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# IMPACT OF TECHNOLOGY ON LEADERSHIP AND GOVERNANCE IN PAKISTAN

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# Impact of Technology on Leadership and Governance in Pakistan

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**Abstract**

**Purpose:** The study sought to analyze the impact of technology in leadership and governance in Pakistan

**Materials and Methods:** The study adopted a desktop methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library.

**Findings:** The results show technology is playing an increasingly important role in the leadership and governance of organizations. It can be used to facilitate better communication, increase transparency and improve decision making. Technology is an invaluable tool for leaders and can be used to improve organizational performance and ensure that all stakeholders are kept informed. Technology has enabled leaders and governments to become more efficient, more transparent, and more responsive to their constituents. It has allowed them to access and analyze large amounts of data quickly and easily and to make better informed decisions.

**Unique Contribution to Theory, Practices and Policies:** The Resource-based view theory, Strategic management theory and Complexity Theory may be used to anchor future studies in the leadership and governance sector. The study results will also benefit other stakeholders such as the policy makers as well as researchers and scholars from different parts of the world. The top management of technology in the country will also use the study findings to improve leadership and governance performance in all their activities and programs. The study recommends that the adoption of effective technological policies in the leadership and governance will help to improve efficiency in their major operations and activities.

**Keywords:** *Impact, Technology, Leadership, Governance, Pakistan*.

## INTRODUCTION

Technology is the application of knowledge, tools and skills to solve problems and extend human capabilities. Technology plays a vital role in the leadership and governance of a business or organization. Modern technology has drastically changed the way organizations are managed, as well as the way leaders interact with their employees and stakeholders. The use of technology can help leaders to make informed decisions, improve communication and increase productivity (Zhang, 2016). Technology can also help organizations to better understand their environment and make better use of resources. Technology can be used to facilitate better communication between leaders and their stakeholders. This can include the use of email, text messaging, web conferencing and social media to keep in touch with stakeholders, employees and customers.

Technology can also be used to send out mass emails or texts to keep stakeholders up to date on developments. This can help to improve communication and ensure that all stakeholders are kept informed. Leaders can use technology to make informed decisions (Hie, 2019). This can include the use of data analysis, artificial intelligence and machine learning to identify trends and make predictions. Technology can also be used to monitor performance and identify areas of improvement. This can help leaders to make better decisions and improve organizational performance. Technology can be used to increase transparency and accountability in an organization. This can include the use of digital platforms to track progress, as well as the use of tools such as block chain to ensure that all data is secure and accurate (Auffret, 2017). The impact of technology in leadership and governance has been significant in the last few decades. Technology has changed the way we conduct everyday life, as well as how we interact with each other and our environment. Technology has allowed us to communicate more easily, to collaborate and to share knowledge and ideas. Technology has also changed the way we manage and govern our organizations, as well as how we make decisions. Technology has enabled leaders to be more connected with their staff to have more real-time information, to make faster decisions, and to interact with customers in a more meaningful way

Technology has also made it easier for governments to interact with citizens, to provide services and to govern in a more efficient and transparent manner. The emergence of technology has allowed leaders and governments to be more connected with their staff, to have more real-time information, and to interact with customers in a more meaningful way (Peng, 2022). Technology has enabled organizations to collect and analyze data more quickly. This has allowed them to make informed decisions based on accurate and up-to-date data. Technology has also enabled organizations to automate processes, which has helped to reduce costs and to improve efficiency. Technology has also enabled organizations to collaborate more easily which has allowed them to access more resources and to make better decisions (Sama, 2022).

The use of technology has enabled governments to provide better services and to better govern in a more transparent and efficient manner. Technology has enabled governments to access and analyze more data, which has allowed them to make more informed decisions. Technology has also enabled governments to connect with citizens more easily, to provide services more efficiently and to respond to needs more quickly. Technology has been a key factor in the development of Pakistan. In particular, the rise of the internet and mobile technologies has allowed Pakistan to become more connected to the world and to take advantage of new opportunities (Hassan, 2019). Technology has allowed the country to become more efficient, more democratic and more

innovative. Technology has had a significant impact on the quality of leadership in Pakistan. The most significant change has been the rise of technology-enabled forms of communication. The internet and mobile technologies have enabled leaders to quickly and efficiently reach out to their constituents. This has allowed them to keep in touch with their constituents, respond to their concerns, and receive feedback on their policies and decisions.

In addition, technology has enabled leaders to access and analyze large amounts of data quickly and easily. This has allowed them to make better-informed decisions and to better understand the needs and concerns of their constituents. It has also allowed them to effectively monitor the performance of their policies and programs and to evaluate their effectiveness (Aslam, 2021). As a result, leaders in Pakistan have been able to make more informed and better decisions. Technology has also allowed leaders in Pakistan to better engage with the public and to become more transparent. Social media, for example, has allowed leaders to interact directly with their constituents and to receive feedback on their policies and decisions (Solangi, 2022). This has enabled them to become more accountable to their constituents and to be more responsive to their needs.

Technology has also had a significant impact on the quality of governance in Pakistan. Technology has enabled the government to become more efficient, as it has made it easier to access and analyze large amounts of data quickly and easily. This has allowed the government to make better-informed decisions and to better understand the needs and concerns of its citizens. Technology has also enabled the government to better monitor the performance of its policies and programs and to evaluate their effectiveness (Shaikh, 2016) Technology has allowed the government to become more transparent and accountable. Social media, for example, has allowed the government to interact directly with its citizens and to receive feedback on its policies and decisions. This has enabled the government to become more accountable to its citizens and to be more responsive to their needs.

**Statement of the Problem**

The impact of technology on leadership and governance in Pakistan has been profound. Pakistan is a developing country with a population of more than 200 million. It is a country with a large number of economic, social, political and security challenges. In the past decade, technology has become an important factor in the country's development. Technology has enabled the country to improve its governance structures and develop its leadership capabilities. It has also enabled the country to become more responsive to the needs of its citizens. The use of technology in Pakistan is growing rapidly. The rapid growth of the internet, mobile phones and other digital technologies has been a major factor in the country's development. In 2019, the number of mobile phone subscriptions rose to over 152 million. This increase in digital technology has had a significant impact on the country's leadership and governance structures. Technology has enabled the emergence of a more democratic and accountable leadership model. This has been made possible by the increased transparency and accountability that digital technologies bring to the country's leadership and governance structures. However, the impact of technology on leadership and governance in Pakistan has not been entirely positive.

Technology has enabled the emergence of a more authoritarian and centralized system of governance. This has been made possible by the increased centralization of the country's digital infrastructure. This has enabled the government to monitor the activities of its citizens and to

control the flow of information. This has had a negative impact on the country's leadership and governance structures. Technology has also enabled the emergence of an unregulated and unaccountable private sector. The lack of regulation and oversight has resulted in the emergence of powerful corporations that are able to influence the decisions of the government. This has had a negative impact on the country's leadership and governance structures. The lack of regulation and oversight of the private sector has also enabled the emergence of a large informal economy. The informal economy has enabled the emergence of powerful and unaccountable individuals and groups. These individuals and groups are able to influence the decision-making process of the government. This has had a negative impact on the country's leadership and governance structures. The lack of regulation and oversight of the private sector has also enabled the emergence of powerful and unaccountable media outlets. These media outlets are able to influence the decisions of the government. This has had a negative impact on the country's leadership and governance structures.

## THEORETICAL REVIEW

This study will benefit from resource-based view theory which was proposed by Penrose (1959), strategic management theory by Peter Drucker (1994) and complexity theory by John Holland (1959).

### Resource- Based View Theory

The resource-based view theory suggests that the ability of an organization to gain a competitive advantage over its competitors is dependent on its ability to effectively manage its resources (Penrose, 1959). The theory focuses on the management of resources such as human capital, technology, and capital. This theory suggests that organizations must be able to identify and leverage their resources in order to gain a competitive advantage. The resource based view theory also suggests that organizations must be able to manage their resources efficiently in order to gain a competitive advantage. This theory is particularly useful in understanding how technology can be used to facilitate better management and governance. Technology can be used to facilitate the efficient management of resources and to create competitive advantages. For example, technology can be used to automate processes, to provide better communication and information sharing, and to create better visibility into the operations of an organization (Peng, 2022). Technology can also be used to increase the efficiency and effectiveness of organizational decision-making.

### Strategic Management Theory

The strategic management theory suggests that organizations should focus on the strategic goals of the organization in order to be successful (Peter, 1994). The strategic management theory suggests that organizations should focus on the long-term objectives of the organization and that they should develop strategies to achieve these objectives. Technology can be used to facilitate the development and implementation of strategies. Technology can be used to provide better data and insights into the operations of the organization, which can be used to inform decision making. Technology can also be used to automate processes, which can help to streamline operations and reduce costs (Sheikh, 2016). Technology can also be used to facilitate communication and collaboration among employees and stakeholders, which can help to ensure that strategies are implemented effectively.

## Complexity Theory

The complexity theory suggests that organizations should focus on the complexity of their systems in order to be successful (John, 1959). The complexity theory suggests that organizations should focus on understanding how different parts of the organization interact and how these interactions can affect the organization as a whole. The complexity theory also suggests that organizations should focus on understanding how changes in one part of the organization can affect other parts of the organization. Technology can be used to facilitate the understanding of the complexity of an organization's systems. Technology can be used to monitor and analyze data, which can provide better insights into the operations of the organization. Technology can also be used to automate processes, which can help to reduce costs and increase efficiency. Technology can also be used to facilitate communication and collaboration among employees and stakeholders, which can help to ensure that strategies are implemented effectively (Hakan, 2020).

## Empirical Review

Wanaswa (2022) determined the impact of strategic leadership and knowledge management on the connection between competitiveness and technological advancement. The study used a descriptive cross-sectional survey design and utilized the positivist philosophy. A census was performed to determine the target population, which included all 83 significant licensed telecoms service providers in Kenya. The questionnaire was distributed via a variety of tactics, as determined by the respondents. The findings show that technical innovation has a large and beneficial impact on competitive advantage. It was also discovered that leadership that is strategic has a favorable and considerable impact on the connection between technological advancement and competitiveness. Knowledge management was also found to exhibit a full mediating effect on the connections between advancement that is technological and competitiveness. Strategic leadership has a higher impact on competitive advantage than both technological innovation and knowledge management, according to the findings.

Mehta (2021) identified the effect of technology and open innovation policies on the growth of women-owned SMEs and the present trends and management challenges for successful full implementation of open innovation. The study considered a sample of 693 women enterprises located in different cities in Pakistan. Study findings revealed that women enterprises were involved in several open innovation policies during the last five years. Moreover, the study indicated no significant differences between manufacturing and service SMEs regarding open innovation practices; however, women enterprises are more impressively engaged in open innovation practices. Findings also reveal that women-owned SMEs follow open innovation, mainly for market-related intentions, to compete with competitors and meet customers' demands.

Hafiez (2020) examined the perception of government employees about the association of the culture of compliance in information technology (IT) on the service quality, accountability, and transparency through effective IT governance (ITG) as an intervening variable. This study was carried out in the local government (city) of Surabaya, Indonesia. Data was gathered through the questionnaires distributed directly to the respondents. The respondents are LGOs employees who are involved with e-government implementation. The number of distributed questionnaires was 200, but there were only 141 returned and analyzed. The results of this study demonstrate that the culture of compliance in IT associates with service quality, accountability, and transparency indirectly through effective ITG.

Hakan (2020) determined the characteristics that enable leaders to give sound reactions, take necessary actions and make the right decisions. Field studies conducted, for example, being a full-time participant to a leadership summit for understanding highest-level leaders from different industries, which lasted two days. This research finds key behaviors the leader of today and future possesses which potential leaders can adopt and employ. On the other side, it reveals the challenges this disruption causes and its effect on leaders. Moreover, it brings a holistic approach to provide a paradigm for leadership.

Hamad (2019) conducted study to excerpt the root causes of e-Government failure in Pakistan and to derive valuable policy implications for its success in the public sector. The techno-policy framework was developed by identifying all the CSFs and assimilating them by deploying the analytic hierarchy process (AHP) approach. The survey instrument was designed to compare all the CSFs on the basis of AHP scale and to collect the socio-demographic data. An interview based survey of all the concerned stakeholders was conducted to know their perspective about the proposed framework and to determine their relative importance about all the Findings shows that the Governance is the most important; whereas, the Management and Resources are relatively more important; however, the Socio-Economics is relatively less important for the e-Government success in Pakistan.

Fouad (2019) investigated on the inability of executives and managers to successfully meet the challenges associated with the execution of digital transformations (DT) in their organizations. Data were collected from semi-structured interviews using a protocol that was developed for the purpose of this study. The results of the study indicate that, although digital technology for transformation is disruptive, operational performance leaders are prepared to adapt their styles, characteristics and traits to suit this new digital era and to change their ways of working once given a clear vision, commitment and support from executives. Leaders can positively influence, train, move and fail through experimentation while contributing to improved ways of working at all levels by adopting co-creation and co-designing cross-functional methodologies that are agile and inclusive.

Resad (2019) aimed at developing a research model of trust in IT governance implementation model in educational institutions that it is influenced by business strategy and IT alignment as a connecting variable between trust variables and IT governance variables. The method and theories in this study uses the previous studies by adopting, integrating and adapting the business-IT alignment into IT governance trust model then the new model proposed and developed. The new model consists of 4 variables in 5 influential relationships. This study also shows coherent aspects of the process model, the causal model, the questionnaire of each indicator. Determination alignment of business strategies and IT strategies to support IT governance reach of 83% and this result conclude the variable system trust, business strategy and IT strategy has real influenced to IT governance.

Pinyarat (2018) addressed the question of how to enhance project performance through exploring the relationships among information technology (IT) governance, project governance and project performance. The research utilizes an empirical survey methodology. The survey of 533 working professionals in various industries renders 282 usable responses or a response rate of 53.91%. The results suggest that both IT governance and project governance have a positive impact on project performance. Moreover, we found that three dimensions of IT governance (i.e., strategy setting, value delivery, and performance management) are positively associated with project performance

while all three dimensions of project governance (i.e., portfolio direction, project sponsorship as well as project effectiveness & efficiency, and disclosure & reporting) are positively associated with project performance.

Paulo (2017) proposed an analysis of non-operational mechanisms that can impact the effectiveness of information technology governance in the Brazilian public administration. A questionnaire was sent to information technology managers and experienced professionals in the area of information technology governance who work in public organizations. The study indicates that the first three mechanisms do not influence the perceived effectiveness of information technology governance in the Brazilian public sector. However, the performance of the information technology investment portfolio management has a direct and positive consequence on effectiveness; also, as a mediating variable, it significantly affects the performance of the information technology steering committee, increasing the effectiveness of Brazilian public information technology governance.

Amal (2017) identified the impact of the application of information technology to improve e-learning at the Ministry of Telecommunications and Information Technology (MTIT) from the standpoint of employees. The study used the descriptive and analytical approach. The study population consists of 50 employees working in the field of technology at the Ministry of Telecommunications. The results showed a correlation between corporate governance of information technology in all its dimensions (planning, organizing, monitoring and evaluation, support and delivery, acquisition and implementation) and to improve the level of e-learning from the perspective of workers in the Ministry of Telecommunications and Information Technology. Also it showed the presence of a statistically significant effect between IT governance (planning, organizing, monitoring and evaluation, support and delivery) and to improve the level of e-learning after (the acquisition and implementation) had no effect in improving the electronic level of training.

Mogoi (2015) determined the effect of technology in strategy implementation at the Nairobi County Government. Primary data was collected through one on one interview with the respondents by use of interview guide. Secondary data was through reports, library materials, journals, internet and feedback. The study established the respondents were in favor of involvement of technology in the strategy implementation process. This indicated that IT was applied in large extent in the strategy implementation, evaluation and control. The study established that there must be well and organized structures in the organization which was to have people who have equal skills and knowhow. This would help define roles and responsibilities. The results revealed that the organization formulated appropriate strategies which were befitting its objectives.

Kiloh (2015) examined the influence of leadership aspects on performance of Information Technology projects. The study employed a descriptive survey design and adopted a combination of both quantitative and qualitative methods. The targeted population comprised 100 full time employees of Fintech Kenya that included senior managers, project managers, project team members and consultants. From the findings, 68.11% of the respondents indicated that leadership skills influenced performance of IT projects to a very great extent; 57.97% of the respondents indicated that leadership experience influenced performance of IT projects to a very great extent; 66.66% of the respondents recommended changes to the leadership control (processes and procedures) to positively influence performance of IT projects. While 75% of the respondents

indicated that leadership style influenced performance of IT projects at a very great extent. The study concluded that there was a significant relationship between project management leadership aspects and performance of IT projects; project management leadership style had the greatest influence on performance of IT projects.

Nadeem (2013) investigated whether internal attributes of corporate governance such as board size, outside directors, CEO duality, managerial ownership, and ownership concentration affect the performance of Pakistani firms. Panel econometric technique namely pooled ordinary least squares is used to estimate the relationship between internal governance mechanisms and performance measures (i.e., return on assets, return on equity, earnings per share, and market-to-book ratio) using the data of non-financial firms listed on the Karachi stock exchange Pakistan during 2004-2008. The empirical results indicate that board size is positively, whereas outside directors and managerial ownership are negatively related to the return on assets, earnings per share, and market-to-book ratio. Ownership concentration is positively related to all measures of performance used in this study. CEO duality is positively related to earnings per share only.

## METHODOLOGY

The study adopted a desktop methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library

## RESULTS

The results were grouped into various research gap categories namely as conceptual, methodological and geographical gap.

### Conceptual Gaps

Studies by Wanaswa (2022), Mehta (2021), Hafiez and Hakan (2020), Hamad, Foud and Resad (2019), Pinyarat (2018), Paulo and Amal (2017), Mogoi and Kiloh (2015) and Nadeem (2013) had conceptual framework gap in addition, all the mentioned studies did not establish the challenges of technology on leadership and governance. The studies did not outline the challenges in a clear manner. Therefore, the current study seeks to address these conceptual gaps

### Geographical Gap

Studies by Wanaswa (2022), Hafiez and Hakan (2020), Foud and Resad (2019), Paulo and Amal (2017), Mogoi and Kiloh (2015) had geographical gap because they were not conducted in Pakistan. This implies that the results may be inapplicable in Pakistan since the social economic environment of Pakistan and other countries differ. The current study seeks to address this gap.

### Methodological Gap

A methodological gap presents itself in this study, for example Kiloh (2015) conducted a study to examine the influence of leadership aspects on performance of Information Technology projects. The study employed a descriptive survey design and adopted a combination of both quantitative and qualitative methods of collecting data to analyze data while our study will use a desk study literature review methodology.

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSION

In conclusion, the impact of technology in leadership and governance has been significant in the last few decades. Technology has enabled leaders to be more connected with their staff, to have more real-time information, to make faster decisions, and to interact with customers in a more meaningful way. Technology has also enabled organizations to make faster and better decisions, to automate processes, and to collaborate more easily. Finally, technology has enabled governments to provide better services and to better govern in a more transparent and efficient manner. Technology has enabled the emergence of a more participatory and responsive government. Technology has enabled citizens to access information and to interact with the government and its leadership. This has enabled citizens to have a greater say in the decisions that are made by the government and its leaders. Technology has also enabled the government to become more efficient and effective in its decision-making processes. Technology has enabled the government to automate the collection and analysis of data. This has enabled the government to make more informed decisions and to have a better understanding of the needs of the country's citizens

### RECOMMENDATIONS

Owing to the advantages and disadvantages of technology in Pakistan, this study recommends that Pakistan should develop a comprehensive national policy on technology in governance and leadership: The government should create a comprehensive national policy that outlines how technology should be used in governance and leadership in Pakistan. This policy should define the scope and objectives of technology, including the roles of various stakeholders, and the roles of government, private sector, and civil society. The government should launch a nationwide public awareness campaign to educate citizens on the opportunities and benefits of technology in governance and leadership. This campaign should include the use of technology in decision making and policy formulation, as well as the use of technology in the management of public services. The government should invest in strengthening the cyber security infrastructure in the country by investing in the development of secure data storage systems, and introducing strict laws and regulations for data protection.

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