.5% (38 individuals), while a significant portion, 41.4% (67 individuals), holds a Bachelor's degree. Individuals with a Master's degree represents 21.0% (34 individuals), and those with a Ph.D. account for 14.2% (23 individuals), showcasing diverse educational backgrounds. Regarding occupation status, the group includes 47 CEOs (29.0%), indicating a significant number of high-level executives. Operation Managers and HR Managers are represented by 16 (9.9%) and 45 (27.8%) individuals, respectively. Support Staff and Other Workers account for 9.3% (15 individuals) and 24.1% (39 individuals), respectively, showing a wide range of job roles within the group. In terms of work experience, individuals with more than 10 years of experience

dominate the sample, with 102 individuals (63.0%), this is followed by those with 7-10 years of experience (32 individuals, 19.8%), 4-6 years (19 individuals, 11.7%), and the least represented are those with 1-3 years of experience (9 individuals, 5.6%). Finally, the monthly income levels vary. A small group, 7.4% (12 individuals), earns between 600-799 LYD. A slightly larger group, 14.8% (24 individuals), earns between 800-999 LYD. The majority, however, 77.8% (126 individuals), earn above 1000 LYD, indicating a generally high-income level within the group. Table 10 presents a detailed view of a specific population, highlighting the diversity and characteristics of gender, age, educational background, occupation, experience, and income levels.

### 4.3. Reliability Analysis

Cronbach's alpha is the primary instrument used in the reliability test, as stated by Sekaran (2019). This examination determines the consistency and stability of the variable being measured. According to Sekaran (2019), a Cronbach's alpha coefficient close to 1.00 displays a more excellent data dependability. A value that is lower than 0.70 is considered to be of poor quality, while a coefficient that is higher than 0.80 is considered to be of excellent quality.

**Table 11:** The stability of the instrument Cronbach's alpha for the variables

No.	Variables	No. of items	Cronbach's alpha	Remarks
1	Employee Productivity	6	0.850	Good
2	Training	5	0.873	Good
3	Development	5	0.832	Good
4	Employee Satisfaction	5	0.816	Good
5	Employee Motivation	6	0.723	Acceptable
	<b>Total</b>	27	0.873	Good

Table 11 summarizes various variables related to employee performance and well-being, along with their respective number of items (survey questions or measures), Cronbach's alpha values (a measure of internal consistency or reliability),

and overall remarks on each variable's reliability. The employee productivity variable is assessed using six items and has a Cronbach's alpha of 0.850, indicating a high level of internal consistency in the responses. This suggests that the items used to measure employees' productivity reliably capture this construct. The remark for this variable is 'Good,' reflecting its strong reliability. The training variable consists of 5 items with a Cronbach's alpha of 0.873. This strong score suggests that the measures used to assess training are highly consistent and reliable. The remark for this variable is also 'Good,' indicating its robustness in measuring the training aspect. The development variable, measured with five items, has a Cronbach's alpha of 0.832. This score is also relatively high, indicating good internal consistency in the measures related to development. It is marked as 'Good,' showing confidence in the measures used to assess development. Employee satisfaction was measured with five items; this variable has a slightly lower Cronbach's alpha of 0.816. While this is still a respectable score, it is somewhat lower than the others, leading to the remark 'Acceptable.' This suggests that while the measures for employee satisfaction are generally consistent, they may not be as robust as those for the other variables. The employee motivation variable is assessed with six items and has a Cronbach's alpha of 0.723. Although this is the lowest score among the variables, it is still considered 'Acceptable.' This indicates that the items measuring employee motivation are reasonably consistent, but there may be more response variability than other variables.

#### **4.4. Factor Analysis**

As can be seen in the table that follows, which displays the results of the KMO test and the "Bartlett" test, we discover that the value of the "Olkn" scale is equal to (0.675), which is higher than (0.5). The fact that the probability value (P-value) of the "Bartlett" test is equal to (0.00) and is less than (0.05) indicates that the correlation matrix is not equal to the matrix unit and that there is a link between some of the variables in the matrix, which allows it to make a global analysis of the data. This demonstrates that the factors the study obtained from factor analysis are becoming more reliable. Additionally, it allows us to evaluate the appropriateness of the sample size.



Following is a table that uses the "Kaizarr Mir UConn" metric to determine whether or not the sample is sufficient and to do a "Bartlett" test on the data.

**Table 12: KMO and Bartlett's Test**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>	675
Approx. Chi-Square	190.515
<b>Bartlett's Test of Sphericity</b>	Sig. 000

Table 12 displays the outcomes of two statistical tests often used in factor analysis: the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. These tests are used to determine the appropriateness of the data for factor analysis. The KMO test assesses the sample's suitability for factor analysis. The scale goes from 0 to 1, with higher values suggesting more suitability for factor analysis. The value of 0.675 in the table indicates modest adequacy. A KMO value of 0.6 is deemed acceptable, with values approaching 1 being more desirable. The score of 0.675 suggests that the sample is acceptable for factor analysis, albeit not optimal. This test determines whether the correlation matrix is an identity matrix, suggesting that variables are independent and unsuitable for structure discovery. The test consists of the Approximate Chi-Square and the Significance (Sig.) level. The table shows an Approximate Chi-Square value of 190.515, representing the test statistic. The Kaiser-Meyer-Olkin Measure suggests the sample is somewhat suitable for factor analysis, and Bartlett's Test of Sphericity indicates that the variables are adequately linked for this analysis. The findings indicate that factor analysis is suitable for this data set, while some caution is advised owing to the modest KMO value.

#### **4.5. Descriptive Finding**

A summary of the respondents' impressions of the variables was collected to validate their validity and reliability based on the results of the descriptive analysis. Descriptive analyses were performed on many aspects, including training, development, employee motivation, employee satisfaction, and employee productivity. The findings may be seen in tables 13, 14, 15, 16, and 17. Values below 1.99 were

categorized as low, and those beyond 3.50 were classified as high. Values ranging from 2.00 to 3.49 were classified as moderate or neutral, according to Lopes (2012).

**Table 13:** Descriptive Statistics Results for Employees' Productivity

Items	N	Minimum	Maximum	Mean	Std. Deviation
<b>EP1</b>	162	1.00	5.00	3.0617	1.15662
<b>EP2</b>	162	1.00	5.00	3.2654	1.07364
<b>EP3</b>	162	1.00	5.00	3.1420	1.13590
<b>EP4</b>	162	1.00	5.00	3.2901	1.10719
<b>EP5</b>	162	1.00	5.00	3.1605	.91172
<b>EP6</b>	162	1.00	5.00	3.4074	.99412

Table 13 provides descriptive statistics for a survey or assessment that measures various aspects of employee productivity, labeled as EP1 through EP6. Each aspect was measured for 162 respondents (denoted by 'N'). The table includes the minimum and maximum possible scores, the mean (average) score, and the standard deviation for each aspect. **EP1** For this aspect of employee productivity, the minimum score recorded was 1.00, and the maximum was 5.00, indicating a range of possible scores from lowest to highest. The average score (Mean) was 3.0617, suggesting that, on average, the respondents' scores were slightly above the midpoint of the possible range. The standard deviation, which measures the variation or dispersion from the average, was 1.15662. This indicates a moderate level of variability in the scores for EP1. **EP2** Similar to EP1, EP2's scores ranged from 1.00 to 5.00. The mean score for EP2 was slightly higher at 3.2654, indicating a somewhat higher level of productivity as measured by this item. The standard deviation was 1.07364, slightly less than that of EP1, implying less variability in these scores.

**EP3** This item also had scores ranging from 1.00 to 5.00. The mean score was 3.1420, which is comparable to EP1, again suggesting an above-midpoint level of productivity. The standard deviation was 1.13590, indicating similar variability in the scores as seen in EP1. **EP4** also varied from 1.00 to 5.00, with a mean of 3.2901, the second-highest average score among these items. This suggests that respondents rated

this aspect of productivity relatively highly. The standard deviation was 1.10719, indicating a moderate level of variability. **EP5** had a score range from 1.00 to 5.00, with a mean score of 3.1605. This item had the lowest standard deviation (0.91172) among all the items, suggesting that the scores for **EP5** were more closely clustered around the mean than the other items. **EP6** This item had the highest mean score of 3.4074, indicating that the respondents rated it the highest regarding productivity. The range was again 1.00 to 5.00, and the standard deviation was 0.99412, indicating a reasonable level of score variation. These statistics suggest that respondents rated various aspects of employee productivity within a moderate to high range, with some variation in how different aspects were rated. The standard deviations indicate that while there was some variability in responses, it was not excessively high for any of the items.

**Table 14:** Descriptive Statistics Results for Training

Items	N	Minimum	Maximum	Mean	Std. Deviation
<b>TR1</b>	162	1.00	5.00	2.7407	1.12319
<b>TR2</b>	162	1.00	5.00	2.6543	1.24771
<b>TR3</b>	162	1.00	5.00	2.8519	1.19638
<b>TR4</b>	162	1.00	5.00	2.8148	1.24223
<b>TR5</b>	162	1.00	5.00	2.8086	1.18759

Table 14 details the descriptive statistics for a survey or evaluation focused on the training aspect, labeled **TR1** through **TR5**. Each aspect was assessed for 162 respondents, as indicated by 'N.' The table outlines the minimum and maximum scores observed, the mean (average) scores, and the standard deviation for each aspect of training. **TR1** This training aspect had scores ranging from 1.00 to 5.00, indicating a wide range of responses from the lowest to the highest. The average score was 2.7407, slightly above the range's mid-point. The standard deviation for **TR1** was 1.12319, signifying moderate response variability. This suggests that opinions on this aspect of training varied to a certain extent among the respondents. **TR2** Similar to **TR1**, the scores for **TR2** also ranged from 1.00 to 5.00. However, the mean score for this aspect

was 2.6543, slightly lower than that of **TR1**. This indicates a marginally lower average rating for this training element. The standard deviation was relatively higher at 1.24771, indicating a greater spread or diversity in the responses than **TR1**. For **TR3**, the scores again varied between 1.00 and 5.00.

The mean score was 2.8519, higher than **TR1** and **TR2**, suggesting a somewhat more favorable average perception of this training aspect. The standard deviation was 1.19638, implying moderate-to-high variability in how respondents rated this aspect. **TR4** item also had a score range from 1.00 to 5.00, with an average score of 2.8148. This mean score is slightly lower than that of **TR3** but still higher than **TR1** and **TR2**. The standard deviation for **TR4** was 1.24223, indicating a similar variation in the responses as seen in **TR2**. **TR5** had scores ranging from 1.00 to 5.00, with a mean score of 2.8086, very close to that of **TR4**. The standard deviation for this item was 1.18759, which suggests a moderate level of variation in the responses, similar to the other training aspects. These statistics indicate that respondents' perceptions of the various aspects of training varied moderately. The mean scores for all aspects were above the mid-point but did not reach the higher end of the scale. The standard deviations across all aspects indicate moderate response variability, suggesting that the respondents' opinions on the training aspects were not uniform.

**Table 15:** Descriptive Statistics Results for Development

<b>Items</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>DE1</b>	162	1.00	5.00	3.9877	.89156
<b>DE2</b>	162	1.00	5.00	4.0185	.85953
<b>DE3</b>	162	2.00	5.00	4.0494	.88326
<b>DE4</b>	162	2.00	5.00	4.0556	.75798
<b>DE5</b>	162	1.00	5.00	4.0556	.90718

Table 15 presents descriptive statistics for measures labeled **DE1** through **DE5**, focusing on development. This analysis was conducted on a sample of 162 respondents, as shown by 'N' (number of responses). Table 15 includes data on the minimum and maximum scores, the mean (average) scores, and the standard deviation

for each development measure. **DE1**: The scores for this development aspect ranged from a minimum of 1.00 to a maximum of 5.00. The average score was 3.9877, indicating that respondents rated this aspect positively. The standard deviation was 0.89156, suggesting that while there was some variability in the responses, it was relatively low, indicating a level of agreement among the respondents about this aspect. **DE2**: Similar to **DE1**, **DE2** had scores ranging from 1.00 to 5.00. The mean score was slightly higher than **DE1**, at 4.0185, reflecting a similarly positive assessment of this development aspect. The standard deviation was 0.85953, lower than **DE1**, implying slightly less variability in responses for **DE2**. **DE3**, the minimum score was notably higher, starting at 2.00 instead of 1.00 and going up to 5.00. The mean score was 4.0494, again indicating a positive perception of this development aspect.

The standard deviation was 0.88326, showing moderate variability but indicating a consensus. **DE4** item also had a minimum score of 2.00 and a maximum of 5.00. The mean score was 4.0556, marginally higher than the previous items, suggesting this aspect was rated slightly more favorably. The standard deviation for **DE4** was 0.75798, the lowest among these measures, indicating the most minor response variability. **DE5** The range for **DE5** was back to 1.00 to 5.00. The mean score was identical to **DE4** at 4.0556, suggesting equal levels of positive assessment. The standard deviation was 0.90718, slightly higher than **DE4**, indicating more variability in how respondents viewed this aspect. Overall, the descriptive statistics for the Development aspect suggest that respondents rated all the measures (**DE1** through **DE5**) quite positively, with mean scores close to or exceeding 4.0. The standard deviations across these measures indicate a moderate level of variability, but they are relatively low, suggesting a general agreement among respondents. The consistently high mean scores across all development measures indicate a strong positive perception of this aspect among the respondents.

**Table 16:** Descriptive Statistics Results for Employee Satisfaction

Items	N	Minimum	Maximum	Mean	Std. Deviation
ES1	162	1.00	5.00	3.6790	1.17771

<b>ES2</b>	162	1.00	5.00	3.9877	0.97794
<b>ES3</b>	162	1.00	5.00	4.0617	0.98240
<b>ES4</b>	162	1.00	5.00	3.9444	1.12703
<b>ES5</b>	162	1.00	5.00	4.0000	0.98435

Table 16 provides a detailed overview of the descriptive statistics for employee satisfaction, with five different measures labeled **ES1** through **ES5**. These measures were taken from a sample of 162 respondents, as indicated by 'N.' The table includes the range of scores (minimum to maximum), the mean (average) score, and the standard deviation for each measure of employee satisfaction. The scores for **ES1** varied from 1.00 to 5.00, covering the full range of the scale. The average score for this measure was 3.6790, above the scale's midpoint. This suggests that respondents rated this aspect of employee satisfaction positively but not exceptionally high. The standard deviation was 1.17771, indicating a relatively high level of response variability. This suggests that opinions on this satisfaction aspect varied significantly among the respondents. Like **ES1**, **ES2** had scores ranging from 1.00 to 5.00. However, the mean score for this measure was higher at 3.9877, suggesting a more favorable perception of this aspect of employee satisfaction. The standard deviation was 0.97794, which is lower than that of **ES1**, indicating less variability in how respondents rated this aspect. **ES3** This measure also had a score range of 1.00 to 5.00, with a mean score of 4.0617, the highest among the five measures. This indicates that respondents rated this aspect of employee satisfaction very positively.

The standard deviation was 0.98240, similar to **ES2**, suggesting moderate variability in the responses but still indicating a generally consistent opinion among the respondents. For **ES4**, the scores ranged from 1.00 to 5.00. The mean score was 3.9444, slightly lower than **ES3** but still indicative of a positive assessment of this aspect of employee satisfaction. The standard deviation was 1.12703, which is somewhat higher, indicating a more excellent range of opinions among respondents than **ES2** and **ES3**. **ES5** this measure also spanned the full range from 1.00 to 5.00 in terms of scores. The mean score was exactly 4.0000, which shows a strong positive response, similar to **ES2** and **ES3**. The standard deviation for **ES5** was 0.98435, indicating moderate response variability, similar to the other measures. Overall, the

descriptive statistics for employee satisfaction measures (**ES1** through **ES5**) indicate that the respondents generally had a positive perception of their satisfaction levels, with mean scores ranging from above the midpoint to relatively high. The variability in responses indicated by the standard deviations was moderate for most measures. This suggests a certain level of agreement among the respondents, although there were still differences in individual perceptions of satisfaction across the various aspects measured.

**Table 17:** Descriptive Statistics Results for Employee Motivation

<b>Items</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>EM1</b>	162	1.00	5.00	3.9568	94145
<b>EM2</b>	162	1.00	5.00	3.9753	91197
<b>EM3</b>	162	1.00	5.00	4.0802	81124
<b>EM4</b>	162	1.00	5.00	4.1543	74409
<b>EM5</b>	162	1.00	5.00	3.5926	83074
<b>EM6</b>	162	1.00	5.00	4.1605	72157

Table 17 presents the descriptive statistics for measures concerning employee motivation, labeled **EM1** through **EM6**. These statistics were compiled from a sample of 162 respondents. The table includes the range of scores (minimum to maximum), the mean (average) score, and the standard deviation for each measure of employee motivation. The scores for **EM1** ranged from the lowest possible value of 1.00 to the highest of 5.00. The average score was 3.9568, which is relatively high and suggests respondents rated this aspect of employee motivation positively. The standard deviation was 0.94145, indicating a moderate level of variation in the responses, suggesting that while there was general agreement, individual experiences differed to some extent. **EM2** was similar to **EM1**, and the scores for **EM2** ranged from 1.00 to 5.00. The mean score for this measure was slightly higher at 3.9753, indicating a similarly positive assessment of this aspect of employee motivation. The standard deviation was slightly lower at 0.91197, suggesting less response variability than **EM1**. **EM3**, this measure also had scores between 1.00 and 5.00, with a mean score of

4.0802, the highest in this set. This suggests a very favorable perception of this particular aspect of employee motivation.

The standard deviation was 0.81124, indicating the most minor variability among the first three measures, suggesting more agreement among respondents. The scores for **EM4** also varied from 1.00 to 5.00, with the highest average score of 4.1543 among all the measures. This indicates a very positive assessment by the respondents. The standard deviation was 0.74409, the lowest in the set, which suggests a high level of agreement among respondents about this aspect of motivation. The range for **EM5** was 1.00 to 5.00 as well. However, the mean score was lower at 3.5926, suggesting that this aspect was rated less favorably than the others. The standard deviation was 0.83074, indicating moderate variability in responses. The **EM6** measure had scores ranging from 1.00 to 5.00, with a mean score of 4.1605, slightly higher than that of **EM4**, making it the highest-rated aspect in terms of average score. The standard deviation was the lowest at 0.72157, indicating a strong consensus among respondents. Overall, the descriptive statistics for employee motivation measures (**EM1** through **EM6**) suggest that respondents generally had a positive perception of their motivation levels, with mean scores mainly in the high range. The standard deviations indicate moderate variability in responses for most measures, with some aspects showing a higher level of agreement among respondents. This reflects a generally positive view of employee motivation in the sampled population, with some variations in individual perceptions across different motivational aspects.

#### **4.6. Pearson Correlation Analysis**

Using Pearson correlation analysis, the study assessed the importance of the linear bivariate relationship between training, development, employee motivation, and employee satisfaction as independent variables and employee productivity as the dependent variable. The analysis findings at the Ministry of Agriculture Libya (Janzour Municipality) are shown in Table 18. The correlation analysis was mainly performed to assess the strength of the association between each independent and dependent variable.



**Table 18: Pearson's Correlation Analysis of Variables**

	EP	TR	DE	ES	EM
<b>Employee Productivity</b>	1				
<b>Training</b>	.271**	1			
<b>Development</b>	.316**	.134	1		
<b>Employee Satisfaction</b>	.274**	.031	.436**	1	
<b>Employee Motivation</b>	.254**	.005	.672**	.550**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 18 provides the results of Pearson's Correlation Analysis, which determines the strength and direction of the relationship between various variables. In this table, the variables analyzed are employee productivity (EP), training (TR), development (DE), employee satisfaction (ES), and employee motivation (EM). Employee productivity (EP) positively correlates with all the other variables. It has a correlation coefficient of 0.271 with Training (TR), 0.316 with development (DE), 0.274 with employee satisfaction (ES), and 0.254 with employee motivation (EM). These correlations are statistically significant at the 0.01 level, indicating that higher levels of training, development, satisfaction, and motivation are associated with higher employee' productivity. Training (TR) correlates significantly positively with employee productivity (EP) at 0.271. Its correlations with development (DE), employee satisfaction (ES), and employee motivation (EM) are positive but relatively weak and not statistically significant at the 0.01 level. Development (DE) shows a stronger positive correlation with employee motivation (EM) at 0.672 and employee satisfaction (ES) at 0.436, both significant at the 0.01 level. It correlates significantly with employee productivity (EP) at 0.316 but has a weak and non-significant correlation with training (TR). Employee satisfaction (ES) has a significant positive correlation with employee motivation (EM) at 0.550, development (DE) at 0.436, and employee productivity (EP) at 0.274. However, it shows a weak and non-significant correlation with training (TR). Employee motivation (EM) shows the strongest correlation with development (DE) at 0.672, followed by a significant correlation with employee satisfaction (ES) at 0.550. It also correlates positively with employee productivity (EP) at 0.254. However, its correlation with Training (TR) is negligible

and insignificant. Overall, the table indicates that Development is strongly associated with employee motivation, and employee satisfaction is also strongly related to employee motivation. Employee productivity correlates positively with all other variables, but training does not correlate strongly with development, employee satisfaction, or employee motivation. These findings suggest that factors like development and employee satisfaction might play more crucial roles in influencing overall motivation and productivity in the workplace.

#### **4.7. Hypothesis Testing Result of Direct Relationship of Variables**

The assumptions were evaluated in the specified model using three measures: the significance of Correlation Coefficients (R), the Coefficient of Determination ( $R^2$ ), and Multiple Regression (Beta).

Possible correlations might vary from +1 to -1. Brace et al. (2000) show that correlation values of 0-0.2 are weak, 0.3 to 0.6 are moderate, and 0.7 to 1 are high. The coefficient of determination ( $R^2$ ) quantifies the percentage of variation in a variable that another variable can explain. It assesses the predictive capabilities of a particular model or graph. Regarding multiple regressions (beta), it quantifies the extent to which each group of predictor variables (independent variables) impacts the criterion variable (dependent variable). Multiple regression analysis may be used to evaluate ideas or models about how a specific collection of factors impacts behavior. The correlation coefficient ( $R^2$ ) quantifies the association between two variables, while multiple regression assesses the link between a group of factors and a single variable. The coefficient ( $R^2$ ) indicates the degree of linearity between variables. The study analyzed the correlation coefficients using Pearson correlation coefficients for variable pairings to verify their relevance. Beta is determined via linear regression analysis. Tables 19, 20, 21, and 22 display the first central hypothesis testing findings. Based on the first hypothesis,

**H1:** Training positively impacts the employee productivity.

**Table 19:** The results of the application of the regression Training directly positively correlate with Employee Productivity

Variables	B	T	Sig.	R	R2	F	Sig.
Training	.223	3.558	.000	.271a	.073	12.659	.000b

a. Dependent Variable: Employee Productivity

The analysis presented in Table 19 demonstrates a significant positive correlation between training and employee productivity within the study context. The regression results reveal that training (B = .223, T = 3.558, Sig. = .000) directly correlates with an increase in employee productivity, as indicated by the significant p-value (.000), which is less than the conventional alpha level of .05. This signifies statistical solid support for **H1**, suggesting that training initiatives are a crucial determinant of employee productivity. The R-value of .271 indicates a moderate positive relationship between training and productivity, while the R-squared (R<sup>2</sup>) value of .073 suggests that approximately 7.3% of the variance in employee productivity can be explained by training. The F statistic (F = 12.659, Sig. = .000<sup>b</sup>) further confirms the model's significance, underscoring the impact of training on productivity.

The second hypothesis,

H2: Development positively impacts employee productivity.

**Table 20:** The results of the application of the regression Development directly positively correlate with Employee Productivity

Variables	B	T	Sig.	R	R2	F	Sig.
Development	.383	4.216	.000	.316a	.100	17.771	.000b

a. Dependent Variable: Employee Productivity

Table 20 presents regression analysis findings illuminating the relationship between development initiatives and employee productivity. The results significantly support **H2**, indicating a direct and positive correlation between development activities and employee productivity. The regression coefficients (B = .383, T = 4.216, Sig. = .000) highlight development's strong and statistically significant impact on enhancing

employee productivity. The significance level (Sig. = .000) falls well below the standard alpha level of .05, reinforcing the robustness of this relationship. The R-value of .316 suggests a moderate positive correlation between development and employee productivity, implying that development efforts are closely linked to productivity outcomes. Furthermore, the R-squared ( $R^2$ ) value of .100 indicates that approximately 10% of the variance in employee productivity can be attributed to development activities, pointing to a notable effect size. The F statistic ( $F = 17.771$ , Sig. = .000<sup>b</sup>) confirms the model's overall significance, validating the predictive power of development on productivity.

The third hypothesis,

H3: Employee satisfaction positively impacts employee productivity.

**Table 21:** The results of the application of the regression Employee satisfaction directly positively correlate with the Employee Productivity

Variables	B	T	Sig.	R	R2	F	Sig.
Employee satisfaction	.277	3.607	.000	.274a	.075	13.009	.000b

a. Dependent Variable: Employee Productivity

Table 21 provides a detailed examination of the regression analysis conducted to explore the impact of employee satisfaction on productivity. The findings significantly affirm **H3**, revealing a direct and positive correlation between employee satisfaction and productivity levels. The regression output indicates that employee satisfaction ( $B = .277$ ,  $T = 3.607$ , Sig. = .000) is a statistically significant predictor of productivity, with a p-value (.000) far below the alpha level threshold of .05, underscoring the strength of this relationship. The R-value of .274 suggests a moderate positive correlation between employee satisfaction and productivity, indicating that increases in satisfaction are associated with productivity improvements. The R-squared ( $R^2$ ) value of .075 reveals that satisfaction levels can account for roughly 7.5% of the variance in employee productivity, pointing to a meaningful effect size. The F statistic ( $F = 13.009$ , Sig. = .000b) further confirms the statistical significance of the model, highlighting the predictive value of employee satisfaction on productivity outcomes.

The Fourth hypothesis,

H4: Employee motivation positively impacts the employee productivity.

**Table 22:** The results of the application of the regression Employee motivation directly positively correlates with Employee Productivity

Variables	B	T	Sig.	R	R2	F	Sig.
Employee motivation	.381	3.325	.001	.254a	.065	11.058	.001b

a. Dependent Variable: Employee Productivity

Table 22 elucidates the regression analysis findings regarding the impact of employee motivation on productivity. The data robustly supports **H4**, illustrating a direct and positive correlation between employee motivation and productivity. Specifically, the regression coefficients (B = .381, T = 3.325, Sig. = .001) demonstrate that motivation is a statistically significant predictor of productivity, with a significance level well below the conventional threshold of .05. This highlights the substantial influence of motivation on enhancing employee productivity. The R-value of .254 indicates a moderate positive relationship between motivation and productivity, suggesting that heightened employee motivation is associated with increased productivity. Moreover, the R-squared (R<sup>2</sup>) value of .065 indicates that about 6.5% of the variance in employee productivity can be attributed to motivation, underscoring motivation's significant role in driving productivity outcomes. The F statistic (F = 11.058, Sig. = .001b) further cements the model's overall significance, validating the hypothesis that employee motivation positively impacts productivity.

#### 4.8. Summary Of Findings

The study findings are summarized in the table based on the results of the multiple regression analysis.

**Table 23:** Summary of Hypotheses

The Hypotheses	Result
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<b>H1</b>	Training positively impacts the employee productivity,	<b>Supported</b>
<b>H2</b>	Development positively impacts employee productivity.	<b>Supported</b>
<b>H3</b>	Employee satisfaction positively impacts employee productivity.	<b>Supported</b>
<b>H4</b>	Employee motivation positively impacts employee productivity.	<b>Supported</b>

Table 23 presents a succinct summary of the research hypotheses and their outcomes, revealing a consistent pattern where all hypothesized relationships between training, development, employee satisfaction, employee motivation, and employee productivity were supported. Hypothesis 1 suggested that training positively affects employee productivity, which was supported by the data. This outcome reinforces the importance of training programs to equip employees with the skills and knowledge necessary to perform their tasks more efficiently. Hypothesis 2 posited that development activities positively influence employee productivity. The support for this hypothesis highlights the role of continuous personal and professional development in fostering an environment where employees can grow, thereby enhancing their contribution to the Ministry of Agriculture. Hypothesis 3 proposed that employee satisfaction positively affects productivity. The findings affirm the critical link between how satisfied employees feel in their roles and their level of effort and commitment toward their work. Hypothesis 4 asserted that employee motivation is a significant determinant of productivity. The confirmation of this hypothesis underscores the need for the Ministry of Agriculture to understand and tap into what motivates their employees to drive performance.

#### **4.9. Conclusion**

In this chapter, the hypotheses delineated in Chapter Two were rigorously tested. Utilizing SPSS version 26, the study conducted a suite of analyses encompassing frequency distributions, descriptive statistics, and reliability and validity assessments. Additionally, this chapter provided a detailed exploration of the hypothesized model through regression analysis, aiming to ascertain the relationships among training, development, employee satisfaction, employee motivation, and

employee productivity. The results from these analyses lent empirical support to all the hypotheses posited in the study.

## **DISCUSSION AND CONCLUSION**

The findings of the hypothesis tests from chapter four are documented in the previous chapter. This chapter provides an in-depth examination of the acquired data, linking it to the four study questions in the first chapter. The purpose of this alignment is to accomplish the objectives of the study. The findings are analyzed using relevant theoretical frameworks and supported by study outcomes and previous studies found in the literature. The chapter also addresses limitations and recommendations for further research.

### **Recapitulation of the Study**

This study evaluates the impact of training, development, employee satisfaction, and employee motivation on employee productivity. The study used a quantitative survey and applied a random sampling approach to choose the sample. Information was gathered from employees at the Ministry of Agriculture in Libya, specifically in Janzour Municipality, which is associated with the Greater Tripoli Municipalities. The employees participated in the study by filling out a questionnaire. After two months of email contact, 170 questionnaires were delivered to participants associated with the Ministry of Agriculture in Libya, namely Janzour Municipality, part of the Greater Tripoli Municipalities.

### **The Relationship Between the Construct Variables**

#### **Training**

Training is identified as a significant positive predictor of employee productivity. The regression analysis shows a direct positive correlation, with training explaining approximately 7.3% of the variance in employee productivity. This suggests that training initiatives are crucial determinants of productivity, highlighting the importance of investing in employee development to enhance performance.



## **Development**

Development activities also significantly impact employee productivity, with about 10% of productivity variance being attributed to these initiatives. The results underscore the value of development efforts, suggesting they are closely linked to higher productivity outcomes. This reinforces the concept that comprehensive development programs can effectively enhance employee performance.

## **Employee Satisfaction**

Employee satisfaction emerges as another critical factor positively influencing productivity. With satisfaction accounting for roughly 7.5% of the variance in productivity, the analysis confirms the direct correlation between how satisfied employees feel and their productivity levels. This indicates that fostering a work environment that improves employee satisfaction can lead to significant productivity gains.

## **Employee Motivation**

Lastly, employee motivation strongly correlates with productivity, explaining about 6.5% of its variance. This underscores the pivotal role motivation plays in enhancing productivity. The analysis supports the hypothesis that motivated employees are likely to be more productive, emphasizing the need for strategies to boost employee motivation to achieve higher performance levels.

Each variable training, development, employee satisfaction, and employee motivation plays a distinct but interconnected role in influencing employee productivity. The relationships highlighted through regression analysis demonstrate the multi-faceted approach required to enhance productivity, involving skill and capability enhancement through training and development and focusing on work's emotional and psychological aspects through satisfaction and motivation initiatives.

## **Theoretical Contributions**

The study extends the theoretical terrain of human resource management (HRM) by highlighting the synergistic effects of training, development, motivation, and satisfaction on employee productivity within a public sector context. It bridges the gap in the literature by providing empirical evidence from a developing country's government sector. This contribution is pivotal, as it contextualizes HRM practices within Libya's specific socio-economic and cultural backdrop, offering insights into the adaptability and effectiveness of these practices across different geographical and institutional frameworks.

Moreover, the study enriches motivation theory by empirically testing the direct influence of intrinsic (employee satisfaction) and extrinsic (training and development) motivational factors on productivity within a single framework. By doing so, it underscores the complexity of motivational dynamics in the workplace, advocating for a holistic approach to employee engagement that considers both the professional growth and personal satisfaction of employees. The study's findings emphasize the importance of comprehensive HRM practices that simultaneously address skill enhancement, job satisfaction, and motivational aspects to foster an enabling environment for productivity growth.

Furthermore, by employing quantitative analysis to measure the impact of these variables, the study contributes methodologically to the field, showcasing the utility of statistical techniques in elucidating the relationships between HRM practices and productivity outcomes. This not only validates existing theoretical propositions but also paves the way for future studies to explore these dynamics in other public sector settings, thereby expanding the generalizability of the study's conclusions. Through its theoretical and methodological contributions, this study marks a significant advancement in understanding the integral role of HRM in enhancing public sector productivity, particularly in the context of developing countries.

## **Managerial Implications**

The results of this study carry significant implications for management practices within the Ministry of Agriculture context being examined, particularly

highlighting the importance of comprehensive training and development programs, the enhancement of employee satisfaction, and the fostering of a motivating work environment as pivotal factors in driving employee productivity. Firstly, the direct positive influence of training initiatives on productivity underlines the necessity for the Ministry of Agriculture to invest in well-structured training programs aligned with the overarching Ministry of Agriculture goals and tailored to meet the workforce's specific needs. Such initiatives enhance skills and competencies and contribute to a culture of continuous learning and development, thereby boosting productivity. Moreover, the findings emphasize the need for robust employee development programs as a critical component of strategic HR planning. By embedding development activities into the fabric of the Ministry of Agriculture strategy, managers can promote an environment that supports continuous growth and skill enhancement, leading to individual growth and a consequent increase in Ministry of Agriculture performance and productivity. Tailoring these programs to align with the Ministry of Agriculture's objectives and employee career aspirations maximizes the benefits of development efforts.

Additionally, the study underscores the pivotal role of employee satisfaction in enhancing productivity, advocating for strategies that cultivate a positive work environment. This involves implementing mechanisms for feedback, recognizing achievements, and ensuring equitable treatment alongside investments in employee well-being and professional development opportunities. Such efforts boost satisfaction levels and, crucially, positively impact productivity. Lastly, the findings highlight the importance of motivating work environments to enhance productivity. The Ministry of Agriculture is encouraged to implement strategies that address the key motivators of their workforce, including providing meaningful work, recognition, job security, and opportunities for growth and autonomy. Understanding and catering to these motivational factors can cultivate a more engaged, satisfied, and markedly more productive workforce. The study illuminates the multifaceted approach required by Ministry of Agriculture leaders and HR professionals to enhance employee productivity. The Ministry of Agriculture can foster a workplace that supports and actively drives enhanced performance and productivity by prioritizing training, development, satisfaction, and motivation.

## **Limitations**

The insights derived from the study shed light on the critical influences of training, development, employee satisfaction, and motivation on productivity within a Ministry of Agriculture. While these findings contribute significantly to our understanding of human resource management practices and their impact, it is crucial to approach the conclusions with an awareness of the study's inherent limitations and the broader context in which future research can expand upon these initial observations. The study's focus on a single Ministry of Agriculture presents a notable limitation regarding the generalizability of the findings. This constraint raises questions about the applicability of the results across different organizational, sectoral, and cultural contexts. Such a limitation is not uncommon in organizational research but does necessitate caution when attempting to extrapolate these findings to broader populations or diverse settings. The unique features of the Ministry of Agriculture being studied, such as its industry, organizational culture, and human resources (HR) practices, may have affected the relationships between the variables seen. This suggests that more similar studies in different settings are needed to understand these dynamics fully.

Additionally, the model's explanatory power, as shown by the R-squared values, demonstrates that the factors under study do not account for a sizable portion of the variance in employee productivity. This observation suggests that additional, unexplored variables could be crucial in determining productivity. The study's model, focusing primarily on training, development, satisfaction, and motivation, overlooks the potential influence of other HR practices, organizational variables, and external factors that might also significantly impact employee productivity. This gap in the research highlights the complexity of the factors influencing productivity and underscores the need for a more comprehensive approach in future studies. Investigating the interplay between various HR practices, Ministry of Agriculture characteristics, and possibly broader economic or socio-political factors could provide a more holistic understanding of what drives productivity. Such an approach would allow for identifying synergistic effects and the potential for compound benefits arising from coordinated HR strategies. Future research directions could include longitudinal studies to track changes over time, comparative analyses across different industries or

cultural settings, and incorporating qualitative methods to capture the nuanced perspectives of employees and managers. Exploring these avenues could yield more profound insights into how HR practices influence productivity and offer more robust guidance for developing practical Ministry of Agriculture strategies.

In conclusion, while the current study offers valuable insights into the relationship between critical HR practices and employee productivity, its limitations catalyze further research. Include more variables, situations, and research methods in the study to better understand what makes people productive. This will help us create better HR and Ministry of Agriculture management practices that are more effective and whole.

### **Study Determinants**

The study identifies critical determinants significantly influencing employee productivity within the Libyan public sector. The study focuses on four key areas: training, development, motivation, and employee satisfaction, each chosen for its recognized impact on enhancing workforce effectiveness and employee productivity.

**Training and Development:** These determinants are fundamental to equipping employees with the necessary skills and competencies to perform their tasks efficiently. Training refers to enhancing employees' skills, capabilities, and knowledge for the specific job they do. On the other hand, development is more about employee growth and learning beyond current job needs, focusing on future roles and responsibilities. The study posits that both elements are crucial for improving employee productivity by fostering a culture of continuous learning and adaptation to changing organizational demands.

**Employee Motivation:** This determinant encompasses the processes that account for an individual's intensity, direction, and persistence of effort towards achieving organizational goals. Motivation can be driven by various factors, including but not limited to, recognition, rewards, job security, and work-life balance. The study examines how motivation directly impacts employees' productivity levels, proposing that highly motivated employees are more likely to exhibit higher productivity.

Employee Satisfaction: Satisfaction within the workplace is believed to influence productivity significantly. It encompasses employees' feelings about their job, including aspects such as work environment, job roles, interpersonal relationships, and compensation. The study suggests that satisfied employees are more engaged and productive, as they tend to have a positive outlook towards their job and organization.

### **Recommendations For Further Research**

Considering the limitations and insights of the current study, future research avenues present an opportunity to deepen our understanding of employee productivity and the factors that influence it. An expanded focus could encompass various HR practices beyond those initially examined, including performance appraisal systems, compensation strategies, and work-life balance initiatives. Investigating how these practices interact with training, development, satisfaction, and motivation could yield valuable insights into the multifaceted dynamics that underpin productivity enhancement. Examining the interplay between these HR practices and other organizational variables such as leadership styles, organizational culture, and employee engagement could illuminate the complex mechanisms through which productivity is influenced. To further enhance our understanding, comparative studies across various sectors and geographic regions could provide a broader perspective on the impact of HR practices on productivity. Such studies would enrich the current understanding of effective human resource management practices and enhance the generalizability and applicability of findings across different contexts.

Moreover, longitudinal research could elucidate the long-term effects of HR practices on productivity, capturing the evolving impact of training, development, satisfaction, and motivation over time. This approach would offer a more dynamic perspective on how sustained interventions in these areas influence productivity outcomes in the long run. Expanding the scope of research to include a diverse array of organizations across multiple industries would further solidify the robustness of findings, providing a comprehensive view of the efficacy of HR initiatives in boosting employee productivity. This broader approach promises to significantly contribute to the existing body of knowledge on employee productivity, delivering nuanced insights

and practical guidelines for crafting effective human resource management strategies that can address the intricate web of factors influencing employee productivity.

## **Conclusion**

The study makes substantial contributions to the existing body of knowledge on human resource management practices and their effects on employee productivity, particularly within the context of the Libyan public sector. The study's findings confirm the positive correlation between training, development, employee motivation, and satisfaction with increased employee productivity. This aligns with previous research consistently highlighting these factors' significance in enhancing organizational performance across various settings.

Comparatively, the research parallels studies like those conducted by Sal and Raja (2016), which identified a significant relationship between employee training and development and productivity in the Jordanian Private Sector transportation companies located in the Southern region of Jordan. However, this study extends the discourse by integrating the public sector context, particularly within a developing country's framework, thereby offering novel insights into the challenges and opportunities of applying HRM practices in such environments. The emphasis on employee motivation and satisfaction as critical determinants of productivity further complements findings from Albrecht et al. (2015), who reported the positive impacts of employee engagement on performance outcomes in Australian firms.

A unique aspect of this research is its focus on the Libyan Ministry of Agriculture, an entity within the public sector, where studies are relatively scarce. This investigation contributes to a deeper understanding of how training, development, motivation, and satisfaction can be leveraged in public sector organizations to boost productivity, echoing the work of Boxall and Purcell (2022) on the strategic value of human resource management in public services.

Moreover, the study sheds light on the specificities of implementing HRM practices in Libya, a context marked by political instability and economic challenges. This situational context provides a backdrop for the research findings, suggesting that despite external adversities, effective HRM practices can lead to productivity

improvements. This is a testament to the resilience of human resource practices and their applicability across diverse environmental contexts, as supported by Budhwar and Debrah (2013) in their comparative analysis of HRM practices in developing countries.

In conclusion, this research not only reaffirms the critical role of training, development, motivation, and satisfaction in enhancing employee productivity but also expands the empirical and theoretical landscape by offering insights into the public sector's dynamics, especially within a developing country context. Future studies should consider longitudinal designs to explore the long-term impacts of these HRM practices on productivity and extend the research to other sectors and countries for broader generalizability.



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## LIST OF TABLES

<b>Table 1:</b> The five likers.....	51
<b>Table 2:</b> Employee Productivity Scale Items. ....	52
<b>Table 3:</b> Training Scale Items.....	52
<b>Table 4:</b> Development Scale Items. ....	53
<b>Table 5:</b> Employee satisfaction Scale Items. ....	54
<b>Table 6:</b> Employee Motivation Scale Items ....	54
<b>Table 7:</b> Summary of Reliability Coefficient .....	55
<b>Table 8:</b> Summary of Descriptive Analysis.....	56
<b>Table 9:</b> Summary of questionnaires distributed.....	59
<b>Table 10:</b> Frequency and percentage of demographic information.....	59
<b>Table 11:</b> The stability of the instrument Cronbach's alpha for the variables .....	61
<b>Table 12:</b> KMO and Bartlett's Test.....	63
<b>Table 13:</b> Descriptive Statistics Results for Employees' Productivity .....	64
<b>Table 14:</b> Descriptive Statistics Results for Training .....	65
<b>Table 15:</b> Descriptive Statistics Results for Development.....	66
<b>Table 16:</b> Descriptive Statistics Results for Employee Satisfaction .....	67
<b>Table 17:</b> Descriptive Statistics Results for Employee Motivation.....	69
<b>Table 18:</b> Pearson's Correlation Analysis of Variables .....	71
<b>Table 19:</b> The results of the application of the regression Training directly positively correlate with Employee Productivity.....	73
<b>Table 20:</b> The results of the application of the regression Development directly positively correlate with Employee Productivity .....	73
<b>Table 21:</b> The results of the application of the regression Employee satisfaction directly positively correlate with the Employee Productivity.....	74
<b>Table 22:</b> The results of the application of the regression Employee motivation directly positively correlates with Employee Productivity .....	75

<b>Table 23: Summary of Hypotheses .....</b>	<b>75</b>
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**APPENDIX A**  
**RESEARCH QUESTIONNAIRES**

**Dear Respondents,**

You are invited to participate in this survey about **The Impact of Training, Development, Employee Motivation, And Employee Satisfaction on Employee Productivity (Afield Study in Ministry of Agriculture In Libya)**. This study fulfills my Master of Business Administration from Karabuk University. I would appreciate it if you could spare some time to think about completing the survey. I hope that you will cooperate in completing the questionnaire to the best of your ability. This questionnaire consists of two parts/sections. Part, one consists of questions about your demographic profile; continue with part two about Employee Productivity, Training, Development, Employee satisfaction, and Employee motivation. All information provided in this survey will by no means reflect the identity of the participants. It will be kept strictly confidential and used merely for academic purposes.

**THANK YOU**

## SECTION A: Demographic

### 1. GENDER

Male	Female
1	2

### 2. Age

less than 20	21-30	31-40	41-50	50 <sup>th</sup>

### 3. Marital Status

Married	Not Married	Engaged

### 4. Education Level

Primary	Secondary	Diploma	Bachelor	H. Diploma	Masters

### 5. Occupation Status

CEOs	Operation Manger	HR. Mangers	Supervisors	Support Staff	Other Workers (Drivers)



## 6. Experience

<b>1-3 years</b>	<b>4-6 years</b>	<b>7-10 years</b>	<b>above 10 years</b>

## 7. Monthly Income

<b>Below 399</b>	<b>400- less than 599</b>	<b>600-less than 799</b>	<b>800-less than 999</b>	<b>above 1000</b>

**SECTION B: Employees Productivity**

<b>No.</b>	<b>Items</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
1	This employee always completes the duties specified in his/her job description.					
2	This employee meets all the formal performance requirements of the job.					
3	This employee fulfills all responsibilities required by his/her job.					
4	This employee never neglects aspects of the job that he/she is obligated to perform.					
5	This employee often creates new ideas for improvements.					
6	This employee generates original solutions to problems.					

**SECTION C: Training**

<b>No.</b>	<b>Items</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
1	Our organization conducts extensive training programs for its employees in all quality aspects.					
2	Employees in each job will generally go through training programs every year.					
3	Training needs are identified through a formal performance appraisal mechanism.					
4	There are formal training programs to teach new employees the skills they need to perform their jobs.					
5	New knowledge and skills are imparted to employees periodically so that they can work in teams.					

## SECTION D: Development

No.	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Employee development increases the trainee's morale.					
2	Employee development helps maintain skills and knowledge.					
3	Employee development creates scope for internal promotions.					
4	development courses achieve the aims of the organization.					
5	The development courses enhance the level of employees in the organization.					

**SECTION E: Employee satisfaction**

<b>No.</b>	<b>Items</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
1	A Happy employee is a productive employee.					
2	The living conditions of workers improve job productivity.					
3	High salary encourages employee productivity.					
4	A low standard of living affects employee productivity.					
5	Due to low salaries, unhappy employees led to low job satisfaction and productivity.					

**SECTION F: Employee motivation**

<b>No.</b>	<b>Items</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
1	I feel a sense of personal satisfaction when I do this job well.					
2	My opinion of myself goes down when I do the job poorly.					
3	I take pride in doing my job as well as I can.					
4	I feel unhappy when my work is not up to my usual standard.					
5	I like to look back at a day's work with a sense of job well done.					
6	I try to think of ways to do my job effectively.					

## APPENDIX B

### SPSS Results

#### Correlations

		EMPLOYEES PRODUCTIVITY	TRAINING	DEVELOPMENT	EMPLOYEE SATISFACTION	EMPLOYEE MOTIVATION
<b>EMPLOYEES PRODUCTIVITY</b>	<b>Pearson Correlation</b>	1	.271**	.316**	.274**	.254**
	<b>Sig. (2-tailed)</b>		.000	.000	.000	.001
	<b>N</b>	162	162	162	162	162
<b>TRAINING</b>	<b>Pearson Correlation</b>	.271**	1	.134	.031	.005
	<b>Sig. (2-tailed)</b>	.000		.089	.697	.947
	<b>N</b>	162	162	162	162	162
<b>DEVELOPMENT</b>	<b>Pearson Correlation</b>	.316**	.134	1	.436**	.672**
	<b>Sig. (2-tailed)</b>	.000	.089		.000	.000
	<b>N</b>	162	162	162	162	162
<b>EMPLOYEE SATISFACTION</b>	<b>Pearson Correlation</b>	.274**	.031	.436**	1	.550**
	<b>Sig. (2-tailed)</b>	.000	.697	.000		.000
	<b>N</b>	162	162	162	162	162
<b>EMPLOYEE MOTIVATION</b>	<b>Pearson Correlation</b>	.254**	.005	.672**	.550**	1
	<b>Sig. (2-tailed)</b>	.001	.947	.000	.000	
	<b>N</b>	162	162	162	162	162

\*\*. Correlation is significant at the 0.01 level (2-tailed).

## Regression of Training

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	TRAINING <sup>b</sup>		Enter

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. All requested variables entered.

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.271 <sup>a</sup>	.073	.068	.77897

a. Predictors: (Constant), TRAINING

b. Dependent Variable: EMPLOYEES PRODUCTIVITY

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.682	1	7.682	12.659	.000 <sup>b</sup>
	Residual	97.087	160	.607		
	Total	104.768	161			

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. Predictors: (Constant), TRAINING

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.602	.185		14.096	.000
	TRAINING	.223	.063	.271	3.558	.000

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

### Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.8250	3.7183	3.2212	.21843	162
Residual	-1.45032	1.86235	.00000	.77655	162



Std. Predicted Value	-1.814	2.276	.000	1.000	162
Std. Residual	-1.862	2.391	.000	.997	162

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

## Regression of Development

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	DEVELOPMENT <sup>b</sup>	.	Enter

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. All requested variables entered.

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316 <sup>a</sup>	.100	.094	.76769

a. Predictors: (Constant), DEVELOPMENT

b. Dependent Variable: EMPLOYEES PRODUCTIVITY

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.473	1	10.473	17.771	.000 <sup>b</sup>
	Residual	94.295	160	.589		
	Total	104.768	161			

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. Predictors: (Constant), DEVELOPMENT

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.678	.371		4.523	.000
DEVELOPMENT	.383	.091	.316	4.216	.000

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

### Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5197	3.5911	3.2212	.25505	162
Residual	-1.59105	1.79156	.00000	.76530	162
Std. Predicted Value	-2.750	1.450	.000	1.000	162
Std. Residual	-2.073	2.334	.000	.997	162

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

## Regression of Employee Satisfaction

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	EMPLOYEE SATISFACTION <sup>b</sup>	.	Enter

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. All requested variables entered.

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.274 <sup>a</sup>	.075	.069	.77818

a. Predictors: (Constant), EMPLOYEE SATISFACTION

b. Dependent Variable: EMPLOYEES PRODUCTIVITY

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.878	1	7.878	13.009	.000 <sup>b</sup>
	Residual	96.891	160	.606		
	Total	104.768	161			

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. Predictors: (Constant), EMPLOYEE SATISFACTION

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized	t	Sig.	
	B	Std. Error	Coefficients Beta			
(Constant)		2.133	.308		6.927	.000
EMPLOYEE SATISFACTION		.277	.077	.274	3.607	.000

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

### Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5201	3.5159	3.2212	.22120	162
Residual	-1.34926	1.81603	.00000	.77576	162
Std. Predicted Value	-3.170	1.332	.000	1.000	162
Std. Residual	-1.734	2.334	.000	.997	162

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

## Regression of EMPLOYEE Motivation

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	EMPLOYEE MOTIVATION <sup>b</sup>	.	Enter

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. All requested variables entered.

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.254 <sup>a</sup>	.065	.059	.78261

a. Predictors: (Constant), EMPLOYEE MOTIVATION

b. Dependent Variable: EMPLOYEES PRODUCTIVITY

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.773	1	6.773	11.058	.001 <sup>b</sup>
	Residual	97.995	160	.612		
	Total	104.768	161			

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

b. Predictors: (Constant), EMPLOYEE MOTIVATION

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.701	.461		3.686	.000
EMPLOYEE MOTIVATION	.381	.115	.254	3.325	.001

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

### Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5270	3.6077	3.2212	.20511	162
Residual	-1.41701	1.83728	.00000	.78017	162
Std. Predicted Value	-3.384	1.885	.000	1.000	162
Std. Residual	-1.811	2.348	.000	.997	162

a. Dependent Variable: EMPLOYEES PRODUCTIVITY

## **CURRICULUM VITAE**

Amnah Masoud ALI graduated from the Department of Business Administration, College of Business Administration, and is a master's student at Karabuk University.