

**CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD**



**The Role of AI Knowledge on Employee
Creativity: Mediating Role of Intention to Use
AI and the Moderating Role of Leaders' Support**

by

Maheen Razzaq

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

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*Dedicated to my family who dedicated their lives to teach me how to step
forward...!*



CERTIFICATE OF APPROVAL

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Acknowledgement

“Then which of the Blessings of your Lord will you deny.”

(Surah Ar-Rehman)

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(Maheen Razzaq)

Abstract

The aim of this study is to investigate the role of AI knowledge of employees on their creativity with the mediating role of intention to use AI and the moderating role of leaders' support. Data was taken from the managers, assistant managers, and supervisory managers from the various organizations. The sample size was 384 and these respondents were selected based on the purposive sampling method. Furthermore, the cross-sectional research design was adopted to test the hypothesis. Data collection was conducted through online surveys. The data analysis techniques like correlation and regression analysis were used to find valid results. The analysis was done using PROCESS HAYES in SPSS 29. It was found that employee knowledge of AI has a substantial influence on employee creativity. Additionally, the relationship was positively mediated by the intention to utilize AI. Additionally, the results revealed that the leader support couldn't produce the desired results, as they were assumed. The managers in the hospitality sector should focus on AI knowledge as it increases the knowledge and the reputation of an organization and improves employee creativity. This study is novel because this is an attempt to study the the role of AI in hospitality sector of Pakistan.

Keywords: Employee knowledge of AI; Intention to use AI; Employee creativity; Leaders support.

Contents

Author’s Declaration	iv
Plagiarism Undertaking	v
Acknowledgement	vi
Abstract	vii
List of Figures	xi
List of Tables	xii
Abbreviations	xiii
1 Introduction	1
1.1 Background of the Study	1
1.2 Gap Analysis	3
1.3 Problem Statement	5
1.4 Research Question	5
1.5 Research Objective	6
1.6 Significance of the Study	7
1.7 Supporting Theory	8
2 Literature Review	10
2.1 Relationship between Employee Knowledge of AI and Employee Creativity	10
2.2 Relationship between Employee Knowledge of AI and Intention to Use AI	14
2.3 Relationship between Intention to Use AI and Employee Creativity	18
2.4 Intention to Use AI Mediates the Relationship between Employee Knowledge of AI and Employee Creativity	21
2.5 Moderating Role of Leader’s Support bet-ween Employee Knowledge of AI And Intention to Use AI	25
2.6 Research Model	29
2.7 Summary of the Hypothesis	30
3 Research Methodology	31

3.1	Research Design	31
3.1.1	Research Philosophy	31
3.1.2	Research Approach	32
3.1.3	Research Strategy	32
3.1.4	Choices of Methods	33
3.1.5	Time Horizons	33
3.1.6	Target Population	34
3.2	Data Collection	34
3.2.1	Population and Sample	35
3.3	Sample Size	35
3.4	Sampling	35
3.5	Pilot Testing	36
3.6	Reliability of Scales	36
3.7	Data Analysis Technique	37
3.7.1	Analytical Techniques and Tools Used	37
3.8	Instrumentation	38
3.8.1	Measures Used	38
3.8.1.1	Employee Knowledge of AI	38
3.8.1.2	Intention to Use AI	38
3.8.1.3	Leader's Support	39
3.8.1.4	Employee Creativity	39
3.8.2	Sample Characteristics	39
3.8.2.1	Gender Characteristics	40
3.8.2.2	Marital Status Characteristics	40
3.8.2.3	Age Characteristics	41
3.8.2.4	Qualifications Characteristics	41
3.8.2.5	Job Experience Characteristics	42
4	Result and Analysis	43
4.1	Descriptive Analysis	43
4.2	One Way ANOVA Table	44
4.3	Correlational Analysis	45
4.4	Variance Inflation Factor (VIF)	46
4.5	Regression Analysis	47
4.6	Moderation Analysis	50
4.7	Summary of the Hypothesis	51
5	Discussion and Conclusion	52
5.1	Discussion	52
5.1.1	Employee Knowledge of AI and Employee Creativity	52
5.1.2	Employee Knowledge of AI and Intention to Use AI	53
5.1.3	Intention to Use AI and Employee Creativity	54
5.1.4	Intention to Use AI as a Mediator	55
5.1.5	Leaders Support As a Moderator	56
5.2	Research Implications	57
5.2.1	Theoretical Implications	57

5.2.2	Practical Implications	58
5.2.3	Limitations of the Study	59
5.2.4	Directions for Future Research	59
5.3	Conclusion	60
	Bibliography	63
	Appendix A	68

List of Figures

2.1 Role of Employee Knowledge of AI on Employee Creativity: Mediating Role of Intention to Use AI, Moderating Role of Leaders Support	29
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List of Tables

2.1	Summary of the Hypothesis	30
3.1	Cronbach alpha	37
3.2	Scales	39
3.3	Frequency by Gender	40
3.4	Frequencies by Marital Status	40
3.5	Frequencies by Age	41
3.6	Frequency by Qualification	41
3.7	Frequency by Job Experience	42
4.1	Descriptive Analysis	43
4.2	One Way ANOVA Table	44
4.3	Correlation	45
4.4	Direct and Indirect Effect	48
4.5	Interaction Effect	50
4.6	Summary of the Hypothesis	51

Abbreviations

DV	Dependant Variable
EC	Employee Creativity
Int to Use AI	Intention to Use AI
IV	Independant Variable
LS	Leader Support

Chapter 1

Introduction

1.1 Background of the Study

The concept of artificial intelligence was introduced in 1956 by McCarthy, Minsky, Rochester, and Shannon. Early AI research centered on representational or rule-based systems, with researchers creating programs adept at addressing challenges in domains such as logic, language comprehension, and gaming. The development of AI has been rapid and impactful. AI has progressed significantly from its initial stages of basic algorithms to the current state of advanced machine learning and deep learning systems.

It's used in various applications, from voice assistants like Siri and Alexa to more complex systems like autonomous vehicles and sophisticated data analysis tools. Since the early 2000s, there has been a notable surge in advancements in deep learning, driven by enhancements in computational capabilities and the accessibility of extensive datasets (Hinton et al., 2015). Artificial intelligence is the field that focuses on creating algorithms and systems, capable of carrying out operations that normally require human intelligence, like perceiving, reasoning, learning from data, and problem-solving (Russell and Norvig, 2016).

Employee knowledge of AI refers to the degree to which employees comprehend and are acquainted with the principles, applications, and ramifications of artificial intelligence technologies within the contexts of their industries and job functions (Smith, 2020). Employee knowledge of AI encompasses the comprehension and

proficiency that employees have regarding the principles, functions, and potential applications of artificial intelligence within their professional contexts (Jones et al., 2019). And can be defined as the depth of understanding and proficiency individuals possess regarding the concepts, capabilities, and practical implementations of artificial intelligence technologies within their specific organizational roles and industries (Garcia et al., 2021).

Scholars have explored the role of age, gender, educational attainment, and professional experience on employees' comprehension of AI (Jones et al., 2019). Research has examined how organizational elements like company culture, support from leadership, availability of training, and accessibility to AI resources correlate with employees' AI knowledge (Brown & Lee, 2020). Variables associated with technology, such as perceived utility, user-friendliness, and attitudes toward AI, have been scrutinized as indicators of employees' familiarity with and receptiveness to AI in the work setting (Garcia et al., 2018).

Researchers have investigated individual psychological factors like cognitive aptitude, personality characteristics, and openness to comprehend their impact on employees' grasp and utilization of AI technologies (Kim & Smith, 2017). Environmental variables, including the type of industry, competitive dynamics, and regulatory conditions, have been studied concerning how they influence employee attitudes and actions regarding AI knowledge and integration (Jones et al., 2019).

The authors' (Schweitzer and De Cremer, 2024) examines the consequences of algorithmic tools, particularly those that monitor employee productivity, on creative and innovative work. While deploying AI in the workplace has numerous benefits, it can also have a negative impact on creativity. These tools may actually make it more difficult for employees to be creative, despite the hopeful notion that AI will do so by default. As a result, businesses using AI tools ought to carefully assess the implications. Artificial intelligence (AI) productivity monitoring systems have the potential to stifle creativity by imposing rigid rules and regulations. The flexibility and freedom to innovate of the staff are diminished by this scrutiny. While AI can improve tracking performance and efficiency, companies must use these tools carefully to prevent limiting innovation. AI has the potential to inhibit workers' creativity by automating jobs that call for innovation and causing a reliance on

repetitive procedures. AI may also be a potent tool to enhance human creativity when applied appropriately.

1.2 Gap Analysis

Studies of the relationship between AI, employee creativity, and organizational practices can be conducted in the rich context of the hospitality industry. Aiming to provide useful information, researchers seek to advance both academic knowledge and industry professionals. In the hospitality sector, they can extract valuable insights from guest preferences, behavior, and historical data. It integrates cutting-edge AI into various aspects of service delivery and operations. AI streamlines processes automates routine tasks (such as check-ins, reservations, and housekeeping schedules), and optimizes resource allocation. AI helps hotels dynamically adjust pricing based on demand, seasonality, and other factors. This ensures optimal revenue generation (Ruel and Njoku, 2021).

Employee understanding of AI can develop through diverse avenues and encounters within the workplace, educational settings, professional growth endeavors, and independent learning initiatives. AI and robotics become increasingly prevalent in various sectors, future research in related areas will likely expand and enhance the understanding (Wang et al., 2022). The study participants located in diverse areas or those slower in adopting AI technologies might approach the adoption process differently and come up with exciting results (Mikalef and Gupta, 2021). The correlation between employees' understanding of AI and their inclination to employ AI technologies encompasses how informed they are about artificial intelligence and their likelihood to utilize such technologies in their professional responsibilities or everyday activities. This association is crucial for grasping the degree to which knowledge impacts the uptake and endorsement of AI among employees.

The extant literature reveals that individuals who utilize AI demonstrate specific characteristics related to their roles, motivations, and abilities in using AI (Choi, 2021). The structural relationships among factors influencing the behavioral intention to use AI technology. To establish causation regarding intention, future research may benefit from employing a different design. It is recommended to

incorporate actual behaviors alongside their intentions (An et al., 2023; Zaitouni and Ouakouak, 2018). The direct interaction between AI and human employees enhance workers' creative and innovative outcomes? One potential benefit is that human workers could utilize AI-generated predictions concerning the structured aspects of their tasks, potentially facilitating the exploration of novel ideas it can be further explanation (Jia et al., 2024). Given the widespread adoption in the hospitality industry and the emphasis on employee innovation in hotel settings to deliver distinctive services, cater to diverse customer needs, and achieve competitive advantages, our findings may primarily pertain to this sector. However, it is imperative for future research to broaden its scope by collecting more diverse samples and validating our results across various industries, countries, and regions impacted by AI (Kong et al., 2024).

Leadership significantly influences the success of any organizational change. Initiative due to the close relationship they maintain with employees within the organization. Positioned to exert influence over staff, leaders are instrumental in eliciting a positive response to change. Employees often turn to their leaders for guidance, fostering a sense of clarity, connection, and accountability, especially during periods of change. The substantial accumulation of studies on leaders and change in recent years notwithstanding, research in this domain suffers from a lack of integration, failing to furnish a comprehensive and cohesive understanding of the role of leaders and, more specifically, their support for change. Consequently, there exists a pressing need for future research to delve deeper into this topic and provide a more nuanced exploration (Wiatr, 2022).

In the leadership role, the emphasis will increasingly be on social competencies. The successful implementation of AI, requires a supportive corporate culture and leaders bear the responsibilities for cultivating such an environment. Simultaneously, the nature of leadership activities will undergo transformation, with AI becoming an additional component to enhance and broaden leadership capabilities. A comprehensive perspective on the adoption and utilization of AI is essential. These changes encompass both the potential to alleviate the workload of leaders and the associated risks, particularly if AI begins to direct employees. Nonetheless, leaders also have the capacity to engage with AI as users themselves. This dual

role may introduce additional complexities and challenges for leaders to navigate (Peifer et al., 2022).

1.3 Problem Statement

In today's rapidly evolving technological landscape, artificial intelligence (AI) has emerged as a critical tool for enhancing organizational productivity and innovation. However, the impact of AI knowledge on employee creativity remains underexplored, particularly in the context of how employees' intention to use AI mediates this relationship.

Moreover, the potential moderating effects of organizational support in for of training and technological self-efficacy are yet to be fully understood. This research aims to address these gaps by investigating the intricate dynamics between AI knowledge and employee creativity, focusing on the mediating role of intention to use AI and the moderating role of organizational support.

The central problem this research seeks to address is: How does AI knowledge influence employee creativity, and what roles do intention to use AI and moderating factors such as organizational support play in hospitality industry? Understanding these relationships is crucial for organizations aiming to foster a creative and innovative workforce in an AI-driven environment. By elucidating these dynamics, this study will provide valuable insights for both academic research and practical applications, enabling organizations to better leverage AI technologies to enhance employee creativity and overall innovation.

1.4 Research Question

This research aims to address the following questions. The current study seeks to address the following inquiries:

Research question 01:

Does employee knowledge of AI positively affect employee creativity?

Research question 02:

What is the Impact of employee AI knowledge on the intention to use AI?

Research question 03:

Does the intention to use AI effect positively the employee creativity?

Research question 04:

Is the intention to use AI mediating the relationship between employee AI knowledge and employee creativity?

Research question 05:

Do leaders support moderate the relationship between employee knowledge of AI and Intention to use AI?

1.5 Research Objective

The objective of this study is to evaluate the mediating role of the Intention to use AI between the employee knowledge of AI and the employee creativity. Moreover, leader's support will be examined as the moderator.

The study's research model illustrates the proposed relationships among the independent, dependent, moderating, and mediating variables.

The specific aims of this study are as follows:

1. To find out how employee knowledge of AI affects employee creativity.
2. To investigate the positive link between employee knowledge of AI and intention to use AI.
3. To explore whether there is a positive connection between the Intention to use AI and employee creativity.
4. To investigate the mediating role of intention to use AI between employee knowledge of AI and employee creativity.
5. To find out whether leaders' support positively moderates the relationship between employee knowledge of AI and the intention to use AI.

1.6 Significance of the Study

This investigation contributes to advancing the theoretical enhancement of understanding within the field of organizational behavior and innovation by clarifying the complex interplay between employee knowledge of AI, intention to use AI, leader support, and employee creativity. It addresses critical gaps existing literature by offering insights into the mechanisms through which AI knowledge translates into creative outcomes in the workplace.

In today's competitive landscape, organizations that can effectively leverage AI technologies to drive innovation and creativity are positioned for long-term success. By understanding the nuances of the correlation among employee AI knowledge, intention to utilize AI, leader support, and creativity, organizations can gain a competitive edge in the market and adapt to the evolving demands of the digital age.

The findings from this study provide further insights which can offer practical implications for organizational leaders and managers. By identifying the factors that promote or impede the creative potential of employees in AI-driven environments, organizations can develop targeted interventions and strategies to foster innovation, optimize resource allocation, and enhance employee well-being. The insights generated from this study can guide decision-making processes concerning AI implementation and leadership practices. Organizations can leverage the findings to tailor training programs, design supportive work environments, and cultivate leadership styles that effectively harness the creative capabilities of employees while maximizing the benefits of AI technologies. With a young and tech-savvy workforce, Pakistan has the potential to leverage AI technologies to drive economic growth and innovation. By understanding the factors that facilitate creativity among employees in AI-driven environments, organizations can better equip their workforce to thrive in the digital economy.

The findings of this study can also provide valuable input for policy decisions regarding AI adoption and workforce development in Pakistan. By understanding how AI knowledge, intention to use AI, and leader support influence creativity, policymakers can design initiatives to support skill development, promote

entrepreneurship, and foster a culture of innovation across various sectors of the economy. The study within the Pakistani context, holds significance in advancing economic growth, promoting innovation, and tackling socio-economic challenges in the nation.

1.7 Supporting Theory

Cognitive Appraisal Theory also referred to as the Lazarus Theory of Emotion, Psychologist Richard Lazarus developed this theory in 1966. This theory suggests that our emotions are shaped by how we cognitively appraise events or situations. In other words, how we interpret and evaluate events influences how we feel about them. According to Cognitive Appraisal Theory, when we encounter a situation, we first appraise it to determine its significance or relevance to our well-being. This primary appraisal involves assessing whether the situation is positive, negative, or neutral, and whether it is relevant to our goals or values. After the initial appraisal, we engage in a secondary appraisal, where we evaluate our ability to cope with the situation. We assess our resources, skills, and past experiences to determine whether we have the means to deal with the situation effectively.

Based on these appraisals, we experience emotions that are appropriate to the situation. For example, if we appraise a situation as positive and believe we can cope with it, we may experience emotions such as joy or excitement. Conversely, if we appraise a situation as negative and perceive ourselves as unable to cope, we may experience emotions such as fear or anxiety. Cognitive Appraisal Theory underscores the subjective aspect of emotions and underscores the significance of cognition in molding our emotional encounters. It suggests that changing how we interpret or appraise situations can alter our emotional responses. Therefore, by identifying and challenging maladaptive cognitive appraisals, individuals can learn to regulate their emotions more effectively. regulatory conditions, have been studied concerning how they influence employee attitudes and In our model employee knowledge of AI is an appraisal, the intention to use AI can be considered as an attitude and employee creativity is the behavior the outcome of that appraisal. Employees' cognitive appraisals of their AI knowledge involve evaluating

the significance and relevance of their understanding of AI technologies to their creative endeavors in the workplace. Positive appraisals may lead to feelings of competence and confidence in utilizing AI tools for creative purposes, while negative appraisals may result in feelings of uncertainty or inadequacy. Cognitive appraisals of intention to use AI involve assessing the perceived usefulness and feasibility of incorporating AI technologies into one's creative processes.

Positive appraisals may foster a sense of motivation and commitment to explore AI-driven solutions for creative tasks, while negative appraisals may lead to reluctance or resistance towards adopting AI tools. Cognitive appraisals of leader support involve evaluating the extent to which leaders provide resources, encouragement, and autonomy in utilizing AI for creative endeavors. Positive appraisals may enhance employees' confidence and sense of empowerment in utilizing AI technologies for creativity, while negative appraisals may hinder their willingness to explore AI-driven solutions. Cognitive Appraisal Theory suggests that employees' perceptions and evaluations of their knowledge of AI influence their creativity, intending to use AI acting as a moderator and leaders' support as a moderator.

This framework contributes a valuable lens for understanding how employee attitudes and organizational factors interact to shape the role of AI knowledge on creativity in the workplace. This theory posits that employees' interpretations and evaluations of their AI knowledge, intention to use AI, and leader support influence their emotional responses, such as feelings of competence, motivation, or empowerment, which in turn impact their creativity outcomes in the workplace. By understanding the cognitive appraisals underlying employees' responses to AI-related factors, organizations can better support and leverage AI technologies to foster creativity among their workforce.

Chapter 2

Literature Review

2.1 Relationship between Employee Knowledge of AI and Employee Creativity

AI has emerged as the primary driver of innovation in business models, transforming processes, disrupting forces, and acquiring a competitive edge for organizations that adopt a culture centered on data and digital advancements ([Ransbotham et al., 2019](#)). AI has made a meaning impact, establishing a presence in creative industries, traditionally characterized by unchallenged human creativity. In these sectors, reliance has predominantly been on the intellectual and intuitive capacities of human creativity. Among human workers, there exists a limited comprehension of how AI systems influence their employment, attributed to an absence of faith, inadequate AI competency, skill, and comprehension. This outcome leads to employees encountering ambiguity and holding unfavorable perceptions, ultimately affecting their performance and psychological outcomes related to work ([Jia et al., 2024](#)).

”AI literacy among employees” pertains to the level of comprehension, acquaintance, and skill that workers have concerning artificial intelligence (AI). This includes their awareness of AI technologies, understanding of their capabilities, and recognition of the potential influence on work procedures. This knowledge may include the understanding of AI concepts in an organization, AI applications in the

workplace, skills related to AI, awareness of AI in an organization, ethical consideration regarding AI, continuous learning in the development and learning of AI and the willingness and ability of employees to engage in learning the AI. Now a days organizations often invest in training and educational programs to enhance the employee knowledge on AI ensuring that their workforce is well equipped to collaborate with AI technologies and navigate the evolving technological landscape. Improving employees' understanding of AI is pivotal for organizations seeking successful integration of AI into their operations. This typically entails providing training, educational initiatives, and cultivating an environment that promotes ongoing learning and adaptation to technological progress. AI enhances employee productivity through the efficient collection, processing, and utilization of data related to activities and operations. Additionally, management can utilize AI to analyze and distinguish the effectiveness of essential skilled staff members. (Jia et al., 2024) rise a question in their paper that could the integration of AI technology enhance the creativity of human employees, thus nurturing what is referred to as "AI-augmented employee creativity"? This question has garnered considerable attention from experts in both technology adoption and human resources management. AI can enhance employees' creativity by automating repetitive tasks, freeing up time for creative problem-solving. An office that integrates AI is likely to be more innovative and dynamic.

A compelling organizational insight involves utilizing AI to support human employees, thereby liberating them to focus on more advanced problem-solving tasks (Wilson and Daugherty, 2018). One idea suggests that AI has the potential to enhance employee creativity by enabling humans to focus on creative tasks while bots handle the more routine work (Carroll and Reich, 2017). There is currently a deficiency in both the theoretical groundwork and structured experimental proof regarding whether AI can genuinely aid Employees in a creative manner resolving more advanced issues and the essential prerequisites necessary to achieve this favorable result. Research done by the Jia et al. (2024) contributed that AI can collaborate with humans to enhance employee creativity, resulting in the achievement of "AI-augmented employee creativity." In their study they devised a tangible design by implementing a step-by-step division of tasks to establish a mutually

beneficial synergy the interaction between AI and human workers. Within the writings concerning employee creativity, their research introduces AI support as an additional tool, empowering employees to address problems in innovative and practical ways, consequently enhancing workplace creativity. Job skills play a pivotal role in shaping cognitive abilities and psychological well-being, both of which foster creativity. Through the use of AI, staff members can discover previously unthinkable creative directions and inventive solutions.

The newly discovered insights enhance scholars' comprehension of collaboration between humans and AI, specifically regarding the influence of integrating AI components into a job on the creativity of human workers. Having skills relevant to a particular domain is a significant factor that propels employee creativity within that specific field ([Amabile et al., 1996](#)). According to the theory of innovation it encompasses various principles and concepts that explain how new and valuable ideas, products, processes, or methods are generated and adopted. It provides insights into the drivers, processes, and outcomes of innovation within organizations and society as a whole. As it is been said that theory of innovation and employee creativity both are closely linked with each other. Employee creativity serves as a cornerstone for fostering innovation in organizations. As employees conceive fresh and valuable ideas, approaches, or practices, these innovations can result in enhancements, competitive edges, and success in the marketplace. AI and employee creativity are not mutually exclusive; instead, they have the potential to synergize. AI's efficiency in managing specific tasks allows employees to allocate their attention to creative endeavors. Simultaneously, AI-generated insights can spark and support creative thought processes, fostering the development of innovative and efficient solutions within organizations.

AI provides data-driven insights that can inform creative decision-making. Employees can utilize AI-generated analytics to understand customer behavior and market trends, serving as a catalyst for devising imaginative strategies. Recent study done by the ([Jia et al., 2024](#)) they concluded that The utilization of AI involves generating the essential input for the segment of the task requiring advanced problem-solving skills from human employees. Their examination centers on whether AI support empowers employees to address more complex problems

with enhanced creativity, thereby resulting in AI-enhanced employee creativity. Enhancing employees' grasp of AI is crucial for organizations seeking smooth AI integration into their operations, while also nurturing employee creativity. AI-generated insights can encourage employees to think creatively and tackle problems from new perspectives.

This encompasses the implementation of training, educational initiatives, and the development of a culture that not only promotes continuous learning and adaptation to technological advancements but also actively encourages and supports innovative thinking among employees. So from above mentioned explanation Employee knowledge of AI significantly enhances employee creativity. The familiarity of employees with AI can bring about numerous favorable outcomes for an organization, enhancing its overall efficiency and competitive standing. Knowing about AI helps employees use automated tools, making everyday tasks easier. This allows them to concentrate on more challenging and strategic aspects of their work, leading to improved productivity and efficiency ([Adam et al., 2021](#)).

Employees who understand AI are better prepared to use insights generated by AI for making well-informed decisions. This can result in more strategic and data-driven choices across different functions within the organization. Employees knowledgeable in AI tend to discover inventive ways to use AI technologies in solving intricate problems and promoting innovation within the organization. This can cultivate a culture of ongoing improvement. Employees with AI comprehension are more inclined to adjust to technological shifts and welcome novel AI-driven tools and procedures. Such adaptability holds significance in the swiftly evolving business environment of today.

Understanding AI can enhance customer service efficiency by incorporating AI-driven tools such as chatbots and personalization algorithms. These tools contribute to an improved overall customer experience. AI's capacity to automate repetitive tasks minimizes the necessity for manual intervention, resulting in cost savings in terms of time and resources. This efficiency enables organizations to allocate resources more effectively. Employees possessing AI knowledge are well-equipped to guarantee the ethical and responsible utilization of AI technologies within the organization. This helps in minimizing risks related to bias, privacy,

and fairness. Offering chances for employees to cultivate AI skills and actively participate in AI-related projects can boost job satisfaction and engagement, thereby fostering a positive workplace culture. Organizations endorsing AI knowledge and skills have the potential to draw in top talent seeking involvement with state-of-the-art technologies. Moreover, continuous AI training plays a role in retaining employees by nurturing their professional development. Recent studies by [Fietta et al. \(2021\)](#); [Rzepka and Berger \(2018\)](#); [Sartori and Bocca \(2023\)](#) reveal that individuals demonstrate both stated and implied biases in the direction of AI. Artificial intelligence (AI) tools can aid workers in visualizing challenging concepts, sparking new levels of creativity and innovation.

Negative biases toward AI become especially noticeable when artificial intelligence is utilized in domains usually associated with human capabilities. This includes situations where artificial agents are attributed with abilities like abstraction, emotional expression, or creativity. It also has a negative side it can lead to job displacement that involves repetitive tasks, people are resistant to change due to fear of using AI. Skill gaps in employees, privacy concerns, bias and fairness issues, and overreliance on technology, job dissatisfaction, and misuse of AI can be the cost of the implementation in an organization and the training cost.

H1: Employee knowledge of AI has a significant positive impact on Employee creativity.

2.2 Relationship between Employee Knowledge of AI and Intention to Use AI

Employee comprehension of AI refers to the extent of understanding and expertise individuals in a company have concerning artificial intelligence (AI). As AI holds the potential to benefit numerous individuals, user acceptance is essential for embracing and utilizing this technology effectively ([Kelley, 2022](#)). This encompasses a spectrum of knowledge levels, spanning from basic concepts to advanced technical skills related to AI. It involves grasping the principles, applications, and potential impacts of AI within their industry or specific job role. Employees equipped

with AI knowledge may be capable of using AI tools, analyzing data, analyzing AI-driven insights, and contributing to the incorporation and progression of AI technologies within their organization. The intention to utilize AI pertains to the preparedness and willingness of individuals or entities to embrace and integrate artificial intelligence (AI) technologies into their activities, operations, or systems. It signifies a deliberate inclination or decision to employ AI tools, applications, or solutions based on the belief that doing so will enhance efficiency, offer benefits, or improve various tasks, services, or products.

This intention involves actively considering, planning, or seeking opportunities to incorporate AI technologies into organizational processes or strategic plans. The correlation between an employee's understanding of artificial intelligence (AI) and their intention to use it concerns how one's comprehension and experience with AI affect one's readiness or willingness to use and adopt AI technologies. The correlation between an employee's understanding of artificial intelligence (AI) and their intention to use it concerns how one's comprehension and experience with AI affect one's readiness or willingness to use and adopt AI technologies. User embrace of technology is paramount for its effective integration ([Davis, 1989](#)).

It investigates how an employee's inclination or readiness to use AI tools, applications, or solutions within their work or organizational context is influenced by their level of expertise, comprehension, and proficiency in AI concepts. This link investigates whether workers who have a better grasp of employees who are aware of AI are more inclined to express a willingness to adopt and utilize AI in their job-related tasks, procedures, or decision-making.

Instead of supplanting human intelligence and creativity, artificial intelligence is often viewed as a complementary tool. While AI may face challenges in performing mundane real-world tasks, it excels in swiftly processing and analyzing vast datasets, surpassing the capacities of the human brain. Consequently, AI software can generate synthesized courses of action and present them to human users. This method enables us to harness AI to evaluate potential outcomes of each action and improve the effectiveness of the decision-making process ([Dabbous et al., 2022](#)). Artificial intelligence (AI) made its debut several years ago; however, in recent

times, there has been an increasing focus on exploring the practicality and cost-effectiveness of this technology. The field of creating Machines executing tasks traditionally associated with human intelligence, as articulated by AI, has been receiving growing attention.

Trailblazer Marvin Minsky in 1968, the landscape of service the delivery sector is experiencing substantial transformation as a result of progress in robotics and artificial intelligence. [Flavián et al. \(2022\)](#) Artificial intelligence extends its impact beyond enhancing customer experiences; it has the capacity to revolutionize internal operations within companies. Employees with a solid grasp of AI are more inclined to embrace and effectively use AI tools, promoting innovation and efficiency in the workplace.

AI bots can function as personal assistants, helping with tasks such as email management, and calendar maintenance, and offering suggestions for process optimization ([Adam et al., 2021](#)). Understanding the intention to use AI is crucial for businesses and policymakers as it influences how AI technologies are developed, deployed, and accepted within society. Factors influencing this intention can vary widely, including perceptions of utility, user-friendliness, social norms, confidence in technology, and regulatory frameworks. Artificial Intelligence (AI) stands at the forefront of becoming the defining technology of the next decade, thanks to its ability to augment human capabilities affordably ([Chakim et al., 2023](#)). In numerous instances, a positive correlation emerges between employees' AI proficiency and their inclination to use AI.

Enhanced comprehension of artificial intelligence, including its principles, applications, and advantages in their work setting, frequently leads to a more favorable attitude towards adopting AI technologies. Greater familiarity with AI often aligns with a stronger willingness to accept AI tools and platforms. Employees with a deeper grasp of AI tend to display increased confidence in its capabilities and recognize its potential to enhance efficiency, problem-solving, decision-making, and innovation within their job responsibilities or organizational workflows. This heightened grasp and confidence commonly stimulate a proactive desire to actively integrate AI into their work tasks. In light of the technological progress in artificial intelligence (AI), there has been a notable surge in research endeavors

examining the factors influencing the acceptance of AI. These studies have either developed new acceptance frameworks or expanded upon existing ones (Kelly et al., 2023). Artificial Intelligence (AI) emerges as the pivotal technology for the upcoming decade, distinguished by its capacity to amplify human capabilities at a cost-effective rate (Chakim et al., 2023).

Projections indicate that AI will penetrate various industries, potentially making a substantial contribution of an estimated by the year 2030, it's projected that AI will contribute a staggering US \$15.7 trillion to the global economy (Murphy et al., 2009). The successful adoption of devices is contingent upon the user's acceptance of technology, a fundamental concept highlighted (Davis, 1989). Considering the potential advantages of AI for a diverse array of individuals, its effective utilization relies on user acceptance. Failure to embrace AI could lead to decreased adoption, leaving resources untapped, an abundance of AI devices, coupled with a potential hindrance in technological innovation, could have adverse effects on consumers (Kelly et al., 2023).

Embracing serves as forecasting metric encompassing an individual's decision, such as the informed acquisition of AI devices. In simpler terms, it involves consciously purchasing a technological tool featuring awareness that it incorporates some form of AI. The desire to use artificial intelligence (AI) has many benefits that are beneficial to people, companies, and organizations. These are the main benefits of intending to use AI it can be the efficiency and automation, and AI can automate the task and save time.

It can analyze the large volume of data quickly, organizations may use to derive innovation by developing new product it can be the cost saving it can help to predict future trends so it can have the positive impact on employee creativity but other wat around it can also have negative impact regarding privacy, ethical consideration and displacement of certain job roles.

Therefore, a careful and responsible approach to the intention to use AI is essential to mitigate these negative effects and ensure a balanced and ethical integration of this technology.

H2: Employee knowledge of AI has a significant positive impact on Intention to use AI.

2.3 Relationship between Intention to Use AI and Employee Creativity

The emergence of digitization and automation is bringing forth an era where artificial intelligence (AI) assumes an increasingly significant role in our daily routines. Effectively leveraging AI in engineering and technology goes beyond possessing practical and technical know-how it requires a "creatively-oriented technology fluency" that extends beyond basic algorithmic thinking.

This creative focus involves developing skills that foster creativity, including handling complexity, critical thinking, envisioning potentials, embracing uncertainty, showcasing self-efficacy, and proficient communication. Prioritizing this emphasis on creativity doesn't mean disregarding traditional knowledge and skills; rather, it involves enhancing them by reinforcing creativity-driven capabilities (Cropley, 2020). In recent years, there has been expanding scholarly emphasize on the evolution of technological innovation within organizations. Employees who intend to use AI are more likely to boost their creativity by utilizing AI tools to explore innovative solutions and ideas.

Intention to use AI refers to the planned or purposeful readiness of individuals or organizations to adopt and employ artificial intelligence (AI) technologies for various purposes. Low acceptability could result in decreased adoption of AI by users, potentially leading to resource wastage, an excess of AI gadgets, and a possible deceleration in technological progress (Kirlidog and Kaynak, 2013). Acceptance serves as a predictive metric, reflecting individual decisions such as the intentional acquisition of AI gadgets. Stated differently, purchasing a technical gadget knowing that it incorporates artificial intelligence (Kelley, 2022).

It reflects the willingness, motivation, or inclination to utilize AI systems, tools, or applications in specific contexts, such as business, healthcare, education, or daily life. From the above given explanation it is been said that it can positive influence the employee creativity and boost up the motivation so that they can come up with the innovative and creative ideas so that they can lift up the organization performance. Hence it possesses a positive role on the employee creativity.

The intention to utilize AI mirrors employees' eagerness and preparedness to embrace AI technologies in their work processes. When employees are motivated to embrace AI tools and applications, they may actively seek out opportunities to leverage these technologies to enhance their creativity. Employees who are enthusiastic about integrating AI into their workflow may proactively explore the creative potential of AI technologies. They may experiment with AI-driven solutions, collaborate with colleagues to brainstorm innovative ideas and apply AI algorithms to solve complex problems in novel ways. Intention to use AI can serve as a catalyst for unlocking employees' creative potential by providing them with access to advanced technological capabilities and resources.

AI tools and platforms offer powerful features such as data analytics, predictive modeling, natural language processing, and machine learning, which can augment employees' cognitive abilities and enable them to generate novel insights and solutions. With the intention to use AI, employees may committing to ongoing learning and skill development is essential to fully harnessing the potential of AI technologies for creative problem-solving. They may acquire proficiency in data analysis techniques, programming languages, and AI algorithms, empowering them to tackle complex challenges with confidence and ingenuity. Companies have quickly grasped the capacity of technology to boost their creativity and efficiency, leading to increased exploration and comprehension of these phenomena (Chung et al., 2015).

Intention to use AI can facilitate collaborative innovation by fostering a culture of knowledge sharing, experimentation, and cross-functional collaboration. Employees who are committed to using AI technologies may form multidisciplinary teams to explore innovative applications and co-create solutions that capitalize on the diverse expertise and perspectives within the organization. Through collaborative efforts, employees can leverage AI-driven insights to identify new opportunities, optimize processes, and develop disruptive products or services that differentiate the organization in the marketplace. Intention-driven collaboration facilitates the consolidation of resources, expertise, and creativity, resulting in synergistic outcomes that propel organizational growth and success. The correlation between the intention to utilize AI and employee creativity is influenced by organizational support

and leadership commitment to AI adoption initiatives. Leaders who champion AI integration and provide resources, training, and encouragement to employees create an enabling environment where intention-driven creativity can flourish. The intention to use AI can motivate employees to leverage these tools for creative problem-solving and innovative thinking.

Organizational support signals to employees that their efforts to innovate with AI technologies are valued and rewarded, fostering a sense of psychological safety and empowerment. This, in turn, motivates employees to explore unconventional ideas, take calculated risks, and push the boundaries of creativity in pursuit of organizational goals. The intention to use AI fosters a culture of continuous improvement and iterative learning, where employees receive feedback on their creative endeavors and iterate on their ideas to refine and enhance their solutions. By soliciting feedback from peers, mentors, and stakeholders, employees gain valuable insights into the effectiveness and feasibility of their AI-driven innovations, allowing them to iterate and iterate on their ideas to achieve greater impact.

The iterative learning process enables employees to adapt to changing circumstances, incorporate new knowledge and insights, and pivot their creative efforts in response to emerging opportunities and challenges. Intention-driven creativity thrives in environments that encourage experimentation, agility, and resilience, where failures are viewed as learning experiences and stepping stones to future success.

In the literature, AI is conceptualized as the ability of AI systems or machines to mimic human intelligence by analyzing input data (such as text, numbers, images, and sound) and performing various processes to produce outputs in the form of decisions or solutions (Abulsaoud Ahmed Younis and Adel, 2020). Creativity refers to the introduction of fresh and practical ideas within an organization, often characterized by novelty, originality, unconventionality, and excellence. It involves adopting unique and innovative viewpoints, thinking beyond conventional boundaries, and integrating elements that were previously unavailable (Żywiłek et al., 2022). The intention to use AI can motivate employees to integrate these tools into their workflows, fostering a culture of creativity and innovation.

It can be the other way around that it can't directly affect the employee creativity and shall have a negative impact on the Creativity. Heavy reliance on AI tools and technologies may lead to a reduction in employees' intrinsic motivation to engage in creative problem-solving. Employees may become overly dependent on AI-driven solutions, relying on automated processes rather than exercising their creative thinking skills. AI systems can be influenced by biases inherent in the data used to train them, potentially leading to biased recommendations or decisions. If employees unquestioningly rely on AI-generated insights or recommendations, they may inadvertently perpetuate or amplify biases, stifling diversity of thought and hindering creativity. Concerns about job displacement or automation-induced changes in job roles and responsibilities may dampen employees' enthusiasm for embracing AI technologies. Fearing that AI adoption could threaten their job security, employees may resist or avoid engaging with AI tools, limiting their willingness to explore creative applications of AI in their work. Employees might develop excessive dependence on AI-generated predictions or forecasts, limiting their willingness to question or challenge algorithmic outputs. Blind acceptance of AI predictions without critical evaluation may hinder employees' ability to think creatively and consider alternative perspectives or scenarios. However the majority of the findings said that it has a positive impact on Creativity.

H3: Intention to use AI has a significant positive impact on employee creativity.

2.4 Intention to Use AI Mediates the Relationship between Employee Knowledge of AI and Employee Creativity

The ability of computers and systems to carry out tasks that conventionally need human intelligence is referred to as artificial intelligence (AI). Organizational decision-making is a crucial area where artificial intelligence is applied. In a recent study, the Boston Consulting Group (BCG) and the MIT Sloan Management Review (MSRM) found that while 59% of the organizations polled had

previously implemented an AI strategy, 57% of them were still researching the technology (Chang et al., 2014). Understanding the inclination to utilize AI holds immense significance for both businesses and policymakers as it profoundly shapes the development, deployment, and societal acceptance of AI technologies. Multiple factors influence this inclination, spanning perceptions of utility, ease of use, social conventions, trust in technology, and regulatory frameworks. Given the potential widespread benefits of AI, users' acceptance of this technology becomes crucial for its extensive adoption and optimal utilization (Kelley, 2022).

It states that people learn from observing each other (Bandura, 1988). They learn from their surroundings. They then embed that in their behavior. Learning in social cognitive theory occurs through the observation and emulation of the behaviors and outcomes of others. This process is commonly described as "modeling" or "imitation." Through this observational learning, individuals can acquire new skills, adopt different attitudes, and gain knowledge by watching and replicating the actions of others. In social cognitive theory, it is proposed that individuals, their behaviors, and their environment are in a constant, reciprocal interaction. This is a reference to how well workers comprehend AI technology, particularly its prospective applications, features, and capacities in the workplace.

Depending on a variety of circumstances, including exposure to AI technology at work, educational background, and training opportunities, employee awareness of AI might vary greatly. This implies that a person's actions have the potential to shape their environment, and in return, the environment can influence the person's behavior and cognitive processes. It's a dynamic and interdependent relationship among these factors. Numerous empirical studies across diverse fields have consistently demonstrated that both prior vicarious (observing others) and personal experiences in using technology have the effect of enhancing an individual's self-efficacy (Aldabbas et al., 2023). Individuals who either feel that they have mastered AI technologies themselves or know others who are proficient in using AI products are anticipated to exhibit higher levels of AI self-efficacy compared to those who have neither of these experiences.

Employee creativity entails producing fresh and valuable ideas, solutions, or products that enhance organizational innovation and performance. In the realm of AI

adoption, creativity involves utilizing AI technologies to devise inventive solutions, streamline tasks, or enhance current processes. Creativity entails the generation of advantageous fresh services, products, and concepts, as described by [Woodman et al. \(1993\)](#), and has been delineated as the byproduct of original, practical ideas for addressing problems resolutions'by [Amabile et al. \(1996\)](#).

As we know employee creativity refers to an individual's ability to produce original and valuable concepts, answers, or groundbreaking developments within a work environment. Organizations place significant importance on creativity due to its potential to spur innovation, enhance operational procedures, and provide a competitive advantage. They are more inclined to incorporate AI technologies into their creative workflows. AI can play a supportive role in tasks such as data analysis, idea generation, and problem-solving, thereby amplifying employees' creative productivity. When employees have increased confidence in their capacity to utilize AI effectively they are more inclined to incorporate AI technologies into their creative workflows.

Intention to use AI reflects employees' willingness and willingness to embrace and utilize AI technologies within their work activities. User acceptance of technology holds significant importance in ensuring the successful adoption of devices ([Davis, 1989](#)). It is shaped by diverse factors, including perceived utility and user-friendliness, social norms, organizational support, and personal attitudes toward technology. AI can play a supportive role in tasks such as data analysis, idea generation, and problem-solving, thereby amplifying employees' creative productivity. AI technologies can assume responsibility for mundane and analytical tasks, enabling employees to direct their attention toward more advanced problem-solving and creative contemplation. This shift in focus often results in the generation of more inventive and groundbreaking solutions. AI has the capacity to supply data-driven insights that both guide and ignite imaginative decision-making. According to the proposed model, the intention to use AI functions as a mediator in the connection between employee knowledge of AI and employee creativity. Within this framework, employee knowledge of AI operates as the antecedent variable, impacting employees' intention to utilize AI. Intention to use AI, in turn, influences employee creativity, as employees who are more willing to adopt and utilize AI

technologies may be more likely to explore novel applications and creative solutions using these technologies. This relationship can be understood within the framework of technology acceptance models, which posit that individuals' behavioral intentions toward using a technology (in this case, AI) are influenced by their perceptions of its usefulness, usability, and social norms. People who receive encouragement from others Individuals who actively employ AI devices are more prone to possess elevated AI self-efficacy (Hong, 2022). Understanding the "middleman" function of the intent to use AI can have huge implications for organizations that want to create an innovation culture and integrate AI. Leaders and managers can focus on improving employees' understanding and understanding of AI, as well as addressing challenges and concerns that come with implementing AI. This approach can help increase employees' willingness to adopt AI and encourage innovation across the organization.

But overall if look if it can't mediate the relationship in this situation, employee awareness of AI has a direct impact on employee creativity. This implies that employees who are more knowledgeable about AI are more likely to apply this knowledge to their work in a creative way, even if they do not intend to use AI in a specific way. Employee knowledge of AI may empower individuals to leverage AI tools and techniques in novel and innovative ways, fostering creativity through expertise-driven problem-solving. Employees with deeper understanding and proficiency in AI may autonomously integrate incorporate Integrating AI technologies into their work processes to enhance efficiency, productivity, and creativity. Even if employees have substantial knowledge of AI, their intention to use AI may not necessarily influence their creativity if they lack access to the necessary resources or organizational support to implement AI solutions effectively. AI is positioned to emerge as the defining technology of the upcoming decade, thanks to its potential to enhance human capabilities in a cost-effective manner (Kong et al., 2024).

Limited access to AI technologies, inadequate training, or organizational barriers may hinder employees from translating their knowledge into creative applications. In summary, while intention to use AI can serve as a mediator between employee knowledge of AI and employee creativity in certain contexts, creativity may also manifest independently of intention to use AI, driven by factors such as expertise,

resource accessibility, alternative pathways, and organizational culture. Understanding these dynamics can inform strategies to nurture creativity and innovation in AI-enabled workplaces.

H4: Intention to use AI mediates the relationship between Employee knowledge of AI and the employee creativity

2.5 Moderating Role of Leader's Support between Employee Knowledge of AI And Intention to Use AI

Since the onset of the Industrial Revolution, there has been a significant focus on exploring ways in which leaders can effectively foster and maintain employee motivation and peak performance. Drawing from a multitude of leadership theories developed over the past century and leveraging insights from self-determination theory (Slemp et al., 2018). The degree to which organizational leaders, managers, and supervisors, for example assist and promote staff members' adoption and utilization of emerging technology like artificial intelligence is referred to as leader support. This assistance can take many different forms, such as supplying materials, giving instruction, exhibiting passion, and cultivating a positive workplace atmosphere. Leadership is widely acknowledged as a fundamental factor influencing the performance and welfare of individuals, groups, and organizations. Effective leadership has a beneficial effect on certain aspects of employees' creativity.

Tabak (1997) state that a key point in favor of this procedure is that a leader's support enhances a heightened sense of self-determination and (Wu et al., 2014) concluded that a leader's support elevates employees' confidence and their readiness to instigate forward-looking changes. Many authors use the attachment theory to link it with the leader's support. Attachment theory can offer valuable insights when examining the influence of leadership support in a workplace context. A key aspect of attachment theory revolves around the significance of encouragement and the assistance provided by others in facilitating an individual's exploration.

Leaders can have a significant impact on creating such a nurturing environment. This can be achieved, for instance, by demonstrating overall support for their followers' endeavors, fostering their independence, and granting them the authority to assume greater responsibilities (Avolio et al., 1999). Leaders have the capacity to offer training initiatives and educational materials aimed at assisting employees in developing their skills and expertise pertaining to AI. Through these investments in learning and development, leaders can elevate employees' confidence in their capacity to proficiently employ AI technologies. Leaders have the ability to grant employees the authority to make decisions and assume ownership of AI adoption projects. These observations regarding the shared characteristics found in creative individuals and their creative work are significant.

They suggest that creative endeavors might exhibit enough commonality in the fundamental factors influencing performance to enable a meaningful exploration of creative leadership as a broad phenomenon (Mumford et al., 2002). AI is controlling over every aspects in an organization leaders should be supportive in order to educate and motivates their employees to use AI tools and techniques. Understanding people's willingness to use AI is crucial for businesses and policymakers, as it significantly influences how AI technologies are developed, rolled out, and embraced in society. Employee knowledge of AI encompasses their understanding of artificial intelligence technologies, including their capabilities, applications, benefits, and potential challenges. It includes both technical knowledge (e.g., understanding algorithms) and practical knowledge (e.g., knowing how to use AI tools in daily work tasks). AI encompasses a spectrum of intelligent processes and behaviors generated by computational models and algorithms, rather than being a singular technology.

The recent refinement of these computational models and algorithms, along with the increasing power of computers and the abundance of data, has significantly accelerated the progress of AI (Chen and Decary, 2020). Using AI to address intricate challenges, streamline processes, or automate recurring duties to enhance overall efficiency. Embracing AI as a chance for individual or collective growth, allowing people or groups to acquire fresh skills and remain informed about technological progressions for personal or organizational development. Various factors

impact this willingness, such as how useful and user-friendly AI is perceived to be, societal norms, trust in the technology, and the regulatory environment.

AI is anticipated to emerge as the pivotal technology of the upcoming decade, thanks to its ability to augment human capabilities at a relatively low expense. For any device or technology to succeed, user acceptance is essential (Davis, 1989). As AI has the potential to benefit many individuals, users must accept and embrace this technology for its effective and widespread use Kelly et al. Due to technological advancements and increasing public interest, some perceive AI as an unparalleled revolutionary technology capable of reshaping humanity.

However, at present, managers face a dearth of empirical guidance on how to effectively prepare for and integrate AI into their organization's operations (Brock and Von Wangenheim, 2019). The readiness and willingness of employees to integrate and apply AI technology in their work activities is referred to as their intention to use AI.

It is a crucial indicator of real usage patterns and is affected by multiple factors, including perceived utility, usability, and social norms, and organizational support. Leaders' support can affect the employee creativeness and the intention to use anything. By creating an environment that fosters learning, offers resources for skill development, and encourages a positive attitude towards AI integration, leaders can support moderators in the connection between employee familiarity with AI and their intention to utilize it.

Leaders can offer education and training on AI technologies and the applications within the organization providing both technical and conceptual training to help employees. Be open and honest in communicating the organization's AI initiatives, including their goals, possible effects on staff roles, and ways that employees can get involved. Clear up any misunderstandings or worries about AI to reduce anxiety and foster confidence. Encourage staff members to acquire the competencies required to use AI technologies efficiently. Offering seminars, online classes, or mentorship programed centered on AI-related abilities like data analysis, machine learning, and programming could be one way to do this. Establish an environment where staff members are encouraged to experiment with AI tools and find creative ways to integrate them into their daily tasks. Give staff members the chance

to present their AI-related projects to their peers and exchange best practices and knowledge. Employees who actively use AI technologies and help the company successfully implement them should be acknowledged and rewarded. This could involve rewards for exceptional contributions to AI-related projects, such as bonuses, promotions, or public recognition.

Create channels for employees to offer input on AI-related projects and share any concerns or ideas they might have. Listen attentively to their feedback and utilize it to guide decisions regarding the implementation and training of AI systems. Show leadership backing for AI initiatives by dedicating resources, establishing concise objectives, and giving priority to integrating AI into the organization's strategic goals.

Lead through personal adoption of AI technologies, showcasing their advantages to the organization. Cultivate an environment of perpetual learning, motivating employees to stay updated on the latest developments in AI and associated technologies. Offer access to resources like online courses, conferences, and workshops to facilitate continuous learning and growth in this domain.

In the context of the correlation between employee familiarity with AI and their inclination to utilize it, the moderating function of leader support suggests that the influence of employee knowledge on their intention to use AI might vary based on the level of backing offered by organizational leaders. Leader support can either enhance or diminish the positive impact of employee knowledge on their intention to adopt AI. Comprehending the moderating function of leader support can carry significant consequences for entities aiming to encourage the efficient assimilation and application of artificial intelligence technology.

It emphasizes how critical it is to develop staff members' AI knowledge and abilities while also fostering a positive work atmosphere where executives actively support and encourage AI adoption efforts. Effective leadership is indispensable for the overall success and efficiency of an organization. Leaders act as the guiding light, offering vision, direction, and motivation to their teams (Peifer et al., 2022). They articulate a clear vision and strategic objectives, ensuring that employees comprehend their roles within the broader organizational goals.

Additionally, leaders inspire innovation, collaboration, and ongoing improvement, fostering a culture of excellence. They allocate resources wisely, ensuring teams are equipped to achieve their objectives. Moreover, Leaders assume a critical role in decision-making, prioritizing the organization's objectives, and ensuring transparency.

Furthermore, they facilitate the professional growth of their team members through coaching, mentoring, and providing developmental opportunities. Through transparent communication and feedback channels, leaders cultivate trust and open dialogue. Ultimately, by nurturing a supportive environment where employees feel valued and empowered, leaders significantly contribute to the organization's long-term success and resilience. Employees with knowledge of AI are more likely to intend to use it, as their understanding boosts confidence and lowers resistance to adoption. Employees' knowledge of AI strengthens their willingness to adopt it, as increased understanding boosts confidence and reduces obstacles to its use. When employees possess AI knowledge and receive strong support from leaders, it greatly boosts the effective adoption and use of AI technologies in the workplace.

H5: Leader's support moderates the relationship between Employee knowledge of AI and Intention to use AI in such a way that its strengthens the relationship when leaders support is high.

2.6 Research Model

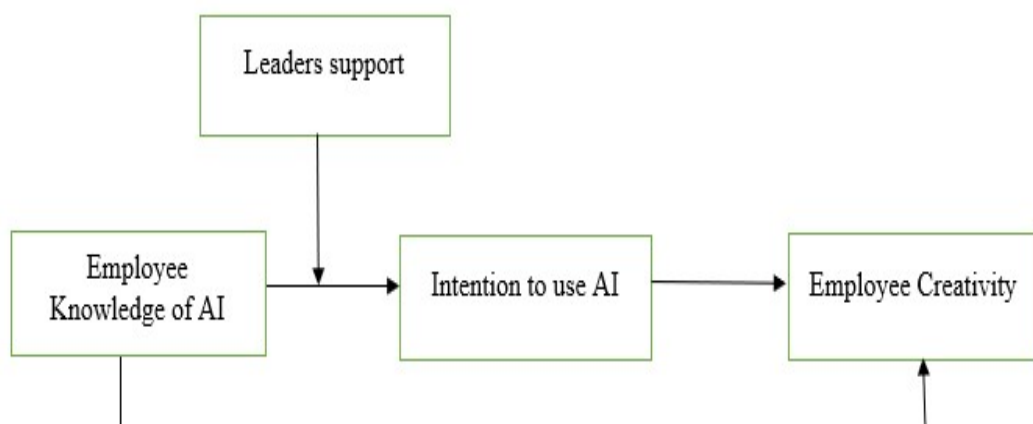


FIGURE 2.1: Role of Employee Knowledge of AI on Employee Creativity: Mediating Role of Intention to Use AI, Moderating Role of Leaders Support

2.7 Summary of the Hypothesis

TABLE 2.1: Summary of the Hypothesis

Hypothesis	
H1	Employee knowledge of AI has a significant positive impact on Employee creativity.
H2	Employee knowledge of AI has a significant positive impact on Intention to use AI.
H3	Intention to use AI has a significant positive impact on employee creativity.
H4	Intention to use AI mediates the relationship between Employee knowledge of AI and employee creativity.
H5	Leaders support moderates the relationship between Employee knowledge of AI and Intention to use AI in such a way that its strengthens the relationship when leaders support is high.

Chapter 3

Research Methodology

This section represents the research design employed to perform the scientific study. It delves into the various research techniques employed to enhance the current study, including population, sample, instrumentation, data analysis procedures, and statistical tools used for analysis. The methodology for this investigation is based on the strong theoretical underpinnings of the variables being studied. This chapter also addresses important subjects including demographics, the methodical approach to gathering data, and the range of instruments employed to ensure the validity and dependability of our research.

3.1 Research Design

This research is conducted to examine the role of AI. This section shows a blueprint of which philosophy was followed, and how data was collected from the targeted population. How the sample size was identified and which instruments were used for the study.

3.1.1 Research Philosophy

A research philosophy comprises fundamental beliefs that steer the planning and execution of a research inquiry, with various research philosophies offering unique perspectives on the nature of scientific paradigms investigation. Research philosophy is vital as it shapes how researchers formulate their research inquiries,

structure their methodology, and comprehend their discoveries, focusing on the essence of knowledge and its acquisition and utilization. There are four types of research philosophy positivism, interpretivism, realism, and pragmatism.

The positivism approach was followed to conduct this study because positivism operates on the assumption that knowledge exists independently of the entity under investigation. Positivism, as a research philosophy, underscores the importance of empirical evidence and scientific rigor methodologies in knowledge acquisition. It contends that only verifiable knowledge obtained through empirical evidence, including measurement, is reliable.

Within positivism, researchers are confined to the tasks of gathering and interpreting data in an unbiased manner, devoid of personal biases or values impacting the investigation. This methodology hinges on measurable observations that facilitate statistical analyses and is frequently linked with a deductive research approach.

3.1.2 Research Approach

The general plan or procedure used in conducting a research study was referred to as the research approach. It encompassed the systematic approach and methods employed in collecting, analyzing, and evaluating data to address research questions or objectives.

This study employed a deductive approach to analyze the data. Deductive approach in research is a method that starts with a comprehensive theory, hypothesis, or the statement and then progresses toward more specific observations to validate the theory. It's a "top-down" approach that is often used in scientific research to explore and confirm hypotheses.

3.1.3 Research Strategy

A research strategy can be described as a systematic plan or methodology for carrying out the process of acquiring and assessing information. This term suggests that research involves various options, including action research, experimental research, interviews, surveys, case study research, or literature review. In this research, we used a survey-based strategy. Survey-based research is a means of data

collection that involves inquiring people, known as respondents. It's a popular approach in various fields such as social science, market research, and more. Identify the people you want to learn about and select a sample that represents this population. Choose the survey method (e.g., online, mail, in-person) that best suits the research question and sample. Create questions that are clear, unbiased, and structured to gather the necessary information. They are valued for their flexibility and the ability to generalize findings to a larger population.

3.1.4 Choices of Methods

There are three different kinds of methods for study which includes mono-method, mixed-method, and multi-method approaches. Mono method was used in this research, it involves the utilization of only one specific research method for the study. This approach involves using a single, consistent research method to collect and analyze data, rather than combining multiple methods. The mono method in research refers to employing a singular data collection method, be it quantitative or qualitative within a study. The mono method is frequently selected due to its simplicity and concentration, enabling researchers to thoroughly explore a specific aspect of their study while maintaining a consistent methodological framework.

3.1.5 Time Horizons

In research, the time frame is crucial. The time horizon in research defines the duration and period over which a study is conducted, including the start and end points. It specifies the temporal scope for collecting and analyzing data, which can vary depending on the nature of the research. Typically, two types of data are used: cross-sectional and longitudinal. Cross-sectional data is gathered at one specific instance, as observed in surveys. Data is gathered at a specific moment, offering a snapshot of the current situation. Conversely, longitudinal data entails monitoring a particular variable over an extended duration, spanning years, quarters, months, or days. In this research cross-sectional data was used. Data is collected over a prolonged period, enabling the observation of changes and trends over time. Cross-sectional data pertains to data collected from numerous

subjects (e.g., individuals, firms) at one specific time. This type of data is often used to assess the prevalence of common characteristics of a particular issue or phenomenon at a specific moment.

3.1.6 Target Population

The term "population" in research refers to the complete set of individuals or items under study, from which conclusions, inferences, and data are drawn. The primary data was collected from managers, assistant managers, and supervisory employees in the hospitality industry working across various organizations situated in two cities in Pakistan (Islamabad and Rawalpindi). The necessary permissions were obtained from their respective HR departments.

This study's target audience comprised individuals presently employed in these organizations. Given the nature of study variables, the population is expected to be highly suitable for our research. Individuals were invited to participate in this survey voluntarily, and were ensured that utmost secrecy and anonymity throughout the process. To provide context for the study's objectives, a cover letter outlining the research's goals was also mentioned on that online google form.

3.2 Data Collection

The methodical process of gathering and analysing data from various sources in order to answer research questions, validate theories, or evaluate results is known as data collection. This entails selecting appropriate techniques and instruments to collect precise and pertinent data, which is then organised, documented, and examined in order to derive conclusions and make decisions. For data collection, the purposive sampling method was adopted, a non-probability technique used in research to select individuals or groups based on specific criteria relevant to the research question or objective. This method, also known as judgmental or selective sampling, is particularly valuable when seeking information-rich cases or optimizing limited resources. To facilitate data collection, an online Google Form questionnaire was created. The link to the questionnaire was personally shared

with respondents through various social media platforms and also personal visits were made for the responses. The research adopted a quantitative approach.

In research, the quantitative approach entails gathering and analyzing numerical data to identify patterns, averages, predict outcomes, examine causal connections, and extend findings to broader populations. This method involves using statistical tools to interpret the data.

3.2.1 Population and Sample

In Pakistan, the hospitality sector accounted for 3.6% of total employment, amounting to 108 million jobs. The hospitality industry in Pakistan has been growing, contributing significantly to the GDP and generating millions of jobs. In Islamabad and Rawalpindi, there are an estimated 1,500-2,000 employees on payroll (Pakistan Institute of Development Economics, n.d.).

3.3 Sample Size

For a population a range of sizes from 75,000 to 1,000,000, according to Krejcie and Morgan's (1970) method suggests a sample size of 382 to 384 respondents. This calculation is based on a 95% confidence level and a 5% margin of uncertainty/error estimate. Out of 384, we have 286 respondents. The Sample size was 384.

3.4 Sampling

In this study, the sampling process involved the collection of an unknown sample utilizing non-probability techniques, specifically purposive sampling. Participants were selected for their distinctive attributes or qualifications that correspond with the goals of the study.

In opposition to probability sampling, purposive sampling eschews the element of chance in its selection process. This approach grants researchers the flexibility to adjust their sampling strategy, which is advantageous in preliminary studies where research inquiries might develop.

3.5 Pilot Testing

A pilot study serves as a preventive strategy, helping you steer clear of possible problems with time and money. To gauge respondents' awareness of and coherence with the proposed hypotheses, 51 questionnaires were given during the pilot testing phase. Positive results from the pilot testing phase showed that there were no substantial issues with the variables, and it confirmed that the scales employed were appropriate for more research. In conducting pilot testing, 51 responses from the employees were acquired and the Cronbach's alpha coefficient for variables was greater than 0.7 which ensures reliability. 0.9 for the employee knowledge of AI, for employee creativity 0.9, for intention to use AI 0.9, and for the leader's support the Cronbach alpha was 0.9, which ensures reliability.

3.6 Reliability of Scales

The total number of items in each construct is as indicated in the table accompanied by Cronbach's alpha values for several constructs. Cronbach's alpha, a measure of internal consistency, indicates the extent to which the items within a construct are interconnected. A Cronbach's alpha estimate greater than 0.70 is regarded as sufficient for scale precision, according to Hair (2006).

The following are the alpha values for the study's constructs. Cronbach alpha of the employee knowledge of AI is 0.94, Cronbach alpha of Intention to use AI is 0.94, the Cronbach alpha of Employee creativity is 0.85, and Cronbach alpha of Leaders support is 0.87. Since the alpha values of all the variables fall within an acceptable range, the data received from calculating Cronbach's alpha is trustworthy and suitable for use in additional computations. This indicates that the study's constructs have strong internal consistency and that each construct's items accurately measure the same underlying idea.

The internal reliability of a scale implies that all its items effectively measure the same construct, leading to correlations among them. Reliability tests are used to evaluate the consistency of results obtained from any measurement method when the same test is administered repeatedly or at various times. Items

should effectively measure the same construct, resulting in correlations among them. Reliability tests are employed to assess the consistency of results obtained from any measurement method when the same test is administered repeatedly or at different times.

The table 3.1 illustrates the internal consistency of scales, indicating that all variables have alpha coefficients that are considered reliable.

TABLE 3.1: Cronbach alpha

Variables	Cronbach alpha
Employee knowledge of AI	0.94
Intention to use AI	0.94
Employee creativity	0.85
Leaders support	0.87

3.7 Data Analysis Technique

The data analysis was performed using SPSS software. A variety of statistical tests, such as correlation, regression, mediation, and moderation, were carried out to evaluate and comprehend the data.

Correlation analysis was used to examine the relationship between the independent and dependent variables, while regression analysis was employed to investigate the interrelationships among the variables.

3.7.1 Analytical Techniques and Tools Used

Statistical analyses performed to ensure valid results, which included reliability testing, descriptive analysis, correlation examination, and regression analysis. SPSS version 27.0 was used for all calculations. Additionally, for cause and effect analysis, Andrew Hayes' PROCESS macro was used.

3.8 Instrumentation

Instrumentation in research pertains to the tools, devices, and procedures employed to systematically and reliably collect data and measure variables. The quality of instrumentation directly influences the accuracy and validity of research findings, making it a crucial aspect of experimental design.

Instrumentation in research not only involves selecting and calibrating appropriate tools for data collection but also encompasses considerations of sample characteristics. Understanding the demographics, traits, and attributes of the sample population is vital for designing instrumentation that accurately captures relevant variables.

3.8.1 Measures Used

An English language questionnaire was utilized in the study because English is recognized as an official language in Pakistan and is taught as a mandatory subject from school to university level. The population was very well educated, and they understood English very well, so it was not compulsory to translate it into Urdu. All items were assessed using a five-point Likert scale where 1 represent "strongly disagree" (indicating a low value of the variable), and 5 represents "strongly agree" (indicating a high value of the variable).

3.8.1.1 Employee Knowledge of AI

Employee knowledge of AI was measured by using (Flynn and Goldsmith, 1999) 5-item scale. The sample items are "I know pretty much about AI" and "Among my circle of friends, I'm one of the "experts" on AI". The Cronbach's alpha reliability coefficient for this scale is 0.94.

3.8.1.2 Intention to Use AI

Intention to use AI was measured by using Venkatesh et al. (2012) 3-item scale. The sample items are "I intend to use AI in the future" and "I will always try to use AI in my workplace". The Cronbach alpha reliability for this scale is 0.94.

3.8.1.3 Leader's Support

Leader's support was measured by using [Wu and Parker \(2017\)](#) 3-item scale. The sample items are "My supervisors is sympathetic and supportive when I am worried or upset about something" and "My supervisor gives me encouragement and support when I have difficult and stressful task or responsibility." The Cronbach alpha reliability for this scale is 0.87.

3.8.1.4 Employee Creativity

Employee creativity was measured by using ([Coelho and Augusto, 2010](#)) 5 items scale. The sample items are "I try to be as creative as I can in my job" and "I experiment with new approaches in performing my job". The Cronbach alpha reliability for this scale is 0.85.

TABLE 3.2: Scales

Variables	Source	No of items
Employee Knowledge of AI	Flynn Goldsmith, 1999	5
Intention to use AI	Venkatesh et al., 2012	3
Employee Creativity	Coelho Augusto, 2010	5
Leaders support	Wu Parker, 2016	3

3.8.2 Sample Characteristics

When describing sample characteristics, it's important to outline the demographics and other key attributes of the participants. These characteristics should be clearly defined to ensure they align with the research objectives and the phenomenon being explored. To gain further insights into the attributes of the sample, the study concentrated on a number of demographic variables. These characteristics included the respondents under investigation's age, gender, qualification, marital status, work status, and number of years with an organization. An analysis of these attributes gave a more profound comprehension of the varied backgrounds and experiences within the sample.

3.8.2.1 Gender Characteristics

TABLE 3.3: Frequency by Gender

	Frequency	Percent	Valid percent	Cumulative percent
Valid Male	165	57.7	57.7	57.7
Female	121	42.3	42.3	100
Total	286	100	100	

The table above provides an overview of the gender distribution within our study sample. Out of 286 respondents there are 165 individuals who are identified as a male with the percentage of 57.7 on the other hand 121 individuals are identified as females with the percentage of 42.3. The cumulative frequency reached 100

3.8.2.2 Marital Status Characteristics

TABLE 3.4: Frequencies by Marital Status

	Frequency	Percent	Valid percent	Cumulative percent
Valid Single	138	48.3	48.3	48.3
Married	148	51.7	51.7	100
Total	286	100	100	

The table above summarizes the marital status distribution among participants in our study. It details the marital status breakdown of the respondents.

The marital status of the people was identified through two groups one is single and one is married. By looking at the respondents, 138 individuals are identified as single in terms of marital status. with the percentage of 48.3 and there are 148 respondents who are married with the percentage of 51.7 respectively. At the end cumulative frequency reached to 100%.

3.8.2.3 Age Characteristics

TABLE 3.5: Frequencies by Age

	Frequency	Percent	Valid percent	Cumulative percent
Valid 18-25	114	39.9	39.9	39.9
26-30	68	23.8	23.8	63.6
31-35	67	23.4	23.4	87.1
36-40	28	9.8	9.8	96.9
41-45	3	1	1	97.9
Over 45	6	2.1	2.1	100
Total	286	100	100	

The age distributions of the respondents are presented in the table above. The sample size consisted of 286 respondents and their ages are categorized into six groups: 18-25, 26-30, 31-35, 36-40, 41-45, over 45. Among the participants the largest group comprised of the 114 individuals aged 18-25 with the frequency of 39.9 percent. The second largest group was those 68 individuals who aged between 26-30 with the frequency of 23.8%. Then comes the 67 individuals between the age group 31-35 with the frequency of the 23.4%, then the 28 individuals comes between 36-40 with the frequency of the 9.8%, then comes then individual comes between 41-45 with the frequency of 2.1% and at last comes 6 individuals which comes over 45 with the frequency of 2.1%. The cumulative frequency reached 100% at the end.

3.8.2.4 Qualifications Characteristics

TABLE 3.6: Frequency by Qualification

	Frequency	Percent	Valid percent	Cumulative percent
Valid Graduate	174	60.8	60.8	68.9
Postgraduate	112	39.2	39.2	100
Total	286	100	100	

The table above displays the distribution of the qualification among the individuals in the sample of the study. The sample consists of 286 respondents and their educational backgrounds were categorized into 02 groups: Graduate, Post graduate. Among the individuals, the most prevalent education qualification was a bachelor’s degree (Graduate people) with a total of 174 from 286 participants with a frequency of 60.8%.and the 112 individuals were those who have done post graduates with a frequency of the 39.2%.

These findings indicate that most participants in the study hold a bachelor’s degree, followed by a significant proportion of the postgraduates.

3.8.2.5 Job Experience Characteristics

TABLE 3.7: Frequency by Job Experience

	Frequency	Percent Valid	Percent Cumulative	Percent
Valid 0-5	165	57.7	57.7	57.7
6-10	70	24.5	24.5	82.2
11-15	40	14	14	96.2
16-20	7	2.4	2.4	98.6
More than 20	4	1.4	1.4	100
Total	286	100	100	

In the above table it shows the 5 groups to know about the participant’s years of experience in an organization. There are 5 groups in which it is divided: 0-5, 6-10, 11-15, 16-20, More than 20. The results show that there are 165 individuals who are working with an organization from 0-5 with the frequency of 57.7% and 70 individuals are those who are working with an organization from 6-10 years with the frequency of 24.5%. and 40 individuals are those who has being working with an organization from 11-15 years with the frequency of 14% and 7 individuals are those who has experience with an organization from 16-20 with the frequency of 2.4% years and at last there are only 4 individuals who are with the organization more than 20 year with the frequency of 1.4%. So in total at last cumulative frequency reached at 100%.

Chapter 4

Result and Analysis

4.1 Descriptive Analysis

This statistical analysis provides a concise summary of the standardized values for the variables. It includes the sample size, the range of values (minimum and maximum), and the average and spread of the data (mean and standard deviation). The table offers detailed insights into the study variables: the second column represents the number of participants, while the third and fourth columns show the lowest and highest values reported by the participants. Furthermore, the fifth and sixth columns present the average and dispersion of the data.

TABLE 4.1: Descriptive Analysis

	N	Statistic	Min	Max	Mean Statistic	Std. Deviation
Employee Knowledge of AI	286		1	5	4.47	0.52
Leaders support	286		1	5	4.22	0.83
Intention to use AI	286		1	5	4.08	0.90
Employee creativity	286		1	5	3.96	0.92
Valid N	286					

Descriptive analysis serves as a fundamental statistical approach employed to summarize and depict the essential aspects of a dataset. It entails organizing, condensing, and presenting data in a straightforward and concise manner, typically through measures like mean, and variability indices such as standard deviation. Descriptive analysis furnishes researchers and analysts with a comprehensive snapshot of the data, enabling them to discern patterns, trends, and significant characteristics without making inferences or drawing conclusions about underlying relationships. The table offers descriptive statistics for the variables scrutinized in the study, presenting details such as minimum and maximum values, as well as averages and standard deviations for each variable. It provides insights into variables, sample size, and descriptive statistics. Each column in the table delineates information regarding the minimum value, maximum value, mean value, and standard deviation of the collected data.

In the table above, we observe that the average score for employee knowledge of AI is 4.47, with a standard deviation of 0.52. For leaders' support, the mean score is 4.22, with a standard deviation of 0.83. The intention to use AI has an average score of 4.08, with a standard deviation of 0.90. Additionally, employee creativity has a mean score of 3.96, with a standard deviation of 0.92.

4.2 One Way ANOVA Table

TABLE 4.2: One Way ANOVA Table

	Employee	Creativity
	F-Value	P-Value (Sig)
Gender	2.07	0.15
Marital status	0.00	0.93
Age	1.19	0.31
Qualification	0.81	0.48
Job experience	0.00	0.96

The one-way ANOVA test was utilized to assess the impact of demographic factors on the outcome variable, "employee creativity." Table below displays the outcomes of the one-way ANOVA analysis concerning several control variables, namely gender, age, education, experience, marital status, job experience and qualification, about employee creativity. Hereafter are the interpretations for each variable. Overall, based on this one-way ANOVA table, all the variables does not demonstrate a significant relationship with employee creativity.

4.3 Correlational Analysis

Correlational analysis is a statistical method used to determine the strength and direction of the relationship between two variables. It's commonly used in research to understand how changes in one variable correspond to changes in another variable. In this analysis, variables are usually measured quantitatively, and the relationship between them is represented by a correlation coefficient. It's important to note that correlational analysis does not imply causation. Even if two variables are correlated, it doesn't necessarily mean that one variable causes the other to change. It simply indicates that there is some degree of association between the variables. The Pearson correlation coefficient, denoted by "r," measures the strength and direction of the linear relationship between two continuous variables.

TABLE 4.3: Correlation

Variables	EK of AI	LS	Intention to use AI	EC
EK of AI	1			
LS	.46**	1		
Intention to use AI	.59**	.57**	1	
EC	.87**	.39**	.61**	1

N=286, EK of AI = Employee knowledge of AI, LS=Leaders support,

EC=employee creativity **.Correlation is significant at the 0.01 (2-tailed)

Analysis of the correlation analysis presented in the table shows that the correlation coefficient between employee knowledge of AI and employee creativity is

0.87** at $p < 0.01$, strong positive correlation. A correlation coefficient of $r=0.87$ suggests that there is a tendency for the variables to move in the same direction, indicating a positive correlation between the two variables, but it's not a strong correlation. The value of r being positive suggests as one variable increases, the tendency is for the other variable to also increase. This indicates a positive linear relationship between the two variables. The correlation is moderately positive, suggesting a discernible but particularly robust relationship.

The intention to use AI serves as the mediator between employee knowledge of AI and employee creativity. The correlation coefficient between employee knowledge of AI and intention to use AI is 0.59** at $p < 0.01$, indicating a strong positive strength of association. This implies that as one variable increases, the other tends to increase as well, and vice versa. The closer the value is to 1, the stronger the positive relationship.

Similarly, the correlation coefficient between intention to use AI and employee creativity is 0.61**, indicating a weak positive correlation between these two variables. The positive value implies that as one variable increases, the other tends to increase as well, and vice versa. Overall the table shows that the employee knowledge is positively correlated with the Employee creativity, intention to use AI, leaders support.

4.4 Variance Inflation Factor (VIF)

The Variance Inflation Factor (VIF) is a measure used to evaluate the level of multicollinearity in a regression analysis. Multicollinearity arises when there is a correlation between two or more independent variables in a multiple regression model, potentially undermining the reliability of the regression results. The VIF quantifies the degree to which the variance of a regression coefficient is inflated due to multicollinearity. Multicollinearity presents a challenge in multiple regression models because the independent variables influence each other, rendering them not entirely independent. This mutual influence complicates the assessment of how each independent variable, collectively, influences the dependent variable or outcome in the regression model. VIF above 10 indicates high correlation and

it can cause for a concern. A higher VIF indicates a greater likelihood of multicollinearity, necessitating further investigation. Specifically, a VIF exceeding 10 signifies significant multicollinearity that requires correction. If high VIF values are identified, consider strategies such as removing highly correlated variables, combining them, or using regularization techniques to enhance model stability. Some authors suggest that it should be between 1 to 3. Vif of the variables employee creativity and intention to use AI is 1. Variables have VIF values below the threshold. It indicates that there is minimal multicollinearity among the variables. In this analysis the VIF values are above 1 suggesting that multicollinearity is not a concern in this model. Therefore no corrective measures are necessary and the variables are considered independent from each other.

4.5 Regression Analysis

Regression analysis is a statistical technique utilized to explore the association between a dependent variable and one or more independent variables. The objective of regression analysis is to comprehend how the dependent variable fluctuates when one or more independent variables are altered while considering the impacts of additional variables. It is a widely employed method for investigating the connections among variables. This study employed regression analysis to investigate and establish causal relationships between independent and dependent variables. The link between one independent variable and the dependent variable, which is represented as a straight line, is the main focus of simple linear regression analysis. This paradigm makes it easy to comprehend how one thing affects another. Multiple linear regression, on the other hand, expands on this by incorporating two or more independent variables, providing a more thorough analysis of the ways in which many factors interact to affect the dependent variable.

Additionally, to explore mediating and moderating relationships, the study utilized the Process macro model 7 developed by Hayes (2013). The table below offers a comprehensive overview of the findings from the study, detailing the significance levels of the proposed hypotheses. It includes crucial data such as regression coefficient values, significance levels, standard errors (S.E.), and confidence intervals'

lower and upper limits (LLCI and ULCI, respectively). The table highlights both direct and indirect relationships, with a particular emphasis on mediation.

TABLE 4.4: Direct and Indirect Effect

Direct Effect	Beta Coefficient	P	LLCI	ULCI
Employee knowledge of AI → <i>EmployeeCreativity</i>	0.77	0.00	0.70	0.83
Employee knowledge of AI → <i>IntentiontouseAI</i>	1.30	0.00	0.87	1.7
Intention to use AI → <i>Employeecreativity</i>	0.16	0.00	0.90	0.23
Indirect effect	Beta Coefficient	P	LLCI	ULCI
Employee knowledge of AI → <i>IntentiontouseAI</i> → <i>Employeecreativity</i>	0.06	0.00	0.01	0.13

Hypothesis No 01: *Employee knowledge of AI has a significant positive impact on the employee creativity*

Regression analysis for hypothesis 1 indicates that a meaningful positive relationship exists related to Employee knowledge of AI and Employee Creativity. The β value or regression coefficient is .77 the positive beta coefficient (0.77) indicates a favorable association between employee knowledge of AI and employee creativity, suggesting higher employee knowledge of AI correlates with increased employee creativity. Whereas the p-value is .00 the p-value of 0.00 shows that the coefficient is statistically significant at the 0.05 level. The positive sign coefficient (β) indicates the positive relationship, and the .00 p-values indicate that the relationship is significant. Since the range of UL and LL does not include zero and all values are positive, it suggests that the influence of employee knowledge of AI on employee creativity is statistically significant and positive. It means with an increase in employee knowledge of AI will directly affect the employee creativity. Based on these findings hypothesis 1 is accepted.

Hypothesis No 02: *Employee knowledge of AI has a significant positive impact on Intention to use AI.*

The regression analysis for hypothesis 2 reveals a significant positive association between employee knowledge of AI and intention to use AI. The β value, or regression coefficient, is 1.30. The positive beta coefficient (1.30) indicates a direct positive relationship between employee knowledge of AI and intention to use AI, implying that higher levels of employee knowledge of AI are linked to greater intention to use AI. The p-value of 0.00 demonstrates that the coefficient is statistically significant at the 0.05 level. The positive sign of the coefficient (β) signifies the positive relationship, while the *p-value* of .00 indicates that this relationship is statistically significant. Since the range of UL LL excludes zero and all values are positive, it suggests that the impact of employee knowledge of AI on intention to use AI is both statistically significant and positive. This implies that an increase in employee knowledge of AI directly influences the intention to use AI. Based on these findings, hypothesis 2 is accepted.

Hypothesis No 03: *Intention to use AI has a significant positive impact on employee creativity.*

The regression analysis for hypothesis 3 reveals a significant positive correlation between Intention to use AI and employee creativity. The β value, or regression coefficient, is .16. The positive beta coefficient (.16) indicates a direct positive relationship between intention to use AI and employee creativity, suggesting that higher levels of intention to use AI are associated with greater employee creativity. The p-value of 0.00 demonstrates that the coefficient is statistically significant at the 0.05 level. The positive sign of the coefficient (β) signifies the positive relationship, while the *p-value* of .00 indicates that this relationship is statistically significant. The range is from 0.90 to 0.23. Since it excludes zero and all values are positive, it suggests that the impact of intention to use AI on employee creativity is both statistically significant and positive. This implies that an increase in intention to use AI directly influences employee creativity. Based on these findings, hypothesis 3 is accepted.

Hypothesis No 04: *Intention to use AI mediates the relationship between Employee knowledge of AI and the employee creativity.*

The analysis revealed both the direct and mediated effects of Employee knowledge of AI on employee creativity, with Intention to use AI acting as a mediator between the two variables. The β value, or regression coefficient, is 0.06, indicating a positive relationship between intention to use AI and employee creativity, implying that intention to use AI positively mediates the relationship between employee knowledge of AI and employee creativity. The p-value of less than 0.001 indicates that the coefficient is highly statistically significant. The ranges from 0.01 to 0.13, with both upper and lower limits in the same direction, suggesting that the mediation effect is statistically significant and positive. Thus, hypothesis 4 is also supported.

In this model, intention to use AI acts as a mediator between the two variables. The inclination to use AI can be influenced by various factors, including perceived usefulness, user-friendliness, and organizational support. This intention to utilize AI serves as a mediator between employees' understanding of AI and their creativity. In other words, familiarity with AI positively impacts the inclination to utilize it, subsequently enhancing employees' creativity. The analysis supports the acceptance of the hypothesis.

4.6 Moderation Analysis

A statistical method called moderation analysis aids researchers in determining if the degree of the moderator affects the direction or strength of the link between two variables. Regression analysis is usually performed in moderation studies to see if the outcome is significantly predicted by the interaction between the independent variable, moderator, and dependent variable. The influence of the independent variable on the dependent variable may differ based on the moderator's level if the interaction term is shown to be significant.

TABLE 4.5: Interaction Effect

	Beta coefficient	p	LLCI	ULCI
Ek of AI*LS Intention to use AI	-0.22	0.00	-0.33	-0.12
EK of AI=Employee knowledge of AI				

Hypothesis No 05: *Leader's support moderates the relationship between Employee knowledge of AI and Intention to use AI in such a way that its strengthens the relationship when leaders support is high.*

It was initially hypothesized that higher levels of leader support would enhance the relationship between employee knowledge of AI and intention to use AI. However, the statistical analysis yielded a beta coefficient of (-0.22), indicating a negative moderation effect. This suggests that as leader support increases, the relationship between employee knowledge of AI and intention to use AI actually diminishes. The negative beta coefficient (-0.22) signifies a negative correlation between leader support and the interaction effect of employee knowledge of AI and intention to use AI. The significance level ($p = .00$) suggests that the moderation effect is statistically significant. The lower limit of (-0.33) and an upper limit of (-0.12), does not intersect zero, further confirming the significance of the finding. Therefore, the interaction effect is both statistically significant and negative. In conclusion, these results diverge from the original hypothesis. Thus the hypothesis has been considered not supported.

4.7 Summary of the Hypothesis

TABLE 4.6: Summary of the Hypothesis

	Hypothesis	Status
H1	Employee knowledge of AI has a significant positive impact on Employee creativity.	Accepted
H2	Employee knowledge of AI has a significant positive impact on Intention to use AI.	Accepted
H3	Intention to use AI has a significant positive impact on employee creativity	Accepted
H4	Intention to use AI mediates the relationship between Employee knowledge of AI and employee creativity.	Accepted
H5	Leaders support moderates the relationship between Employee knowledge of AI and Intention to use AI in such a way that its strengthens the relationship when leaders support is high.	Rejected

Chapter 5

Discussion and Conclusion

5.1 Discussion

The content in this chapter is divided into three main sections the initial section analyzes the results of the hypothesis, the subsequent section delves into the implications, both theoretical and practical, and the final section examines the study's limitations and potential avenues for future research. The research aimed to explore the relationship between employees' knowledge of AI and their creativity, considering the mediating role of their intention to use AI and the moderating influence of leadership support. This study examined a total of 5 hypothesis which were developed in the light of literature. As per results four hypotheses were accepted and one was rejected. The current section of the chapter pertains to the thorough discussion on the proposed hypothesis in the light of existing body of literature.

5.1.1 Employee Knowledge of AI and Employee Creativity

Hypothesis 1: Employee knowledge of AI has a significant positive impact on Employee creativity.

The data analysis findings strongly support the hypothesis that employee knowledge of AI is crucial for enhancing employee creativity. [Jia et al. \(2024\)](#) discovered that AI technologies can stimulate greater creativity in the workplace by generating innovative ideas, especially among employees with advanced job skills. This

suggests that the enhancement of creativity through AI is influenced by the skill level of the employee. They underscore the significant contribution of AI and human collaboration to boosting creativity a critical component. AI technologies support employees by managing routine and highly structured tasks, freeing up their time to concentrate on intricate problem-solving endeavors. This shift towards more complex challenges often fosters heightened creativity among employees. The benefits of AI on creativity tend to be more significant for employees possessing advanced job skills, suggesting a bias towards skill-driven enhancement of creativity. The influence of AI on boosting human creativity differs among employees, dependent on their current job skills, thus necessitating attention from diverse stakeholders.

The cognitive appraisal theory, which concerns individuals' assessments of events as either beneficial or harmful to their well-being, offers insights into how employee knowledge of AI influences creativity. Firstly, employees with a comprehensive understanding of AI tend to regard it as a valuable resource for innovative problem-solving, leading to a more favorable appraisal of work-related challenges. Secondly, proficient employees are better equipped to utilize AI tools effectively, transforming their approach to tasks and fostering a more innovative mindset. Thirdly, familiarity with AI can alleviate stress associated with complex tasks, as employees feel more competent, resulting in a positive emotional response and heightened creativity. Additionally, the positive appraisal of situations may be more pronounced among employees with higher job skills and AI knowledge, reflecting the skill-biased nature of AI-enhanced creativity. Finally, perceiving AI as a beneficial tool can evoke positive emotions, thereby facilitating creative thinking and idea generation.

5.1.2 Employee Knowledge of AI and Intention to Use AI

Hypothesis 2: Employee knowledge of AI has a significant positive impact on Intention to use AI.

The findings of the data analysis strongly support the hypothesis that employees' knowledge of AI significantly influences their intention to use AI. According to

Kelley (2022) if there is a strong backing from the management for the adoption of AI principles then employees can have a positive attitude towards using AI , providing education and resources to employee about AI, assessing the effectiveness of AI principle adoption.

The connection between employees' understanding of AI and their inclination to utilize it can indeed be linked to cognitive appraisal theory, which posits that an individual's subjective interpretation of an event or stimulus significantly shapes their emotional and behavioral responses. In the workplace context, employees' comprehension of AI could influence how they perceive the introduction and integration of AI technologies. When employees possess comprehensive knowledge of AI, they are likely to view its use in the workplace as advantageous and supportive of their tasks. This favorable appraisal may result in a heightened intention to use AI, as they perceive it as valuable and feel confident in their ability to interact with it effectively. Such an outlook aligns with the primary appraisal process, wherein individuals assess whether an event is relevant and beneficial to their objectives. Furthermore, the secondary appraisal involves evaluating one's resources and options for coping with the event. Employees well-versed in AI might feel possessing the essential skills and receiving support to handle AI tools results in a more favorable intention to use AI, attributed to a perceived increase in control and a decrease in perceived threat or challenge. In essence, cognitive appraisal theory offers a framework for understanding how employees' knowledge of AI can positively impact their intention to use AI by influencing their primary and secondary evaluations of AI technologies in the workplace. This insight can help organizations develop more effective AI adoption strategies that take into account employees' perceptions and knowledge levels.

5.1.3 Intention to Use AI and Employee Creativity

Hypothesis 3: Intention to use AI has a significant positive impact on employee creativity.

The data analysis findings support the hypothesis that the intention to use AI plays a crucial role in employee creativity. According to Wang et al. (2022), learning

has a positive effect on employee creativity. Active and continuous learning of AI in the workplace can help employees gain knowledge and skills. Employees can take this as a positive opportunity to cope up with the AI rather than to escape it from it. If the employees have a positive intention to use AI then the employee creativity can boost up rather than decline with the fully support from the management.

The theory suggests that As AI become increasingly integrated into employees' perceptions of AI as a tool for enhancing their work can result in positive cognitive evaluations across various aspects of operations and services. This favorable outlook may, in turn, fuel their creativity by fostering feelings of empowerment, facilitating skill development, and presenting opportunities for innovation. When employees perceive AI as a supportive resource rather than a replacement for their roles, they are more inclined to creatively engage with it, thereby generating novel ideas, solutions, or approaches to their duties or interactions with customers. This notion resonates with the understanding that the acceptance and utilization of technology are shaped by individuals' perceptions, attitudes, and beliefs regarding its utility and compatibility with their existing responsibilities and objectives.

5.1.4 Intention to Use AI as a Mediator

Hypothesis 4: Intention to use AI mediates the relationship between Employee knowledge of AI and the employee creativity.

Jia et al. (2024) discovered that the support provided by AI aids employees in addressing more complex issues with greater creativity, resulting in enhanced creativity among employees augmented by AI. Higher skilled workers can benefit more as compared to low skill workers. This study discovered that utilization of AI support notably enhances the creative abilities of proficient employees when tackling problem-solving tasks. This enhancement stems from their adeptness in effectively utilizing AI-generated insights to craft inventive strategies and cultivate favorable emotional states, which foster creativity.

The Theory suggests that our emotions and responses are influenced by our evaluations (appraisals) of situations. In the context of AI, a favorable evaluation of AI

by any manager can result in positive emotions like excitement and anticipation, which can foster creativity. The mediating role of intention to use AI can be seen as the bridge between the cognitive appraisal of AI (informed by employee knowledge) and the creative outcomes in their work. This intention is crucial because it determines the actual use of AI, which in turn affects creativity. Individuals who have a better understanding of AI are more inclined to recognize its potential benefits. This appreciation influences their aspiration to use AI, therefore fosters creativity by allowing them to focus on higher-level tasks. Cognitive appraisal theory posits that this process is emotionally charged: positive appraisals of AI lead to positive emotions, which enhance creativity, while negative appraisals can hinder it. Thus, the intention how employees use AI serves as a pivotal link between knowledge and creative outcomes in the workplace.

5.1.5 Leaders Support As a Moderator

Hypothesis 5: Leader's support moderates the relationship between Employee knowledge of AI and Intention to use AI in such a way that its strengthens the relationship when leader support is high.

Leader's support is discovered to have a negative moderating effect on the relationship between employee AI knowledge and their intention to utilize AI, it suggests that increased support from leaders might actually decrease the likelihood that employees will intend to use AI. [Schweitzer and De Cremer \(2024\)](#) emphasizes that artificial intelligence (AI) is more than just a tool for technology; it presents a big challenge for leaders. These days, people are self-sufficient and autonomous; they listen to their managers but don't follow their directions, which might erode the connection. Instead, they ignore their supervisors and do as they want.

This could be due to various reasons, such as employees feeling over-managed or less autonomous, which could diminish their motivation to engage with AI. One plausible explanation for this phenomenon could be managers possessing a high degree of AI knowledge might view robust leader support as intrusive, potentially reducing their sense of autonomy and intrinsic motivation. Given these insights, leaders should consider adopting a more facilitative rather than directive approach

to support, particularly for employees who are already knowledgeable about AI. This could involve providing resources and opportunities for employees to explore AI applications independently, rather than prescribing specific ways of using AI. Wijayati et al. (2022) examine found leadership support as an effective moderating factor but according to this data analysis there is a negative relation between them it is moderating but it is moderating negatively. Dabbous et al. (2022) the study concludes that five primary factors impact employees' intention to utilize AI in the workplace. Organizational culture and habitual leadership practices positively influence employees to adopt AI. Conversely, job insecurity deters AI adoption, as employees are concerned about possible job displacement.

This phenomenon can be illuminated through the framework of cognitive appraisal theory, which asserts that individuals evaluate and interpret circumstances based on their cognitive assessments, subsequently influencing their emotional and behavioral reactions. In the light of AI knowledge and intention to utilize AI, employees may evaluate their leaders' support as indicative of the organization's endorsement and promotion of AI adoption. In summary, cognitive appraisal theory suggests that employees' evaluations of leaders' support shape their cognitive assessments of AI, influencing their intention to utilize it. Increased leader support makes the connection between knowing about AI and wanting to use AI stronger. Leaders do this by helping employees see AI in a positive way and showing how it's useful for their work and the goals of the organization.

5.2 Research Implications

5.2.1 Theoretical Implications

Businesses should invest resources into comprehensive training programs designed to enhance employees' understanding of AI technologies. These initiatives should go beyond mere technical proficiency, highlighting the diverse creative opportunities AI presents in the workplace. By equipping employees with the necessary

knowledge and skills, organizations can foster an environment that encourages innovation and creativity. Managers have the chance to motivate themselves to embrace AI technologies by emphasizing their potential benefits and demonstrating how they can enhance creativity and innovation. This might involve showcasing successful instances of AI integration, providing incentives for experimenting with AI, and fostering a supportive atmosphere where employees feel encouraged to explore AI tools.

Managers play an essential role in promoting AI adoption and cultivating a culture of creativity within the organization. It's essential for leaders to actively endorse the use of AI technologies, allocate resources to AI initiatives, and offer guidance and assistance to employees. By demonstrating a strong commitment to innovation and creativity, leaders inspire employees to embrace AI and utilize it to enhance their creative endeavors. Managers implement systems for assessing the influence of AI adoption on employee creativity and effectiveness. This may include soliciting feedback from employees, tracking key performance indicators associated with creativity and innovation, and conducting regular evaluations of AI initiatives. By tracking progress and soliciting feedback, organizations can pinpoint areas needing improvement and implement necessary changes to optimize the advantages of AI adoption.

5.2.2 Practical Implications

The results of this study carry important implications, for managers, multinational corporations operating in Pakistan, and the Pakistani government. It is vital to allocate resources to AI training, offer necessary support, involve leadership, and promote awareness, all aimed at cultivating an innovative workplace culture driven by AI. Following the example set by leading organizations worldwide, this proactive approach is essential for staying competitive. In the hospitality sector, owners in Pakistan should allocate resources to tailored training initiatives focusing on AI technologies relevant to the industry. These programs should not only cover technical aspects but also emphasize the creative potential of AI in enhancing hospitality services. Managers must convey the benefits of adopting AI to employees, showcasing successful implementations and illustrating how AI can improve guest

experiences and operational efficiency. Furthermore, managers should implement systems to monitor the impact of AI adoption on employee creativity and performance, gather feedback, and conduct evaluations to optimize the benefits of AI adoption within the hospitality sector in Pakistan.

5.2.3 Limitations of the Study

In addition to its significant implications, this study possesses certain limitations that should be taken into account when interpreting its results. First is that the study has a small sample size future researchers should replicate the same study with larger sample size to get better and more robust findings. The findings may be limited to the specific context of the hospitality sector in Pakistan and but can apply to other industries or territories. The cross-sectional design of the study might restrict the capacity to establish causal connections among variables. Longitudinal or experimental designs could offer more robust evidence of causality. Furthermore, the study may not adequately address external factors that could impact the correlation between employee AI knowledge, creativity, intention to use AI, and leader support, such as market trends, technological advancements, or organizational culture. By addressing these limitations, the accuracy and dependability of the study findings can be reinforced, offering a more comprehensive comprehension of the relationship between employee AI knowledge, creativity, intention to use AI, and leader support within the hospitality sector in Pakistan.

5.2.4 Directions for Future Research

Longitudinal studies ought to be undertaken to examine the changing impact of AI adoption on employee creativity within the hospitality sector. Such research can offer valuable insights into the evolving dynamics of AI implementation over time and its lasting influence on organizational outcomes. Augment quantitative research with qualitative studies to delve deeper into the mechanisms driving the correlation between employee familiarity with AI and creativity. Qualitative methodologies approaches such as interviews, focus groups, and case studies provide valuable insights into employees' experiences, perceptions, and attitudes

toward AI technologies, contributing to a deeper understanding of the relationship. Examine how employee familiarity with AI affects creativity across diverse cultural contexts within the hospitality sector. Cross-cultural studies are valuable for pinpointing cultural elements that shape the efficacy of AI adoption and its consequences for employee creativity and innovation. Explore how organizational factors like leadership styles, corporate culture, and innovation climate impact the connection between employee AI proficiency and creativity. Gaining insight into how organizational contexts shape the outcomes of AI integration can guide focused interventions aimed at fostering creativity within the hospitality sector. Develop and execute intervention studies to evaluate the efficacy of training programs, leadership strategies, and organizational initiatives aimed at improving employee understanding of AI and nurturing creativity. These studies can offer practical insights for organizations aiming to harness AI for innovation and competitive edge. Examine the ethical considerations associated with AI adoption in the hospitality sector and its potential effects on employee creativity, well-being, and job satisfaction. Future research should delve into ethical issues concerning data privacy, algorithmic bias, and human-AI interaction to promote responsible and ethical utilization of AI technologies. This study might lack the variability and representability of whole population as purposive sampling technique was used for data collection. Future researchers should use probability sampling technique to ensure the representativeness of the entire population. Further present study only uses single method for data collection future researches should use multiple data collection methods to get the whole picture and accurate responses and should collect data from every sector of Pakistan to ensure better results.

5.3 Conclusion

In this research, we observe the influence of employee knowledge of AI on employee creativity in an organization. How much do employees know about AI and how this can affect employee creativity. Few studies focused on the factors that how much employees are willing to embrace the AI technology. However, our study focused on the individual factor that how much an individual knows about AI.

Employees' understanding of AI plays a crucial role in fostering creativity within the workforce. When employees grasp the capabilities and potential of AI, they are better positioned to creatively engage with it, resulting in the development of innovative solutions and practices. The willingness to utilize AI acts as a mediator, connecting AI knowledge with its creative application. Employees who are motivated to utilize AI are more inclined to explore its creative dimensions and incorporate it into their work processes. Leader support plays a vital moderating role in this dynamic.

Leader's support is generally perceived as beneficial, its role may be more nuanced in the context of AI adoption. Specifically, higher leader's support might inadvertently signal a lack of confidence in employees' capabilities, thereby reducing their intention to use AI. This could have significant implications for how organizations approach the implementation of AI technologies and the training and support they provide to their employees. Leaders who actively endorse AI adoption and offer essential resources and encouragement can boost the beneficial impacts of AI knowledge on employee creativity. Their support cultivates a setting in which employees feel empowered to explore AI and utilize it to achieve creative results. The anticipated positive impact of leader support on the adoption of AI technologies within Pakistani organizations may not always materialize as expected. If leader support is found to have a negative moderating effect, it indicates that the manner in which leaders implement or endorse AI could impede employee creativity rather than boost it. This discrepancy could stem from various factors, including leaders' limited comprehension of AI capabilities, resistance to change, or a mismatch between leaders' strategies and employees' requirements for creative expression.

In the context of Pakistan, where AI adoption is emerging within various sectors, the role of a leader's support may differ from expectations. People these days are self-sufficient and independent; they do not listen to their managers and do what they want to do. We can say that they do listen to their managers but don't listen to their instructions. That's why it can weaken the relationship. High leader's support could potentially be perceived as micromanagement or lack of trust in employees' capabilities, particularly among those with higher AI knowledge. This could inadvertently diminish their intention to use AI, contrary to the intended

effect of leader's support. Where there is a growing momentum towards digital transformation, leader support becomes indispensable in addressing any hesitancy or opposition to adopting AI.

By nurturing a culture that prioritizes AI expertise and promotes its utilization, organizations in Pakistan can unlock the power of AI to fuel employee creativity and innovation, thereby bolstering the nation's advancement and competitiveness in the global arena. For Pakistani organizations, these findings underscore the importance of calibrating leader's support to the specific needs of employees, especially in the burgeoning field of AI. It also highlights the need for leaders to foster an environment that empowers employees, encouraging autonomous use of AI technologies. As Pakistan continues to navigate its digital transformation journey, this study adds to a more profound comprehension of the factors influencing AI adoption among employees. Future research should further explore cultural, organizational, and sector-specific factors that may affect the dynamics between leader's support, employee knowledge, and technology adoption in the Pakistani context.

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Appendix A

**CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY
ISLAMABAD**

Questionnaire

Dear respondent,

Dear Respondent, I am student of MS degree and currently doing research on the topic of “AI Adoption and employee creativity”. You are one of my potential respondent and are requested to take 10 minutes out of your busy schedule to fill this questionnaire. Data is being captured anonymously and will be kept confidential. If you are interested in knowing the findings of this study, then please contact undersigned.

Regards,

Maheen Razzaq

(razzaqmaheen@gmail.com)

Department of Management Sciences

Leaders support:

Please keep your current organization in your mind and answer the questions given below:

1	My supervisor is sympathetic and supportive when I am worried or upset about something.	1	2	3	4	5
2	My supervisor gives me encouragement and support when I have difficult and stressful task or responsibility.	1	2	3	4	5
3	My supervisor offers to provide advice or assistance when I need help with a difficult task or problem	1	2	3	4	5

Section C:**Intention to use AI:**

Please keep yourself in your mind and answer the questions given below:

1	I intend to use AI in the future.	1	2	3	4	5
2	I will always try to use AI in my workplace.	1	2	3	4	5
3	I plan to use AI frequently.	1	2	3	4	5

Section D:**Employee creativity:**

Please keep yourself in your mind and answer the questions given below:

1	I try to be as creative as I can in my job.	1	2	3	4	5
2	I experiment with new approaches in performing my job.	1	2	3	4	5
3	When new trends develop, I am usually the first to get on board.	1	2	3	4	5
4	My boss feels that I am creative in performing my job.	1	2	3	4	5
5	On the job I am inventive in overcoming barriers.	1	2	3	4	5

Names of Hotels:

Best western premier

Tulip

Marriott

Serena

Ramada

Tandoori

Crown Plaza

Islamabad hotel

Safari Club

Salt and pepper etc