

The Impact of Digital Transformation and Corporate Governance in the Relationship of Strategic Management Practices and the Firm's Performance: The Case of the Egyptian Petroleum Sector

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Abstract Purpose: Egypt set out ambitious strategic plans a few years ago to cope with the emerging global development and innovation. Therefore, nowadays the importance of strategic management science and art is the main topic of attention. As the petroleum sector is one of the most important sectors affecting the economy of Egypt. Therefore, the main objective of this study is to examine the importance of strategic management practices and their impact on company performance, while testing the impact of applying digital transformation and corporate governance principle as a mediator in the Egyptian petroleum sector. The results show that the independent predictor variable was found to significantly affect all variables, both mediators and dependent variables. **Aim and objectives:** The aim of the study is to find out the impact and the relationships between strategic management (SM) and business performance (FP) in the Egyptian petroleum sector, while testing the impact of using digital transformation and corporate governance principle as a mediator. The study managed to examine whether the Egyptian petroleum sector is ready to implement the strategic management practices applying the principles of Digital Transformation (DT) and Corporate Governance (CG). More attention will be given to companies that have applied the SM theories and their interest in the application of DT and CG in the Egyptian petroleum sector. **Hypotheses:** Based on empirical literature, the model expressed the relationship of strategic management practices consisting of four basic phases that include (environmental scanning, strategy formulation, strategy implementation, and evaluation and control) and related to company performance, four perspectives that measure the organization and the business unit or departmental success after finance; Customer; internal operations; Human Resource Systems & Development (learning and growth) and for the financial indicator, the study focused on only two dimensions (profitability metrics, revenue growth) and the customer indicator, the study focused on customer satisfaction and the internal process that the study selected to improve Internal Process Indicator. In terms of context, the main concept of the model is to examine the role of both digital technological tools, which include three main dimensions (the individual level, the organizational level, the digital technological tools), and finally the corporate governance principles (more independent Board, Audit Committee & Disclosure and Transparency). **Design/methodology/approach:** The study proposes a research model built on the basis of extensive research and a fully constructive literature review that simulates the variables and the relationships between all these variables. Based on this model, a research hypothesis is established, which is further explored through a survey considering primary data and analysis. The target audience is mainly the whole Egyptian oil companies including the public, JV and the investment companies. Middle and upper management are the main target group of this study as they are very familiar and have solid experience in studying the subject. The sample size was carefully calculated to represent the population of more than 95,000. Therefore, we selected a sample of approximately 383 participants from fourteen large companies with a confidence level (95%) and an error rate (5%). **Main results:** The expectation was very high to find out the significant and supported relationships between all variables based on the literature review and the developed framework and all hypotheses. However, based on the data collected and the analysis used by SPSS and Smart PLS to analyze the data and test the hypotheses, the results were consistent with most of the hypotheses. And the results of data analysis showed that the independent predictor variable significantly influenced all variables, i.e. H. both mediators and dependent variables. Between the mediator variables; Corporate governance significantly influenced the dependent variable, and since both the direct effect of strategic management processes on firm performance and the indirect effect of corporate governance were statistically significant, we treat partial mediation. The second mediator variable, digital transformation, has no statistically significant impact on business performance; consequently, the indirect effect was not statistically significant.

Keywords: *strategic management, firm's performance, digital transformation, corporate governance, egyptian petroleum sector*

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1. Introduction

1.1. Strategic Management Practices, Digital Transformational and Corporate Governance

In today's world, the business environment is changing rapidly, so product market competition between industries is increasing, and information technology in various industries is improving throughout the day, so companies use Internet facilities and social networks to advertise and market their products and services. In order to thrive in this current competitive business environment, enterprises need to continuously develop some strategies and take some actions by improving product quality and productivity, reducing product cost, promoting product and process innovation, and increasing product speed in the market and the goodwill of the improve customers. Companies must therefore strive to keep up with global change, gain competitive advantage and improve performance over their peers (Muogbo, 2013) [1]. Because business is a high-stakes game, a poorly planned and executed strategic move could result in the loss of millions of dollars, thousands of jobs, or even bankruptcy (Dauda et al., 2010) [2].

Strategic management is the process of making decisions, planning, coordinating and executing some actions by the top managers of a company to achieve set goals and objectives. Decisions are of little use if they are not implemented. Companies need to take the necessary actions to implement their strategies. This requires top managers to provide the necessary resources and to shape the organization in such a way that the intended strategies are translated into reality (Dess et al., 2005) [3]. Since this is long-term, forward-looking, complex decision-making and requires significant resources, top management involvement is crucial.

Wheelen and Hunger, [4] articulated that strategic management was initially most useful for large companies operating in multiple industries. Increasing risks of error, costly mistakes and even economic ruin are now forcing professional managers in all organizations to take strategic management seriously in order to keep their companies competitive in an increasingly volatile environment.

Digital transformation offers Egypt a unique opportunity to transform multiple economic sectors such as financial services, retail, healthcare, agriculture and manufacturing while creating opportunities for individuals and businesses and influencing inclusive development and economic growth. Although digitization can make a significant difference in the economy, it should be

supported by the necessary technological infrastructure, human capital, and the appropriate legal, regulatory, and other frameworks to make digital transformation a platform for justice, not division (Seif Kamal, 2021) [5].

During the COVID-19 pandemic, the ICT sector in Egypt has played an important role through the effective response of various companies and organizations that have managed to implement technology-based applications and solutions to enable businesses to continue their operations even when they are not under Full steam ahead, in light of health and safety measures. This allowed them to reach their consumers at home to shop, employees to work remotely, and learners to learn from home or anywhere, as part of exploring a portfolio of digitally powered experiences. Egypt is likely to benefit from the continuous progress it has seen as a result of the pandemic, with a focus on digitization which has been a must during these difficult times to maintain and maintain business continuity. The accumulated experiences from the increasing adoption of ICT since March 2020 in different sectors will hopefully lead to further economic and business opportunities through the digital transformation in the future according to (Seif Kamal, 2021) [5].

1.2. Research Problem

Faced with the rapid and inexorable technological change and the desire of the Egyptian petroleum companies to pursue internationalization, the challenge and the problem is to implement the SMP strategic management practices in order to achieve a high level of performance of the company in terms of both operational areas and non-operational measures, while advanced digital technological tools DTT and Corporate Governance Principles CGP are used to deal with such a big technological revolution.

The novelty of this research is to reveal the crucial impact of using the Digital Transformation Tools DTT and the Corporate Governance Principles CGP in designing, implementing and evaluating the strategic plan and its significant impact on the financial FP and non-financial performance of the company. However, we will still have some CSFs for critical success factors and CFFs for critical failure factors (challenges).

1.2.1. Critical Success Factors "CSFs"

1. The government focus was more on technical issues and not on decision outcomes; multi-sector coordination was poor and synergy between information and socioeconomic development strategies was lacking. Given how important and useful ICT has proven to be for socioeconomic development, building the required information infrastructure for Egypt was a necessity (Seif Kamal, 2021) [5].

2. In 2011, the Internet contributed approximately \$2.2 billion to the economy, which was comparable to 1.1 percent of GDP, including consumption related to Internet access and transactions, as well as private investment and government spending [6].

1.2.2. Critical Failure Factors CFFs (Challenges):

The key CFFs are based on multiple dimensions of risk factors related to organizational, managerial, operational, technological and people risk. For digitalization to reach its prospects, Egypt needs a robust, dynamic and conducive nationwide digital ecosystem, including universally affordable high-speed internet, a human capital with digital capabilities, digital platforms connecting businesses with consumers, interoperable digital finance and Payment services, digital identities, digitally literate consumers, a legal and regulatory environment, and an entire entrepreneurial and innovative ecosystem [7]. Some of these elements will be implemented gradually and simultaneously over several years. In context, for Egypt to gradually transition to a digital economy, the following building blocks must be properly developed and seamlessly integrated: technology, people, governance and impact (Seif Kamal, 2021) [5].

1.3. Research Gap

Many researchers have studied the minimal role of strategic management practices, with all its stages, in improving business performance. Such as (Alayemi, S & Akintoye, R 2015) [23], (Abad Al-Zumana, 2018) [24] and (Tarifi, Nabil, 2021) [8]. However, this study identifies a couple of research gaps:

1. There is a lack of research that has specifically examined the impact of applying the strategic management practices on company performance while applying the tools for digital transformation and corporate governance in the Egyptian oil and gas sector. Much less attention has been paid to strategic management practices, and this lack of attention provides an opportunity for these theoretical contributions.

2. Based on a review of previous research studies on strategic management practices and company performance, there are several factors that affect SMP and FP such as:
 - B. Financial and non-financial indicators. Unfortunately, there is no research that has developed a comprehensive model for applying the SMP to improve FP using DT and CG focused on the Egyptian oil and gas sector.

1.4. Research Significance

While today's impressive changes in the business environment force companies to constantly review their strategies for success, strategic management in general has a direct impact on company performance which is believed to have financial and non-financial benefits. On the other hand, the Ministry of Communications and Information Technology (MCIT) is striving to build a digital Egypt and forging an Egyptian digital society that embraces and integrates technology in almost all walks of life. Therefore, MCIT strives to promote the development of ICT infrastructure and improve digital services in government agencies, improve the performance of ministries and other government agencies, and increase

the quality and efficiency of services by improving the working environment and providing support for the Decision-making process and finding solutions to major problems in society based on research understanding the importance of applying the strategic management practices to building digital strategies through the use of digital technological tools related to the application of corporate governance principles in Egyptian Petroleum represents sector.

This study makes a significant contribution to the Egyptian petroleum sector community of practice in several ways:

1. The strategic management practices are very important for companies that want to survive and grow in the tough market. The study could help to illustrate and measure the crucial role of implementing strategic management practices in high company performance, especially for those companies that do not have a strategic plan to date.

2. Digital transformation is one of Egypt's top strategic goals in recent times. The study aligns directly with Egypt's 2030 Digital Egypt Strategic Plan as the Ministry of Petroleum begins to take steps towards digital transformation.

3. The study determines the impact of the new concept of using the digital technological tools and the corporate governance principles while the strategic management plans are designed, implemented, controlled and evaluated in a theoretical framework for the first time in the Egyptian petroleum sector.

1.5. Research Objectives

The main objective of this research is to study and test the effects and the relationships of the following variables:

1. To examine the relationship of Strategic Management process and the Digital Technological Tools.

2. To test the effect of the Digital Technological Tools on the Firms' Performance.

3. To examine the relationship between the Strategic Management Process and the Firm Performance.

4. To investigate the role of the Strategic Management Processes on implementing effectively the Corporate Governance.

5. To examine the Corporate Governance principles effect on the Firms' Performance.

6. To test the benefits of implementing the Corporate Governance in mediate the relationship of the Strategic Management Processes and the Organization's Performance.

7. To test benefits of using the Digital Technological Tools in mediate the relationship of the Strategic Management Processes and the Organization's Performance.

1.6. Research Question

Based on the research objectives, the researcher formulates the following key questions:

1. How could the Strategic Management Processes affect the Digital Technological Tools?

2. To what extent the Digital Technological Tools influencing the Firms' Performance?

3. How does each dimension of strategic management processes have influence on firm's performance?

4. What is the Role of the Strategic Management Processes on implementing effectively the Corporate Governance principles?

5. How could the Corporate Governance affect the Firms' Performance?

6. What are the benefits of implementing the Corporate Governance in mediate the relationship of the Strategic Management Processes and the Organization's Performance?

7. What are the benefits of using the Digital Technological Tools in mediate the relationship of the Strategic Management Processes and the Organization's Performance?

1.7. Research Scope

This research focuses on measuring the impact of Digital Transformation and the Corporate Governance Principles on the strategic management practices and firms' performance, focused only on the Egyptian Petroleum sector' companies.

2. Literature Review

2.1. Strategic Management

2.1.1. Strategic Management Definitions

Strategy Defined as the determination of an organization's fundamental long-term goals and objectives and the acceptance of the courses of action and the allocation of resources needed to implement the goals (Stevenson, W. J., 2012). [9]. Thompson et al. [10] define strategy as a strategy consisting of the combination of competitive moves and business approaches that managers employ to satisfy customers, compete successfully, conduct operations, and achieve organizational goals. Pearce and Robinson [11] define strategy as a manager's large-scale, forward-looking plan for interacting with the competitive environment in order to optimize the achievement of organizational goals.

Wheelen and Hunger [4] articulated that strategic management was initially most useful for large companies operating in multiple industries. Increasing risks of error, costly mistakes and even economic ruin are now forcing professional managers in all organizations to take strategic management seriously in order to keep their companies competitive in an increasingly volatile environment.

According to (Reitzig and Maciejovsky, 2014) [25], creating a strategy is not only a task for managers; on the contrary, the definition of the business approaches and new measures to be initiated involves all hierarchical levels of the organization (business unit managers, product managers, functional area managers within a business or area, administrators and supervisors). In order to develop strategies, authors such as (Kral, Pavel & Kralova, Vera, 2016) [12] suggest that everything starts with the analysis of the company's environment, thereby dictating the proposal of action plans aimed at improving competitiveness.

2.1.2. Strategic Management Benefits / Importance:

The benefits of strategic management cannot be overstated, especially when a company applies the approach in the right situation. According to Thompson and Strickland [13], Wheelen and Hunger [4], Dauda et al. [2], Pearce and Robinson [11] include the benefits:

i. Clearer sense of strategic vision for the firm

ii. Sharper focus on what is strategically important

iii. Making managers and organizational members more alert to new opportunities and threats in a rapidly changing environment.

iv. Helping in overcoming risks and uncertainties and therefore contributes to organization success.

2.1.3. Previous Studies / Theoretical Models (Critical Analysis)

According to (Jeanne dArc, 2020) [26], he studied the impact of strategic management practices on the service delivery of the Rwanda public entity and the National Land Centre. The researcher drew on qualitative data from the literature as well as quantitative data from the field, primary data and other reviews of secondary data. The target group; consisted of 116 staff in various categories, including 6 officers, 46 members of the NLC, 24 district country officers and 30 sector country officers. The researcher developed a conceptual framework that includes strategic management practices as independent variables and performance as dependent. And other factors such as government policy and the ability of the institution and stakeholders play a key role in enabling the linkage between the independent and dependent variables as a moderator. Such a model is consistent with the model proposed in the study in the strategic management practices, while the researcher uses strategic formulation, strategic implementation and strategic evaluation as indicators and dimensions of strategic management practices, the results show that the majority of respondents reported a performance goal is the implementation strategy used in NLC.

Tarifi, N., [8] examined the relationship of strategic planning and organizational performance by using the elements of the strategic plan including the mission and vision, core values, strengths, weaknesses, opportunities and threats as and the strategies, with an incorporation of objectives and operational tactics. The researcher collects and analyzes the secondary data from the review of previous studies and reports, the qualitative research methodology critically looks at non-numerical data to analyze a specific phenomenon. It is best suited to discovering the potential relationships between variables without quantifying the variables. The researcher developed the theoretical framework based on elements of the strategic plan including mission and vision, core values, SWOT and organizational goals, which are consistent with the study model in the Environmental Scanning process. The results of the analysis show that the elements of strategic planning play a crucial role in creating the roadmap for the organizational achievement of its goals. In addition, the study develops a definition of strategic planning as the process of identifying organizational problems in terms of strengths, weaknesses, opportunities and threats, analyzing the problems and their impact on the business, and developing actions and approaches that drive the organization, to achieve competitive advantages.

2.2. Firm's Performance

2.2.1. Firm's Performance Definition

Business performance or company performance is part of an organization's effectiveness, which includes

operational and financial results. Defining organizational performance in the 21st century decade focuses on how organizations use resources efficiently to continually improve skills and abilities to achieve organizational goals (Taouab & Issor, 2019) [27].

A company's ability to manage its financial and non-financial activities is very crucial to its survival (Taouab & Issor, 2019) [27]. When this is achieved at a significant level in a company, it is said to be sustainable.

The BSC is a way of: measuring the success of an organization, business unit or department; weighing up long-term and short-term measures; Considering the following different measures of success; finance; Customer; internal operations; Human Resource Systems & Development (learning and growth); Linking the corporate strategy with measures. Much of the success of the scorecard depends on how the measures are agreed and implemented (Giannopoulos, George & Holt, Andrew & Khansalar, Ehsan & Cleanthous, Stephanie, 2013) [28], through four main perspectives:

i. Financial perspective:

The financial performance indicators define the long-term goals of the business unit (Kaplan & Norton, 1996) [29]. Financial metrics indicate whether the implementation and execution of corporate strategy is helping to improve the bottom line. The key performance indicators in this perspective include, on the one hand, an improved cost structure and increased plant utilization through the productivity increase strategy and, on the other hand, increased customer value and expanded revenue opportunities through revenue growth strategies. The financial perspective emphasizes cost-efficiency, ie the ability to deliver maximum value to the customer at minimum cost and sustainable stakeholder value (Gekonge, 2005) [30].

ii. Customer perspective:

This perspective captures the organization's ability to provide quality goods and services, the effectiveness of their delivery, and overall customer service and satisfaction. This derives from price, quality, availability, choice, functionality, service, partnerships and brand value propositions, resulting in increased customer acquisition and retention (Gekonge, 2005) [30].

iii. Internal processes perspective:

According to Gekonge (2005) [30], the internal processes perspective focuses on the internal business outcomes that lead to financial success and satisfied customers. In order to meet business goals and customer expectations, organizations must identify the key business processes at which they must excel. These important business processes are monitored to ensure that the results are always satisfactory. The Internal Processes perspective reports on the efficiency of internal processes and procedures. The premise behind this perception is that customer-facing measures are important, but they must be translated into measures that show what the organization needs to do internally to meet its customers' expectations (Kaplan & Norton, 1996) [29].

iv. Innovation, learning and growth perspective:

The learning and growth perspective examines the ability of employees (skills, talents, knowledge, and training), the quality of information systems (systems, databases, and networks), and the impact of organizational

alignment (culture, leadership, alignment, and teamwork) to support that Achievement of organizational goals (Gekonge, 2005) [30]. Processes will only succeed if they are driven by appropriately qualified and motivated employees, provided with accurate and timely information and guided by effective leadership. They will lead to the production and delivery of quality products and services; and finally successful financial performance (Gekonge, 2005) [30].

2.2.2. Firm's Performance Benefits / Importance

Firms have established goals relative to customer satisfaction rates, product defect rates, lead time to market and environmental social responsibility. Such goals are not measured directly by income. Firms producing inferior goods, delivering late, abusing the environment or in general making customers dissatisfied will lose market share and be forced out of business (Sprakman, 2005) [31]. Non-financial performance measures can be developed to indicate progress (or lack thereof) towards achievement of the important, long-run critical success factors of world class companies. Research has shown that the strongest drivers of competitive achievement are the intangibles, especially intellectual property, innovation, and quality. Since what is measured gets done, and because these factors are important, then they should be measured.

2.2.3. Previous Studies / Theoretical Model (Critical Analysis)

(Duc Tai, 2021) [32] measured the internal factors affecting corporate performance of food and beverage (F&B) companies listed on the Hanoi Stock Exchange (HNX) in Vietnam. The researcher collected the data from 15 F&B companies listed on the HNX from 2015 to 2019 and relied on both qualitative and quantitative data. The secondary data is derived from the audited financial statements of 15 F&B firms listed on HNX and operating through the end of fiscal year 2019, in addition to previous studies and the opinions of interviewed experts. The researcher proposed the variables such as the ratio of short-term debt to total liabilities, the impact of total assets on ROA and ROE, the ratio of debt to total assets on ROA. The results show that the ratio of short-term debt to total debt of the capital structure factor has a negative impact on ROA, ROE. The observed variable leverage of the capital structure factor has a negative impact on the ROA. Therefore, to avoid the diversified, scattered and ineffective investments, the researcher recommends that the business portfolio must be focused on projects with potential and guaranteed investment capital.

According to (Ngo Quang Trung, 2020) [33], the impact of intellectual capital on business performance explored one of the key aspects of strategic management in high-tech or service sectors. The researcher relied on a structured survey of the targeted directors, project managers and senior managers for the primary data, which provided the best source of information for our study. 370 responses were collected directly from 450 questionnaires distributed. The researcher proposed 13 hypotheses testing the impact of different dimensions on company performance, such as: B. Human capital, organizational capital, social capital, investment in organizational capital,

investment in organizational capital, environmental insecurity. The results show that all dimensions of intellectual capital had a direct impact on company performance. Likewise, human and social capital significantly mediated the relationship between firm performance and organizational capital, and environmental uncertainty significantly moderated the relationship between dimensions of intellectual capital and firm performance.

2.3. Corporate Governance

2.3.1. Corporate Governance Definition

The system by which corporations are managed and controlled (Cadbury Committee, 2002) [34]. Corporate governance encompasses a range of relationships between a company's management, its board of directors, its shareholders and other stakeholders. Corporate governance also provides the structure that sets the company's goals and establishes the means of achieving those goals and monitoring performance (OECD 2015) [35].

Procedures and processes by which an organization is managed and controlled. The corporate governance structure establishes the distribution of rights and responsibilities between the various stakeholders in the organization such as the board, managers, shareholders and other stakeholders and establishes the rules and procedures for decision-making. (European Central Bank, 2004, Annual Report: 2004, ECB, Frankfurt, Glossary).

2.3.2. Corporate Governance Benefits / Importance

The key principles of corporate governance according to (OECD 2015) [35] are ensuring the basis for an effective corporate governance framework, the rights and fair treatment of shareholders and key ownership functions, institutional investors, stock markets and other intermediaries, the role of stakeholders in Company governance, disclosure and transparency and the responsibilities of the board of directors.

2.3.3. Corporate Governance Previous Studies / Theoretical Framework (Critical Analysis)

Relative (Ozili, Peterson K, 2020) [36] analyzed the state of corporate governance (CG) research in Nigeria and consolidates the literature to identify the current state of CG research in Nigeria and to identify opportunities for future research in the literature. Based on researchers' literature review, the most commonly used metrics of corporate governance are board size, board independence, audit strength, CEO duality, and firm ownership structure, while the control variables are bank size and firm age are. And in terms of financial performance, the most commonly used corporate performance metrics in Nigerian corporate governance literature are Return on, Return on Equity, Net Interest Margin, Tobin's Q and Earnings Per Share. The results show that the Board of Directors (BOD) is the best-researched corporate governance mechanism in the Nigerian corporate governance literature. Second, most studies focus on some governance mechanisms but ignore other governance mechanisms in organizations. Third, there is some consensus that corporate governance failures in Nigeria are mainly caused by a variety of factors, lack of government political will to enforce corporate governance

laws, deliberate refusal to comply with existing CG laws by politically-affiliated companies, weak corporate compliance, weak enforcement by regulators and conflicting codes in the country's corporate governance codes.

(Sheeba KapiL, 2017) [37] examined the connection between the corporate governance system developed by companies such as promoter ownership, institutional relationship, ownership of foreign institutional investors, board size, family control, which is an important indicator of board independence. In the study, the researcher proposed variables such as company size, company age, financial leverage used by the company, and company revenue growth. On the other hand, the sampling frame used by the researcher includes Indian companies listed on the National Stock Exchange for a five-year period from March 31, 2013 to March 31, 2018. The data of the listed companies was taken from the performance database of the Center for Monitoring of Indian Economy. The results show that the impact of corporate governance variables on market-based key performance indicators (Tobin's Q) is greater than the impact on accounting-based key performance indicators (ROA and ROE). Board meetings have a positive impact on market-based performance measurement.

2.4. Digital Transformation

2.4.1. Digital Transformation Definition

(Vial, 2019) [38] defines it as a process aimed at improving a given organization and bringing about significant changes in its characteristics through combinations of information, computing, communication and connectivity technologies. Similarly, (Nambisan et al., 2017) [39] characterize digital transformation as the creation of business processes or models and the consequent change in market offering resulting from the use of digital technology.

According to (Fitzgerald et al., 2014) [40], the digital transformation of a given company is defined as the use of new digital technologies such as social media, mobile, analytics or embedded devices to enable significant business improvement, e.g., new business models.

2.4.2. Digital Transformation Aspects

(Savic, 2020) [41], mentions that the terms digitalization, digitization and digital transformation often cause confusion and are sometimes used interchangeably, especially the first two terms. Digital transformation is a newer and currently more commonly used term that still causes semantic confusion.

Digital transformation is a strategic response to economic and digital technology trends and has therefore become strategic (Fitzgerald et al., 2014) [40]. Faced with the challenge of digital transformation and the need to remain competitive in their own sectors, business leaders need to formulate and implement strategies that can embrace the impact of digital transformation and create better operational performance (Hess et al., 2016) [42].

2.4.2.1. Digitization

As an e-government services platform, Digital Egypt offers a portfolio of over 100 services including food grants, notarizations, court filings, driver's licenses and

driver's licenses, as well as health, real estate, education, agriculture and investment services. In July 2019, a pilot program to digitize government services was launched in Port Said Governorate, with a mandate to expand to the rest of the governorates across Egypt and to connect the 33,000 facilities with fiber optics, as previously mentioned, on a secured and unified platform by 2021. In the second quarter of 2021, over 35 government-to-consumer (G2C) services were rolled out across Egypt, and around 150,000 Egyptians have already registered for digital identities to access them. In addition, around 60 government-to-business (G2B) services are being rolled out, including commercial registration. Today, these services are accessed through multiple electronic platforms, including the Government Services Portal6, which offers 75 online public services in both Arabic and English and plans to add 25 more services, coupled with the ability to access more via mobile platforms than 30 services (Seif Kamal, 2021) [5].

2.4.2.2. Digitalization

The term digitization was first used in a 1971 essay by (Robert Wachal, 1971) [43] in which he discussed the social effects of digitization, since as a humane person he is naturally afraid of the digitization of society. It is worth mentioning that fear of technology and automation is an interesting phenomenon that is still present today in many discussions about digital transformation (e.g. job loss) and in particular about possible dangers posed by artificial intelligence.

Nevertheless, technological progress is unstoppable, which leads us to the next phase, digitalization, which is characterized by the automation of business processes. Digitization most often refers to enabling, enhancing and/or transforming business operations, functions and/or models/processes and activities through the use of digital technologies and the wider use of digitized data that is transformed into actionable knowledge, with a specific benefit in mind.

2.4.2.3. Digital Transformation

The current phase of the overall reorganization and automation is digital transformation. For the vast majority, creating a digital business means doing things very differently. Starting with the creation of a new business model, it uses modern IT, uses existing knowledge and fundamentally changes the essence of the organization, its culture, management strategy, technological mix and operational set-up. It also tracks new revenue streams, products, and services.

2.4.3. Digital Transformation Benefits / Importance

Digitalization refers to the implementation of digital technologies and digital transformation refers to the effect of digitalization on human-related factors (Schallmo 2013) [44].

2.4.4. Previous Studies / Theoretical Models (Critical Analysis)

(Samir Mahmoud Ahmed Abdel Wahab, 2022) [45] investigated whether the COVID-19 pandemic has a positive impact on accelerating digital transformation in the healthcare sector with main three dimensions (Culture, technologies used, and the organization's business

process), in the context these factors besides contribute to the expedite of DT will have a relationship with the parties/players benefiting from health including patients' healthcare providers Healthcare industry HCI (as consequences). The researcher relied on collecting the primary data on a survey with population size of more than 700K, and the sample size 380 participants with a Confidence Level (95%) and Margin of Error (5%). The results reveals that the unexpected non-significant effect appeared for the healthcare providers and patient culture. Digital Transformation had a great impact on the healthcare bodies and their digital experience including the healthcare industry. COVID-19 made a great impact on the DT variable and most of the drivers. Indirect relationships were also investigated in the analysis and presented in the study and the results showed that the direct effects were proven, and a highly significant effect was shown of the direct effect, it is also proven that the moderator effect from covid-19 is not supported.

2.5. Strategic Management and Digital Transformation

(Xiaowen Luo, 2022) [46] analyzed the analyze the influencing factors of Chinese pharmaceutical enterprises' DT by constructing the structural equation model (SEM) based on synergetic. this study shows that the influencing factors of pharmaceutical enterprises' DT include the external environment (customer needs, market competition, government policy, and digital technology) and internal conditions (digital strategy, leadership, and organization capability). The findings reveal that external environment (customer needs, market competition, government policy, and digital technology) and internal conditions (digital strategy, organization capability, and leadership) have a positive impact on the DT of pharmaceutical enterprises.

2.6. Strategic Management and Corporate Governance

As per (Agung Nur Probohudono, 2019) [47] examined the influence of corporate governance mechanism on Strategic Management Accounting disclosure of manufacturing companies in Indonesia. the researcher revealed that the corporate governance mechanism as measured by the board of directors' size has significant positive influence on the disclosure of strategic management accounting of manufacturing company in Indonesia. On the other hand, the proportion of independent board does not have influence but and managerial ownership has a negative influence on the SMA disclosure of manufacturing company in Indonesia.

2.7. Digital Transformation and Firm's Performance

(Muhammad Faraz, 2019) [48] identified the role of industry 4.0 technologies including big data, cyber-physical systems, internet of things and interoperability, on the performance of Small and Medium-sized Enterprises (SMEs) in Pakistan. After applying multiple regression techniques through SPSS, it was found that big

data, cyber physical systems, and interoperability have a significant positive impact to improve business performance, while the insignificant effect of internet of things was revealed. Since the research in the area of digital transformation and industry 4.0 is scant, the study has contributed novel directions, insights and a framework for future researchers. Moreover, this study will help managers to justify the allocation of resources towards technological infrastructure development in the operations of their firms. Finally, policymakers will find it helpful in order to devise suitable strategies for developing human capital and to enhance their absorptive capacity.

2.8. Corporate Governance and Firm's Performance

Regarding (Ozili, Peterson K, 2020) [36] analyzed the state of corporate governance (CG) research in Nigeria and it consolidates the literature to identify the current state of CG research in Nigeria and to identify opportunities for future research in the literature. Based on the researcher literature review the most widely used measures of corporate governance are Board size, Board independence, audit strength, CEO duality and firm ownership structure while the control variables are bank size and age of the firm. And regarding the financial performance, the most widely used measures of firm performance in the Nigerian corporate governance literature is return on, return on equity, net interest margin, Tobin's Q and earnings per share.

2.9. Research Theoretical Model and Hypothesis

Based on empirical literatures, the model expressed the relationship of strategic management practices comprises

of four basic stages which include (environmental scanning, strategy formulation, strategy implementation, and evaluation & control) based on the previous studies mentioned in details in the literature review such as (Jeanne d'Arc, 2020) [49] perceived the strategic formulation, strategic implementation and strategic evaluation as the main indicators, and [8] developed the theoretical framework based on elements of the strategic plan including the mission and vision, core values, SWOT, and organizational objectives, however I prefer to present such dimensions in the Environmental Scanning Process, and matching with (Mohammad Ali, 2020) [50] study as he proposed the strategic management (strategy formulation, implementation, and evaluation) and other empirical research papers attached in the Literature Review.

On context, the main concept of the model is investigating the role of both Digital Technological Tools comprises three main dimensions (the individual level, the organization level, the digital technological tools) as per (Samir Mahmoud Ahmed Abdel Wahab, 2022) [45] studied the DT acceleration with three main dimensions (Culture, technologies used, and the organization's business process), the study adapt only two factors (Technological tools and Organization).

Finally, Regarding the Corporate Governance Principles Comprises (Independent Board, Audit Committee & Disclosure and Transparency) as per (Ozili, Peterson K, 2021) [36], (Sheeba KapiL, 2017) [37].

The conceptual model of The Impact of Digital Transformation and Corporate Governance Role in the Relationship of Strategic Management Practices and the Corporate Performance, is obviously discussed and delicately examined. Consequently, the conceptual, linkage, and research models with the hypothesis are provided in the herein below Figure.

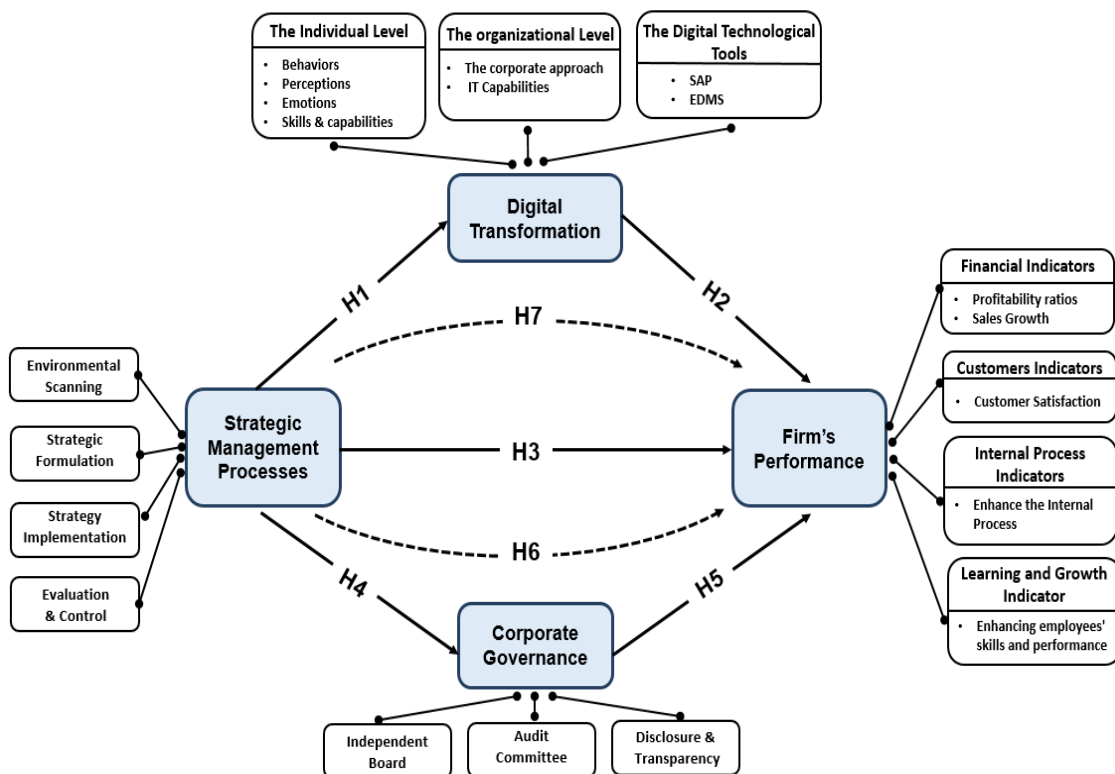


Figure 1. the Research Proposed Theoretical Model (Own Design)

2.10. Hypothesis

H1: The Strategic Management Processes have a direct impact of the Digital Technological Tools.

H2: The Digital Technological Tools have a direct effect on the Organization Performance.

H3: The Strategic Management Processes have a direct and effective positive impact on the Firms' Performance.

H4: The Strategic Management Processes have a Positive effect on the Corporate Governance Principles.

H5: The Corporate Governance Principles have a Positive effect on the Organization's Financial and Non-Financial Performance.

H6: The Corporate Governance Principles Mediating the relationship of the Strategic Management Processes and the Organization's Performance.

H7: The Digital Technological Tools Mediating the relationship of the Strategic Management Processes and the Organization's Performance.

3. Research Methodology

3.1. Population

The study was conducted in Egypt and focused on the Egyptian petroleum sector. The first independent Department of Petroleum was established in March 1973 to manage the political role of petroleum resources. Given the strategic importance of the Department's existence as a political body that is reshaping overall petroleum strategies to meet the needs of the country at this stage. At the top of the list of priorities is the supply of local market needs for petroleum products, petrochemicals and mineral resources, as well as the contribution to achieving the targeted growth rates of the national economy. The Egyptian Ministry of Petroleum consists of 6 state holding companies, Egyptian General Petroleum Corporation (EGPC), Egyptian Natural Gas Holding Company (EGAS), Egyptian Petrochemicals Holding Company (ECHEM), Ganoub El Wadi Petroleum Holding Company (GANOPE) and Egyptian General Mineral Resources Authority.

The holding companies managed about 147 companies divided into 5 main sectors. 1. the public sector companies (12 companies), 2. the joint venture sector (84 companies), 3. the investment sector (41 companies), 4. the petroleum services sector (10 companies). The total number of people employed in the Egyptian petroleum sector is about (283,000).

3.2. Sample Size

A sampling technique was used to select respondents who are managers of different departments as they are the top/senior management making strategic decisions and coordinating resources. Managers came from multiple departments including Strategic Management, Human Resources, Finance, Accounting, Supply Chain, Manufacturing, Quality Assurance, Engineering, Internal Audit, Procurement and Marketing.

The study applied the cluster sampling technique while the research focused on the Egyptian petroleum sector

companies, which are considered to have a large geographically dispersed population, hence the researcher divided the population into smaller groups known as clusters. The researcher carefully follows the following steps to define the sample size:

Step #1: Define the population: The total Egyptian petroleum companies include 147 companies with a total of 283,000 employees.

Step #2: Subdivide the sample into clusters: choose clusters carefully to represent the population well. Each cluster has a distribution of characteristics similar to the distribution of the population as a whole. Therefore, the researcher divided the population into five clusters (Public Sector, Joint Venture Sector, Investment Sector, Petroleum Services Sector).

Step #3: Selection of the sample: The study focused on a specific number of companies based on the cluster sampling technique, therefore the study focused on (14) companies from each group (The Public sector; joint venture sector and Investment).

Based on the selected companies the total employees' number is (95,602) which is consider my research population. Therefore, the Sample size represent the population calculate by the following formula: N (Population Size) = 95,602, Confidence Level is 95%, Confidence interval is 5%, Z score is 1.96, The sample size will be 383.

3.3. Data Collection Procedure

The study collecting primary data through the administration of closed-end structured questionnaire, the survey questionnaires consist of four sections each and were employed to collect data from the sample of the Egyptian Petroleum companies: Section A consists of four aspects of strategic management; Environmental Scanning, Strategy Formulation, Strategy Implementation and Control & Evaluation. To measure organization Performance in Section B, this study utilizes the scale of previous studies with two main indicators Financial and non-financial namely financial indicators and non-financial indicators. Measure Digital Transformation in Section C was based on Dimension). Section D consists of the Corporate Governance. Moreover, we the research use other techniques to collect a primary data such as unstructured face to face interviews with various management level responsible in departments such as IT, Planning, Finance and Strategic Management. In addition to several focused group in well-selected personal in the petroleum companies.

4. Data Analysis, Results (Findings) & Discussion

The analysis of this thesis was done using the statistical package for social sciences (SPSS V26) for both descriptive and inferential statistics, and (SmartPLS 3.2.7) for SEM-PLS modeling. Section one provides the respondents' demographics. A preliminary data analysis is given in section two; this includes screening for missing data, finding outliers, testing data normality, and investigating common method bias. Finally, in section

three, the application of PLS-SEM is presented in seven stages: specifying the structural model, specifying the measurement model, data collection and examination, path model estimation, assessing the measurement model, assessing the structural model, and interpretation of the results.

4.1. Path Model Estimation

After data collection and examination, the data is used in the path model estimation. This stage requires the selection of the parameter settings based on understanding the PLS-SEM algorithm and its statistical properties. There are three structural model weighing schemes: the centroid weighting scheme, the factor weighting scheme, and the path weighing scheme. Although the results of using these schemes do not differ vastly, it is

recommended to select the path weighing scheme as it produces the highest R^2 value for the endogenous construct. Moreover, the path weighing scheme is applicable to all the different kinds of path model specifications and estimations [14].

4.2. Assessing the Measurement Model:

The assessment of the reflective measurement models in PLS-SEM requires evaluating the internal consistency reliability, convergent validity and discriminant validity. Adapted from previous research studies, Table 1 summarizes the rules of evaluating and finishing the model [15,16,17,18]. Once the reliability and validity of the measurement model have been established, the structural model will be assessed. The following subsections will discuss the reliability and validity of the measurement model.

Table 1. Rules of Goodness of Fit Assessment and Model Estimates

| Evaluation Items | Measurement Items | Fitting Criteria |
|--------------------------------------|-------------------------------------------------------------|------------------|
| Internal Consistency and reliability | Cronbach's alpha, Jöreskog rho & Composite Reliability (CR) | > 0.70 |
| Indicator Reliability | Indicator Loadings | > 0.40 |
| Convergent Validity | Average Variance Extracted | > 0.50 |
| Discriminant Validity | HTMT | < 1 |

4.3. Internal Consistency Reliability

The internal consistency reliability examines whether all of the indicators associated with a construct are actually measuring it [19]. There are different ways to measure the internal consistency. Cronbach's alpha is a statistical measure that is the most commonly used for this purpose. Cronbach's alpha provides the average correlation between all of the indicators that belong to one construct. The accepted value of Cronbach's alpha is 0.7, all values of Cronbach's alpha in Table 2 were above 0.7. Despite its popularity, Cronbach's alpha is criticized for assuming that all of the indicators have equal outer loadings [14], and that the number of indicators influences the calculation of Cronbach's alpha in that fewer items produces lower value, especially in scales with items fewer than 10 [14,19].

Table 2. Reliability of measurement model analysis

| Construct | Cronbach's Alpha | rho_A | Composite Reliability | Remark |
|---------------------------------|------------------|-------|-----------------------|----------|
| Audit Committee | 0.91 | 0.91 | 0.944 | Accepted |
| Corporate Governance | 0.926 | 0.928 | 0.938 | |
| Customer | 0.824 | 0.825 | 0.919 | |
| Digital Transformation | 0.935 | 0.937 | 0.945 | |
| Disclosure and transparency | 0.827 | 0.83 | 0.896 | |
| Environmental Scanning | 0.857 | 0.858 | 0.913 | |
| Evaluation and control | 0.886 | 0.889 | 0.913 | |
| Financial | 0.85 | 0.851 | 0.899 | |
| Firm's Performance | 0.914 | 0.918 | 0.928 | |
| Generic | 0.705 | 0.709 | 0.871 | |
| Independent Board | 0.911 | 0.913 | 0.944 | |
| Internal Process | 0.819 | 0.822 | 0.892 | |
| Learning and Growth | 0.846 | 0.847 | 0.929 | |
| Strategic Management Processes | 0.958 | 0.961 | 0.963 | |
| Strategy Formulation | 0.854 | 0.854 | 0.911 | |
| Strategy implementation | 0.902 | 0.903 | 0.931 | |
| The Digital Technological Tools | 0.85 | 0.864 | 0.91 | |
| The Individual Level | 0.852 | 0.853 | 0.91 | |
| The organizational Level | 0.909 | 0.91 | 0.943 | |

4.4. Convergent Validity

The convergent validity evaluates the correlation between the variables that measure one construct. The convergent validity of reflective measurement models is usually evaluated using the outer loadings of the items and the average variance extracted (AVE). The AVE is a common measure used to establish convergent validity which represents the grand mean of the squared loadings of the indicators measuring a construct.

Table 3. Convergent validity of measurement model analysis

| Construct | Average Variance Extracted (AVE) | Remark |
|---------------------------------|----------------------------------|----------|
| Audit Committee | 0.848 | Accepted |
| Corporate Governance | 0.629 | |
| Customer | 0.851 | |
| Digital Transformation | 0.658 | |
| Disclosure and transparency | 0.743 | |
| Environmental Scanning | 0.779 | |
| Evaluation and control | 0.637 | |
| Financial | 0.69 | |
| Firm's Performance | 0.54 | |
| Generic | 0.772 | |
| Independent Board | 0.849 | |
| Internal Process | 0.734 | |
| Learning and Growth | 0.867 | |
| Strategic Management Processes | 0.591 | |
| Strategy Formulation | 0.774 | |
| Strategy implementation | 0.773 | |
| The Digital Technological Tools | 0.771 | |
| The Individual Level | 0.772 | |
| The organizational Level | 0.847 | |

4.5. Descriptive Statistics and Multiple Correlations

After establishing the reliability and validity of the variables, it's time to provide some descriptive statistics and multiple correlations between the selected constructs.

Table 4. Descriptive statistic for the selected variables

| Variable | Construct | N | Mean | SD | CV |
|---------------------------------|---------------------------------|-----|-------|-------|--------|
| Strategic Management Processes | Generic | 311 | 1.622 | 0.703 | 43.36% |
| | Environmental Scanning | 311 | 2.237 | 0.958 | 42.82% |
| | Strategy Formulation | 311 | 2.202 | 0.918 | 41.69% |
| | Strategy implementation | 311 | 2.232 | 0.943 | 42.25% |
| | Evaluation and control | 311 | 2.562 | 0.963 | 37.60% |
| Firm's Performance | Strategic Management Processes | 311 | 2.171 | 0.796 | 36.66% |
| | Internal Process | 311 | 2.257 | 0.901 | 39.93% |
| | Financial | 311 | 2.379 | 1.087 | 45.68% |
| | Customer | 311 | 2.310 | 1.035 | 44.81% |
| | Learning and Growth | 311 | 2.257 | 1.036 | 45.92% |
| Corporate Governance Principles | Firm's Performance | 311 | 2.301 | 0.858 | 37.28% |
| | Independent Board | 311 | 2.305 | 1.089 | 47.23% |
| | Audit Committee | 311 | 2.358 | 1.107 | 46.94% |
| | Disclosure and transparency | 311 | 2.363 | 1.080 | 45.69% |
| Digital Technological Tools | Corporate Governance Principles | 311 | 2.342 | 0.959 | 40.97% |
| | The Individual Level | 311 | 2.164 | 0.981 | 45.32% |
| | The organizational Level | 311 | 2.362 | 0.987 | 41.78% |
| | The Digital Technological Tools | 311 | 1.982 | 0.868 | 43.81% |
| | Digital Technological Tools | 311 | 2.169 | 0.859 | 39.62% |

These include the mean (M), standard deviation (SD), and coefficient of variation (CV) were calculated and reported in Table 4. The descriptive statistics for the independent variable "Strategic Management Processes" were ($M=2.171$, $SD=0.796$, $CV=36.66%$), for the dependent variable "Firm's Performance" were ($M=2.301$, $SD=0.858$, $CV=37.28%$), for the mediator variable "Corporate Governance Principles" were ($M=2.342$, $SD=0.959$, $CV=40.97%$), and for the other mediator variable "Digital Technological Tools" were ($M=2.169$, $SD=0.859$, $CV=39.62%$).

Table 5. Bivariate correlation

| Construct | Pearson Correlation | Strategic Management Processes | Corporate Governance Principles | Digital Technological Tools | Firm's Performance |
|---------------------------------|---------------------|--------------------------------|---------------------------------|-----------------------------|--------------------|
| Strategic Management Processes | Correlation | 1 | .677*** | .662*** | .746*** |
| | Sig. (2-tailed) | | 0.000 | 0.000 | 0.000 |
| Corporate Governance Principles | Correlation | | 1 | .740*** | .783*** |
| | Sig. (2-tailed) | | | 0.000 | 0.000 |
| Digital Technological Tools | Correlation | | | 1 | .694*** |
| | Sig. (2-tailed) | | | | 0.000 |
| Firm's Performance | Correlation | | | | 1 |
| | Sig. (2-tailed) | | | | |

***P < 0.001.

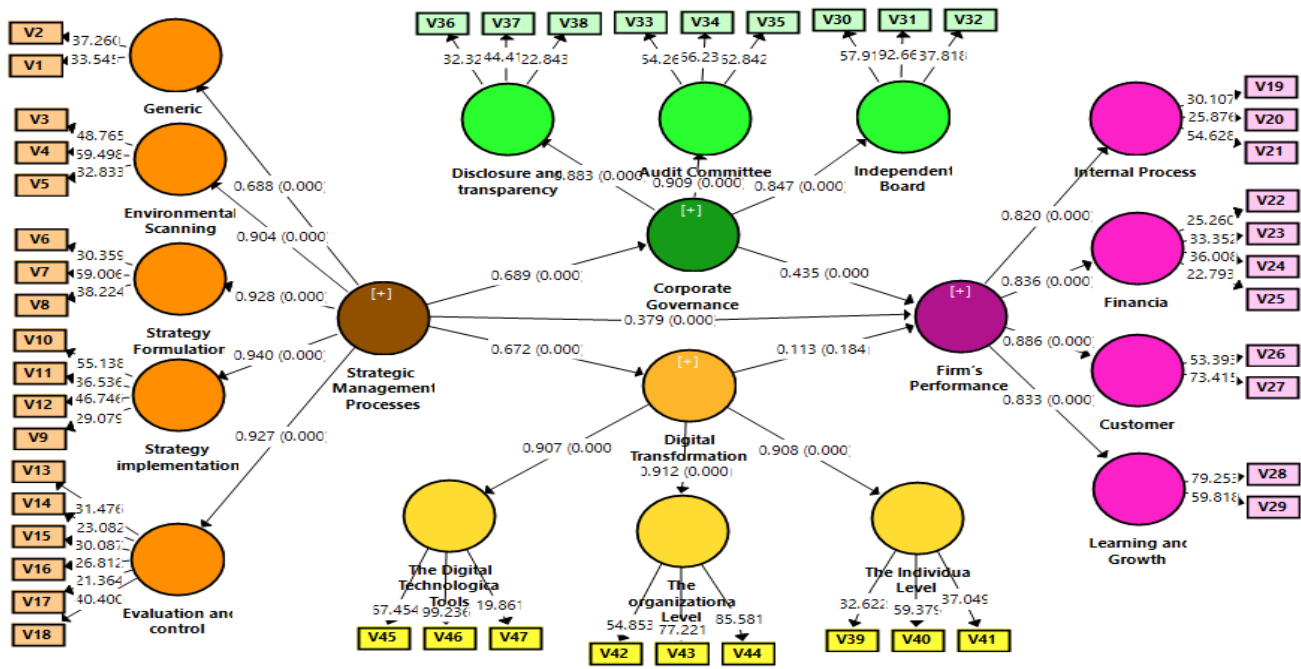


Table 6. Results of Hypothesis testing

| Hypothesis | B | t-value | P-value | 95% CI | | Remark |
|------------------------------------------------------------------------------------|-------|---------|---------------------|--------|-------|---------------|
| | | | | LL | UL | |
| Direct Effect | | | | | | |
| H1: Strategic Management Processes -> Digital Transformation | 0.672 | 14.788 | 0.000*** | 0.568 | 0.75 | Supported |
| H2: Digital Transformation -> Firm's Performance | 0.113 | 1.328 | 0.184 ^{NS} | -0.054 | 0.28 | Not Supported |
| H3: Strategic Management Processes -> Firm's Performance | 0.379 | 4.988 | 0.000*** | 0.231 | 0.533 | Supported |
| H4: Strategic Management Processes -> Corporate Governance | 0.689 | 15.126 | 0.000*** | 0.591 | 0.772 | Supported |
| H5: Corporate Governance -> Firm's Performance | 0.435 | 4.762 | 0.000*** | 0.257 | 0.61 | Supported |
| Indirect Effect (Mediation Effect) | | | | | | |
| H6: Strategic Management Processes -> Corporate Governance -> Firm's Performance | 0.3 | 5.138 | 0.000*** | 0.183 | 0.415 | Supported |
| H7: Strategic Management Processes -> Digital Transformation -> Firm's Performance | 0.076 | 1.316 | 0.188 ^{NS} | -0.037 | 0.189 | Not Supported |

***P < 0.001; ^{NS}Not Significant; LL= Lower Limit; UL= Upper Limit; CI= Confidence Interval.

4.6. Path Coefficients

Path coefficients refer to the estimates of the relationships between the model's constructs [29]. Those coefficients range from +1 to -1, where +1 means a strong positive relationship, 0 means a weak or non-existence relationship, and -1 means a strong negative relationship [18]. When assessing PLS path, studies should report path coefficients beside the significance level, t-value, and p-value [21]. The hypothesis testing has been done to understand the signs, size, and statistical significance of the estimated path coefficients between the constructs. Higher path coefficients suggest stronger effects between the predictor and predicted variables. The significance of the supposed relationships has been established by measuring the significance of the p-values for each path with threshold $p < 0.05$, $p < 0.01$, $p < 0.001$ be used to assess the significance of the path coefficient estimations [14,22]. Later, the inferences have been drawn for all hypotheses based on the significance of p-values at the above-mentioned conventional levels. The p-values and inference of hypotheses, as well as the confidence level for each estimate, are shown in Table 6. The results of hypothesis testing in Table 6 showed that Strategic

Management Processes construct yielded a statistical significant positive effect on Digital Transformation since ($\beta=0.672$, $t=14.788$, $P<0.001$, 95% CI for $\beta=[0.568,0.75]$), consequently, the first hypothesis is confirmed. Also, Strategic Management Processes construct yielded a statistical significant positive effect on Firm's Performance since ($\beta=0.379$, $t=4.988$, $P<0.001$, 95% CI for $\beta=[0.231,0.533]$), so, the third hypothesis is confirmed.

The purpose of this section is to discuss the results in the context of the present research, the study aims to empirically find out the impact of strategic management processes on company performance through the mediation of digital transformation and corporate governance. In order to find the answers to research questions, a list of hypotheses is developed using the available literature on the named constructs. All hypotheses developed and integrated into the framework were derived from the previous literature and conclusion for potential research were drawn.

At the beginning, the expectation was very high to find out the significant and supported relationships between all variables based on the literature review and the developed framework and all hypotheses. However, based on the data collected and the analysis used by SPSS and Smart

PLS to analyze the data and test the hypotheses, the results were consistent with most of the hypotheses.

Regarding hypothesis # (01), as expected, strategic management had a statistically significant positive effect on digital transformation, which is aligned and confirmed by the same empirical research results (Xiaowen Luo, 2022) [46]. politics and digital technology) and internal frameworks (digital strategy, leadership and organizational skills) and the results show that the key influencing factors helpful to pharmaceutical companies to promote DT are consistent with the study results.

Hypothesis # (03), strategic management had a significant positive effect on company performance, which agrees and confirms the same results of (Jeanne dArc, 2020) [26] and Tarifi, N., [8], they examine the relationship between and the impact of strategic management factors on the performance of companies and the results are aligned and aligned with the study, and the results show that strategic management is a crucial tool for improving companies is profitability, operational performance and competition.

Hypothesis # (04), Strategic Management Processes had a statistically significant positive effect on corporate governance, which aligns with the same empirical research findings (Ozili, Peterson K, 2020) [36], the study examined the influence of corporate governance mechanisms on the disclosure of strategic management accounting by manufacturing companies in Indonesia. The researcher found that the corporate governance mechanism, as measured by the size of the board, has a significant positive impact on strategic management accounting disclosures of manufacturing companies in Indonesia, consistent and aligned with the study results.

Hypothesis # (05), the corporate governance construct revealed a statistically significant positive effect on company performance according to (Ozili, Peterson K, 2020) [36], the results were consistent with the study results, they also find one significant influence and influence of corporate governance as measured by board size, board independence, audit strength, CEO duality and firm ownership structure on company performance as measured by return on equity, net interest margin, Tobins Q and earnings per share.

Hypothesis # (06), The mediation analysis revealed a statistically significant positive indirect effect of the Strategic Management Processes construct on corporate performance through corporate governance, the results show that they find a positive correlation between strategic management, corporate governance and corporate performance.

Hypothesis # (02), And finally, surprisingly, digital transformation does not have a statistically significant impact on organizations The performance of hypothesis # (02) is not supported,

Hypothesis # (07), the mediation analysis from the construct "Strategic management processes for company performance through digital transformation" was not statistically significant, so hypothesis # (07) is not supported.

Referring to the study results of hypotheses # (02) and (07), the results found that digital transformation does not have a significant positive effect on company performance,

which might disagree with most of the research mentioned in the literature review than the survey questions to be interpreted, developed in a method that provides participants with the intended objectives of the questions to illustrate such an important point of view for the digital transformation part that the survey is divided into three sections with eight questions, all of which ask The Participants, if the DT has an impact on your company performance, most companies today do not. The Egyptian petroleum sector has not yet completed the professional application of the DT.

And for example, in the organizational level indicator, the survey asks whether the participating companies have developed an ambitious approach to the application of new digital technological tools, while the company, as mentioned above, may not yet apply the DT, therefore the answer will not agree, and so on the question should be: Do you recommend and advise your company to develop an ambitious approach to the application of new digital technological tools? Another example of the survey asks participants Your business is approaching new digital technological tools. Also, the responses show that most organizations do not have a clear approach to applying and using the DT tools, hence such responses mislead the important role of DT in improving DT business performance and pointing to the insignificance of using DT on business performance.

In summary, the independent predictor variable was found to significantly affect all variables, i.e. both mediators and dependent variables. Between the mediator variables; Corporate governance significantly influenced the dependent variable, and since both the direct effect of strategic management processes on firm performance and the indirect effect of corporate governance were statistically significant, we treat partial mediation. The second mediator variable, digital transformation, has no statistically significant impact on business performance; consequently, the indirect effect was not statistically significant.

5. Conclusion

Aligned with the study objective, the analysis has managed to present a comprehensive framework that includes very important relevant aspects of the strategic management aspects and shows the direct relationship of the strategic management and the company performance in mediating both the digital transformation and the corporate governance. Most of the hypotheses were confirmed based on the survey analysis. Unfortunately, the mediating effect of the digital transformation showed different results than assumed in the study.

5.1. Direct Effect

The study had suggested a direct effect between strategic management and organizational performance as presented in Hypothesis # (01), which was confirmed by the analysis as expected. This indicates that the strategic management practices play an important and crucial role in improving company performance.

5.2. Mediator Effect

The study had proposed digital transformation and corporate governance as intermediaries between the relationship of strategic management and company performance, the study proposed six hypotheses, all supported and expecting significant impact (H #03, H #04, H #05, H #06) and regarding the Hypothesis # 02 & 07 proved unsupported. These results could be a logical reason for the small number of specialized participants using the digital tools in practice in their works, or the questioners' question covering this part was not clear enough to provide the concept of use digital transformation to improve business performance. This could be seen as one of the limitations of the study as it is so important to show the impressive role of digital transformation in achieving very high business performance.

6. Practical Implications

Obviously, the ultimate changing in technologies and the desire of the Egyptian Petroleum companies to move forward the internationalization, the challenge and problem of the study ultimately is how to implement the strategic management practices to achieve a high level of company's performance while coping and aligned with the modern advanced digital technological tools and in the same time applying the Corporate Governance Principles. Therefore, the objective of such study is to reveal the crucial impact of using of the Digital Transformation Tools and Corporate Governance Principles while designing, implementing and evaluating the strategic plan and its significant impact to the Firm's Performance. Based on that the first implication of this study is to identify the significant factors contributing to present and measure the crucial role of implementing the strategic management practices for achieve a high companies' performance in the Egyptian Petroleum sector, while using the Digital Transformation and the Corporate Governance as mediators.

Referring to the results of the study, and what discussed and the feedback through the study survey with 311 participants from 19 petroleum companies selected carefully to cover the holding, public, Investment and JV companies with individuals in the high and middle management positions in different department such as Business Development, IT, Operation, Etc. The main notice was between the study sample group there is a few companies are currently developing and implementing a strategic plan, on the hand also there is a highly interest for applying the Corporate Governance Principles while there is some restriction of using the Digital Transformation tools to enhance the Firm's Performance.

Therefore, it's obviously a highly need to raise the awareness and the understanding of the importance of the strategic management practices in the whole companies working under the umbrella of the Egyptian Petroleum Ministry. And the study highly recommends to initiate campaigns, seminars, sessions particularly focused on the strategic management processes and its significance and effect on enhancing the company's performance in both

levels financial and non-financial. Nevertheless, it will not only the petroleum ministry responsibility and it is optimistic and forward-thinking, if each company's top management head lead to initiate and spread the strategic management philosophy between the all employees.

In sequence, the findings reveal that there is a crucial role of the corporate governance in improve the firm's performance, therefore it highly recommends to develop the CG in the petroleum companies whether the companies listed in the stock market or not. Moreover, it is important to the raise the awareness of the management team and the individuals that and illustrate that the CG is a key condition for strengthening the trust of firm's shareholders, customers, employees and business partners. And one of the major tools to evaluate the corporates, especially it may be value added when the corporate decides to be listed in the stock market. Also, the main objective of corporate governance is to eliminate the gap that can occur between managers and owners (Shareholders) as a result of the negative practices that could harm the company.

Whereas, the huge desire of using the DT to achieve the coordination and the synergy between strategic planning and implementation requires impressive information infrastructure and digital strategies plans, the study finding reveals that there is inadequate knowledge about the importance of using the digital transformation as the main pillars of applying such transformation are the Umbrella term for technological Tools, organizations and Individuals and its impact on the Firm's Performance.

The study shows the significant role of the strategic management practices to increase the firm's performance in the Egyptian petroleum sector, therefor its highly recommend to the top management team in the petroleum companies to embrace the spread of the strategic thinking and increase the awareness of the importance of such important aspects between the company's management team and the operation team as well. That might be effectively apply by cooperate with specialized strategic management consultants which is should start to establish a strategic management team selected carefully to cover the different departments and division in the company. Although making good strategic decisions is the major responsibility of an organization's owner or chief executive officer, both managers and employees must also be involved in strategy formulation, implementation, and evaluation activities. Participation is a key to gaining commitment for needed changes.

While the Strategic management is all about gaining and maintaining competitive advantage. This term can be defined as "anything that a firm does especially well compared to rival firms." When a firm can do something that rival firms cannot do, or owns something that rival firms desire, that can represent a competitive advantage. The strategic management leads to acquire a clear sustained competitive advantage to the company which is definitely leads to maintain and enhance the company's performance. That shows why the strategic management is so important and play a crucial role to achieve higher performance and keep the company always growth and sustained.

The strategic management team duties are very significant to develop the strategic plan to the company to

achieve a certain strategic objective in a specific period of time for example 3 years, and the top management team must commit to embrace the effective implement the plan with availing the all relevant and required resourced that ensure the success of such plan.

7. Limitations and Recommendation for Future Researches

There is extensive empirical and theoretical literature on strategic management, firm performance, corporate governance and digital transformation, but there is limited empirical research on the impact of corporate governance and digital transformation as mediating the relationship between strategic management and corporate performance. Therefore, the comparison of the test result hypotheses with previous research results, especially for hypotheses consisting of the mediating variables (H 06 & 07), was not very accurate to support the study results.

The Egyptian Petroleum companies were randomly selected with a total of 14 companies, taking into account that the majority of respondents come from only two companies (PETROJET 68.30% and PETROBEL 29.10%) and the percentage of the rest of the respondents was very weak, so the results do not represent the entire population. It is highly recommended for future studies to re-examine the relationship between strategic management and company performance with a larger sample covering more companies in the Egyptian petroleum sector.

The study includes certain variables and does not consider other important indicators, so the study is limited in focusing on some of the important aspects of the selected variables, such as: B. the effect of employee engagement, strategic thinking, adjustment of strategic management and corporate culture, etc. in strategic management as an independent variable. and Topin Q factors, level of competition, social performance and growth rate etc. to measure the performance of the company as dependent variable. The board size, CEO duality and ownership structure, etc., for corporate governance as a mediator. Digital innovation, technological skills, digital skills, digital strategy and IT alignment with the business, etc. Therefore, it is recommended to include other indicators to measure the selected variables from other perspectives.

Regarding the company's data availability and unavailable data due to its policies and restrictions, it has been so difficult to obtain the necessary data, for example, to evaluate the company's performance based on the company's revenue, sales, profits, etc., according to the main data in The study was primarily based on the survey and on the participants answering according to their knowledge and experience. It was so important to measure the company's performance through secondary data sources such as the financial statements for the last three years. And will be more specific to assess the effectiveness of applying the strategic management process to company performance by presenting quantitative indicators. On the other hand, there is a very important factor to evaluate company performance, especially for listed companies like MOPCO and SEDPEC, which is the Topin Q-Factor, and also the study

does not focus on such an important indicator. Therefore, for the future studies, the researchers advise to secure sources of numerical data from the selected companies.

In addition, the researcher received significant feedback on two key concerns from most of the survey participants. First, the many questions in the questionnaire and it takes a long time to report all the questions. Second, the language of the survey should be Arabic and not just English, as most of the participants are unfamiliar with the terminologies mentioned.

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Appendix

The Research Questionnaire:

Dear Participants,

Few years ago, Egypt developed ambitious strategic plans to cope with the emerged global development and innovation. The planning and economic development ministry came up with the vision of 2030 which is achieving the United Nations' Sustainable Development Goals "SDGs". In line with that this study investigates the importance of the strategic management practices "SMP" and its impact on performance of the organizations while using the digital technological tools "DTT" in both design and execute phases of the companies' strategic plan. At the same time, examined the effectiveness and influence of applying the Corporate Governance principles "CGP" and its impact on firm's performance "FP" while implementing the strategic plan.

You are invited to participate in this survey with approximately other 400 people. This survey will be part of a thesis in partial fulfillment of the requirements for the award of the degree of Doctorate on Business Administration "DBA".

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. Your information will be coded and will remain confidential. If you have questions at any time about the survey, or its

procedures you may send email to zayedelsayed.az@gmail.com with a subject “FEEDBACK to Strategic Management Survey”.

It will take approximately (5-10) minutes to complete the survey. Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. It is very important for us to learn your opinions.

Thank you very much for your time and support. Please start with the survey now by clicking on the Continue button below:

1. What is your gender?
 - Male - Female
 2. What is your age?
 - 21 or younger - 22 to 35 - 36 to 52 - 53 to 59 - 60 or older
 3. What is your company Name/Structure?
 - EGPC – EGAS – GANOPE - ECHEM – EMRA – PETROJET – SOPC - MISR Petroleum – PETROBEL – BAPETCO – KHALDA – PETROGULF – ENPPI – EMC – GASCO - MIDTAP – MIDDOR – PMS - OGS
 4. What is your organization’s total employee headcount?
 - 100 & 101-500 & 501-1000 & 1001-5000 & 5001-10000 & More than 10000
 5. How long has your organization been in business?
 - Less than one year & 1 – 4 years & 5 – 9 years & 10 – 50 Years & Older than 50 years
 6. What is your level of technological interest?
 - Low: I just use the tools I’m given to get the job done; learning new gadgets is a waste of time
 - Somewhat low: I take what I’m given, but it’s fun to have good technology once I’m used to it
 - Medium: I’m aware of blockbuster technology trends, and I may get certain new items in their first few months of release, but tech tools are just means to an end
 - Somewhat high: I like playing with new toys, but I don’t have to be an early adopter
 - Very high: I like to get the latest and greatest gadgets; my friends consult me for tech advice
- Please indicate your relative rate for the criteria provided according to the following:
 1 = Strongly Agree – 2=Agree – 3=Neutral – 4= Disagree – 5=Strongly Disagree

| S | Question | Indicators | Rate | | | | |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 |
| 1. Strategic Management Processes (Independent Variable) | | | | | | | |
| 1 | Does your organization developed strategic plans in the last five years? | Generic | | | | | |
| 2 | Your company have specific and clear strategic objectives | Generic | | | | | |
| 3 | Your company do the external analysis and internal analysis to know the strategies to adopt | Environmental Scanning | | | | | |
| 4 | We make strategic decisions based on a systematic analysis of the company’s business environment | Environmental Scanning | | | | | |
| 5 | Your company use of situational analysis tools to gather information | Environmental Scanning | | | | | |
| 6 | The strategies formulated in line with the company’s vision and mission statements | Strategy Formulation | | | | | |
| 7 | Your company responds to the environmental changes by formulating strategies | Strategy Formulation | | | | | |
| 8 | Your company develop the company’s strategic plan based on Strategic Management Techniques and Tools | Strategy Formulation | | | | | |
| 9 | Your company have publicize the strategic objectives with the key employees in the organization | Strategy implementation | | | | | |
| 10 | Your company have precise Strategic Objectives and Programs for Implementing the strategic plan | Strategy implementation | | | | | |
| 11 | Your company have precise Policies and procedures for implementing the strategic plan | Strategy implementation | | | | | |
| 12 | Your company allocate the sufficient financial, human and other resources to implement the strategies and plans | Strategy implementation | | | | | |
| 13 | Your company’s management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements? | Evaluation and control | | | | | |
| 14 | To keep in line with our business environment we make continual small-scale changes to our strategy | Evaluation and control | | | | | |
| 15 | Your company implement Performance Management system such BSC Methodology (Balanced Score Card) to implement and evaluate the strategic plan | Evaluation and control | | | | | |
| 16 | The application of Balanced Score Card provides strategic financial and non-financial performance measures for the management of the company. | Evaluation and control | | | | | |
| 17 | your company use of various evaluation techniques such as strategic audit, performance appraisal and benchmarking. | Evaluation and control | | | | | |
| 18 | On overall, the strategies adopted by your organization improved the performance of your business? | Evaluation and control | | | | | |
| 2. Firm’s Performance (Dependent Variable) | | | | | | | |
| 19 | The internal process enhances quality and timely delivery of the company’s Products/Services | Internal Process (Enhance the Internal Process) | | | | | |
| 20 | Quality is our key competence, we produce products/services of benchmark status | Internal Process (Enhance the Internal Process) | | | | | |
| 21 | Innovation is our key competence, we regularly introduce products/services innovative, technologically advanced | Internal Process (Enhance the Internal Process) | | | | | |
| 22 | The profit margin of the company is increased | Financial (Profitability) | | | | | |

| S | Question | Indicators | Rate | | | | |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 |
| 23 | Return on Investment (ROI) and the Return on Assets (ROA) is increased | Financial (Profitability) | | | | | |
| 24 | Your company's sales turnover is increased | Financial (Growth Sales) | | | | | |
| 25 | Your company gain market share and achieve growth in Sales. | Financial (Growth Sales) | | | | | |
| 26 | Strategic Management Processes enhances Customer's Satisfaction and Customer's retention | Customer (Customer Satisfaction) | | | | | |
| 27 | Your company interact and analyze the number of customer's complaints and customer satisfaction surveys | Customer (Customer Satisfaction) | | | | | |
| 28 | Your management allocate budget to enhance Managers and Employees qualification and skills | Learning and Growth (Enhancing employees' skills & performance) | | | | | |
| 29 | Your company enhance employees' skills and performance through Training, Better employee reward and Employee participation in decision making or any other methods | Learning and Growth (Enhancing employees' skills & performance) | | | | | |
| 3. Corporate Governance Principles (Mediator Variable) | | | | | | | |
| 30 | The Board reviewing and guiding corporate strategy, major plans of action, setting performance objectives, procedures, annual budgets and business plans | Independent Board | | | | | |
| 31 | The Board Monitoring the effectiveness of the company's governance practices | Independent Board | | | | | |
| 32 | The Board formally evaluate the performance of top managers | Independent Board | | | | | |
| 33 | The Audit committee oversee the Company's ethical environment and its compliance with laws and regulations. | Audit Committee | | | | | |
| 34 | The Audit Committee maintains free and open communication between the Committee, the independent auditor and management of the Corporation. | Audit Committee | | | | | |
| 35 | The Audit Committee is empowered to investigate any matter with full access to documents, Facilities and personal | Audit Committee | | | | | |
| 36 | Corporate Governance Disclosure and Transparency practices support new growth opportunities | Disclosure and transparency | | | | | |
| 37 | The organization commits to the international standards of accounting and financial reporting. | Disclosure and transparency | | | | | |
| 38 | The organization declares annual financial reports audited by public qualified accountants. | Disclosure and transparency | | | | | |
| 4. Digital Technological Tools (Mediator Variable) | | | | | | | |
| 39 | Your company approach new Digital Technological Tools | Generic | | | | | |
| 40 | Digital Technologies boost the individuals' abilities, creativity, and learning | The Individual Level | | | | | |
| 41 | Employees' emotional factors, perceptions, and behaviors affect the acceptance and success of Digital Transformation | The Individual Level | | | | | |
| 42 | Your Firm's developed an ambitious approach to apply new Digital Technological Tools | The organizational Level | | | | | |
| 43 | Your Firm's IT capable to Achieving Strategic Goals | The organizational Level | | | | | |
| 44 | Your organization has a clear and coherent digital strategy | The organizational Level | | | | | |
| 45 | The using the technological tools such SAP support the strategic plan formulating | The Digital Technological Tools | | | | | |
| 46 | The using of technological tools such SAP enhance the firm's performance | The Digital Technological Tools | | | | | |
| 47 | The digital technologies tools and capabilities is important to your organization | The Digital Technological Tools | | | | | |

