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***“Impact of Training and Development on Employee Performance: The
Mediating Role of Job Satisfaction, in the IT Sector of Punjab Province,
Pakistan”***



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Abstract

This study aimed to evaluate the impact of various training and development practices within the IT sector of Punjab, Pakistan, and to examine the mediating role of job satisfaction in the relationship between these training and development practices and employee performance. A structured questionnaire was distributed among employees working in the IT sector of Punjab to collect data on their perceptions of training effectiveness, job satisfaction, and employee performance. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to analyze the data and test the hypotheses. The findings reveal that specific training components, particularly Training Delivery and Training Evaluation, significantly enhance employee performance. However, contrary to traditional beliefs, job satisfaction did not play a significant mediating role in this relationship. The results indicated that while Training Delivery and Evaluation directly affected performance, the indirect effects through job satisfaction were minimal and statistically insignificant. Based on these outcomes, it is recommended that organizations in the IT sector of Punjab focus on optimizing their training delivery and evaluation processes to directly boost performance. Future research should consider employing longitudinal designs to better understand the dynamics over time and expand the scope of mediator variables to include other potential factors like employee engagement or organizational culture. Additionally, exploring the integration of advanced technological tools in training practices could further enhance training effectiveness and adaptability in this rapidly evolving sector. These strategies are essential for developing more tailored, effective training programs that align with the specific needs and conditions of the IT workforce.

Key words: Employee Performance, Training Need Assessment, Training Delivery, Training Evaluation, Training Feedback and Improvement, Job Satisfaction

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Dedication

This research work is dedicated to my dear mother, whose unwavering love, support and belief in me have been my greatest blessings. Through her guidance, I have found the strength to overcome challenges and pursue my dreams.

It is also dedicated to my beloved country Pakistan, the land of my heritage and the source of my inspiration, your rich culture, history, and resilience have shaped my identity and instilled in me a deep sense of pride.

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CHAPTER - 1

INTRODUCTION

1.1 Background of Study

The selection of IT sector for this study is based on the significant growth the sector has experienced in recent years. The Pakistan Economic Survey 2022-2023 highlights significant growth and progress in the IT sector. The survey highlights a significant export of IT and IT-enabled services amounting to 1.94 billion USD in the fiscal year 2023, constituting 35.1% of all the service sector exports. The survey highlights the significant role Punjab played in the sector, Lahore stands out as a major hub for IT companies, hosting 36.4% of companies registered with Pakistan Software Export Board (PSEB). Furthermore, the Government of Pakistan is making efforts to increase the number of companies and enhance the sector by establishing more Software Technology Parks (Ministry of Finance, 2023).

Employee performance plays an important role in the success of an organization, as it has a direct impact on productivity, effectiveness and quality of work delivered. High performing employees contribute to organizational goals achievement, improve team dynamics, and promote a culture of engagement and growth (Agus Triansyah et al., 2023). Employee performance is the ability of an individual to effectively fulfill duties and responsibilities which are aligned to the organizational goals and objectives. Various indicators of employee performance include the quantity and quality of work, knowledge, creativity, cooperation, trustworthiness, initiative, and personal attributes. Improving employee performance is critical for enhancing productivity, reducing turnover rates, and retaining employees (Latifah et al., 2024).

In today's rapidly era of technological advancement, it is important for organizations to excel in market through training, to build competitive advantage. The significance of training and development has been widely recognized, leading to substantial attention from academic scholars (Nguyen & Duong, 2020). The role of training and development in employee performance is a crucial part of human resource management. Effective training programs are

essential components of an organization's capability to tackle emerging challenges. Such training not only aids employees in enhancing their existing skills but also equips them with new ones that may be required in the future. Moreover, employees who undergo training tend to exhibit higher satisfaction levels compared to those who do not. Job satisfaction is pivotal for organizational success, as it not only reduces absenteeism, accidents, and turnover but also boosts productivity, motivation, and overall mental and physical well-being. Additionally, job performance and commitment are closely linked to the training received by employees (Nauman et al., 2021). This is supported by additional research showing that training and development significantly impact employee productivity and competencies resulting in enhance performance (Chinaza Adaobi & Owusuaa-Konadu Snr, 2022) .

1.2 Problem Statement

Research on training and development practices across various sectors gives us valuable insights, however the problem is that little or no research has been conducted to understand its impact specifically within the IT sector of Punjab, Pakistan. Training and development practices have been researched across various sectors in Pakistan to understand their impact on employee performance. Abbas (2020) showed that training and development directly improves employee performance in civil society organizations, with job satisfaction playing a partial mediating role. Wajidi (2023) reinforced this connection, finding a strong link between training and job satisfaction in the banking sector. Research by Gil et al. (2023) and Afriyie et al. (2023) highlight the positive role of job satisfaction on training and development and employee performance in the education and microfinance banking sector respectively.

The IT sector is characterized by rapid technological advancements, hence the need for continuous improvement of employee skills through training and development programs is important. However, the absence of comprehensive research tailored to this specific sector hampers the optimization of these practices to effectively address challenges related to employee performance. Hence, there exists a requirement for comprehensive research that explore the effect of training and development programs in the IT sector of Punjab, Pakistan in order to address issues of employee performance.

1.3 Research Questions

Following are the research questions of this study:

- What is the impact of training and development programs on employee performance?
- What is the relationship between job satisfaction and employee performance?
- What is the mediating role of job satisfaction in the relationship between training and development programs and employee performance?

1.4 Research Objectives

Following are the research questions of this study:

- To determine the impact of training and development programs on employee performance.
- To examine the relationship between job satisfaction and employee performance.
- To investigate the mediating role of job satisfaction in the relationship between training and development programs and employee performance.

1.5 Research Contribution

This research makes a significant contribution to the understanding of organizational dynamics within the IT sector of Punjab, Pakistan. By delving into the relationship between training and development, employee performance, and the mediating role of job satisfaction, this study offers novel insights into the specific context of the Pakistani IT industry. Through empirical investigation, it highlights the connections between these variables, providing actionable recommendations for enhancing organizational effectiveness and employee engagement in this rapidly evolving sector. By focusing on the IT industry, which is

characterized by its unique challenges and opportunities, this research fills a crucial gap in the existing literature, providing practical insights for businesses and policymakers seeking to enhance human resource management strategies within the Pakistani context. Ultimately, this study not only advances theoretical understanding but also provides valuable guidance for improving organizational practices and fostering sustainable growth within the IT sector of Punjab, Pakistan.

1.6 Research Gap

This research aims to bridge existing gaps in understanding the impact of training and development on employee performance in the IT sector of Punjab, Pakistan, with a specific emphasis of job satisfaction as a mediator. Current literature reveals noteworthy studies. Nguyen and Duong (2020) shed light on the positive relationship between training, job satisfaction, and employee retention, but their study was conducted in the distinct context of Vietnam's labor market. Nauman et al. (2021) further contribute by demonstrating the beneficial effects of training on job satisfaction within civil society organizations, yet their scope is limited to a specific sector within Pakistan, overlooking the dynamic nature of the IT industry. Buonomo et al. (2022) extend the discussion by examining job training satisfaction and knowledge-sharing behaviors within an Italian IT company, yet their findings may not be readily applicable to the Punjab, Pakistan context. Hence, a research gap persists in understanding the interplay between training and development practices, employee performance, and job satisfaction within Punjab's IT sector. This study aims to fill this gap by exploring the effects of various training components on employee performance, with a particular emphasis on job satisfaction as a mediator. By investigating training needs assessment, delivery, evaluation, and feedback mechanisms, this research aims to provide insights into how these elements impact employee performance within Punjab's IT sector, thereby contributing to a deeper understanding of the mediating role of job satisfaction.

1.7 Scope of the Study

This study will examine the influence of training and development practices on employee performance within Punjab, Pakistan's IT sector. Specifically, it will explore how job satisfaction acts as a mediating factor in this relationship. The research will focus solely on

IT employees in Punjab, excluding other sectors and Pakistani provinces. By analyzing this specific population, the study aims to provide valuable insights for IT organizations in Punjab. These insights can be used to design more effective T&D programs, ultimately enhancing employee performance and satisfaction within the IT sector.

1.8 Limitations of the Study

This study faces limitations that affect the generalizability of its findings. Focusing solely on IT employees in Punjab, Pakistan, restricts the applicability of results to other sectors, provinces, or the broader IT industry. External factors impacting employee performance, such as workload, company culture, or personal situations, are not fully accounted for. These limitations highlight the need for further research that considers a broader scope and incorporates external influences.

1.9 Organization of Thesis

Chapter One serves as an Introduction, outlining the research's purpose, significance, problem statement, research questions, and objectives. Additionally, it delves into the Scope of Study and highlights the Limitations of Research.

In Chapter Two, the Literature Review findings from various empirical studies and theories relevant to the research topic are described in detail. It identifies key variables and presents a theoretical framework, culminating in the formulation of research hypotheses.

Chapter Three explains the research methodology, detailing the study type, population demographics, sample size, sampling technique, and research instruments employed. It also discusses the statistical tools utilized for data analysis and treatment.

Chapter Four encompasses data analysis and findings of the analysis.

Chapter Five explains these explanation of findings and it relations with the research questions, further this chapter gives conclusion, recommendations and discusses limitations of this research.

CHAPTER - 2

LITERATURE REVIEW

2.1 Employee Performance

Employee performance, the cornerstone of organizational effectiveness, is a complex and multifaceted construct. It encompasses not only objective, quantifiable measures like output quantity and quality, adherence to deadlines, and absenteeism (Fachrezei & Khair, 2020), but also subjective aspects like work engagement, innovation, and customer satisfaction (L'opez-Cabarcos et al., 2022). Understanding the key independent variables that influence this multifaceted dependent variable is crucial for organizations seeking to optimize employee performance and achieve their strategic goals.

One line of inquiry delves into the potential influence of Emotional Intelligence (EI) on performance. While some studies, like those by Lopes et al. (2020) and Martins et al. (2021), suggest a positive correlation between higher EI and improved performance, indicating that employees with well-developed emotional intelligence skills may be better equipped to navigate workplace challenges, manage stress, and build positive relationships with colleagues. However, other research, like that by Murphy (2022), finds a more nuanced relationship, suggesting that specific aspects of EI, such as self-awareness and self-regulation, may be more relevant to performance than others. Further exploration is needed to clarify the nature of this relationship and pinpoint the specific aspects of EI that are most relevant to specific job roles and performance outcomes.

Another well-established determinant of employee performance is job satisfaction. Numerous studies have consistently demonstrated a positive link between employees who derive satisfaction from their work and their overall performance (Tanjung, 2019; Widhiastuti, 2013; Hayati & Caniago, 2012; Saputra et al., 2016; Jufrizen, 2017; Fu & Deshpande, 2014; Adhan et al., 2020). Employees who find their work to be fulfilling and feel valued within the organization are more likely to be motivated, engaged, and committed to achieving organizational goals. This increased motivation translates into a willingness to go the extra

mile, take initiative, and contribute positively to the team's success, ultimately leading to improved performance.

Work engagement, defined as the extent to which employees are absorbed and enthusiastic about their work, emerges as another key determinant of employee performance (Syahputra & Jufrizen, 2019). Research by Xanthopoulou et al. (2020) and Schaufeli & Bakker (2023) suggests that work engagement can even act as a mediating variable. In this model, job satisfaction plays an intermediary role, where employees who are satisfied with their work are more likely to experience high levels of work engagement, which in turn translates into superior performance. This highlights the importance of fostering a work environment that not only fulfills employees' basic needs but also allows them to experience a sense of purpose and passion for their work.

It's important to acknowledge that the relationship between these independent variables and employee performance is likely complex and context-dependent. Organizational factors such as leadership style, work environment, and compensation practices can also play a significant role in influencing employee performance. A recent study by Wu et al. (2023) found that a transformational leadership style, characterized by inspirational motivation and intellectual stimulation, can foster a sense of ownership and accountability among employees, leading to increased motivation and performance. Similarly, a well-designed and stimulating work environment can enhance employee engagement, as demonstrated in the research by Park & Prussia (2023). Furthermore, a fair and competitive compensation system can act as a motivator for superior performance, as confirmed by the meta-analysis conducted by Sun et al. (2022). Furthermore, the specific dimensions of employee performance that are most relevant may vary depending on the job role and organizational goals. For example, innovation might be a critical performance dimension for research and development teams, whereas customer service skills might be more important for frontline employees.

Employee performance is a multifaceted dependent variable that reflects the effectiveness of an employee in fulfilling their job requirements and contributing to organizational success. Understanding the various factors – both individual (EI, job satisfaction) and organizational (leadership style, work environment) – that influence employee performance allows organizations to develop targeted strategies for promoting employee development, enhancing

motivation, and fostering a positive work environment. These strategies, when effectively implemented, can lead to a more engaged, productive, and high-performing workforce, ultimately driving organizational success and achieving a competitive edge in the ever-evolving business landscape.

2.2 Training and Development

In the current dynamic business landscape, marked by swift technological progress and constantly changing customer demands, organizations are keenly aware of the need for a skilled and adaptable workforce (Hitt et al., 2023). Effective training and development (T&D) programs are instrumental in cultivating such a workforce. A recent study by Kim et al. (2023) underscores the importance of a comprehensive needs assessment that goes beyond identifying skill gaps. This assessment should delve into future business goals and incorporate individual employee development aspirations to foster a sense of ownership and engagement in the learning process (Kim et al., 2023). Program design should adhere to adult learning principles, as highlighted by a 2024 meta-analysis by Park et al. (2024). These principles emphasize fostering active participation through practical applications and establishing clear learning objectives from the outset (Park et al., 2024). Delivery methods are evolving to cater to diverse learning styles and shorter attention spans, with microlearning modules gaining traction (Benson & Milligan, 2020). Finally, evaluation through pre- and post-training assessments and participant feedback ensures programs deliver on their intended outcomes and pave the way for continuous improvement within the T&D function (Holton, 2020). By investing in well-designed T&D programs that address contemporary learning needs and leverage innovative delivery methods, organizations can empower their workforce with the skills and knowledge necessary to thrive in an ever-changing landscape.

2.2.1 Training Needs Assessment

The journey towards a thriving workforce begins with a thorough training needs assessment. This phase acts as the foundation for the entire T&D process, as it involves pinpointing the precise skills gaps and learning needs within the organization. Traditionally, needs assessments relied on qualitative methods like focus groups and interviews, allowing employees to voice their challenges and aspirations (Burke & Salas, 2020). However, recent advancements have witnessed the integration of Artificial Intelligence (AI) (Li et al., 2022).

AI-powered data analysis can provide valuable insights by identifying skill gaps within large datasets, such as performance metrics or employee surveys. This quantitative data can reveal patterns or trends that might be missed through traditional methods (Burke & Salas, 2020). However, a comprehensive needs assessment should never be solely reliant on AI. A multi-method approach that combines quantitative data with the qualitative insights gleaned from employee interactions remains crucial. By utilizing both objective data and the lived experiences of the workforce, organizations can ensure a training program that truly addresses the most pressing skill deficiencies. For instance, AI might identify a decline in customer satisfaction scores within a specific department. However, through employee focus groups, it might be revealed that this decline stems from a lack of training on a new customer relationship management (CRM) system. By uncovering the root cause of the performance gap, the needs assessment can pave the way for a targeted training program that directly addresses the issue.

2.2.2 Training Delivery

Once the skills gaps have been identified, the focus shifts to training delivery. This stage involves meticulously designing and implementing training programs tailored to address the specific needs identified in the assessment phase. Modern training methodologies have emerged to enhance learner engagement and knowledge retention, moving beyond the traditional classroom setting. Microlearning, for instance, breaks down complex topics into bite-sized modules that can be easily integrated into busy schedules, making information more readily accessible for employees (Fernandes et al., 2021). Gamification, the incorporation of game mechanics into training, can further boost engagement and motivation by fostering a sense of competition and accomplishment (Fernandes et al., 2021). However, the selection of the most effective delivery method hinges heavily on the specific learning objectives and target audience (Burke & Salas, 2020). For example, onboarding new employees might benefit from a blended learning approach that combines online modules with in-person workshops to facilitate interaction and team building (Burke & Salas, 2020). On the other hand, upskilling senior staff on a new software program might be best addressed through instructor-led training with hands-on practice sessions. Regardless of the chosen

method, it's crucial to ensure the training content is engaging, relevant, and delivered by experienced instructors who can effectively impart knowledge and skills.

2.2.3 Training Evaluation

The effectiveness of a training program cannot be assumed; it requires a rigorous training evaluation. This phase assesses the extent to which the training program achieved its intended learning objectives. Traditionally, training evaluation focused solely on learner satisfaction and knowledge acquisition through methods like post-training quizzes (Kirkpatrick's model) (Burke & Salas, 2020). However, recent frameworks emphasize the importance of measuring training transfer, which is the application of learned skills on the job (Burke & Salas, 2020). This evaluation goes beyond simply gauging knowledge retention and delves deeper to assess whether employees are actually utilizing the acquired skills in their daily work. Factors like the work environment and organizational support systems also play a crucial role in enabling training transfer (Burke & Salas, 2020). Do employees have the opportunity to apply their newly acquired skills in their roles? Does the organizational culture encourage continuous learning and skill development? Evaluating training transfer provides a more holistic picture of the training program's impact on overall performance. This might involve assessing changes in key performance indicators (KPIs) after the training, conducting follow-up interviews with employees to gauge skill application, or observing employees in their work environment to see if they are utilizing the learned skills effectively.

2.2.4 Training Feedback and Improvement

The final phase, training feedback and improvement, ensures the T&D program remains dynamic and responsive to evolving needs. This stage involves gathering feedback from learners and stakeholders throughout the training cycle, not just at the end. Feedback mechanisms like surveys, focus groups, and post-training discussions allow for continuous refinement of the training content, delivery methods, and overall program design (Smith, 2023). Organizations that prioritize feedback and make data-driven adjustments ensure their T&D programs stay relevant and effective in a rapidly changing business environment (Burke & Salas, 2020). This commitment to continuous improvement fosters a culture of learning

within the organization, where employees are encouraged to embrace new skills and knowledge throughout their careers.

By embracing this cyclical approach to training and development, organizations can cultivate a thriving workforce equipped with the skills and adaptability necessary to navigate the complexities of the modern business landscape. Investing in a well-designed T&D program is not merely an expense; it's a strategic investment in the future success and competitive advantage of the organization. Furthermore, a strong T&D program can contribute to increased employee engagement, motivation, and satisfaction, leading to higher retention rates and a more positive work environment (Burke & Salas, 2020). In conclusion, a well-structured and continuously evolving T&D program serves as a cornerstone for organizational growth and employee development, paving the way for a successful and sustainable future.

2.3 Job Satisfaction

Job satisfaction transcends its surface meaning, emerging as a crucial mediator within the complex web of work-related factors and employee outcomes. It acts as a bridge, influencing the nature of this relationship and ultimately shaping employee well-being and organizational success. Recent research by Fisher et al. (2023) highlights the buffering effect of job satisfaction in the face of work-family conflict. While work-family conflict can negatively impact job satisfaction, employees who derive greater satisfaction from their work are better equipped to manage this conflict and maintain positive work attitudes and behaviors (Clark, 2017). This translates into potentially mitigating detrimental effects on performance and organizational commitment (Grzywacz & Carlson, 2007).

Leadership styles significantly influence job satisfaction, which in turn impacts employee performance. Judge et al. (2017) discovered that transformational leadership styles, marked by inspirational motivation and intellectual stimulation, instill a sense of purpose and meaning in employees' work, thereby increasing job satisfaction. This enhanced satisfaction leads to better performance through heightened motivation, effort, and commitment (Avolio et al., 1999). Additionally, job satisfaction mediates the relationship between organizational culture and employee well-being. A positive organizational culture, defined by trust, collaboration, and employee recognition, enhances job satisfaction, as shown by Parry & Bryne (2022). This increased satisfaction then mediates the link between organizational culture and employee

well-being, resulting in lower stress and burnout levels among satisfied employees (Wright & Cropanzano, 2000).

The impact of job satisfaction extends beyond these specific examples. Research suggests that job satisfaction can mediate the relationship between workload and employee health (Demerouti et al., 2016), acting as a buffer against the negative effects of high workload. Additionally, studies have explored the role of job satisfaction in mediating the relationship between organizational justice perceptions and employee citizenship behaviors (Cropanzano & Rupp, 2001). Employees who perceive fairness within the organization are more likely to experience job satisfaction, which in turn motivates them to engage in citizenship behaviors that benefit the organization beyond their formal job duties.

In conclusion, job satisfaction is a central mediator within the work domain. By understanding how job satisfaction bridges the gap between various work-related factors and employee outcomes, organizations can develop targeted strategies to enhance employee satisfaction. This, in turn, can lead to a cascade of positive effects, including improved performance, increased well-being, and a more engaged and productive workforce, ultimately contributing to achieving organizational goals and gaining a competitive edge.

2.4 Relationship among variables

Building a skilled and adaptable workforce remains a cornerstone of organizational success in today's dynamic business environment (Hitt et al., 2023). While Training and Development (T&D) programs have long been viewed as a means to achieve this by equipping employees with the necessary skills and knowledge (Hitt et al., 2023), the relationship between T&D (independent variable) and employee performance (dependent variable) is more intricate. Recent research suggests a more complex interplay, with job satisfaction emerging as a key mediator in this process (Aguinis, 2020).

Effective T&D programs that utilize engaging delivery methods aligned with adult learning principles (active participation, clear objectives) foster a sense of ownership and equip employees with the necessary skills to navigate the new software (Benson & Milligan, 2020; Park et al., 2024). When employees perceive the training as relevant and contributing to their professional development, they experience increased job satisfaction (Liu et al., 2021). This

heightened job satisfaction, in turn, translates into a more motivated and engaged workforce (Organ & Ryan, 1998). Satisfied employees demonstrate increased focus, improved problem-solving skills, and a greater willingness to go the extra mile (Organ & Ryan, 1998). These factors ultimately contribute to superior employee performance within the organization. A 2023 study by Burke et al. further strengthens this connection. Their research found that employees who reported higher levels of job satisfaction due to effective training programs exhibited greater creativity and innovation, ultimately leading to improved organizational performance.

In essence, T&D programs don't directly translate into better performance; instead, they act as a catalyst for increased job satisfaction, which then fuels superior employee performance. However, job satisfaction itself also has a direct positive impact on employee performance. Independent of T&D programs, satisfied employees are simply more likely to perform better. They tend to be more motivated, experiencing a greater desire to succeed and contribute to the organization's goals. They are more engaged, focused on their work, and less likely to experience distractions or apathy. Satisfied employees also demonstrate greater commitment, invested in the organization's success and willingness to put in extra effort. Furthermore, research suggests that satisfied employees are more creative and innovative, more likely to think outside the box and contribute new ideas that can further enhance organizational performance.

By understanding this intricate relationship between T&D programs, job satisfaction, and employee performance, organizations can design a more comprehensive and strategic approach to workforce development. This approach goes beyond simply providing training; it emphasizes creating a culture of continuous learning and development that fosters employee well-being and engagement. A cyclical process starting with a robust TNA and culminating in continuous improvement through evaluation and feedback empowers employees with the skills and knowledge necessary to excel in their roles. In turn, this translates to a more skilled, engaged, and high-performing workforce, propelling the organization towards achieving its strategic objectives.

2.5 Relevant Theories

The underpinning theories are discussed in ensuing paragraphs.

2.5.1 Two-Factor Theory (Herzberg's Motivation-Hygiene Theory)

The quest to understand what truly motivates employees to excel within their roles has captivated organizational leaders for decades. One prominent theory that sheds light on this complex dynamic is Frederick Herzberg's Two-Factor Theory, also known as the Motivation-Hygiene Theory (Herzberg, 1959).

Herzberg's Two-Factor Theory, despite being formulated in the 1950s, remains a valuable framework for understanding employee motivation in today's complex work environment. The theory proposes that job satisfaction and dissatisfaction are influenced by different sets of factors. Hygiene factors, such as company policy, salary, and working conditions, are extrinsic to the work itself. While their absence can cause dissatisfaction, their presence doesn't necessarily lead to increased motivation or job satisfaction. Conversely, motivators like achievement, recognition, advancement, the work itself, and responsibility, are intrinsic aspects of the job. These factors directly contribute to job satisfaction and increased motivation. While some have criticized Herzberg's research methods, recent meta-analyses support the two-factor distinction, highlighting the importance of addressing both hygiene and motivators for employee well-being and performance. Training and development initiatives exemplify this two-edged sword concept. Inadequate training acts as a hygiene factor, leading to dissatisfaction if employees lack the skills to perform effectively. However, well-designed programs that enhance skills, provide opportunities for growth, and offer a sense of accomplishment can function as motivators, contributing to job satisfaction and improved performance. Research by Sun et al. (2020) reinforces this, demonstrating that training programs focused on skill development and career advancement were linked to increased employee motivation and job satisfaction. In conclusion, Herzberg's Two-Factor Theory offers a powerful lens for understanding employee motivation. By recognizing the distinction between hygiene and motivators, organizations can develop comprehensive strategies that address both sets of factors. Training and development, when designed strategically, can be a powerful tool in this regard, fostering not only skill development but

also opportunities for growth and recognition, ultimately leading to a more motivated and satisfied workforce.

This theory proposes a unique framework for understanding the factors that influence job satisfaction and dissatisfaction, ultimately impacting employee performance.

According to Herzberg's theory, two separate sets of factors affect employee attitudes towards their work that are hygiene factors and motivators. Hygiene factors, often likened to the physical working conditions surrounding a job, are essential to prevent dissatisfaction but do not necessarily lead to high motivation. Examples of hygiene factors include salary, job security, company policies, supervision quality, and workplace relationships (Herzberg, 1959). When these factors are inadequate, employees experience dissatisfaction and decreased morale. Imagine a company offering competitive salaries but neglecting employee development opportunities or fostering a toxic work environment. While employees might not leave for purely financial reasons, they are unlikely to be highly motivated or engaged in their work due to the lack of hygiene factors.

Motivators, on the other hand, are intrinsic factors related to the work itself. These factors, when present, can lead to increased job satisfaction, motivation, and ultimately, improved performance. Examples of motivators include achievement, recognition for accomplishments, opportunities for advancement, the work itself being meaningful and challenging, and having a sense of responsibility and ownership over one's tasks (Herzberg, 1959). When employees feel a sense of accomplishment from completing challenging tasks, receive recognition for their efforts from colleagues or supervisors, and have opportunities for growth within the organization, they are more likely to experience higher levels of job satisfaction and be motivated to perform well.

A crucial element of Herzberg's theory lies in the distinction between these two sets of factors. Addressing hygiene factors can prevent dissatisfaction, but it doesn't necessarily create a motivating work environment. Conversely, providing motivators can significantly increase job satisfaction and performance, even if hygiene factors are not ideal. However, the complete absence of hygiene factors can completely undermine the impact of motivators. An employee

who finds their work intrinsically rewarding may still be significantly demotivated by a hostile work environment or lack of job security (Herzberg, 1959).

While T&D programs themselves wouldn't be categorized as hygiene factors, they can play a significant role in fostering motivators. Well-designed T&D programs that are tailored to address individual needs and career aspirations can equip employees with the skills and knowledge necessary to achieve success in their roles, leading to a sense of accomplishment (Liu et al., 2021). Furthermore, T&D practices that offer opportunities for skill development, career advancement, and the chance to take on challenging projects can align with motivators like growth and responsibility. This fosters a sense of progress and future potential, boosting motivation within the employee. Additionally, successful application of newly acquired skills can lead to recognition from peers and supervisors, further reinforcing positive job attitudes through a key motivator in Herzberg's theory (Herzberg, 1959).

Herzberg's Two-Factor Theory provides a valuable lens for understanding the interplay between hygiene and motivation factors, and their impact on employee performance. By strategically utilizing T&D programs to address both sets of factors, organizations can create a work environment that not only meets basic employee needs but also fosters a sense of accomplishment, growth, and recognition. This approach can contribute significantly to a more motivated, engaged, and ultimately, high-performing workforce.

2.5.2 Human Capital Theory

Human Capital Theory (HCT) continues to be a cornerstone for understanding the economic benefits of investing in a skilled workforce. Pioneered by economists like Gary Becker and Theodore Schultz (Becker, 1964; Schultz, 1961), HCT views individuals as possessing a unique form of wealth – human capital. This human capital is not static, but rather a dynamic stock of knowledge, skills, and abilities that can be cultivated through targeted investments. Similar to investments in physical machinery for a factory, HCT posits that enriching human capital leads to increased productivity and higher wages for individuals, ultimately propelling economic growth (Psacharopoulos & Patrinos, 2020). A 2021 study by Popova and Popov (2021) reinforces this notion, demonstrating a positive correlation between human capital

investments in information and communication technology (ICT) skills and economic growth, particularly relevant in today's digital age.

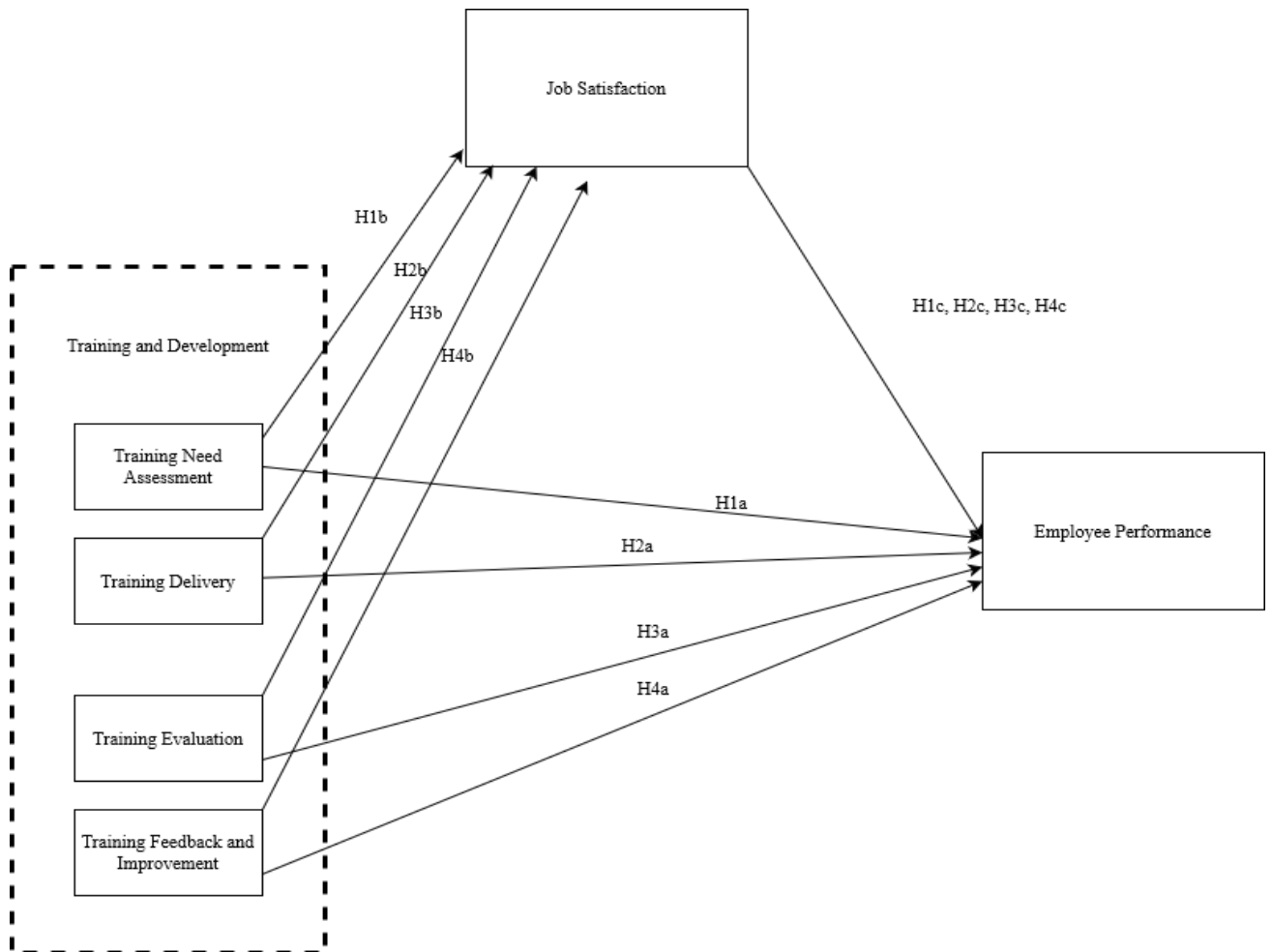
Within organizations, HCT emphasizes the strategic importance of developing a skilled and adaptable workforce to navigate the complexities of the digital age. A recent study by Alegre et al. (2023) underscores this very concept. Their research focused on digital transformation within companies and found that effective training programs equipped employees with the necessary digital skills, leading to improved innovation and problem-solving capabilities (Alegre et al., 2023). Equipping employees with the knowledge and skills to navigate the ever-changing demands of the workplace, as emphasized in HCT, is crucial for organizational success in today's dynamic business environment (Hitt et al., 2023). However, HCT acknowledges that simply providing training may not be sufficient. The theory highlights the importance of tailoring these investments to address individual needs and aspirations (Liu et al., 2021). When employees perceive the training as relevant and career-enhancing, they experience increased job satisfaction (Liu et al., 2021). This heightened job satisfaction, in turn, translates into a more motivated and engaged workforce (Organ & Ryan, 1998). Satisfied employees demonstrate increased focus, improved problem-solving skills, and a greater willingness to go the extra mile (Organ & Ryan, 1998). These factors ultimately contribute to superior employee performance within the organization. A 2022 study by Wright and McCreedy (2022) further strengthens this connection. Their research found that employee training programs that fostered a sense of psychological ownership over the learned skills resulted in higher levels of employee engagement and performance, highlighting the importance of employee buy-in.

2.6 Theoretical Framework

This research has analyzed the impact of training and development on employee performance. There are three variables of study in this research, Training and Development is main independent variable while Employee Performance is the dependent variable and Job Satisfaction is mediating variable. Keeping the diversity and breadth of the term Training and Development in view, we have further divided the independent variable into four variables namely Training Need Assessment, Training Delivery, Training Evaluation, and Training Feedback and Improvement. Employee Performance has been taken as the dependent variable

and the study would evaluate whether these four factors have positive influence on the employee’s performance level or not. Furthermore, Job Satisfaction serves as the mediating variable in this study, positioned to clarify the intermediate mechanisms by which the effects of training and development contribute to employee performance. These relationships among the dependent variable, independent variables and mediating variable would be tested in the form of five hypothesis described below. The research model explaining the conceptual framework is given below, as given in Figure 1.

Figure 1: Theoretical Framework



2.7 Research Hypotheses

H1a: Training Need Assessment has a positive impact on employee performance.

H1b: Training Need Assessment has a positive impact on job satisfaction.

H1c: Job satisfaction mediates the impact of TNA on employee performance.

H2a: Training Delivery has positive impact on employee performance.

H2b: Training Delivery has positive impact on job satisfaction.

H2c: Job satisfaction mediates the impact of TD on employee performance.

H3a: Training Evaluation has positive impact on employee performance.

H3b: Training Evaluation has positive impact on job satisfaction.

H3c: Job satisfaction mediates the impact of TE on employee performance.

H4a: Training Feedback and Improvement has positive impact on employee performance.

H4b: Training Feedback and Improvement has positive impact on job satisfaction.

H4c: Job satisfaction mediates the impact of TFI on employee performance.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

This study employs a quantitative research approach to analyze the impact of training and development on career progression, drawing conclusions by assigning numerical values to gathered data. Theoretically, it falls within the realm of explanatory research, aiming to build upon previous exploratory studies. To gather fresh insights, a quantitative methodology is adopted, typically involving the use of questionnaires to collect data from respondents. Statistical methods are then utilized to quantify and compare the obtained feedback, offering a nuanced understanding of the research problem within its specific context. The study involves sampling from a substantial pool of candidates and relies on primary data collection methods, particularly through the distribution of questionnaires to ensure the accuracy and authenticity of responses.

3.2 Population and Sample Size

The population encompasses all individuals under evaluation concerning the problem statement, while the target population specifically denotes those from whom data can be collected to aid in data analysis. Our target population for this research consists of software developers working in the IT sector in Punjab Pakistan. The sample size was determined using Morgan's table, which resulted in a final selection of 132 employees. The total responses of 200 employees were collected.

3.3 Sample Technique

In this study, a stratified random sampling technique was employed to ensure comprehensive representation of the IT workforce in Punjab, Pakistan. Stratification was based on key characteristics such as gender, age, educational levels, job roles and experience levels within the IT sector. By dividing the population into homogeneous strata, this approach aims to

capture the diversity present in the workforce and provide insights into how training and development initiatives impact employee performance across different segments.

The sample size (n_h) for each subgroup or stratum will be calculated proportionally to the population size (N_h), using the formula:

$$n_h = (N_h/N) \times n$$

Where:

- n_h = sample size for stratum h
- N_h = population size of stratum h
- n = total desired sample size
- N = total population size

Random selection methods was then utilized to choose participants within each stratum, thereby minimizing selection bias and enhancing the generalizability of findings. This sampling technique allows for a nuanced examination of the relationships under investigation while accounting for the heterogeneity present in the IT sector workforce of Punjab, Pakistan.

3.4 Measurement Instrument

Only primary data was used for the research and the data was collected through a simple questionnaire which was used as a research instrument. A planned close-ended questionnaire which was based on a Likert scale was designed for this purpose. These questionnaires were filled by the employees working in IT sector of Punjab. The questionnaire was categorized into several parts. Each part asked information from respondents on different variables. The demographic information was asked to get the information about the maturity of the respondents. In the next part all the dimensions of training and development are listed with a scale ranging from 1 (for strongly disagree) to 5 (for strongly agree). Further in the subsequent section, the statements are asked about employee performance and job satisfaction ranging from 1 (for strongly disagree) to 5 (for strongly agree). More detail regarding scales has been presented in the table presented in table 1.

Table 1: Information about variable distribution

Variables	No. of Questions	Nature of variable
Training Needs Assessment (TNA)	4	Independent
Training Delivery (TD)	4	Independent
Training Evaluation (TE)	4	Independent
Training Feedback and Improvement (TFI)	4	Independent
Employee Performance (EP)	6	Dependent
Job Satisfaction (JS)	6	Mediator

3.5 Data Treatment

The gathered data was analyzed using Smart PLS. PLS SEM and bootstrapping methods will be employed to conduct a thorough examination of the data, aiming to test the hypotheses for acceptance or rejection.

CHAPTER 4

DATA ANALYSIS AND RESULTS

4.1 Test of Reliability and Validity

Data was tested for reliability and validity of the constructs used in this study. The constructs of interest, Training Need Analysis, Training Delivery, Training Evaluation, Training Feedback and Improvement, Employee Performance, and Job Satisfaction were evaluated for internal consistency.

4.1.1 Cronbach's Alpha

The internal consistency of the constructs was assessed using Cronbach's Alpha, where all constructs exhibit values above the acceptable level of 0.7 (Nunnally, 1978), confirming good internal consistency, as shown in table 4.1.

Table 4.1: Cronbach's Alpha Results

Constructs	Cronbach's Alpha
Employee Performance	0.79
Job Satisfaction	0.837
Training Delivery	0.832
Training Evaluation	0.837
Training Feedback and Improvement	0.856
Training Need Analysis	0.742

These high values reflect that the constructs are internally consistent i.e., that responses to the items within each construct are consistently correlated with one another, which reinforces the reliability of these constructs.

4.1.2 Composite Reliability

Composite Reliability is also used to assess the internal consistency, but it does so by considering the actual factor loading of items within a construct rather than assuming equal loadings as Cronbach's Alpha does. This helps in providing a more accurate measure of internal consistency, especially when factor loadings are not equal. According to (Hair et al., 2017) the composite reliability value in PLS-SEM analysis should be more than 0.7, as shown in table 4.2 composite reliability measures, rho_a and rho_c, also indicate strong reliability, with values ranging from 0.753 to 0.903. These results complement the results of Cronbach's Alpha which validates the internal consistency.

Table 4.2: Composite Reliability Results

Constructs	Composite reliability (rho_a)	Composite reliability (rho_c)
Employee Performance	0.821	0.854
Job Satisfaction	0.874	0.879
Training Delivery	0.86	0.888
Training Evaluation	0.839	0.892
Training Feedback and Improvement	0.86	0.903
Training Need Analysis	0.753	0.837

4.1.3 Average Variance Extracted

Moreover, the Average Variance Extracted (AVE) for each construct surpasses the desired level of 0.5, affirming adequate convergent validity and suggesting that the constructs are well represented by their indicators as shown in table 4.3.

Table 4.3: Average Variance Extracted Results

Constructs	Average variance extracted
Employee Performance	0.502
Job Satisfaction	0.552
Training Delivery	0.666
Training Evaluation	0.673
Training Feedback and Improvement	0.7
Training Need Analysis	0.564

4.2 Hypothesis Testing

In this study examining the impact of training and development on employee performance with job satisfaction being the mediating variable, the hypothesis was tested using bootstrapping techniques. Bootstrapping is a statistical method that enhances the accuracy of analysis by providing non-parametric approach to hypothesis testing. This technique involves repeatedly sampling from observed datasets, with replacement to create a large number of simulated samples, typically the bootstrap samples range from 1,000 to 10,000 replications. By resampling the data repeatedly, we can estimate the indirect effects of training need analysis, training delivery, training evaluation, training improvement and feedback on employee performance through job satisfaction.

4.2.1 Mean and Standard Deviation (Total Effects)

The difference and amount of variation of variables can be identified using mean and standard deviation of the samples or data. The results are shown in table 4.4.

Table 4.4: Sample Mean and Standard Deviation (Total Effects)

Variables	Sample Mean (M)	Standard Deviation (STDEV)
Job Satisfaction -> Employee Performance	0.041	0.112
Training Delivery -> Employee Performance	0.306	0.125

Variables	Sample Mean (M)	Standard Deviation (STDEV)
Training Delivery -> Job Satisfaction	0.129	0.227
Training Evaluation -> Employee Performance	0.452	0.178
Training Evaluation -> Job Satisfaction	-0.359	0.334
Training Feedback and Improvement -> Employee Performance	0.005	0.132
Training Feedback and Improvement -> Job Satisfaction	0.474	0.202
Training Need Analysis -> Employee Performance	0.089	0.15
Training Need Analysis -> Job Satisfaction	0.059	0.241

The data in above table 4.4 reveals varied effects of different training components on Employee Performance and Job Satisfaction. Job Satisfaction has a modest positive effect on Employee Performance, with a mean of 0.041 and a standard deviation of 0.112, indicating some variability which suggests that the impact might be context-sensitive. Training Delivery shows a more significant positive influence on Employee Performance, with a mean effect of 0.306 and a standard deviation of 0.125, pointing to a fairly consistent beneficial effect. However, its impact on Job Satisfaction is smaller and less consistent, with a mean of 0.129 and a high standard deviation of 0.227, indicating varied responses across different samples.

Training Evaluation strongly enhances Employee Performance, demonstrated by a high mean of 0.452, but it negatively impacts Job Satisfaction, with a mean of -0.359 and a high variability (standard deviation of 0.334), suggesting that the evaluation process might be perceived negatively or be stressful for employees. In contrast, Training Feedback and Improvement have a negligible direct effect on Employee Performance, with a mean close to zero (0.005) and a standard deviation of 0.132, but significantly boost Job Satisfaction with a robust mean of 0.474. The relatively moderate standard deviation of 0.202 here suggests that while the effect is generally positive, it does vary among different contexts.

Furthermore, Training Need Analysis shows only a modest positive influence on both Employee Performance and Job Satisfaction, with means of 0.089 and 0.059 respectively. The relatively high standard deviations (0.15 and 0.241, respectively) for these effects highlight significant variability, indicating that the effectiveness of Training Need Analysis may significantly depend on the specific implementation and context within the organization.

Overall, these results suggest that while some training components like Training Delivery and Evaluation are effective in enhancing Employee Performance, their impacts on Job Satisfaction can vary significantly, with some even showing negative effects. This variability highlights the necessity for organizations to consider the specific contexts and characteristics of their workforce when implementing these training programs to maximize their effectiveness and minimize potential downside.

4.2.2 Mean and Standard Deviation (Total Indirect Effects)

The indirect effects, which show how training components influence performance indirectly through mediators, are crucial for understanding the deeper mechanisms at play. Results are shown in table 4.5.

Table 4.5: Sample Mean and Standard Deviation (Total Indirect Effects)

Variables	Sample mean (M)	Standard deviation (STDEV)
Training Delivery -> Employee Performance	0.005	0.031
Training Evaluation -> Employee Performance	-0.014	0.06
Training Feedback and Improvement -> Employee Performance	0.018	0.057
Training Need Analysis -> Employee Performance	0.005	0.031

Training Delivery exhibits a small indirect effect on Employee Performance, with a sample mean (M) of 0.005 and a standard deviation (STDEV) of 0.031. This minimal effect suggests that while training delivery processes might impact mediators like job satisfaction or

employee engagement, their overall influence on performance through these routes is limited and subject to variability across different organizational settings or individual perceptions.

Training Evaluation shows a slightly negative indirect effect on Employee Performance, indicated by a mean of -0.014 and a larger standard deviation of 0.06. This negative impact could be interpreted as evaluations potentially decreasing mediators such as job satisfaction, possibly due to perceived criticism or stress associated with performance assessments. The variability noted by the standard deviation highlights that in some contexts, these evaluations might be more negatively perceived than in others, affecting their overall efficacy in enhancing performance.

Training Feedback and Improvement presents a somewhat positive indirect effect, with a mean of 0.018 and a standard deviation of 0.057. This suggests that feedback and improvements made during training could positively affect mediators, leading to enhanced performance. The effect, while positive, is still modest and exhibits variability, suggesting that the effectiveness of feedback and improvements might depend heavily on how they are implemented and received by employees.

Training Need Analysis also shows a very small indirect effect on performance, with a mean of 0.005 and a standard deviation of 0.031. This indicates that the process of identifying training needs slightly influences performance through mediators, though the impact is minimal and variable. This could be due to the indirect pathway being weak or the mediators not fully capturing the nuances of how training needs analysis affects performance.

Overall, the results suggest that the indirect effects of these training components on Employee Performance are subtle and highly dependent on the mediators involved. The variability in these effects underscores the importance of context and individual differences in how training processes are perceived and their impacts are realized. For your thesis, exploring these mediators in more depth could provide valuable insights into how to enhance the effectiveness of training programs, ensuring they not only improve direct skills but also positively influence performance through improving job satisfaction and other related factors.

4.2.3 P-Values (Total Direct and Total Indirect Effects)

The analysis of total and total indirect effects of various training components provides a multifaceted understanding of their impact on Employee Performance. Results are shown in table 4.6 and 4.7

Table 4.6: P-Values – Total Direct Effect

Variables	P values
Job Satisfaction -> Employee Performance	0.745
Training Delivery -> Employee Performance	0.018
Training Delivery -> Job Satisfaction	0.739
Training Evaluation -> Employee Performance	0.008
Training Evaluation -> Job Satisfaction	0.315
Training Feedback and Improvement -> Employee Performance	0.992
Training Feedback and Improvement -> Job Satisfaction	0.016
Training Need Analysis -> Employee Performance	0.646
Training Need Analysis -> Job Satisfaction	0.707

Table 4.7: P-Values – Total Indirect Effect

Variables	P values
Training Delivery -> Employee Performance	0.93
Training Evaluation -> Employee Performance	0.837
Training Feedback and Improvement -> Employee Performance	0.758
Training Need Analysis -> Employee Performance	0.914

In exploring the effectiveness of various training interventions within the framework of this thesis, the analysis reveals nuanced distinctions between the total direct effects and total indirect effects of these interventions on Employee Performance. Each component's

influence, underscored by statistical significance, aligns variably with the hypothesized outcomes.

The direct influence of Training Delivery on Employee Performance is substantial and statistically significant, with a p-value of 0.018, aligning with the hypothesis that practical training delivery mechanisms directly enhance employee performance. This is supported by a mean effect of 0.306 and a moderate standard deviation of 0.125, indicating a consistent and robust impact. However, the direct effect of Training Delivery on Job Satisfaction, although hypothesized to be positive, does not show statistical significance (p-value: 0.739), reflecting a mean of 0.129 and a high standard deviation of 0.227, which suggests considerable variability and a weaker-than-expected influence on job satisfaction.

Conversely, Training Evaluation has a significant positive direct effect on Employee Performance with a p-value of 0.008 and a robust mean of 0.452, confirming the hypothesis of its efficacy. Yet, it has a counterintuitive negative impact on Job Satisfaction, indicated by a negative mean of -0.359 and a non-significant p-value of 0.315, suggesting that while effective for performance, it may not positively influence job satisfaction and could be perceived negatively by employees.

Feedback and Improvement, and Need Analysis exhibit mixed results; Feedback and Improvement show a statistically insignificant direct effect on Employee Performance (p-value: 0.992), with a negligible mean of 0.005. However, they significantly enhance Job Satisfaction (p-value: 0.016), supported by a strong mean of 0.474. In contrast, Training Need Analysis shows non-significant effects on both Employee Performance (p-value: 0.646) and Job Satisfaction (p-value: 0.707), with low means of 0.089 and 0.059 respectively, suggesting minimal influence in these areas.

The analysis of total indirect effects paints a different picture, revealing non-significant influences across all training components, which contradicts the hypothesis that these components substantially enhance performance through mediated variables like job satisfaction. For instance, Training Delivery and Need Analysis both have negligible indirect effects on Employee Performance, with p-values of 0.93 and 0.914 respectively. Similarly, Training Evaluation and Feedback and Improvement also demonstrate non-significant indirect effects, with p-values of 0.837 and 0.758 respectively. These findings indicate that

the mediated pathways hypothesized do not significantly carry the effects of training interventions to employee performance. The summary of the hypothesis result is shown in table 9.

Table 9: Summary of Hypothesis Testing Results

Hypothesis	Statement	Result
H1a	Training Need Assessment has positive impact on employee performance	Rejected
H1b	Training Need Assessment has positive impact on job satisfaction.	Rejected
H1c	Job satisfaction mediates the impact of TNA on employee performance.	Rejected
H2a	Training Delivery has positive impact on employee performance.	Accepted
H2b	Training Delivery has positive impact on job satisfaction.	Rejected
H2c	Job satisfaction mediates the impact of TD on employee performance.	Rejected
H3a	Training Evaluation has positive impact on employee performance	Accepted
H3b	Training Evaluation has positive impact on job satisfaction	Rejected
H3c	Job satisfaction mediates the impact of TE on employee performance	Rejected
H4a	Training Feedback and Improvement has positive impact on employee performance	Rejected
H4b	Training Feedback and Improvement has positive impact on job satisfaction	Accepted
H4c	Job satisfaction mediates the impact of TFI on employee performance	Rejected

CHAPTER 5

DISCUSSION

5.1 Discussion

This research was carried out to answer following three questions:

- What is the impact of training and development programs on employee performance?
- What is the relationship between job satisfaction and employee performance?
- What is the mediating role of job satisfaction in the relationship between training and development programs and employee performance?

IT sector was chosen for this study and the geographical area chosen was Punjab, Pakistan. Data was gathered by sharing questionnaire on Google Forms to the employees of different companies working in the IT sector in Punjab.

5.2 Impact of Training and Development Practices on Employee Performance

The investigation into the direct effects of various training components on employee performance yielded significant insights. The analysis revealed that certain elements of training—specifically Training Delivery and Training Evaluation—significantly enhance employee performance. Supported by p-values of 0.018 for Training Delivery and 0.008 for Training Evaluation, these findings corroborate the hypothesis that effective execution and careful evaluation of training programs are crucial for improving employee performance outcomes.

Conversely, Training Feedback and Improvement, and Training Need Analysis did not demonstrate a statistically significant impact on performance, as indicated by their respective p-values of 0.992 and 0.646. This suggests that while these aspects of training are intended

to enhance performance, their effectiveness may be contingent on additional factors not captured in this study or may require different implementation strategies.

5.3 Relationship Between Job Satisfaction and Employee Performance

Contrary to conventional beliefs that posit job satisfaction as a critical driver of employee performance, this study found no significant direct relationship between these variables. With a p-value of 0.745, the data suggests that job satisfaction alone might not be a robust predictor of performance within the observed contexts. This outcome prompts a re-evaluation of the emphasis placed on job satisfaction in performance enhancement strategies and suggests that other psychological or contextual factors might play more significant roles.

5.4 Mediating Role of Job Satisfaction

The exploration of job satisfaction's mediating role in the relationship between training programs and performance was particularly enlightening. Despite the theoretical underpinnings that suggest job satisfaction should enhance the effectiveness of training by positively influencing employee attitudes and behaviors, the findings indicated otherwise. The total indirect effects across all training components showed high p-values, conclusively suggesting that job satisfaction does not significantly mediate this relationship within the scope of this study. This was evident from the indirect effects' p-values, which ranged from 0.758 to 0.914, leading to the rejection of the hypothesis that job satisfaction plays a mediating role.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study has provided valuable insights into the direct effects of training and development components on employee performance and the limited mediating role of job satisfaction within the IT sector of Punjab, Pakistan. The findings challenge traditional assumptions in the human resource field and underscore the need for a more focused understanding of how training influences employee performance outcomes. While Training Delivery and Evaluation were found to significantly enhance employee performance, the anticipated mediating effect of job satisfaction was not supported, suggesting that other factors may play more critical roles. The study's limitations, including its reliance on cross-sectional and self-reported data, suggest caution in the interpretation of the results and highlight the need for broader and more in-depth future research. By addressing these gaps and implementing the recommended future research directions, scholars and practitioners can develop more effective, evidence-based training strategies that are tailored to meet the evolving demands of the workforce and the complexities of the modern workplace.

6.2 Recommendations

Following are some recommendations highlighted to address the weak areas and improve employee performance within the IT sector of Punjab after analysis of the data gather:

- IT companies should conduct regular, assessments based on data to identify skill gaps, involving employees in the process to ensure relevance and accuracy
- IT companies should implement initiatives such as recognition programs, career development opportunities, and linking training to career advancement to boost job satisfaction and employee engagement.

- IT companies should establish a continuous feedback culture where employees feel comfortable sharing their experiences and suggestions regarding training programs. And the companies should act on feedback promptly by making necessary adjustments to training programs and addressing any identified issues

6.3 Possible Implications

This study significantly refines our understanding of training and development within the IT sector of Punjab, Pakistan, offering theoretical and practical insights that challenge established norms and suggest new strategic directions. From a theoretical perspective, the research findings shift the traditional emphasis on job satisfaction as a central mediator in the relationship between training and employee performance. Instead, it points to the necessity of exploring alternative psychological or motivational factors that might influence this dynamic more significantly. This adjustment suggests that existing theories on training effectiveness need to more rigorously incorporate the specificities of training delivery and evaluation processes, which have demonstrated substantial direct effects on employee performance.

Practically, the results of this study hold particular relevance for the evolving IT sector in Punjab, Pakistan, a region experiencing rapid technological growth and facing unique workforce development challenges. The direct effects of specific training components such as Training Delivery and Training Evaluation on enhancing employee performance underscore the need for IT companies to invest in advanced and precise training mechanisms. Given the non-significant role of job satisfaction as a mediator, IT companies should consider diversifying their focus to include other potential performance enhancers like employee engagement, intrinsic motivation, or targeted skill development, which may be more directly correlated with performance outcomes in this specific sector.

Moreover, the findings suggest that the one-size-fits-all approach to training may not be effective. Instead, IT companies in Punjab should look toward customizing training programs to meet the diverse needs of their technologically adept workforce. This could involve implementing adaptive learning technologies that cater to individual learning paces and styles or developing role-specific training modules that address the particular skills and challenges pertinent to different IT roles.

Additionally, the variability in the effectiveness of training components such as Feedback and Improvement and Training Need Analysis indicates a need for IT firms to adopt more particular and flexible training strategies. These strategies should be capable of adjusting to the rapid changes typical in the IT industry, ensuring that training programs remain relevant and aligned with both technological advancements and employee development needs.

6.4 Limitations

This study, while providing insightful findings on the impacts of training and development in the IT sector of Punjab, Pakistan, also encounters several limitations. One significant limitation is the reliance on self-reported data, which can introduce biases related to how individuals perceive and report their job satisfaction and performance. This subjective measure may not fully capture the true impact of the training and development practices. Additionally, the study's focus on a specific geographical location and industry which is the IT sector in Punjab. This may limit the generalizability of the findings to other regions or sectors. Moreover, the study did not explore all potential mediating variables; other factors such as organizational culture, leadership style, and individual differences might also mediate the relationships studied and could provide further insights if included in subsequent research. Addressing these limitations in future studies will enhance the strength and applicability of the research findings.

6.5 Suggestions for Future Research

For future research, several key recommendations emerge from this study to further enhance our understanding and application of training and development in the IT sector. Firstly, adopting longitudinal study designs would provide richer insights into the causality and long-term effects of training and development practices on employee performance and job satisfaction. Additionally, including a wider range of mediator variables such as employee engagement, organizational culture, or psychological empowerment could uncover deeper mechanisms through which training and development practices impacts employee outcomes. Expanding the sector and geographical scope of the research would also test the generalizability of the findings and determine their applicability across different cultural and economic environments. Incorporating qualitative methods like interviews and focus groups

could provide contextual depth and uncover nuanced perceptions and attitudes towards training that are not captured through quantitative measures. Lastly, exploring the impact of emerging technologies such as AI and VR in training programs could be particularly pertinent for the IT sector, potentially leading to more innovative and effective training solutions.

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APPENDIX

Questionnaire Survey

I am a student of Bahria University and as a part of my MBA curriculum I am conducting research on the topic “Impact of training & development on employee performance: the mediating role of job satisfaction in the IT sector of Punjab, Pakistan”, for academic purposes. The data collected shall not be disclosed to any unauthorized person. Kindly answer the following questions: your cooperation will be highly appreciated.

Respondents' Profile:

Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female			
Age group	<input type="checkbox"/> < 20	<input type="checkbox"/> 20 - 29	<input type="checkbox"/> 30 - 39	<input type="checkbox"/> 40 - 49	<input type="checkbox"/> > 50
Education	<input type="checkbox"/> UG	<input type="checkbox"/> Graduate	<input type="checkbox"/> Master	<input type="checkbox"/> Ph. D	
Job Position/Title	<input type="checkbox"/> Software Engineer/Developer	<input type="checkbox"/> IT Manager	<input type="checkbox"/> Data Analyst/Scientist	<input type="checkbox"/> Project Manager	<input type="checkbox"/> Other (specify)
Tenure (years)	<input type="checkbox"/> < 1	<input type="checkbox"/> 1 - 3	<input type="checkbox"/> 4 - 6	<input type="checkbox"/> 7 - 9	<input type="checkbox"/> Over 10
Type of Organization	<input type="checkbox"/> Software Development Company	<input type="checkbox"/> IT Consulting	<input type="checkbox"/> Technology Startup	<input type="checkbox"/> Government IT Department	<input type="checkbox"/> Other (specify)

Instructions

-
- Please fill-out the questionnaire and kindly **check** the appropriate box where it deems necessary.
 - Choices are defined as: (1) Strongly Disagree (SD), (2) Disagree (DA), (3) Neutral (N), (4) Agree (A), (5) Strongly Agree (SA)
-

Question Statements	SD (1)	D (2)	N (3)	A (4)	SA (5)
Employee Performance (EP)					
EP1. My manager discusses my job performance with me regularly and provides guidance on areas for improvement					
EP2. I actively seek out training and development opportunities to enhance my job performance.					
EP3. The training and development programs provided by my company have helped me acquire the skills necessary to reach my performance targets.					
EP4. I believe my performance is better than that of my colleagues with similar qualifications due to the training and development opportunities provided by my company					
EP5. I am satisfied with my performance because it is mostly good, and I attribute this to the training and development initiatives in my company					
EP6. I perceive my performance to be better than that of my colleagues, and I attribute this to the training and development opportunities provided by my company.					
Training Need Assessment (TNA)					
TNA7. My company conducts regular assessments to identify specific training needs that directly contribute to improving my job performance.					
TNA8. I am actively involved in identifying my own training needs, ensuring that the training programs I participate in are relevant to my role and responsibilities.					
TNA9. The training needs assessment process considers both my current job requirements and future skill demands in the IT sector					
TNA10. Based on the training needs assessment, my company provides me with personalized development plans that help me acquire the skills necessary to excel in my job					
Training Delivery (TD)					

TD11. The trainers delivering the sessions are highly skilled and knowledgeable, allowing me to gain valuable insights and practical knowledge relevant to my job.					
TD12. The training sessions are interactive and engaging, facilitating better understanding and retention of the material, which positively impacts my performance.					
TD13. The training content is updated regularly to reflect the latest industry trends and advancements, ensuring that I stay ahead in my field and perform at my best.					
TD14. Through hands-on activities and real-world examples provided during training sessions, I am able to apply new skills directly to my job tasks, leading to improved performance.					
Training Evaluation (TE)					
TE15. My company regularly evaluates the effectiveness of training programs by assessing their impact on my job performance and productivity.					
TE16. The evaluation criteria focus on measuring the practical application of learned skills in the workplace, providing valuable insights into how training enhances my performance.					
TE17. Feedback collected from participants regarding the relevance and usefulness of training programs is utilized to continuously improve future training initiatives, leading to enhanced performance outcomes.					
TE18. Through ongoing evaluation and monitoring, my company ensures that training programs are aligned with organizational goals and contribute directly to improving employee performance.					
Training Feedback & Improvement (TFI)					
TFI19. My company encourage open communication between employees and trainers, allowing for constructive					

feedback that helps enhance the effectiveness of training programs and improves my performance.					
TFI20. Trainers actively seek feedback from participants to identify areas for improvement in training content and delivery methods, ultimately leading to better performance outcomes.					
TFI21. Feedback provided by employees is valued and used to make meaningful revisions to training programs, resulting in continuous improvement in performance.					
TFI22. My company fosters a culture of continuous improvement where suggestions for enhancing training programs are welcomed and acted upon, leading to tangible improvements in my job performance.					
Job Satisfaction (JS)					
JS23. I believe that satisfaction with the recognition I receive for good work influences my overall job satisfaction and performance.					
JS24. I believe that the attention paid to my suggestions by the company affects my sense of value and motivation in the workplace.					
JS25. I believe that my satisfaction with the hours of work required for my job impacts my performance and overall job satisfaction.					
JS26. I believe that my perception of future chances of promotion within the company influences my motivation and commitment to performing well.					
JS27. I believe that satisfaction with my immediate manager's support and leadership impacts my job satisfaction and performance.					
JS28. I believe that satisfaction with the freedom to choose my own working methods impacts my sense of autonomy and job satisfaction, thereby affecting my performance.					

Impact of Training and Development on Employee Performance: The Mediating Role of Job Satisfaction, in the IT Sector of Punjab Province, Pakistan

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