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# IMPACT OF ORGANIZATION CULTURE ON INTERNAL CONTROL: MEDIATING ROLE OF ARTIFICIAL INTELLIGENCE

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**Abstract**
*Organizations design and implement different policies and procedures to perform operations efficiently and effectively. Internal control is a mechanism to ensure organization wide implementation of procedures and policies. Now a days activities performed by human beings has been replaced with artificial intelligence. Artificial intelligence is the use of information technology and machine learning to perform complex activities and decision making. The objective of the study is to examine how artificial intelligence mediates between Organization Culture and internal control activities performed within an organization. Quantitative research methods has been used for the study. Probability sampling technique was used for the study. Sample is selected from banking sector employees. Data is collected using survey questionnaire. Data was analyzed using SPSS. Different statistical analysis has been performed to obtain results. Results reveal that organization culture has a less significant impact on artificial intelligence and artificial intelligence has less significant impact on internal control. Organization culture has a strong impact on internal control, while artificial intelligence partially mediates the relation between organization culture and internal control. It is suggested to promote technology supportive organization culture to achieve desired objectives. This study will help practitioners to understand the factors to be managed for effective adoption and implementation of artificial intelligence systems.*

## INTRODUCTION

Businesses in the Technology Innovative sector depend less on tangible assets and proprietary relationships and more on network connections and research and development. In fact technology based businesses started to rely more and more on creative concepts with a strong scientific and technological foundation. The introduction of the Internet along with the growth of computers and technology innovation transformed business models and industrial structures, resulting in the primary 21st century digital economy and industry. The general reality is that organizations tend to adapt as technology improves, necessitating a modification of the entire organizational chain, even though the varying practice is occasionally described as troublesome (Moudud-Ul-Huq 2014).On the other hand, the digital conversion of society and organizations is generating huge volumes of data whose forms are diversifying and continuing to increase rapidly. Big data is becoming larger, more diverse, and faster than ever before (Bhimani 2020).

As a result, data has emerged as one of modern enterprises' most important assets(Redman 2008). However, data is worthless without analysis tools (Dubey and Rasool 2020). Artificial intelligence systems are becoming more and more significant for accounting and company management since they assist firms in finding intricate patterns and offering automated insights derived from the growing volumes of data (Monteiro, et al. 2023), they are becoming more and more crucial for business management and accountancy(Chen 2019). Indeed, in today's complicated, competitive, and uncertain business world, traditional data analysis techniques are inadequate and useless in assisting executives, managers, and employees in making well-informed business decisions (Niu, et al. 2021). Furthermore, stakeholders need more corporate reporting and performance data in today's globalized and digital environment. In this regard, artificial intelligence (AI) serves as a vital piece of technology that aids businesses in handling this expanding amount of data. (Autenrieth, et al. 2018) by leveraging digital transformation across organizations, across all organizational functions, from essential production activities to finance function (Moudud-Ul-Huq 2014). The idea of internal control originated in ancient societies like Egypt, Greece, and Rome, where fraud prevention and financial transaction management systems were established(Zhou, et al. 2016). After industrial revolution businesses started putting in place more structured internal control systems to oversee their operations and financial transactions as industrialization grew in the 19th century(Chen, et al. 2017). The idea of internal control started to take shape in accounting standards and procedures around the beginning of the twentieth century. In 1949, the American Institute of Accountants offered the first official definition of internal control(Christ, et al. 2015). Many scholars think that artificial intelligence and data analytics technology will revolutionize the auditing profession. Additionally, these modern technologies are employed to react to modifications made by businesses to their operational procedures. By carrying out everyday tasks, Software systems with AI capabilities can improve efficiency and make people's lives easier (Ali, et al. 2022).

Artificial intelligence is a technology that can be trained to recognize cues from its surroundings and replicate human judgment and cognitive abilities. Artificial Intelligence systems are able to evaluate risks in order to make decisions, predictions, or actions established on these hints. Artificial Intelligence systems, in contrast to other software learn from data and are able to self-screen over period as a result of being exposed to fresh data, all without explicit human programming. Artificial intelligence is a hardware and software combination that functions similarly to the brain of human and is able to evaluate, make decisions, and carry out intricate judgment processes using the information at hand (Puthukulam, et al. 2021). In addition to offering exceptional inspection quality and speed, machine learning also reduces risk(Dickey, et al. 2019). Artificial intelligence enables to concentrate more on crucial tasks like forecasting; Instead of concentrating on repetitive and routine processes, risk potential evaluation and finds anomalies. There is no soul definition of artificial intelligence, just as there is no definition of intelligence. However, intelligent devices and computer programs are frequently referred as artificial intelligence (McCarthy 2007). These days artificial intelligence falls under the category of machine learning, which uses data to identify patterns. This enables data-driven decision-making that is mathematically constructed (Ergen 2019).

Although organizational culture has been extensively studied, there is currently no commonly recognized definition of the term. It is frequently described as "a collection of shared assumptions, values, and beliefs that is reflected in its practices and goals and further helps its affiliates recognize the organizational functions. Despite this, organizational culture is a complex concept (FREDRIKSEN and SKJÆRVIK 2021). Organizational culture refers to the working situation and how it affects workers attitudes, behaviors, and experiences at work (Warrick, et al. 2016). Performance, employee engagement, struggle, and the organization's capability to employee fresh talent can all be considerably impacted by organization culture and artificial intelligence (Warrick 2017). Productivity, quality, maintenance, planning, and resource management are just a few of the areas where artificial intelligence increases

efficiency (Dhamija and Bag 2020). Additionally workers gain from AI through automation, which helps or eliminates monotonous jobs, boosting productivity, reducing errors, and offering more flexible service (Wamba-Taguimdje, et al. 2020). Digital business conversion is important to preserving competitiveness in the rapidly growing and more difficult business climate of today (Rachinger, et al. 2019). This change calls for a new approach for organizational arrangement and procedures as well as adaptability to unique features and promptly changing digital technology. Organizations must implement a new culture that welcomes invention and revolution in order to do this (Dabbous, et al. 2022; Rožman, et al. 2023).

**Problem Statement**

Internal control means all the activities performed by the management to ensure that every function should be performed according to defined criteria. Traditionally all the internal control functions were performed by human beings. There is always a concern that humans might not follow the standard procedures, hence quality of internal control may effect. With the advancement of technology like all other operational activities there is a need to promote technology driven culture and use technology to ensure effective implementation of internal controls within an organization to achieve organizational goals efficiently and effectively. The research will try to answer the following questions:

1-Does use of artificial intelligence improves the performance of internal control within an organization?

2- Does organization culture significantly influences adoption of Artificial intelligence?

3-Does artificial intelligence mediates the relation between organization culture and internal control.

4- Does organization culture significantly effects the internal control within the organization.

**Research objectives**

The research objective is to investigate the link between artificial intelligence and internal control, organization culture, artificial intelligence, and internal control while considering the mediating significance of artificial intelligence.

**Literature Review**

**Artificial Intelligence**

One of the key foundations of the modern technology is artificial intelligence, which is recognized for the capacity of computers and other digital devices to carry out tasks that resemble those carried out by intelligent objects, like thinking or learning from prior experiences or other mental processes and has emerged as the main focus of economic institutions, business communities and the possibilities they generate. According to a McKinsey Global Research Institute analysis, current trends indicate that artificial intelligence will have the biggest impact on the world economy. The expression "artificial intelligence" was coined in the 1950s by Alan Turing and refers to the evaluation of a computer's intelligence based on its capacity to replicate the human mind. Attempts to advance this field were unsuccessful for 20 years. Notwithstanding the constraints of computer capability these efforts persisted. Artificial intelligence seeks to comprehend the difficult mental operations carried out by the human mind during thought processes, and these operations have been converted into matching accounting procedures that improve the computer's capacity to resolve challenging issues (Rashwan and Alhelou) .In its most basic form artificial intelligence is the process of applying an algorithm, a rule or computation for solving problems to data in order to identify patterns, make decisions, and maybe forecast future events (Aslan 2024).

Up until 1946, the concept of artificial intelligence was a work of fiction in the science fiction field. A computer, according to the Turkish Language Association is an electronic brain. The Turkish Language Institution's definition is a broad one that has been applied to computers ever since they were created. These historical definitions have also sparked people's imaginations, leading to a plethora of science fiction examples that describe how the electronic brain would eventually develop emotions and consciousness. In the 1950s scientists finally started to investigate the idea of artificial intelligence after being influenced by science fiction. Alan Turing asked, "Can machines think?" In the years that followed, specifically in 1956 the term "artificial intelligence" was introduced at a conference held at Dart Mouth University (The Economist, 2024). The

emergence of technology-intensive (TI) industries in the second half of the 20th century highlighted the significance of industrialization from an economic perspective (Monteiro, et al. 2023).Up to the 2000s a fresh wave of artificial intelligence research appeared every ten years, despite the fact that the field did not make much headway during this time (Buchanan, 2005). The shift in perception that took place in the 1980s led to a redefining of artificial intelligence which in turn influenced its growth. While creating artificial humans was once the most popular idea, after 1980 creating machines that can think like humans took over (Öztemel 2020).

In today's promptly changing business environment, companies and organizations face an unprecedented set of challenges and prospects. The complication of universal markets, regulatory environments and technological advances have forced a reevaluation of customary management methods(Chen 2025a). Internal control (IC) is one of these procedures that is particularly important for guaranteeing the stability, effectiveness, and expansion of companies. The fields of accounting and financial management are undergoing enormous changes as mankind approaches the dawn of an interstellar era driven by developments in artificial intelligence (AI), quantum computing, and space travel. This shift emphasizes how important internal control (IC) is to adjusting to new social, technological, and economic paradigms(Chen 2025b).

**Internal Control**

At the start of the 20th century, the concept of internal control became popular in the United States. After the 1950s, it started to receive a lot of attention in economic literature (Hay 1993). The function of internal control performance is to independently reassure senior management and the board of directors about the efficacy and excellence of internal auditing procedures and hazard management systems (Bilegeya and Mrindoko 2022). Determining whether this function has the organizational independence, authority and competence to carry out its responsibilities is the goal of assessing internal auditing systems within the regulatory framework (Abbott, et al. 2000).The primary gain of a strong internal control system is improved functioning competence. Internal controls make ensuring that tasks are completed efficiently and consistently by defining clear roles and processes. Internal controls, for instance, oversee quality checks at several production stages in a manufacturing setting to guarantee that only the best goods or services that satisfy predetermined requirements are provided. In addition to improving customer happiness, this lowers waste and rework expenses. Internal control systems can also speed up the organization's flow of goods and services by identifying bottlenecks and removing unnecessary stages from operations(Chen 2025b).

Every corporate venture involves some level of risk, and internal control is essential to recognizing, evaluating, and reducing these risks. Organizations can foresee possible hazards and create plans to counter them by using methodical risk assessment techniques. For example, internal controls are essential in the financial industry for managing credit risks, guaranteeing the integrity of financial transactions, and identifying and stopping fraud. Industries can reduce the possibility of unfavorable actions and their effects on the organization's reputation and fiscal stability by upholding a strong internal control environment(Chen 2025b).Agreement with rulings and regulations is non-navigable for companies operating in any sector. Internal control systems play a key role in ensuring that an organization complies with these rules and requisites. Businesses can show their dedication to moral and legal principles by using the framework they offer for tracking and reporting on compliance efforts. Internal control is the main tool used to achieve transparency, which is a key component of sound corporate governance (Daniel, et al. 2022). Internal control aids senior management and the board of directors in carrying out their fiduciary responsibilities within the framework of corporate governance. This promotes an open and accountable culture where choices are made with the organization's and its stakeholders' best interests in mind. (Ha, et al. 2023).

The cornerstone for safe, faultless, and error-free operations in financial institutions is an internal control system, which is an essential part of corporate management (Lombardi et al., 2021). Additionally it is seen as a crucial prerequisite for businesses to carry out activities precisely and

improve the financial system's sustainability (Kunz and Heitz 2021). An examination of the reasons that have resulted in large losses for numerous firms reveals the advantages of internal controls and their long-term qualities. External oversight committees analysis show that the main cause of these losses is the insufficiency of internal control systems (Abbott, et al. 2000). Numerous studies have highlighted the value of qualified and experienced management, appropriate internal auditing, and independent auditing. It has also been suggested that internal oversight should concentrate on bolstering internal control systems and regularly assessing their efficacy (Sarhan, et al. 2019).It is found that managers' disregard and indifference toward a control culture, poor leadership, mistakes made by board members and senior managers, and a lack of clarity in managerial accountability through the assignment of responsibilities and principles of accountability are all present in any situation where organizations have suffered losses. These instances also show how managers in commercial settings lack the right incentives to exercise strict linear monitoring and retain a high degree of control-oriented thinking (Nurleni and Bandang 2018).When the environment or business conditions change significantly, many financial institutions and organizations who have suffered large losses have demonstrated inefficiency in identifying and evaluating risks associated with new or updated goods and operations. Numerous examples show that control systems that work well for conventional or basic services cannot handle complicated services(Hamza, et al. 2023).

Ensuring that all personnel are informed is crucial for the effective implementation of policies and procedures. Employees' ignorance or misinterpretation of company policies is frequently blamed for organizational losses. Problem resolution is further complicated by improper communication of information about undesired behaviors that have to be reported to higher management levels. Occasionally, management reports contain incomplete or erroneous information, which could result in a misdiagnosis of business situations(Salem, et al. 2023).An efficient internal control system must be able to stop or identify problems before losses happen or at the very least lessen their impact. Thus attaining long-term performance and targeted profitability goals for businesses depends heavily on having an efficient internal control system. One of the main factors influencing the quality of financial reporting is the implementation, assessment, and monitoring of efficient internal control systems. In particular effective internal controls lessen the possibility of purposeful falsification of information presented to outside parties, lower the possibility of estimating and procedural errors in reports, and lessen the risks that come with running a firm (Hajiani, et al. 2024).

**Organization Culture**

The concept of organizational culture emerged as a topic of study for scholars in the field of organization during the 1970s (Domnişoru, et al. 2017). The initial authors to explore and attempt to define the notion of organizational culture include: (Beckhard 1969; Margulies 1969) employs the term but does not provide a definition. Although used the term "organizational socialization," the definition provided is comparable to that of organizational culture(Schein 1988).Beliefs, values, conventions, and common behavioral patterns are all components of organizational culture, which is a social structure(Schein 2010). A number of factors, including the organization's history, leadership philosophies, workforce demographics, and external circumstances influence organizational culture. These resources guarantee the establishment of organizational culture and influence its ongoing development(Garman 2006).

An organization's identity, operations, and success are significantly shaped by its organizational culture, which is a rich fabric of conventions, values, beliefs, and practices. This overview of the literature explores the fundamentals of organizational culture, its importance, and the various ways it affects creativity, adaptation, and performance (Ogbu, et al. 2024).Literature highlights that organizational culture functions as a vital but mostly invisible background against which all organizational actions take place. It is the cornerstone that upholds and directs its members' conduct, generating a feeling of self and inclusion. The significance of organizational culture is found in its capacity to foster a successful and healthy organization by establishing the norms and values that propel it forward (Tănase 2015).It

has been emphasized how it can be a strategic asset that improves job and business success. Despite its elusiveness, using organizational culture as a tool to gain a competitive edge requires an understanding of it. The research highlights the underlying components and historical development of organizational culture, offering insights into the ways in which culture affects organizational dynamics(Kumar 2016).

**Theoretical Framework**

**Organization Culture and Internal Control**

An organization's culture is regarded as an intangible asset that adds to its power and edge over competitors. Another crucial and essential tool in executive management is organizational culture (Nguyen, et al. 2023). Internal control is crucial for lowering risk, which helps businesses guarantee the accuracy of their financial reports and adherence to legal requirements (Rönkkö, et al. 2018). Severe imperfections exist in the internal control system's implementation. Corruption is positively impacted by this deficiency in internal control (Sutaryo, et al. 2023). Internal control operations are not voluntarily carried out by half of businesses. In order to identify the factors influencing businesses' internal control processes across several countries a large number of research have been carried out (Jokipii 2010). Internal control supports improved performance by private companies in Vietnam(Nguyen, et al. 2023) and creates fiscal statements more clear (Pham, 2019). Internal control is influenced by director attributes, business size, and ownership structure (Do, 2022). The influence of corporate culture varies on internal controls, however has not been sufficiently studied. Because it gives researchers and regulators valuable information to better understand practice, studying the factors impacting internal control in general and the effect of corporate culture on internal control in particular is significant in terms of policy implications(Pham and Tran 2023). Internal control is influenced by director attributes, firm size, and ownership structure(Nguyen, et al. 2023). Cultural differences must be taken into account when designing management control systems (Chenhall 2003). Employees inside a company share philosophies, ideals, values, presumptions, beliefs, expectations, attitudes, and conventions, which is known as organizational culture. It is believed that an organization's culture is its personality(Lund 2003). A system of shared meanings among an organization's members is considered its organizational culture(Robbins and Judge 2012).The control system's trust will rise if corporate culture prioritizes equality, openness, and transparency (Fauzi, et al. 2009). The management control system is influenced by corporate culture (Batool 2011).On the basis of discussion we can assume hypothesis H1: Organization culture significantly effects the internal controls within the organization.

**Organization Culture and Artificial Intelligence**

Research examines the connection between innovation and organizational culture, pinpointing the aspects of culture that support the development of an inventive atmosphere. According to a study done in Polish businesses, several cultural characteristics are essential for fostering innovation. This suggests that management can deliberately foster these characteristics to improve organizational innovation potential (Szczepańska-Woszczyna 2014).Research also examines the status of organizational culture in the Gaza Strip's construction sector, showing that a robust organizational culture is essential to an organization's capability to survive, expand, and function effectively. Their results show that organizational culture contributes to overall organizational effectiveness by helping to achieve organizational goals and playing an important role in making of decision, policy formation, and information exchange (Tayeh, et al. 2018).

The literature emphasizes how crucial organizational culture is in determining an organization's ethos and procedures. It is evident that a strong and clearly defined corporate culture improves performance, encourages innovation, and makes it easier for a company to adjust to changing conditions. It is impossible to overestimate the importance of organizational culture as a pillar of strategic management and operational effectiveness as businesses continue to negotiate the complexity of today's business environment (Baroun 2023).It has been observed that corporate culture has a significant

influence on how an organization is shaped, and that a common corporate culture fosters a sense of cohesion, trust, and understanding among employees. Businesses in America and Europe have worked to create a positive organizational culture in order to perform effectively and efficiently. Previous research indicates that an organization's culture has a significant role in determining its success or failure and has a long-lasting effect on its financial performance(Nightingale 2018).

According to a study by (Malik 2023), one of the most important ideas in management and organizational theory is organizational culture. Financial growth via ongoing business generation from their markets is essential to an organization's survival, and employees are a crucial component in reaching performance goals. To prevent a decline in job performance, it is important to resolve the disparity between management and employees' perceptions of organizational culture and measure employee preferences within the context of appropriate cultural and environmental conditions. (Belias and Koustelios 2014). A study examined the association between culture of an organization and financial results for both people and the organization. Examining the connection between culture and performance, it was found that the most widely used metrics for assessing an organization's performance are growth and financial performance(Abu-Jarad, et al. 2010). (Zheng, et al. 2012) claimed that culture of an organization is a crucial metric that has been thoroughly examined to determine its relationship to effectiveness and performance.

Careful design and execution are necessary when implementing an artificial intelligence system (Alassaf, et al. 2020). More than simply purchasing hardware and software is necessary for success (Shao, et al. 2012),it comprises a number of intricate tasks that call for long-term resource and infrastructure alignment (Arefin, et al. 2021). Implementing AI effectively is essential for evaluating organizational performance (Paradza and Daramola 2021), improving stakeholder interactions (Dabbous, et al. 2022), and increasing business profitability by spotting profitable investment opportunities (Bhatiasevi and Naglis 2020). It also enables professionals and business executives to make better decisions (Sujitparapitaya, et al. 2012). Workplace dynamics are greatly influenced by company culture, which shapes employee conduct, decision-making procedures, and overall performance. It is critical to comprehend how organizational culture functions as a mediator in the complex web of interactions at work (Akyazı 2023; Qatawneh 2023; Vărzaru 2022). In addition to shaping how people perceive and react to organizational cues, this mediating influence is essential for encouraging creativity, cooperation, and flexibility. Understanding the complex processes that propel resilience and success in contemporary businesses requires a close look at the complex interactions between organizational culture and its results (Berdiyeva, et al. 2021).

For Artificial Intelligence systems to be executed successfully, top management backing is essential. In order to allocate resources, promote innovation, and create an environment that is favorable for AI integration, senior leadership's support and dedication to the adoption of AI in businesses is essential(Chen, et al. 2022; Huerta and Jensen 2017).Gaining an understanding of the degree of support from top management offers important understandings into leadership dynamics and organizational culture, both of which are critical to understanding the efficacy and receptiveness of AI integration (Al-Shanti, et al. 2024).Existing evidence indicates a significant and affirmative correlation between organizational culture and the adoption of Artificial Intelligence systems. An organization's organizational culture, which consists of shared beliefs and customs, has a significant impact on how prepared it is for AI technology. Societies that emphasize adaptability, creativity, and receptivity to new technologies will have greater success with the deployment of AI systems (Akyazı 2023; Qatawneh 2023; Vărzaru 2022) .This alignment is essential for companies hoping to practice Artificial Intelligence to benefit a competitive advantage (Berdiyeva, et al. 2021). Comprehending the ways in which culture influences strategic decisions helps guarantee that AI implementation aligns with cultural customs, leading to fruitful Artificial Intelligence combination, productivity, and innovation (Munir, et al. 2022).The body of existing research indicates that support from top management is clearly correlated with the use of AI systems. Organizations with strong support from top management tend to have a culture

that encourages improvement, adaptableness, and technology acceptance (Huerta and Jensen 2017). This association is essential for companies hoping to use AI to strengthen their position in the market. (Chen 2021). Strategic decisions can be directed by recognizing the influence of senior leadership in order to implement AI in a way that will improve the organization's efficiency and competitiveness in the industry (Al-Okaily, et al. 2023; Farrokhi, et al. 2020). Humans created and use technology, which is in many ways entwined with people and their activities. Morality and meaning-making are included in this. By educating us about societal biases or incorporating it into our daily lives, artificial intelligence can help us fulfill our moral, relational, and interpretative responsibilities. Artificial intelligence is recognized to lack the subjectivity and experience thought to be essential for meaning-making because it is not conscious or self-aware. AI as it currently exists lacks consciousness, regardless of whether it ever develops consciousness. Stories of experience cannot be experienced or told by AI. Meaning, not possibilities, is what makes a story make sense. It is about the creation of people, personalities, and events rather than statistics and correlations. This has nothing to do with gathering and evaluating data. It involves writing, reading and analyzing texts. Once more it seems that artificial intelligence is far superior to human experience, expertise, and creativity. People must understand that the effects of artificial intelligence on organizational culture are not related to the nature of its existence but rather to how it impacts the organization's members as a smart machine, or as a wonder, when statistical analysis and possibilities are offered (Coeckelbergh 2023).

Because people tend to reject items or ideas they see as bad, a successful AI adoption process emphasizes how behaviorally significant employees' views toward AI technologies are. People's attitudes have a big impact on how they intend to use technology. Therefore, employees must adopt a positive mindset and embrace this technology for artificial intelligence-based change to succeed (Alshare and Lane 2011; Thorleuchter and Van den Poel 2013). People make an effort to comprehend new technology and incorporate them into their regular routines (Kudina 2021). One of the challenging ways to deal with and make sense of digital technologies is to view them as having nothing to do with human culture and meaning-making, and to establish a strong antagonism between them. (Coeckelbergh 2023).

Naturally, artificial intelligence lacks experience and now generates output based on input from humans. Because of this, we should be cautious about how we build or integrate AI into the organization rather than being scared of its existence and the changes that will happen that are out of our control (Canbul Yaroğlu 2024). The success and transformation of the entire firm are significantly influenced by organizational culture (Munir, et al. 2022). A corporation must establish beliefs and business practices that prioritize quick adaptation to required changes and robust resilience to environmental disruptions if it hopes to have a well-established organizational culture in the economy based on digital technology (Hooi and Chan 2022). Consequently a company's ability to handle all business issues and changes depends on its leadership's support of AI (Odugbesan, et al. 2023). Businesses must create a data-driven culture that incorporates business analytics if they want to fully benefit from AI. Culture of an organization is an integrated system made up of ethics, customs, rules, attitudes, opinions, methods of executing processes and procedures, workers behaviors, shared objectives, and categories and forms of interaction with the industry system's external environment (Carillo, et al. 2019; Koranteng, et al. 2022; Shea, et al. 2023).

The benefits of artificial intelligence give businesses a significant competitive edge when they successfully adopt and deploy new, cutting-edge digital technology and solutions. There is no longer any question about whether businesses should invest in innovation and digitalization (Lauterbach 2019). Businesses must choose whether they will require properly trained staff members and how swiftly and effectively they will apply artificial intelligence. According to this viewpoint businesses must heavily invest in artificial intelligence education and training to enable teams to collaborate creatively and swiftly solve issues (Kambur and Yildirim 2023).The most frequent issues that businesses deal with are cultural and managerial in nature rather than having to do with data and technology (LaValle, et al. 2010).

Previous research has focused more on capabilities than on the cultural perspective when it comes to embracing AI and Big Data Analytics. Many empirical studies make the assumption that big data, organizational proficiencies, and performance are directly related; yet, there is a lack of research that considers organizational culture as the main determinant (Mikalef and Gupta 2021; Mikalef, et al. 2018).On the basis of discussion we can suppose hypothesis H2: Organization culture significantly influences adoption of Artificial intelligence.

**Artificial Intelligence and Internal Control**

Research indicates that artificial intelligence (AI) has a favorable correlation with the quality of accounting information systems and internal control systems, both of which are critical for making economic decisions (Mirzaey, et al. 2017; Monteiro and Cepêda 2021; Moudud-Ul-Huq 2014; Sutton, et al. 2016).The implementation of information management technologies such as block-chain, immense data analytics, and on demand access of computing resources has the potential to completely transform accounting firms' internal control procedures. Numerous advantages are provided by these technologies including increased data accuracy, automation, and real-time data access (A Ali and AlSondos 2020).Big data analytics can assist in detecting fraud or errors by identifying trends and abnormalities in financial data. Block-chain technology provides transparent and safe record-keeping, improving financial data integrity and expediting audit procedures (Pereira & Collin, 2020). Financial limitations, a lack of technical know-how and resistance to transformation are a few patterns of these hindrances (Appelbaum, et al. 2017).

The adoption of AI within an organization is now a critical process particularly given the changes occurring in the industry (Chatterjee and Bhattacharjee 2020; Cox 2012). AI has seen a resurgence in latest years as a result of the remarkable practical outcomes made possible by innovative approaches and the ease of use of digital data (Paschen, et al. 2019). (Wang, et al. 2023) discovered that the implementation and efficacy of internal control are significantly impacted by the digital revolution of businesses. Additionally the creation of internal control systems in fields like risk valuation, control actions and facts and communication has mostly increased as a result of businesses being digital. Furthermore businesses overall performance and efficacy have increased as a result of their digital transformation, especially in areas like resource safety, fiscal reporting, operations, and tactical goals. It's also critical to remember that in comparatively moderate market competitions the paybacks of business digital change on internal control could be restricted.

Previous studies have shown that the digital transformation of businesses will significantly affect a number of factors, such as corporate governance, information disclosure, performance, and operational efficiency which will affect all aspects of internal control(Fenwick and Vermeulen 2019; Loebbecke and Picot 2015). Digital transformation can improve risk assessment's efficacy and efficiency (Pupentsova and Gromova 2021), which is necessary before putting in place efficient control measures. New-generation digital technologies like big data, block-chain and IOT may gather more data than traditional information technology and allow for the real-time storage and retrieval of vast volumes of data. Furthermore, digital technologies like artificial intelligence and cloud computing may effectively create predictive models and precisely identify the risk factors associated with corporate operations, allowing for more accurate estimates of the likelihood that each risk element will materialize. Additionally, by accurately categorizing the risk levels these digital technologies can assist in person making decisions in choosing more suitable and efficient risk response tactics(Wang, et al. 2023).

Businesses can improve the efficacy of control activities by reducing the risk of fraud in human operations and overcoming cost-benefit limits through digital transformation. Furthermore, personnel are subject to uniform control limitations in a digitalized environment, which improves the effectiveness of control actions (Qi, et al. 2017).The use of digital technology in businesses can drastically lower the costs of supervision when it comes to activity monitoring. More sophisticated and all-encompassing audit systems have been created as a result of the usage of distributed ledger technology, such block-chain, big data, and cloud computing for auditing. Furthermore, by offering more precise and

trustworthy minutes of fiscal transactions and other relevant data, the block-chain's tamper-evident and transparent nature might enhance the current regulatory procedures. Consequently, these new technologies are altering how we approach corporate audit and regulatory procedures (Chen 2018).

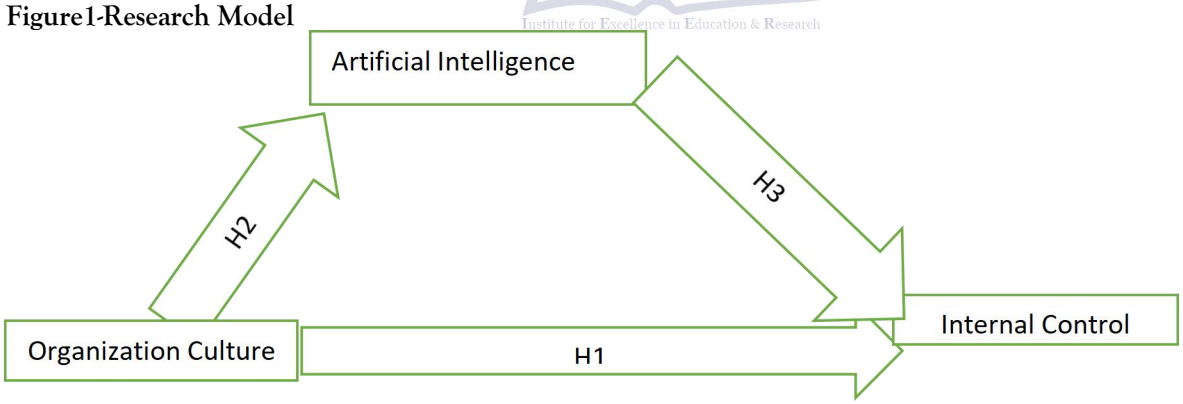
The idea that automation introduces a new source of complexity into the financial system is the foundation for practitioners' worries that automation will negatively impact internal controls and financial reporting (Rachapalli 2021). The way that automation is putting internal controls at risk is one of the most important contemporary developments that chief financial officers need to confront (Burke 2020).In contrast it is also argued that Because humans are a major source of internal control issues, people who either blatantly disregard or improperly execute a company's internal control policies, whether for dishonest reasons, agency conflicts, or due to inadequate training and low skill levels ,so automation enhances internal controls and consequently financial reporting(Ashraf 2022). The process of internal control over financial reporting requires human care and compliance and is vulnerable to errors in judgment and breakdowns brought on by human error (PCAOB 2007).

Automation's value proposition is to eliminate or reduce the human element, hence avoiding vulnerabilities brought on by inattention, errors, discretion, collusion, or fraud (Lanza, et al. 2007; Tomojzer 2023; Werner, et al. 2021). The benefits of automating human labor should theoretically exceed any additional complexity that automation adds to the financial reporting process, since humans are a primary source of failure in the internal control environment. However indication to a correlation between automation and less oversight of the financial reporting process, possibly as a result of the belief that less supervision is required because automation reduces the possibility of fraud or errors; this has the unintended consequence of increasing the severity of internal control flaws when they do occur. (Ashraf 2024).

On the basis of above discussion we can suppose hypothesis H3: Artificial intelligence improves the performance of internal control within an organization.

H4**:** Artificial intelligence mediates the relation between organization culture and internal control.

**Figure1-Research Model**




**Research Methodology**

A quantitative method was used in order to provide the best answer to the research questions. In order to focus on a large number of respondents with very few factors, we chose to employ an extended study design. This study is deductive and we developed the theoretical information necessary to support the hypotheses by finishing the reviewing the literature systematically. The methodology is appropriate for gathering empirical data, which can subsequently be utilized to address our research inquiries and hypotheses (FREDRIKSEN and SKJÆRVIK 2021). Due to its emphasis on testing of hypothesis and testing of theory, the quantitative research technique mostly adheres to the hypothesis testing and theory testing. According to quantitative researchers it is essential to first articulate hypotheses and then test them using empirical data to conclude whether they are reinforced(Johnson and Onwuegbuzie 2004). Generally speaking, quantitative research reduces

measurement to numbers. For instance, in survey research, attitudes are typically measured using rating scales, where a statement is provided by the interviewer or questionnaire and respondents respond with one of the five permitted response categories. Once all respondents have submitted their responses, the researcher usually computes and reports results of the group of respondents (Antwi and Hamza 2015).The study followed Wilkinson and Birmingham's advice and took a quantitative approach. This required gathering numerical information for statistical analysis, offering a methodical way to spot trends and patterns in services sector(Birmingham and Wilkinson 2003).

**Data Collection**

The study focused on employees in the banking sector. The reason to choose banking sector for the study is that banking sector has adopted information technology in most of its operations and a lot of activities which were performed traditionally by personnel's manually are being performed by use of information technology now a days. Despite the acknowledged limits of all research methodologies quantitative approaches yield the most optimal study outcomes(Richard, et al. 2009).The prime tool for collecting quantitative primary data is a survey questionnaire. Using a questionnaire, quantitative data may be collected consistently allowing the data to be internally logical and consistent for analysis (Mehand, et al. 2018).The scale used for data collection in this study consists of 18 constructs.AI adoption scale consists of 4 constructs and adopted from (Sun, et al. 2018).Internal control scale consists of 8 constructs and adopted from (Phornlaphatrachakorn 2019).Organization culture scale consists of 6 constructs and adopted from (Akpa, et al. 2021; Bagga, et al. 2023).Total 252 responses were received which was in accordance the requirements.

| | Frequency | Percent |
|---|---|---|
| Female | 18 | 7.1 |
| Male | 234 | 92.9 |
| Total | 252 | 100.0 |

**Data Analysis and Results**

The data was analyzed by using SPSS and results are discussed:

**Table-1 Respondent Gender Profile**

Table-1 represents respondent gender statistics. The statistics shows that total 252 responses received. Out of 252 male respondents are 234 while female respondents are 18.93 % respondents are male while 7% are female. Reason of huge percentage difference is that majority of the employees are male and to access them is easy as compared to females.

**Scale Reliability**

The ability of an instrument to measure consistently is called scale reliability (Tavakol, et al. 2008).Scale reliability is tested by using Cronbach's Alpha was advanced by Lee Cronbach in 1951 to give a number between 0 and 1 that represents the internal consistency of a test or scale. Internal consistency, which has to do with how closely related the test's components are to one another, is the extent to which each item in the test assesses the same concept or construct. In advance a test is used for study or assessment, its internal consistency should be established to guarantee its validity (Cronbach 1951). Accepted values of Alpha are ranging from 0.70 to 0.95.All vales in Table-2 are in acceptable range so the all scale items are reliable (Bland and Altman 1997; Nunally and Bernstein 1994).

**Table-2 Reliability Statistics**

| Scale | Cronbach's Alpha | No. of Items |
|---|---|---|
| **Total Scale** | 0.884 | 18 |
| **Artificial Intelligence** | 0.723 | 4 |
| **Internal Control** | 0.903 | 8 |
| **Organization Culture** | 0.850 | 6 |

**Correlations**

Researchers often seek to define whether two perceptible variables are linked in any way and to estimate how intensely they are associated. A monotonic link between two variables is measured via correlation. A monotonic connection is one in

which either (1) the value of one variable rises in response with the value of the other, or (2) the value of one variable falls in response with the value of the other (Schober, et al. 2018). One particular instance of a monotonic relationship is a linear relationship between two variables. This type of linear relationship between two continuous, random variables is known as a Pearson product-moment correlation, or simply "r" is the most common situation in which the term "correlation" is employed. This coefficient, which is scaled from -1 to +1, is a dimensionless measure of the covariance (Rodgers). Values in the middle are debatable, but most academics would likely agree that a coefficient of less than 0.1 suggests a insignificant link and >0.9 a very strong one. For instance, depending on the general rule used, a correlation coefficient of 0.65 could be regarded as either "good" or "moderate." Furthermore, claiming that a correlation value of 0.39 indicates a "weak" link whereas 0.40 indicates a "moderate" association is highly arbitrary (Mukaka 2012; Overholser and Sowinski 2008) .

**Table-3 Pearson Correlation**

| Constructs | Artificial Intelligence | Internal Control | Organization Culture |
|---|---|---|---|
| Artificial Intelligence | 1 | | |
| Internal Control | .167** | 1 | |
| Organization Culture | .189** | .718** | 1 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Table-3 values demonstrate that there is a weak correlation between artificial intelligence and internal control, artificial intelligence and organization culture while there is a strong correlation between organization culture and internal control.

**Regression**

Regression was used to test the model fit, ANOVA and Coefficients.

**Table-4 Model Summary**

| Independent Variable | Dependent Variable | R | R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| Artificial Intelligence | Internal Control | 0.167 | 0.0279 | 4.2138 |
| Organization Culture | Artificial Intelligence | 0.189 | 0.0358 | 3.986 |
| Organization Culture | Internal Control | 0.718 | 0.516 | 2.973 |

Table-4 depicts model summary results. The value of R determines the correlation between independent and dependent variable. R square the coefficient of determination, which may be expressed as the percentage of variance explained by the model is frequently calculated to evaluate the quality of fit for a parametric linear model (Rousson and Goşoniu 2007).The value of R between artificial intelligence (IV) and internal control (DV) is 0.167 which shows a weak correlation. The value of R square for mentioned variables is 0.0279 which means only 2.79% variation in internal control is explained by artificial intelligence. The value of R between organization culture and artificial intelligence is 0.189 which also depicts a weak correlation. The value of R square is 0.0358 which means independent variable explains only 3.5% variation in dependent variable. The value of R between organization culture and internal control is 0.718 which depicts a significant correlation. The value of R square is 0.516 which shows independent variable explains 51.6% variation in dependent variable.

**Table-5 ANOVA**

| Independent Variable | Dependent Variable | F | Sig |
|---|---|---|---|
| Organization Culture | Internal Control | 266.67 | 0.000 |
| Artificial Intelligence | Internal Control | 7.191 | .0003 |
| Organization Culture | Artificial Intelligence | 9.284 | 0.003 |

It might be necessary for us to ascertain the means of three or more groups be different from one another. The acronym ANOVA stands for analysis of variance. The one-way analysis of variance (ANOVA) is the most often used analytical technique for this(Kim 2017). The F-test is used in ANOVA to compare systematic and error variance. The value derived from the ratio of the variance within groups to the variance between groups is known as the F-ratio or F-statistic. By comparing the F-ratio to a critical value obtained from the probability distribution (for example, the value along the f-distribution above, where 5% of the area under the curve lies, $P < 0.05$), the F-test indicates if the F-ratio is significant. The F-test supports rejecting the null hypothesis if the F-ratio is higher than the critical threshold. Since the variance between groups is equal to the variance within groups (which is presumed to be attributable to chance) if the F-ratio is 1, the crucial value is never less than 1. Consequently, no discernible difference between groups is indicated by an F-ratio of 1 or below. Differences in the independent variable account for a larger portion of the variation in the result as the F-ratio rises. There is at least one significant difference in means if the F-test is statistically significant because it is an omnibus test(Kao and Green 2008).All the values of F in table-5 fulfil the condition so all hypothesis can be accepted.

**Direct and Indirect Effects**

Regression shows if two variables are related. Regression views one variable as an outcome variable (dependent variable) and the other as a predictor variable (independent variable). The coefficient of determination Beta (B) provides a unit less measure of the strength of the linear association between independent and dependent variable(Crawford 2006).Table-6 depicts direct and indirect effects. The direct effects are calculated by regression analysis. The indirect effect is calculated by using SPSS and methodology proposed by Andrew F. Hayes (Hayes 2012).The table values depict that one unit change in artificial intelligence will cause a 0.276 unit change in internal control. One unit change in organization culture will cause a 0.297 unit change in artificial intelligence. One unit change in organization culture will cause a 0.756 change in internal control. The mediating/indirect effect depicts that artificial intelligence partially mediates the effect of organization culture on internal control. The mediating effect of artificial intelligence in between organization culture and internal control is 0.081.Hence artificial intelligence weakly mediates the relation between organization culture and internal control.The reason might be that other mediators might exist which are not considered for this study.

**Table-6 Direct and Indirect Effects**

| Independent Variable | Dependent Variable | Direct Effect | Indirect Effect |
|---|---|---|---|
| Artificial Intelligence | Internal Control | 0.276 | |
| Organization Culture | Artificial Intelligence | 0.297 | |
| Organization Culture | Internal Control | 0.756 | .081 |

**Discussion**

The objective of the study was to assess the link between organization culture and internal control, considering the mediating effect of artificial intelligence. The study also investigated the link between organization culture and artificial intelligence as well as artificial intelligence and internal control. In Pakistan automation and information technology adoption is at its initial level in different sectors. In services sector specifically, banking sector has adopted information technology to perform different operations and internal control is one of them. The most important operation for smooth functioning and improving efficiency is internal control. Previous studies has not considered role of culture in adoption and implementation of artificial intelligence and internal control.

The results of the study recommend that there is less significant influence of artificial intelligence on internal control. Organization culture also has a weak impact on artificial intelligence. The reason might be organization culture doesn't support the adoption and implementation of information technology/artificial intelligence. While results

advocate that there is a strong significant impact of organization culture on internal control within an organization. Results also reveal that artificial intelligence partially mediates the relation between organization culture and internal control. Our study is supported by previous study piloted by (Ghafar, et al. 2024),which concluded that AI can considerably increase accuracy, but it cannot replace human auditors' professional judgment, skepticism, and adherence to ethical standards. Above all, no matter how sophisticated and sophisticated AI algorithms become they are still only as good or awful as the data they process: Potential audit discoveries may have been distorted or faulty due to inherent biases, which might have led to interesting audit conclusions. Furthermore, since human emotions and experiences are crucial, AI's capacity to draw conclusions from historical data patterns may not always be appropriate in rapidly evolving company environments.

The study conducted by (Hajiani, et al. 2024) suggests that analyzing data more quickly and precisely, contemporary technology like artificial intelligence and data analysis tools can improve evaluation procedures. Furthermore, cultivating an organizational culture based on accountability, honesty, and transparency is necessary to enhance internal control assessments. Studies also suggest that every organization's management is ultimately responsible of its internal control systems (Kartal and Depren 2020; Kunz and Heitz 2021; Salem, et al. 2023). Evaluations will be more accurate and trustworthy when staff members' at all organizational levels understand their part in preserving and enhancing internal controls and when there is both individual and group accountability. Previous studies suggests that establishing and enhancing a corporate culture based on ethics and the principles of openness and truthfulness in information is the first step in this approach. By providing training on technology and related ethics, managers can raise staff awareness. It's also crucial to foster a culture of cooperation and support the development of contemporary accounting and information systems. The results of this study are consistent with earlier research, which validates the accuracy of accounting data and the assessment of internal controls (Al Lawati, et al. 2021; Rahpeyma, et al. 2024; Salem, et al. 2023). (Ashraf 2024) concluded that businesses that implement automation see improved financial reporting quality as a result of a more strong internal control framework. Study suggests that businesses should react aggressively to the economic development and digital technology trends. To increase the efficacy of internal control, they ought to take use of the chances offered by digital transformation to combine digital technology with conventional internal control systems. The findings also demonstrate the benefits of digital technology applications, cloud computing and artificial intelligence in internal control(Wang, et al. 2023).

## Conclusion

Results of current and previous studies demonstrate that before the implementation of artificial intelligence systems a technology supportive culture should be promoted. Otherwise technology adoption will not be successful and desired objectives cannot be achieved.

## Research Limitations

The sample was collected only from banking sector employees so results might be different if other services sector employees responses considered .By considering other organization culture variables further elaboration of the concept would be possible.

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