

Operational Efficiency and Market Reach as Mediators in the Relationship between Digital Innovation and Organizational Growth

Satyasri Akula

Orcid Number: 0009-0005-2269-8862

Strategic Management / Leadership Management Swiss school of Management
Rome, Italy 8454096778

Abstract:- This study investigates the relationship between organizational growth and digital innovation, emphasizing the intermediate functions of market penetration and distribution efficiency in operations. Put the focus on the expansion of the company and technology. Innovation, information from 280 participants was collected through a structured survey surveys employing a quantitative exploratory approach. Both the direct and indirect Exploring how digital innovation affects the growth of organizations was investigated. Structural equation modeling, also known as SEM. The findings assert that the impact of digital innovation on the growth of the organization by both directly and indirectly increasing it expanding market coverage and increasing operational effectiveness. The study emphasizes how crucial it is to include these elements into strategic management to maximize development potential. Using AMOS and SPSS for data analysis, the research uses stratified random sampling to guarantee a representative sample. This thorough examination supplies valuable insights for improving digital innovation strategies to promote organizational expansion.

Keywords:- Digital Innovation, Organizational Growth, Operational Efficiency, Market Reach, Structural Equation Modelling (SEM), Distribution Efficiency.

I. INTRODUCTION

The rising use of Since digital means for consumer and corporate communication are now widely available, innovation in digital marketing has taken on greater significance. Customers are Businesses need to embrace the use of digital technologies more often and spend more time online. developments in digital advertising to stay up with this shift in customer behavior (Jung & Shegai, 2023). These developments provide innovative methods for companies to communicate and engage with their target audiences, get valuable data, and stay one step ahead of competitors. Many companies are investing in digital marketing innovation and using it across their whole marketing strategy to remain relevant and competitive in the digital marketplace. campaigns.

The contemporary global business environment is characterized by fast changes in industries and economic growth, with financial innovation, digitization, and sustainable development appearing as critical factors (J Abbas et al., 2024). Considering the world's dire environmental problems, green technical innovation, together with financial and digital innovations, has completely changed the way companies operate and provided a path toward a more sustainable future. Twenty-first century times are swiftly nearing the first part of the century. Industry 4.0 (I4.0) is driving technological advancements, pushing businesses and organizations to integrate knowledge-intensive elements and adopt new digital-based systems to carry out the intended level of innovative performance and improve their standing in the ever-evolving digital environment (Kastelli et al., 2024).

Specific traits including pervasiveness, dynamism, and complementarity are shared by general-purpose technology (GTP) development and dissemination, including technology for communication and information (ICTs). Digital innovations that satisfy GTP requirements have been made available by I4.0. Examples Among these technologies are Internet of things (IoT), big data, and artificial intelligence. These contemporary technologies have distinct paths in various sectors and places, and they may function as both proxies and catalysts for the digital transition. The idea of deliberate transition from product to service sales is expressed in the servitization. Customer lock in, more lucrative long-term income streams, and a persistent competitive edge are advantages of adopting a servitization approach. Although these advantages have received a lot of attention, empirical research has shown the existence of a "servitization paradox," according to which producers do not reap the anticipated rewards for their investment in servitization. Nonetheless, recent research has continuously shown that servitization and company performance have a favorable, if nonlinear, connection (P Davies, OF Bustinza, G Parry, 2023). This pattern is supported by meta-analysis, which finds that servitization and company performance are generally positively correlated. In recent times, there has been a surge in research dubbed "digital servitization" as researchers studying servitization have developed an interest in digital technologies and the advantages they provide to manufacturers that use them.

The capacity of a business to generate maximum production, revenue, productivity, and quality in the provision of goods or services is a key indicator of operational efficiency. Reducing the number of resources wasted and ineffective processes is one way to achieve this. It mostly entails making use of raw materials, technology, machinery and equipment, financial resources, and human resources. Because of this, businesses always strive to increase their operational efficiency. Considering the dynamic the way in which organizations function, boosting operational efficiency needs, among other things, seeing the ways in which the surroundings are changing and how customers' and other stakeholders' expectations are changing as a direct consequence of those changes. (Susilawati et al., 2023). Recent technological advancements have an influence on organizations running in a variety of professions and industries.

The manufacturing and service processes now use the new digital technology (DT) to a previously unheard-of degree. It is now the primary driver of business innovation and the key force behind industrial upgrading and transformation (Zhou et al., 2023). The ability of businesses to take advantage of emerging technology and encourage the use of digital transformation (DT) to enhance their ability for innovation has appeared as a key concern in both academic research and business operations. Prior research has shown the superior performance of companies that have implemented digital transformation (DT) in several areas, including organizational effectiveness, competitive edge, and innovation performance.

Things are changing quickly in the globe. New-era gadgets, platforms/infrastructures, and applications had been made feasible via the vast advancements in virtual generation over the last two decades. The corporate quarter has gone through incredible transformation and plenty of normal obligations have altered because of use of those technologies has grown. This shift is necessary because the idea of digital transformation, which is already overused by many businesses, has changed the way organizations operate and improved their consumer connections. Enterprises across almost all sectors have attempted to use new technology and reap their rewards in recent times. Businesses use their endeavors to provide the market with competitive goods and services to outperform their rivals. But although businesses might receive help from these benefits, there are also a number of drawbacks (Sadik Tatli et al., 2023). To transform, companies need to first implement significant changes to their operational methods, human resources policies, and organizational structures. The firm's ability to reinvent itself is directly affected by this circumstance, therefore making a poor transformation choice might reduce its ability to compete. Relying only on a company's existing market dominance will not allow for sustained success.

Utilising intelligent, networked, and digital technologies has sparked the commencement of the twenty-first century's The fourth industrial revolution, or "industry 4.0," is a widely used phrase. Making use of the confluence of

manufacturing information technologies, Industry 4.0 lays a major focus on how to revolutionise the industrial production and service patterns that exist today. Sector 4.0, however, is not simply implemented; The procedure for digital transformation is how businesses go from industrialisation to intelligent Industry 4.0 manufacturing (P. Chen & Kim, 2023). The advent various digital technology including the Internet of Things, big data, blockchain, cloud computing, and upending established corporate structures and methods for innovation. Innovation is becoming increasingly significant in business research as a technique for reaching sustainable growth. Investigating how digital transformation affects innovation as well as the processes that drive it is thus unbelievably valuable.

Digitalization is causing a rapid shift in the business environment, which is considered a part of industry 4.0. It is also posing issues for a lot of businesses, and to thrive in the cutthroat digital market, they need to confirm their digital preparedness and skills. While many companies see the value and need of digitization, some are not equipped with the necessary ability to start the digital transformation process (Shehadeh et al., 2023). Digitalization is not the same as digital transformation since it is more concerned with information processing and utilization analysis of digital data in order to automate current operations and enhance workflows. while digital transformation is a more comprehensive process spanning many organizations and systems, digitalization is limited to enhancing certain processes, while digital transformation encompasses all forms of digitalization and digital solutions.

Data are increasingly playing a significant role in industrial development in the digital age. Utilizing and unleashing data's potential has become crucial for businesses looking to capitalize on trends and boost productivity. organization managers may use digital capabilities to enhance operational efficiency, recognize opportunities in the digital space, integrate digital resources, and get insight into the digital circumstances they deal with. All these things have an impact on the performance of the organization. Furthermore, since digital technology has advanced quickly, the business model has seen both slow and abrupt shifts (Z. Wang et al., 2023). Innovation in business models is a crucial aspect of company innovation, propelling the enhancement of corporate performance. It should be mentioned that the industry, market circumstances, and particular organizational settings may all affect how new business models affect a company's ability to execute.

Academics and professionals alike now find the BA subject to be fascinating. Additionally, highlight the significance of BA and how it gives businesses a competitive edge. note that decision-makers receive help from the approach that business analytics (BA) offers in finding and using vast amounts of data on firms, both internal and external, making it a key study issue (Alaskar, 2023). Data will play a critical part within the modern digital surroundings when the amount of reachable facts reaches 180 zettabytes in 2025. Furthermore, it become mentioned that technological and cultural problems account for 95% of

the failure of analytics-pushed innovation efforts.

This decade has seen a great deal of academic attention paid with reference to the notion associated with the "digital economy." Information technology (IT) and other emerging technologies are being embraced by the business sector. more and more, which is leading to the growth of the electronic economy. Thus, Businesses need to employ IT to carry out innovation within the digital economy. The gross domestic product (GDP) of the US is 6.9%, that of China is 6%, and that of the entire world is 4.5% due to the digital economy (Jun et al., 2022). According to these figures, companies who want to take part Digital technology is necessary in the digital economy, and quick innovation performance. In the contemporary digital age, almost all organizations consider innovation performance to be a vital success component. Businesses are finding new ways to effectively affect innovation performance via the use of robots, cloud computing, robotic Artificial intelligence (AI) with the Internet of Things (IoT), electronic word-of-mouth (eWOM), big data, and cloud computing. The ongoing discussion on innovation performance proves that elements at the human and organizational levels are both important to innovation performance. All this research, however, have been conducted to investigate variables other than the digital economy that affect innovation success.

The "green concept" is becoming increasingly popular in the industrial sector these days. Most industrial companies strive to perfect their resource use while reducing adverse impacts on labor force output, welfare, and the ecosystem. Supply chain management is a manufacturing organization's primary and most concentrated responsibility. Therefore, to reduce emissions, waste, pollution, and the use of natural resources, most industrial organizations are using GSCM principles. GSCM techniques are now essential and the most effective sustainability strategies for professionals, academics, and companies due to the rise in global environmental issues and global warming (Khan et al., 2022). The academic community increasingly recognizes GSCM practices and ecological challenges as important topics. The financial and environmental issues resulting from deceitful or abusive business practices throughout the course of getting raw materials, manufacturing, coordinating operations, and other processes have made sustainability a sensitive subject in today's competitive world. elimination of goods when their useful lives end.

Businesses across nearly all sectors are creating virtual technology or mission virtual transformation in reaction to the COVID-19 epidemic. These efforts stem from the need to address a number of challenges, consisting of limited sources, negative verbal exchange, and a loss of creativity. For digital organizations, digital transformation means a lengthy cycle time, elevated risk, and high expenditure, which puts a significant deal of strain on their resources (Lyu et al., 2022). The demands of business innovation are beyond the reach of internal resources due to various challenges. As such, a large number of digital businesses are beginning to get outside resources via the use of social capital. Corporate social assets are often seen as an efficient

way to ensure that businesses learn new things, encourage innovation, and enhance performance.

The supply chain has been reorganized more quickly since the year 2000 because to the explosive growth of digital technologies. The digital economy is now the fastest-growing economic and social growth, setting the standard for next business trends. Major nations have pushed businesses to pursue digital innovation as their primary focus considering these advancements, seeing it as the primary driving force behind their own progress. Businesses want to take benefit of possibilities for destiny monetary growth, enhance their competitiveness, actively engage in virtual innovation, and buy competitive blessings for improved overall performance with a view to satisfy the needs of the United States' economy and adjustments in the monetary environment (M. Wang & Teng, 2022). Direct touch among humans is discouraged, specifically in mild of the COVID-19 epidemic. Therefore, digital platforms play a crucial role in helping large companies keep up communication among supplychain nodes.

Economic plans have always based on economic expansion, although sustainability has only gained traction in the last several decades become a major economic theme and focal point. Incontemporary times, social inclusion and environmental preservation have gained ground in the field of economics. It is becoming clearer that environmental sustainability and social equity are necessary for economic progress. According to former UN Secretary-General Ban Ki-moon, environmental sustainability is the course to the destiny we want for every person (Xiao & Su, 2022). It gives a paradigm for reaching higher governance, social justice, economic boom, and environmental responsibility. Sustainable development encompasses the 3 pillars of sustainability: financial, social, and environmental.

II. LITERATURE REVIEW

Digital transformation has come to be an important device in growing an innovation-driven paradigm and a primary pressure at the back of the advent of outstanding establishments. Divergent perspectives exist on their effect, and existing research do not explore the precise processes behind their influence on businesses' performance in innovation. While some research shows that the shift to digital may have negative effects, others show that it might improve innovation performance (Xu et al., 2024). It is unclear how Organizational agility and big data skills are related to the digital change process. The results show that a digital transition notably increases a company's ability for innovation and that organizational agility and big data capabilities serve as key intermediaries in this process.

Digital finance is the result of technological breakthroughs that blend inclusive financial innovation with new models. It is now essential for commercial organizations to give competitive and innovative competition in the product market top priority. Thus, laws governing the corporate environment and financial digitization contribute to improving commercial

organizations' financial performance. (J Abbas, et al., 2024). Ninety firms' yearly data was acquired from the market of the Pakistan Stock Exchange during the years 2014– 2020. Three methods are used in the regression using the Structural Equation Model (SEM) methodology to estimate the empirical findings. By using this technique, researchers may make considerable progress in understanding. In terms of uniqueness, these findings show that via supplying new goods and digitization, digitalized innovation enhances business success.

Digital transformation (DT) and digital orientation (DO) significantly and favorably affect FP and DI. Furthermore, FP and DI have a robust and affirmative association. Finally, DI acts as a mediator in the interactions between DC, DO, DT, and FP. The results will aid sectors in taking benefit from the trend towards digitalization and the development of fresh digital technologies by resolving to update current DCs and adopt new ones to become leaders in innovation and improve FP (Shah et al., 2024). When deciding whether to supply SMEs extra funding for their workers' digital upskilling, authorities may also benefit from the findings. Lastly, the findings of this study expand the corpus of information about the use of digital technology by businesses. Value and originality: The result of the present investigation offers empirical support for the functions of DC, DO, and DT. in developing countries such as Pakistan is to improve DI and FP.

The organizational dimension is represented by the environmental factor is embodied in ecosystems and governance-risk-compliance (GRC) skills, as well as strategic and organizational competencies. The results show that DT and innovation are positively and significantly affected by technology and ecosystem capabilities. Organizational skills have a detrimental effect on DT but a favorable influence on creativity (Abdurrahman et al., 2024). While GRC competence strengthens its position in DT and improves firm performance, strategic capabilities have a good influence on DT and a detrimental effect on creativity. In the setting of the TOE framework, this study broadens our understanding of DC and supplies management guidance to support the banking industry. Industry manages abilities for successful DT and innovation.

Global businesses continue to struggle to achieve sustainable success in spite of the growth of digital technology. Businesses must invest in digital skills in order to ensure sustained market success in the face of a constant stream of innovative ideas. Currently, making sure a robust demand in the future firm must concentrate on exploitation of digital ambidexterity skills and research), the use of digitalized strategies, and digital transformation. The complex relationships between digital capabilities and digitalization initiatives are examined in this research their effect on long-term corporate success (A. Chen et al., 2024). The study used a questionnaire-based technique for obtaining information from industry managers. Findings show that Capabilities for digital exploitation and exploration greatly improve the performance of sustainable businesses. Additionally, the study proves the advantages of

implementing a digitalization approach on innovation and business performance.

The most important yet most vulnerable segment of an economy, SMEs, need certain resources and skills in order to thrive. This study explores the ways in which the Internet of Things (IoT) moderates the effects and how personal creativity mediates the relationship between MO and corporate success, with a focus on SMEs (Wasim et al., 2024). The research is structured around a combination of market orientation (MO) and theory based on resources (RBT). core skill. The examination of data from 229 SMEs using structural equation modelling (SEM) shows that the favorable associations between MO and IoT are moderated. and business performance, but not those between creativity and both creativity and corporate performance. However, the connection between MO and corporate success is somewhat mediated by creativity.

A quicker time to market and the capacity for quick scaling are two benefits of increased digitalization in new enterprises' product/service offerings and operations. It might thus have a major effect on the performance. They might use a digital strategy to include more digital elements into their new endeavors. There isn't any proof as of now that this metric has a significant influence on the level of digitization. Therefore, we experimentally study how a digital strategy affects how digital new enterprises' goods, services, and processes are. We used SEM to examine 102 new initiatives (Proksch et al., 2024). Using the contingency theory as a foundation, we prove that it takes more than just a digital approach to get an elevated level of digitalization. Digital IT capabilities for products and services act as a partly mediating factor in the digitalization of, although the relationship between digital tactics and digital IT capabilities is mediated in part by an electronic culture and digital IT skills process digitalization.

While entrepreneurial culture (EC) has been acknowledged as important, its relationship to sustainable competitive performance (SCP) is yet unknown. The purpose of investigate the connection between EC and SCP via innovation capability's (IC) mediating role and digital marketing capacity's (DMC) moderating influence (Al Koliby et al., 2024). Smart PLS software was used to evaluate the suggested model Using structural equation modeling with partial least squares using information obtained from small and medium-sized manufacturing businesses (SMEs) in Malaysia. According to the analysis's findings, EC influences IC, which benefits SCP. Furthermore, IC mediates the link between SCP and EC. Notably, the connection between EC and SCP is favourably moderated by DMC. The international economy been significantly the abrupt COVID-19 pandemic outbreak has had a substantial effect and changed the internal and external conditions surrounding its development. Two increasingly important components of sustainable development in the midst of this crisis are digital and green service innovations (M. Wang, 2023). Businesses now owe it to their customers to respond to their rising desire for sustainable, low-carbon growth. As an example, they have

increased their involvement in digital and green service developments. Therefore, this study theorizes and experimentally investigates the connections between product originality, firm performance, and green and digital service innovations.

The stratified equal random sampling approach and randomly chose individuals to get a representative sample. Consequently, 406 questionnaires in all were issued. But only 197 of the disseminated questionnaires—or 49% of the total—were legitimate and proper for analysis (Salih et al., 2024). A questionnaire turned into used as the main device for records series, and inferential the effects were assessed using statistical methods. Findings verified that the many sides of an entrepreneurial mind-set, which include flexibility, taking calculated dangers, and being initiative-taking, had a fine and full-size effect on the ability of the organization to function as a whole and interact with the network. However, the innovation part had no appreciable effect on the organization's performance or any of its associated dimensions.

Includes supply chain innovation, network and digital platform capabilities, using resource- based viewpoint and dynamic capabilities, performance is derived from big data analytics capacity (BDAC). Utilizing time-lag data from 221 manufacturing micro, small, and medium-sized businesses (MSMEs) industries, we evaluate our model empirically. using structural equation modelling. Our The actual Data analysis findings proved that BDAC greatly improved networking and platform capabilities. BDAC also seen advancements. financial performance by fostering innovation in the supply chain. According to our research, there exists a networking skills' mediation function in the relationships between financial success and supply chain innovation. Conversely, however, the association between innovation in the supply chain and BDAC was only mediated by digital platforms (Bhatti et al., 2022). The results of the sequential mediation process confirmed the importance of supply chain innovation, Network and digital platform capabilities inside the BDAC-from performance connection. Our findings have theoretical ramifications for operations management and supply managers in manufacturing MSMEs useful insights.

Enterprise innovation originates from research and development (R&D), which is a prerequisite for an organization's long-term existence. It is crucial for manufacturing companies to encourage corporate innovation via digital transformation in the context of the government's all-encompassing promotion.

Of the manufacturing power and digital China strategies. In addition, an organization's R&D efforts are vital to its innovative accomplishments (Liang & Li, 2022). Thus, the goal purpose this article is to examine the ways in which manufacturing organizations' The process of digital transformation affects performance. terms of both process and product innovation. This report adds exploratory and exploitative R&D abilities as moderating elements within the framework for the study mentioned above. The findings

prove that manufacturing businesses' performance in terms of process and product innovation is directly enhanced by digital transformation.

Digital technology and global marketplaces are seen to be two of the elements influencing company innovation (Dana et al., 2022). The potential for innovation in enterprises is enhanced by the introduction and use of digital technology in developing markets. Businesses that prioritize entrepreneurship also enhance their ability for innovation. The current research aims to evaluate the role of an entrepreneurial attitude as a moderator in the relationship between company innovation in developing economies and the influence of global marketplaces and new digital technologies.

In this study, the complex relationships between strategic management, digital innovation, strategic agility, and organizational outcomes are examined, with a particular emphasis on their influence on organizational growth and development (Satyasri Akula, 2024). The study used SEM to examine the complex relationships among these factors. The results corroborate the hypotheses that strategic management positively affects digital innovation, that digital innovation in strategic management significantly influences organizational development, and that strategic agility mediates the correlation between organizational growth and digital innovation within strategic management.

The study highlighted the significance of strategic management techniques, digital innovation initiatives, and strategic agility in fostering organizational growth and development. The results underscore the significance of strategic management approaches, digital innovation initiatives, and strategic agility in the contemporary, fast-evolving company environment.

Recent academic and corporate circles have paid close attention to distributed innovation, which is a key part that propels digital innovation. Nonetheless, the existing literature does not address how dispersed innovation affects the effectiveness of digital innovation. To examine how dispersed innovation directly affects organizations' success in digital innovation, the research builds a concept of moderated mediation grounded in the opportunity perspective. It focusses on the ways in which IT-enabled digital entrepreneurship opportunities and competencies affect the link in a moderating and mediating way (Tang et al., 2023). This is empirical research on how in China, there is a relationship between dispersed innovation and the efficacy of digital innovation, as well as how IT-enabled skills and digital entrepreneurship possibilities affect this connection. It promotes ideas about Dispersed creativity, as well as creativity in the digital sphere entrepreneurship potential. It also offers decision-making resources for enhancing scientific and technology firms' ability for digital innovation.

The available literature points up a number of gaps, including the hazy processes by how innovation is affected by digital transformation, especially in the areas of

organizational agility and big data skills. Understudied are the ways in which digital finance promotes market competition and the ways in which digital transformation and direction have varied effects in various situations. Further research is also necessary due to the paradoxical impacts of organizational skills on innovation and digital transformation, the need for sustained success in balancing digital ambidexterity, and the limited influence of digital strategies on degrees of digitalization. Along with the surprising findings about innovation's impact on organizational performance, the specific roles of IoT and creativity as mediators/moderators in business performance, the pathways linking entrepreneurial culture to sustainable competitive performance, and the contributions of digital and green service innovations during crises also stay inadequately understood.

III. METHODOLOGY

Using a quantitative exploratory inquiry approach, the study will examine how businesses adopt organizational growth and digital innovation solutions. Data will be gathered for an organized examination of the Organization. Organizational surveys will be conducted to address prevalent problems with technology integration. To find recurrent themes and problems, thematic analysis will be used. To raise awareness among the stakeholders of the organization, data will be collected via pre- and post-session questionnaires, feedback forms, and engagement metrics for workshops and knowledge-sharing events. The goal of the study is to help companies improve their organizational growth and digital innovation by offering a thorough grasp of new developments in this field.

➤ Research Objectives

- To Evaluate the Straight-Line Impact of Digital Revolution on the Development of Organisations.
- This study's aim is to investigate how operational efficiency might improve the connection between digital innovation and Organizational Growth.
- To Explore How Market Reach Enhances Digital Innovation's Effect Organizational Growth

➤ Hypothesis

- H1: The use of digital innovation directly improves organizational growth.

- H2: Efficiency in operations enhances the beneficial connection between digital innovation and on organizational growth.
- H3: Digital innovation's effects on organizational growth is enhanced through the expansion of market reach.

➤ Data Analysis

A stratified random sample technique would be proper for examining Operational Efficiency and Market Reach for Digital Innovation and Organizational Growth. This method guarantees that the various demographic segments—individuals with varying organizational strategies, digital innovation, and organizational growth—are fairly represented. Following the division of the population into several relevant strata, a random selection of persons is made from each stratum to ensure that the sample is representative and balanced. This technique captures the varied experiences and consequences of Digital Innovation and Organizational Growth groups, producing results that are more precise and widely applicable. For this research, a total of 280 financial departments were polled with the Simple Random Sampling technique. We'll be looking at Organizational Strategies and Digital Innovation using a quantitative methodology. Quantitative information for Organizational Strategies Digital Innovation will be acquired using Likert scale questions in organized questionnaires. These questionnaires will evaluate digital innovation and organizational strategy. By using these techniques, one will be able to understand organizational strategies, generating digital innovation, and organizational growth in detail. The Statistical Package for the Social Sciences (SPSS) and the AMOS (Analysis of Moment Structures) application were used in this study's data analysis. will be used. Researchers may use a statistical method known as analysis using structural equation modeling (SEM) to examine complex multivariate relationships simultaneously. To assess the direct and indirect effects of a theoretical model, structural equation modeling, or SEM, uses factor analysis and multiple regression. Testing correlation hypotheses using both latent (unobserved) and observable variables is particularly helpful as it supplies insight into the structural relationships that underlie the data. The social sciences, behavioral research, and other fields where understanding the relationships between several categories is essential often use social science methodology, or SEM. This technique also allows the model fit evaluation, which is needed to confirm that the proposed theoretical model appropriately describes the data.

IV. RESULTS

➤ *H1: Digital Innovation has a Direct Positive impact on Organizational Growth.*

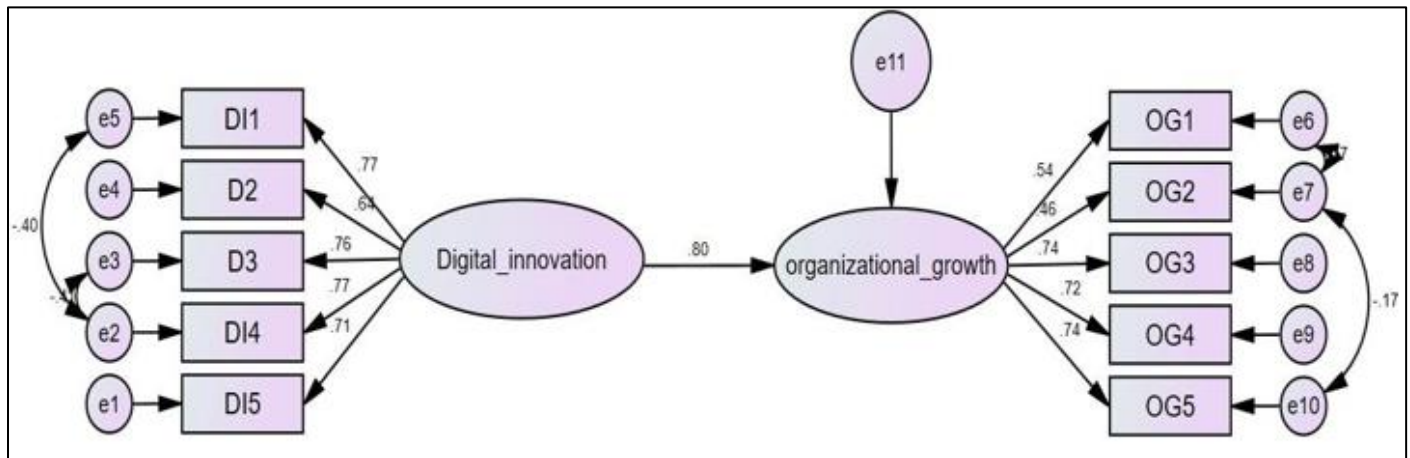


Fig1 The Direct Positive Impact of Digital Innovation on Organizational Growth

Table 1 Regression Weights

Path	S.E.	Standardized estimates	C.R.	P
Organizational growth <--- Digital innovation	.066	.799	7.578	***
DI5 <--- Digital innovation		.706		
DI4 <--- Digital innovation	.099	.768	10.816	***
D3 <--- Digital innovation	.095	.760	11.389	***
D2 <--- Digital innovation	.077	.637	10.177	***
DI1 <--- Digital innovation	.092	.771	11.526	***
OG1 <--- Organizational growth		.537		
OG2 <--- Organizational growth	.143	.460	5.585	***
OG3 <--- Organizational growth	.185	.737	8.244	***
OG4 <--- Organizational growth	.182	.725	8.174	***
OG5 <--- Organizational growth	.189	.737	8.204	***

Two variables, Digital innovation, and Organizational growth in physical education, are shown to be interdependent in a hypothetical structural equation model, as shown by the following table. The current model uses Digital innovation as a separate variable and Organizational growth as a dependent variable. The study's results show that Digital innovation and Organizational growth be positively and statistically significantly correlated ($\beta = .799$, $P < 0.05$).

The route linking Digital innovation and Organizational growth shows a positive connection with a

standardized coefficient of 0.799. As shown by the high magnitudes of the correlation coefficient values (C.R. values), the discovered relationships are statistically significant. Given the circumstances prove p-values and statistical significance > 0.05 , the indicators of fit suggest that the model is a good match. Consequently, seven separate the general Fit indices were used to assess the model's fit, and the results showed a positive and statistically significant relationship between digital innovation and Organizational growth.

Table 2 Model Fit Summary

Variable	Value
Chi-square value(χ^2)	66.984
Degrees of freedom (df)	30
CMIN/DF	2.233
P value	0.000
GFI	0.950
RFI	0.907
NFI	0.938
IFI	0.965
CFI	0.964
The general model fit was evaluated using fit indices, which showed a	0.049
RMSEA	0.066

A proper representation of the sample data was made by the fit quality. ($\chi^2 = 66.984$), NFI (Normalized Fit Index) = 0.938 The IFI, or incremental fit index = 0.965, GFI (fitness- based index) = 0.950, RFI, or the relative fit index, is 0.907. The Index of Comparative Fit, or CFI =0.964 This is much bigger than 0.90. In a similar vein, root mean square residuals, or RMR =0.049 in addition to the Root Mean Square Approximation Error (RMSEA). = 0.066

values are less than the 0.080 cutoff value. The results proved a good match for the suggested model, with an RMSEA of 0.066, an RMR of 0.049, a GFI of 0.950, a CFI of.964, and other metrics.

➤ *H2: Operational Efficiency Enhances the Positive Relationship between Digital Innovation on Organizational Growth.*

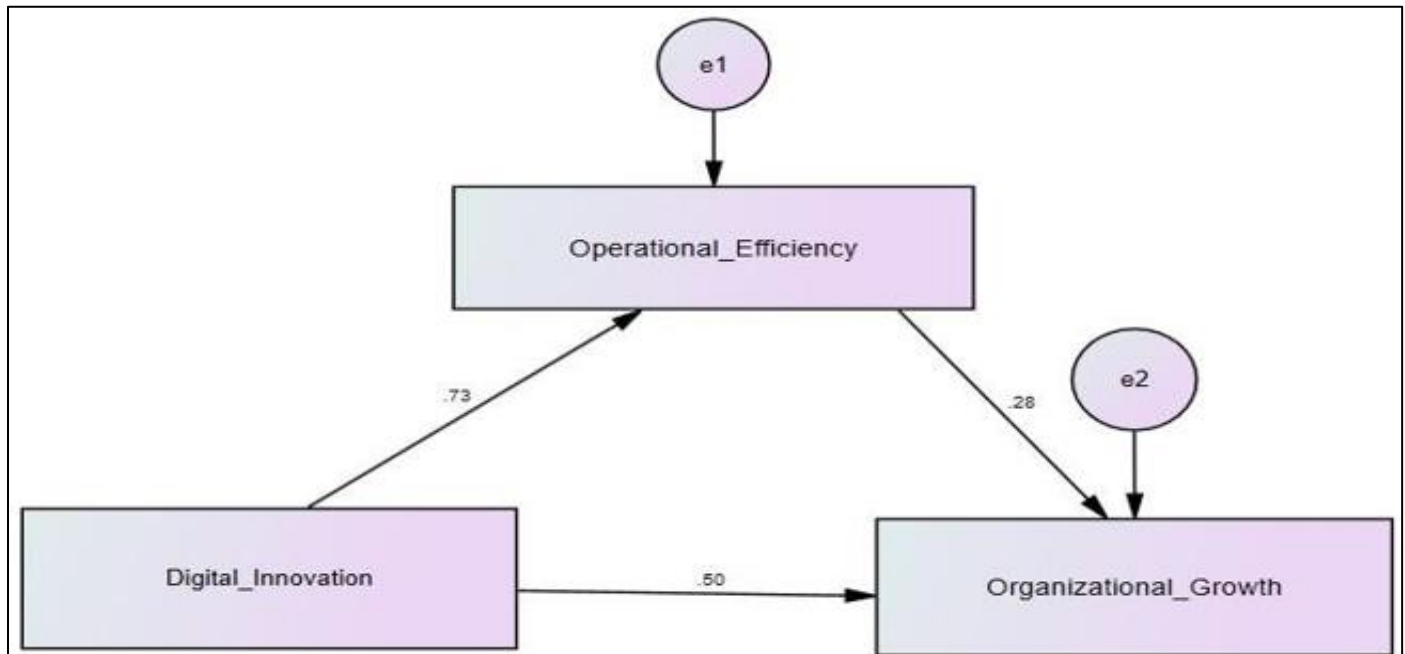


Fig 2 The Moderating Role of Operational Efficiency in the Relationship Between Digital Innovation and Organizational Growth

Table 3 Regression Weights

Path			S.E.	Standardizedestimates	C.R.	P
Operational Efficiency	<---	Digital Innovation	.037	.726	17.654	***
Organizational Growth	<---	Operational Efficiency	.056	.280	4.679	***
Organizational Growth	<---	Digital Innovation	.050	.497	8.314	***

The table presents the findings of a structural equation modeling experiment. exploring the connections between digital innovation, operational efficiency, and organizational growth. The path from digital innovation to operational efficiency produces an e value a standardized estimate of 17.654, a regular error of 0.726, and an estimate of 0.037 is highly significant ($p < 0.050$). The influence of operational efficiency on organizational growth is shown using a coefficient as an example estimate of 0.056, an average

mistake of 0.280, a standardized estimate of 4.679, and is also highly significant ($p < 0.001$). Additionally, the growth of the digital innovation has a significant direct influence on the organization, with a coefficient of estimate of 0.050, an average mistake of 0.497, a standardized estimate of 8.314, and is highly significant ($p < 0.001$). These results demonstrate that digital innovation positively impacts organizational growth both directly and indirectly through operational efficiency.

Table 4 Standardized Indirect Effects

	Digital Innovation	OperationalEfficiency
OperationalEfficiency	.000	.000
OrganizationalGrowth	.049	.000

The table displays the statistical significance of the associations between corporate expansion, operational effectiveness, as well as technological innovation. The connection between technological innovation and operational efficiency is incredibly significant, as shown by the 0.000 as the p-value. In the same way, the effects of operational efficiency on organizational growth are also

substantial, with a p-value of 0.000, highlighting its crucial role. The correlation between digital innovation and organizational growth has a p-value of 0.049, These results underscore the substantial role of digital innovation and operational efficiency in fostering organizational growth, with operational efficiency being a particularly strong factor.

➤ *H3: The Increase of Digital Innovation's Influence on Organizational Success is Bolstered by Market Reach.*

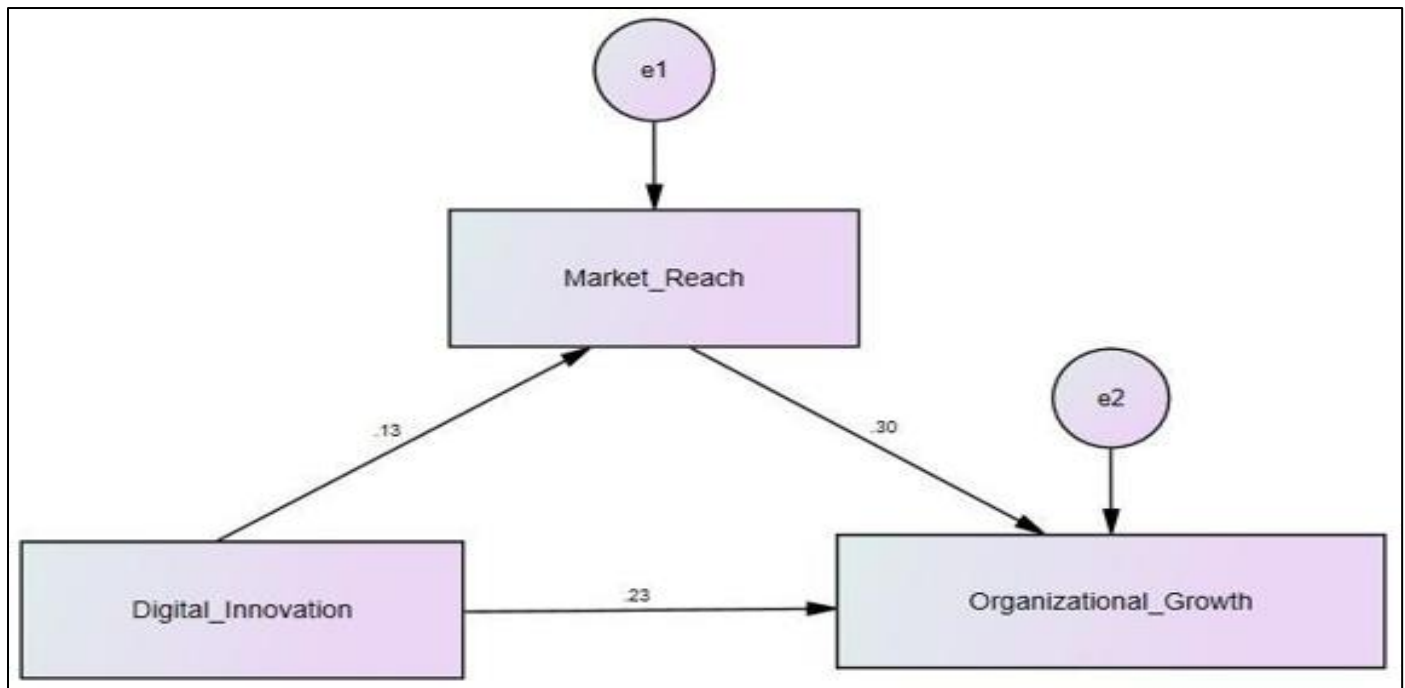


Fig 3 The Mediating Role of Market Reach in Amplifying the Impact of Digital Innovation on Organizational Success

Table 5 Regression Weights

	Path		S.E.	Standardized estimates	C.R.	P
Market Reach	<---	Digital Innovation	.037	.132	2.232	.026
OrganizationalGrowth	<---	Market Reach	.043	.300	5.420	***
OrganizationalGrowth	<---	Digital Innovation	.027	.230	4.149	***

The desk shows the findings of a research using structural equation modeling that examined the relationships between digital innovation, market reach, and organizational development. The route from digital innovation to market reach has a coefficient of estimate of 0.037, an average mistake of 0.132, a standardized estimate of 2.232, and ($p = 0.026$) proves statistical significance. Market reach has a significant impact on organizational development, as proved using a coefficient as an example estimate of 0.043, an

average mistake of 0.300, with a standardized estimate of 5.420 ($p < 0.001$). Digital innovation holds a strong favorably affect organizational development, using an estimated coefficient of 0.027, an average mistake of 0.230, a standardized estimate of 4.149, plus a p-value that is less than 0.001. These data show that digital innovation promotes organizational development both directly and indirectly by broadening market reach.

Table 6 Standardized Indirect Effects

	Digital Innovation	Market Reach
Market Reach	.000	.000
Organizational Growth	.040	.000

The table shows the significance levels of the relationships when it comes to digital innovation, market reach, and organizational development. The association between digital innovation and market reach is very noteworthy; the p-value is 0.000. Similarly, the impact of market reach on organizational development is extremely significant ($p\text{-value} = 0.000$), underscoring its crucial relevance. The direct association between digital innovation and organizational development has a p-value that shows statistical significance. 0.040. The findings emphasize the significance of digital innovation as well as market reach in generating organizational success, with market reach having a particularly strong influence.

V. DISCUSSION

This study's aim is to investigate the methods in which market penetration and reach. Operational efficiency plays a role as intermediaries in the connection between organizational expansion and technological advancement. With the structural equation proving great fit indices in the field of modeling, the results suggest that digital innovation greatly impacts expansion of the organization. This is supported by the considerable favorable advantages that are derived from the incorporation of digital innovation. This relationship is strengthened, and the growth-promoting impact of digital innovation is increased because of

operational efficiency, which acts as an important intermediate. In the same way, market reach has a vital function inside enhancing the situation. Effects of digital innovation on a business's success. Using these as a foundation. Considering the findings, as may be seen, to maximize growth opportunities, it is crucial to focus on improving operational efficiency and expanding market presence achieve along with the integration of technological developments. It is possible that organizations to enhance their ability in using digital technology for the future development and superiority in competition can be achieved by addressing these mediating factors issues.

VI. CONCLUSION

The research findings prove the key role that digital technology plays. Innovation contributes directly and indirectly to the success of organizations to the point where it results in improved operational effectiveness and expansion of market access. The following text must be paraphrased using the same language and with the same number of words: Results from the research in structural equation modeling show that technological advancement is important to the growth of organizations. Indicators show that the model fits well, confirming the relationship between these factors. The fact that operational efficiency and market reach not only play an essential role as mediators but also improve the growth-promoting consequences of digital innovation is a clear sign of the relevance of these strategies in strategic management. Considering these findings, it can be deduced that to fully achieve the growth potential, businesses that are focusing on digital innovation should also put top importance to expanding their market reach and modernizing their processes. The overall results of the research show how market operations are portrayed enhance, operational effectiveness, and digital advancement all work together to support the sustained prosperity of a company over time.

REFERENCES

- [1]. Abdurrahman, A., Gustomo, A., & Prasetyo, E. A. (2024). Impact of dynamic capabilities on digital transformation and innovation to improve banking performance: A TOE framework study. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100215. <https://doi.org/10.1016/j.joitmc.2024.100215>
- [2]. Al Koliby, I. S., Mehat, N. A. B., Al-Swidi, A. K., & Al-Hakimi, M. A. (2024). Unveiling the linkages between entrepreneurial culture, innovation capability, digital marketing capability and sustainable competitive performance of manufacturing SMEs: evidence from emerging countries. *Bottom Line*, July. <https://doi.org/10.1108/BL-08-2023-0241>
- [3]. Alaskar, T. H. (2023). Innovation Capabilities as a Mediator between Business Analytics and Firm Performance. *Sustainability (Switzerland)*, 15(6). <https://doi.org/10.3390/su15065522>
- [4]. Bhatti, S. H., Ahmed, A., Ferraris, A., Hirwani Wan Hussain, W. M., & Wamba, S. F. (2022). Big data analytics capabilities and MSME innovation and performance: A double mediation model of digital platform and network capabilities. *Annals of Operations Research*. <https://doi.org/10.1007/s10479-022-05002-w>
- [5]. Chen, A., Li, L., & Shahid, W. (2024). Digital transformation as the driving force for sustainable business performance: A moderated mediation model of market-driven business model innovation and digital leadership capabilities. *Heliyon*, 10(8), e29509. <https://doi.org/10.1016/j.heliyon.2024.e29509>
- [6]. Chen, P., & Kim, S. K. (2023). The impact of digital transformation on innovation performance - The mediating role of innovation factors. *Heliyon*, 9(3), e13916. <https://doi.org/10.1016/j.heliyon.2023.e13916>
- [7]. Dana, L. P., Salamzadeh, A., Mortazavi, S., & Hadizadeh, M. (2022). Investigating the Impact of International Markets and New Digital Technologies on Business Innovation in Emerging Markets. *Sustainability (Switzerland)*, 14(2), 1–15. <https://doi.org/10.3390/su14020983>
- [8]. J Abbas, D Balsalobre-Lorente, MA Amjid, K Al-Sulaiti, (2024). Financial innovation and digitalization promote business growth: The interplay of green technology innovation, product market competition and firm performance.
- [9]. Jun, W., Nasir, M. H., Yousaf, Z., Khattak, A., Yasir, M., Javed, A., & Shirazi, S. H. (2022). Innovation performance in digital economy: does digital platform capability, improvisation capability and organizational readiness really matters? *European Journal of Innovation Management*, 25(5), 1309–1327. <https://doi.org/10.1108/EJIM-10-2020-0422>
- [10]. Jung, S. U., & Shegai, V. (2023). The Impact of Digital Marketing Innovation on Firm Performance: Mediation by Marketing Capability and Moderation by Firm Size. *Sustainability (Switzerland)*, 15(7). <https://doi.org/10.3390/su15075711>
- [11]. Kastelli, I., Dimas, P., Stamopoulos, D., & Tsakanikas, A. (2024). Linking Digital Capacity to Innovation Performance: The Mediating Role of Absorptive Capacity. *Journal of the Knowledge Economy*, 15(1), 238–272. <https://doi.org/10.1007/s13132-022-01092-w>
- [12]. Khan, M. T., Idrees, M. D., Rauf, M., Sami, A., Ansari, A., & Jamil, A. (2022). Green Supply Chain Management Practices' Impact on Operational Performance with the Mediation of Technological Innovation. *Sustainability (Switzerland)*, 14(6), 1–22. <https://doi.org/10.3390/su14063362>
- [13]. Liang, S., & Li, T. (2022). Can Digital Transformation Promote Innovation Performance in Manufacturing Enterprises? The Mediating Role of R&D Capability. *Sustainability (Switzerland)*, 14(17). <https://doi.org/10.3390/su141710939>

- [14]. Lyu, C., Peng, C., Yang, H., Li, H., & Gu, X. (2022). Social capital and innovation performance of digital firms: Serial mediation effect of cross-border knowledge search and absorptive ability. *Journal of Innovation and Knowledge*, 7(2), 100187. <https://doi.org/10.1016/j.jik.2022.100187>
- [15]. P Davies, OF Bustinza, G Parry, M. J. (2023). Unpacking the relationship between digital capabilities, services capabilities, and firm financial performance: A moderated mediation model.
- [16]. Proksch, D., Rosin, A. F., Stubner, S., & Pinkwart, A. (2024). The influence of a digital strategy on the digitalization of new ventures: The mediating effect of digital capabilities and a digital culture. *Journal of Small Business Management*, 62(1), 1–29. <https://doi.org/10.1080/00472778.2021.1883036>
- [17]. Sadik Tatli, H., Sefa Yavuz, M., & Ongel, G. (2023). The Mediator Role of Task Performance in the Effect of Digital Literacy on Firm Performance. *Marketing and Management of Innovations*, 14(2), 75–86. <https://doi.org/10.21272/mmi.2023.2-08>
- [18]. Salih, A. A., Alsalihi, L., & Abou-Moghli, A. (2024). Entrepreneurial orientation and digital transformation as drivers of high organizational performance: Evidence from Iraqi private banks. *Uncertain Supply Chain Management*, 12(1), 9–18. <https://doi.org/10.5267/j.uscm.2023.10.022>
- [19]. Shah, N., Zehri, A. W., Saraih, U. N., Abdelwahed, N. A. A., & Soomro, B. A. (2024). The role of digital technology and digital innovation towards firm performance in a digital economy. *Kybernetes*, 53(2), 620–644. <https://doi.org/10.1108/K-01-2023-0124>
- [20]. Shehadeh, M., Almohtaseb, A., Aldehayyat, J., & Abu-AlSondos, I. A. (2023). Digital Transformation and Competitive Advantage in the Service Sector: A Moderated-Mediation Model. *Sustainability (Switzerland)*, 15(3). <https://doi.org/10.3390/su15032077>
- [21]. Susilawati, E., Lubis, H., Kesuma, S., Pratama, I., & Khaira, I. (2023). Factors Affecting Engineering Institutes Operational Efficiency: Exploring Mediating Role of Digital Technologies Adoption in Teaching/Learning. *Operational Research in Engineering Sciences: Theory and Applications*, 6(1), 252–273. <https://doi.org/10.31181/oresta/0601127>
- [22]. Tang, H., Yao, Q., Boadu, F., & Xie, Y. (2023). Distributed innovation, digital entrepreneurial opportunity, IT-enabled capabilities, and enterprises' digital innovation performance: a moderated mediating model. *European Journal of Innovation Management*, 26(4), 1106–1128. <https://doi.org/10.1108/EJIM-08-2021-0431>
- [23]. Satyasri, A. (2024). EXPLORING THE IMPACT OF STRATEGIC MANAGEMENT AND DIGITAL INNOVATION ON ORGANIZATIONAL GROWTH AND DEVELOPMENT: A COMPREHENSIVE STUDY DOI: <https://doi.org/10.5281/ASIAN SCIENCE of JOURNAL>
- [24]. Wang, M. (2023). How much do green and digital service innovations matter for firm performance? Understanding the mediating role of product creativity. *International Journal of Technology Management*, 94(1), 31–55. <https://doi.org/10.1504/IJTM.2024.135232>
- [25]. Wang, M., & Teng, W. (2022). Digital Innovation and Firm Environmental Performance: The Mediating Role of Supply Chain Management Capabilities. *Frontiers in Psychology*, 13(April), 1–11. <https://doi.org/10.3389/fpsyg.2022.897080>
- [26]. Wang, Z., Lin, S., Chen, Y., Lyulyov, O., & Pimonenko, T. (2023). Digitalization Effect on Business Performance: Role of Business Model Innovation. *Sustainability (Switzerland)*, 15(11), 1–19. <https://doi.org/10.3390/su15119020>
- [27]. Wasim, M., Ahmed, S., Kalsoom, T., Khan, M. S., & Rafi-Ul-Shan, P. M. (2024). Market orientation and SME performance: Moderating role of IoT and mediating role of creativity. *Journal of Small Business Management*, 62(2), 938–965. <https://doi.org/10.1080/00472778.2022.2100897>
- [28]. Xiao, D., & Su, J. (2022). Role of Technological Innovation in Achieving Social and Environmental Sustainability: Mediating Roles of Organizational Innovation and Digital Entrepreneurship. *Frontiers in Public Health*, 10(March), 1–13. <https://doi.org/10.3389/fpubh.2022.850172>
- [29]. Xu, M., Zhang, Y., Sun, H., Tang, Y., & Li, J. (2024). How digital transformation enhances corporate innovation performance: The mediating roles of big data capabilities and organizational agility. *Heliyon*, 10(14), e34905. <https://doi.org/10.1016/j.heliyon.2024.e34905>
- [30]. Zhou, Y., Yang, C., Liu, Z., & Gong, L. (2023). Digital technology adoption and innovation performance: a moderated mediation model. *Technology Analysis and Strategic Management*, May 1–16. <https://doi.org/10.1080/09537325.2023.2209203>