

**The Impact of Integrating Sustainability Practices (ESG) into Corporates' Strategic Management Processes: The Mediating Role of the Digital Transformation Tools**  
**“The Case of the Egyptian Petroleum Companies”**

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**Abstract:**

**Introduction:** Egypt set ambitious strategic plans several years ago to keep pace with emerging global development and innovation. Therefore, the importance of the science and art of strategic management is the most important issue nowadays. As the petroleum sector is one of the most important sectors of the Egyptian economy, people have started to look at how to implement Vision 2030 and how strategic planning will affect the performance of the company. In this context, there is the power of data, as we are in the era of digital transformation, i.e. the power of real time. On the other hand, Sustainability with its main three bottom lines “ESG” is increasingly vital for businesses as it integrates practices that meet present needs without compromising future generations. In relation to Egypt's Vision 2030, which aims to create a sustainable, inclusive, and resilient economy, these elements are increasingly involved.

Furthermore, by embracing sustainability, businesses not only enhance their operational resilience and reputation but also contribute to the goals of Egypt's Vision 2030.

**Purpose:** The main objectives of this research are to: (1) examine the significance of strategic management practices and their effect on sustainability goals; (2) test the role of digital transformation as a mediator in the Egyptian petroleum sector; and (3) address the integration of sustainability practices "ESG," into the existing/new strategic management processes of the companies in the Egyptian petroleum companies.

**Theoretical framework:** The study's conceptual framework outlines the independent variable as strategic management, including formulation, implementation, monitoring and evaluating while the dependent variable is sustainability, focusing on Social, Environmental and Governance goals. Existing models and frameworks for sustainability-oriented strategic management are reviewed and a customized model for the Egyptian Petroleum Companies is developed.

**Design/methodology/approach:** The research employs a qualitative research design, using Survey and semi-structured interviews with senior managers from 14 Egyptian Petroleum Sector. Data is analyzed using content analysis and thematic analysis.

**Findings:** The study finds that the strategic management practices guide companies in making decisions that shape their long-term direction and success and implementing strategic management processes can have a positive impact on sustainability. And on the other hand, integrating sustainability into strategic management, organizations can align their operational goals with broader societal values, creating a framework that not only drives profitability but also promotes responsible stewardship of resources. The study recommends that the Egyptian companies in the petroleum sector should prioritize sustainability in their existing/new corporate's strategic management processes, by establishing sustainability targets, evaluate threat and opportunities, and adopt sustainable practices into their existing corporate's strategic management practices through the created integrated model attached at the end of this research in chapter 05.

**Research, Practical & Social implications:** The study has implications for both research and practice. It highlights the importance of incorporating sustainability into strategic management practices for Petroleum companies in Egypt and identifies the threats and opportunities for doing so. The study also has social implications, as incorporating sustainability into strategic management practices can enhance the reputation of companies, decrease costs, and generate positive societal and environmental outcomes.

**Originality/value:** This study contributes to the literature on sustainability-oriented strategic management by developing a customized model for Egyptian companies in the petroleum sector. The study also provides insights into the threats and opportunities in integrating sustainability into their strategic management practices.

**Key Words:** Strategic Management, Sustainability, ESG, Digital Transformation

أثر دمج ممارسات الاستدامة (البيئة والمجتمع والحوكمة) في عمليات الإدارة  
الاستراتيجية للشركات: الدور الوسيط لأدوات التحول الرقمي  
"شركات قطاع البترول المصري"

د/ زايد السيد محمد

حاصل علي دكتوراه في الإدارة الاستراتيجية من الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري

## الملخص:

**المقدمة:** وضعت مصر خططاً استراتيجية طموحة منذ عدة سنوات لمواكبة التطور العالمي الناشئ والابتكار. لذلك، فإن أهمية علم وفن الإدارة الاستراتيجية تُعد من القضايا الأكثر أهمية في الوقت الحاضر. حيث إن قطاع النفط هو أحد أهم القطاعات في الاقتصاد المصري، بدأ الناس يتطلعون إلى كيفية تنفيذ رؤية ٢٠٣٠ وكيف ستؤثر التخطيط الاستراتيجي على أداء الشركات. في هذا السياق، تكمن قوة البيانات، حيث نحن في عصر التحول الرقمي، أي قوة الوقت الحقيقي. من ناحية أخرى، أصبحت الاستدامة، بما في ذلك أبعادها الثلاثة الرئيسية "ESG"، بالغة الأهمية بشكل متزايد للأعمال، حيث تدمج ممارسات تلبي الاحتياجات الحالية دون المساس بحقوق الأجيال

القادمة. فيما يتعلق برؤية مصر ٢٠٣٠، التي تهدف إلى خلق اقتصاد مستدام وشامل ومرن، تزداد أهمية هذه العناصر. علاوة على ذلك، من خلال التبني للاستدامة، لا تعزز الشركات فقط مرونتها التشغيلية وسمعتها، ولكنها تساهم أيضًا في تحقيق أهداف رؤية مصر ٢٠٣٠.

**الغرض:** الأهداف الرئيسية لهذا البحث هي: (١) فحص أهمية ممارسات الإدارة الاستراتيجية وتأثيرها على أهداف الاستدامة؛ (٢) اختبار دور التحول الرقمي كوسيط في قطاع النفط المصري؛ و(٣) معالجة دمج ممارسات الاستدامة "ESG" في العمليات الاستراتيجية الحالية/الجديدة لشركات النفط المصرية.

**الإطار النظري:** يحدد الإطار المفاهيمي للدراسة المتغير المستقل كالإدارة الاستراتيجية، بما في ذلك الصياغة والتنفيذ والمراقبة والتقييم، بينما المتغير التابع هو الاستدامة، مع التركيز على الأهداف الاجتماعية والبيئية والحكومية. يتم مراجعة النماذج والإطارات الموجودة لإدارة الاستراتيجية الموجهة نحو الاستدامة، وتطوير نموذج مخصص لشركات النفط المصرية.

**التصميم/المنهجية/الأسلوب:** يستخدم البحث تصميمًا نوعيًا، باستخدام استبيانات ومقابلات شبه منظمة مع كبار المديرين من ١٤ شركة في قطاع النفط المصري. يتم تحليل البيانات باستخدام تحليل المحتوى والتحليل الموضوعي.

**النتائج:** تجد الدراسة أن ممارسات الإدارة الاستراتيجية توجه الشركات في اتخاذ القرارات التي تشكل اتجاهها ونجاحها على المدى الطويل، وأن تنفيذ عمليات الإدارة الاستراتيجية يمكن أن يكون له تأثير إيجابي على الاستدامة. من ناحية أخرى، من خلال دمج الاستدامة في الإدارة الاستراتيجية، يمكن للمنظمات مواءمة أهدافها التشغيلية مع القيم المجتمعية الأوسع، مما يخلق إطارًا يُعزز ليس فقط الربحية ولكن أيضًا الإدارة المسؤولة للموارد. توصي الدراسة بأن تعطي الشركات المصرية في قطاع النفط الأولوية للاستدامة في عمليات الإدارة الاستراتيجية الحالية/الجديدة، من خلال تحديد أهداف الاستدامة، وتقييم التهديدات والفرص، واعتماد ممارسات مستدامة

في ممارسات الإدارة الاستراتيجية الحالية من خلال النموذج المتكامل الذي تم إنشاؤه والمرفق في نهاية هذا البحث في الفصل الخامس.

**التداعيات البحثية والعملية والاجتماعية:** للدراسة تداعيات لكل من البحث والممارسة. فهي تبرز أهمية دمج الاستدامة في ممارسات الإدارة الاستراتيجية لشركات النفط في مصر وتحدد التهديدات والفرص للقيام بذلك. كما أن للدراسة تداعيات اجتماعية، حيث إن دمج الاستدامة في ممارسات الإدارة الاستراتيجية يمكن أن يعزز سمعة الشركات، ويقلل التكاليف، ويولد نتائج إيجابية اجتماعية وبيئية.

**القيمة:** تسهم هذه الدراسة في الأدبيات المتعلقة بالإدارة الاستراتيجية الموجهة نحو الاستدامة من خلال تطوير نموذج مخصص للشركات المصرية في قطاع النفط. كما تقدم الدراسة رؤى حول التهديدات والفرص في دمج الاستدامة في ممارسات الإدارة الاستراتيجية.

**الكلمات الرئيسية:** الإدارة الاستراتيجية، الاستدامة، البيئة والمجتمع والحوكمة، التحول الرقمي.

## **Chapter one: Introduction**

### **1.1. Introduction:**

In recent years, sustainability has become an increasingly important concept for governments, organizations, and individuals (Alkhodary, D. 2021; Brundtland, 1987). Meeting current needs without compromising the ability of future generations to meet their own needs is the essence of sustainability (Brundtland, 1987). As consumers demand socially and environmentally responsible products and services, businesses recognize that sustainability is crucial for long-term

success (Dina, 2020; Ali, M. 2021). Integrating sustainability into strategic management provides a framework for achieving business goals, and it can lead to new business opportunities, reduced costs, improved brand reputation, and a positive impact on society and the environment (Banerjee, 2018).

The objective of this study is to explore the relationship between strategic management and sustainability in businesses, and clarify how to integrate the ESG Practices into the Corporate Strategic Management Processes. The conceptual framework outlines the independent variable as strategic management and the dependent variable as sustainability, with previous research supporting the framework (Scherer et al., 2021; Liu et al., 2020; Schilke, 2014; Cornelis et al., 2021; Hart and Milstein, 2003; Alkhodary, D. 2021; Ali, M. et al., 2021). By examining the relationship between these variables, the study aims to show how integrating sustainability into strategic management can lead to long-term success in a rapidly changing business environment (Dina Alkhodary, 2023).

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). 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).

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). Since this is long-term, forward-looking, complex decision-making and requires significant resources, top management involvement is crucial.

(Wheelen and Hunger, 2007) 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).

## **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 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 in designing, implementing and evaluating the strategic plan and its significant

impact on the Sustainability “ESG” goals. However, we will still have some CSFs for critical success factors and CFFs for critical failure factors (challenges).

### **1.3. Research Gab:**

Many researchers have studied the minimal role of strategic management practices, with all its stages, in improving business performance. Such as (Oluwatobilola K. Aladeraji, 2015), (Abad Al-Zumana, 2018), (Junyong Liu, 2020) and (Tarifi, N., 2021). 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 the Sustainability practices while applying the tools for digital transformation in the Egyptian petroleum 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 Sustainability Approach, unfortunately there is no research that has developed a comprehensive model for applying the SMP to achieve the sustainability goals using DT focused on the Egyptian petroleum 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 while the strategic management plans are designed, implemented, controlled and evaluated to achieve the sustainability “ESG” goals in a theoretical framework for the first time in the Egyptian petroleum sector.

### **1.5. Research Scope:**

This research focuses on measuring the impact of Digital Transformation on the relationship between the strategic management processes and Sustainability Practices, focused only on the Egyptian Petroleum companies (14 company).

### **1.6. Research Objectives:**

1. To examine the relationship between strategic management and sustainability in the context of petroleum companies in Egypt.
2. To investigate the impact of different components of strategic management (formulation, implementation, monitoring and evaluating) on sustainability.

3. To identify the challenges and opportunities faced by petroleum companies in Egypt integrating sustainability into their strategic management practices.
4. To develop a customized model for sustainability-oriented strategic management for petroleum companies in Egypt.
5. To provide recommendations for petroleum companies in Egypt on how to effectively integrate sustainability into their strategic management practices.

## **Chapter Two: 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, 2012). Thompson et al. (2005) 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 (2013) 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 (2007) 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.

### **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 (2007), Wheelen and Hunger (2007), Dauda et al. (2010), Pearce and Robinson (2013) and Wheelen et al. (2014) 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, 2021), 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.

## **2.2. Sustainability Practices:**

### **2.2.1. Sustainability Definitions:**

(Dina AlkhodaryA, 2023) Sustainability refers to the concept of meeting present needs while also ensuring that future generations can meet their own needs (World Commission on Environment and Development, 1987). Recent studies highlight the significance of sustainability for achieving long-term success in businesses, particularly in the context of the COVID-19 pandemic. Sustainable practices such as reducing energy consumption and greenhouse gas emissions can help companies improve their environmental performance and lower costs (Poudel et al., 2021). In addition, incorporating circular economy principles, such as waste reduction and material reuse, can improve environmental sustainability and business competitiveness (Teng et al., 2020).

Thakur and Singh (2020) explore the role of stakeholders in promoting sustainable development in the hospitality industry. The authors argue that stakeholder engagement is crucial for the implementation of sustainable practices in the hospitality industry. The study finds that stakeholders such as customers, employees, and the community play an essential role in promoting sustainable practices in the hospitality industry. The authors suggest that organizations should engage stakeholders to



identify their sustainability concerns and prioritize them in their sustainability strategy.

### **2.2.2. Environmental, Social and Governance Practices in the Egyptian Context:**

(Ahmed Aboud, 2018) Most research that investigates the economic consequences of ESG is applied in developed contexts such as the USA, Canada, and European countries (e.g. Aerts et al., 2008; Harjoto and Jo, 2015; Plumlee et al., 2015; Richardson and Welker, 2001; Yadav et al., 2016). On the other hand, emerging markets remain under-researched although they become the center of attention of international corporate responsibility initiatives (Malarvizhi and Matta, 2016). Only few studies are applied in emerging markets in general (e.g. Akrouit and Ben Othman, 2016; Malarvizhi and Matta, 2016; Siagian et al., 2013) and African markets in particular (e.g. Barako and Brown, 2008; De Villiers and Van Staden, 2006).

Environmental awareness is a relatively new issue for Egyptian corporations. Many firms are still not seriously considering environmental issues (Wahba, 2008). In 1997, for the first time Egypt had a full-time minister of state for environmental affairs to be responsible for activating environmental national and international standards, policies, and initiatives. This recent awareness is expected to achieve sustainable development as well as rehabilitating the

effectiveness of the Egyptian Environmental Affairs Agency to monitor the performance of business organisations in environmental issues (Wahba, 2008).

With regard to CG, Egyptian companies were not being assessed in terms of CG practices until recently in late 1990s and beginnings of 2000s when the World Bank and IMF reports started to assess countries' CG and CSR practices (Eldomiaty et al., 2016). In 2002, new listing rules went into effect that increased disclosures and CG requirements for listed firms. In 2003, Egypt complied with the Organization for Economic Co-operation and Development's Principles of Corporate Governance. Then, the Egyptian Institute of Directors was established with the aim of equipping the Egyptian executives with the proper, relevant knowledge to enhance the social governance activities of their companies.

Two screening processes take place in order to rank the listed companies, one focusing on environment and social indicators and the other one focusing on CG indicators. Evaluation of companies is made on two stages: the first one involves evaluating the company's disclosure practices based on the information it provides to the public through its annual report, website, press releases or disclosure made to the Egyptian Stock Exchange; and the other one involves evaluating the company's practices through checking the news available in the media, newspapers, specialized magazines, and CSR reports, and also by

contacting the regulatory agencies, ministries, and NGOs to know if there is any adverse information or violation made by the company. While the social and environmental variables are based on output obtained from the mapping of Global Reporting Initiative, Global Compact and Millennium Development Goal, governance variables are an adaptation of S&P Dow Jones Indices' existing CG methodology to suit the Egyptian market.

## **2.3. Digital Transformation:**

### **2.3.1. Digital Transformation Definition:**

Vial (2019) 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, p. 224) 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), 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.

### **2.3.2. Digital Transformation Aspects:**

(Savic, 2020), 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; Hess et al., 2016). Therefore, in the age of the digital economy, digitization has become a strategic issue for companies rather than a technical issue (Rogers, 2016). 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).

### **2.3.3. 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 and Williams, 2018). Tabrizi et al. (2019) stated that digital transformation is not about technology; it is about people and their mindset about change. Emmons (2018) emphasized leadership skills improvement at all levels of the organization. The author asserted

that technical skills are not sufficient for being a manager; the skills for improving communication and relationship among the employees are the vital competencies during digitalization that fortify the transformation pathway.

#### **2.3.4. Previous Studies (Critical Analysis):**

(Samir Mahmoud Ahmed Abdel Wahab, 2022) 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 of 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.

#### **2.4. Strategic Management and Sustainability:**

In recent years, there has been a growing recognition of the importance of sustainability in business. David (2017) emphasizes the benefits of sustainable practices, such as cost savings, innovation, reputation, and employee engagement, and provides guidance for companies seeking to integrate sustainability into their strategic management. Similarly, Leal Filho (2020) argues that sustainability should be an integral component of strategic management, as it provides a framework for businesses to align their economic, social, and environmental goals.

However, integrating sustainability into strategic management is not without its challenges, such as a lack of understanding of sustainability issues and inadequate training and resources (Leal Filho, 2020).

Ewart and Shanahan (2017) conducted a survey of Australian banks and found that those with a stronger sustainability orientation are more likely to integrate sustainability into their corporate strategy, leading to positive financial performance. Sarkar and Roy (2020) highlight the need for a shift towards a more sustainable and socially responsible business model and provide insights into how companies can effectively monitor and evaluate their progress towards sustainability goals. Lacka and

Charłampowicz (2018) discuss the challenges of integrating sustainability into supply chain management processes and provide insights into the role of leadership in driving sustainability initiatives. Davis and Rankin (2017) emphasize the importance of leadership in driving sustainability initiatives within organizations and provide insights into how companies can effectively monitor and evaluate their progress towards sustainability goals. Overall, it is widely recognized that integrating sustainability into strategic management is crucial for businesses to achieve their goals and respond effectively to changes in the marketplace (Grant, 2016). Companies that prioritize sustainability in their business strategies achieve higher financial returns, stronger brand reputations, and better adaptation to changing market conditions (KPMG, 2017). Achieving sustainability in business requires a long-term strategic approach that considers the environmental and social impacts of business decisions (Porter & Kramer, 2011), leading to a culture of sustainability that drives innovation, enhances competitiveness, and creates long-term value for businesses.

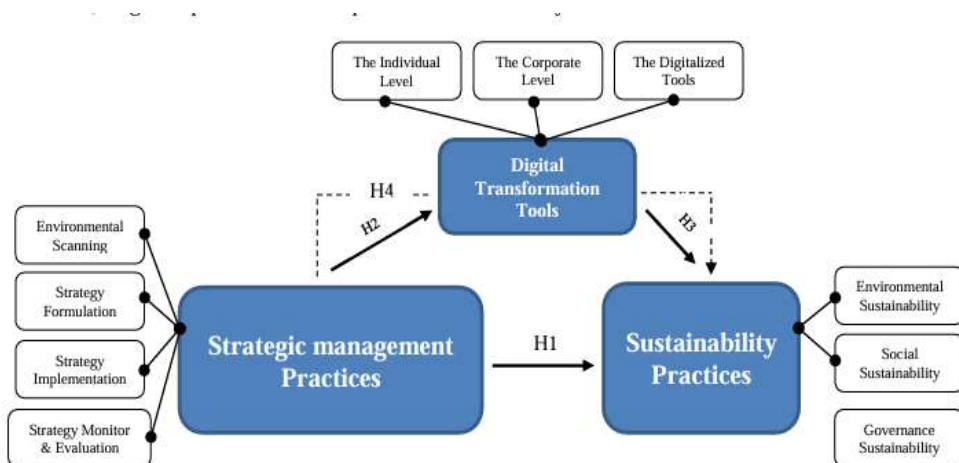
#### **2.4. Strategic Management and Digital Transformation:**

(Xiaowen Luo, 2022) 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).

## 2.5. Conceptual Framework:

The conceptual framework of the study identifies strategic management as the independent variable, comprising of formulation, implementation, monitoring and evaluating, and leadership, which are supported by various studies such as Scherer et al. (2021), Liu et al. (2020), Schilke (2014), and Cornelis et al. (2021). Sustainability is identified as the dependent variable, encompassing both social and environmental goals, as proposed by Hart and Milstein (2003) and Alkhodary (2021) (Ali, M et al.2021). Figure 1 presents the conceptual model of the study.





## **2.6. Theoretical Background and Hypothesis Development:**

H1: The Strategic Management Processes have an impact on the Sustainability Practices.

H2: The Strategic Management Processes have an impact on the Digital Transformation.

H3: The Digital Transformation have an effective positive impact on the Sustainability Practices.

H4: The Digital Transformation Mediating the relationship between the Strategic Management Processes and the Sustainability Practices.

## **Chapter Three: 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 CSR, Sustainability, HES, Environment, Compliance, Internal Auditing, Strategic Management, Human Resources, Finance, Accounting, Supply Chain, Manufacturing, Quality Assurance, Engineering, R&D, Procurement, L&D 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:

- i. The Public sector; (2) companies (SOPC and MISR PETROLEUM)
- ii. The joint venture sector; (4) companies (PETROBEL, BAPETCO, KHALDA and PETROGULF)
- iii. The Investment sector; (6) companies (PETROJET, ENPPI, EMC, GASCO, MIDTAP and MIDDOR)
- iv. The Petroleum Services sector; (2) companies (PMS and OGS)

S	Company name	Total Employee numbers	S	Company name	Total Employee numbers
1	SOPC	6,020	8	ENPPI	5,000
2	MISR PETROLEUM	10,000	9	EMC	5,967
3	PETROBEL	13,000	10	GASCO	4,795
4	BAPETCO	5,000	11	MIDTAP	250
5	KHALDA	5,000	12	MIDDOR	500
6	PETROGULF	900	13	PMS	2,400
7	PETROJET	36,521	14	OGS	249
			<b>Total</b>		<b>95,602</b>

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 adapted from the developed questionnaire NYARIKI, 2013 and Kamasak, 2008. To measure organization Performance in Section B, consists of three aspects of **Sustainability** identified as the dependent variable, encompassing Social, Environmental and Governance goals. Measure **Digital Transformation** in Section C was based on Dimension adapted from (Florian, 2016). In addition to several focused group in well-selected personal in the petroleum companies.

## **Chapter Four: Data Analysis, Results (Findings) & Discussion**

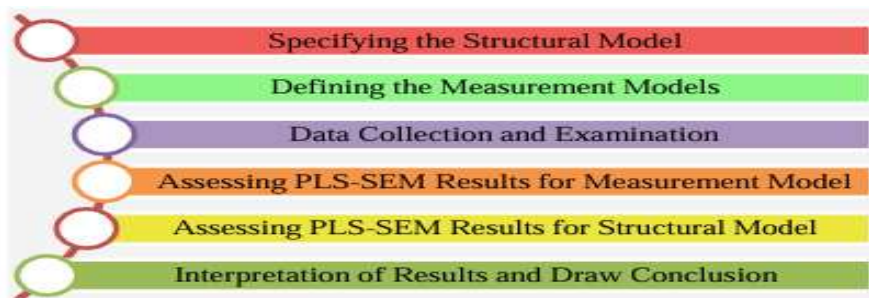
This chapter presents the data analysis part of this thesis. The analysis of this thesis was done using the statistical package for social sciences (SPSS V26) for both descriptive and inferential statistics, and (SmartPLS 3.2.7) for SEM-PLS modeling. Section one provides the respondents' demographics. 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 Data Preliminary Examination**

This examination is essential in quantitative research (Hair, Hult, Ringle, & Sarstedt, 2017). Sue and Ritter (2012) stated that the collected data should be screened and cleaned from errors and incomplete answers. Even though the corrective actions are not always necessary, the examination is essential to ensure that the outputs of the statistical analysis are correct (Hair, Black, Babin, & Anderson, 2014). Hair et al. (2017) emphasize that the issues of collected data, including strange response patterns, unengaged respondents, missing data, outliers, and data distribution, should be inspected. Therefore, those primary data issues are examined in the subsequent steps using SPSS.

#### **4.2 Structural Equation Modeling**

In this study, the researcher has applied structural equation modeling (SEM) for the model analysis. The SEM is a broad strategy to test hypotheses and to find out the relationship between exogenous and endogenous variables. Partial Least Square analysis of SEM (PLS-SEM) is followed in this study. The literature suggests that the PLS method is suitable for studies involving more realistic settings in social science research (Kline, 2005; Tenenhaus et al., 2005). In essence, PLS is a structural equation modeling (SEM) technique similar to covariance-based SEM. This type of model analysis approach, at the same time, tests both the measurement model and path that helps to develop more realistic assumptions (Abdi, 2010; Hair et al., 2017).



### 3.4 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 (4.9): Descriptive statistic for the selected variables**

Variable	Construct	N	Mean	SD	CV
<i>Strategic Management Processes</i>	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%
	<i>Strategic Management Processes</i>	<b>311</b>	<b>2.171</b>	<b>0.796</b>	<b>36.66%</b>
<i>Sustainability Practices</i>	Environmental	311	2.257	0.901	39.93%
	Social	311	2.379	1.087	45.68%
	Governance	311	2.310	1.035	44.81%
	<i>Sustainability Practices</i>	<b>311</b>	<b>2.301</b>	<b>0.858</b>	<b>37.28%</b>
<i>Digital Technological Tools</i>	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%
	<i>Digital Technological Tools</i>	<b>311</b>	<b>2.169</b>	<b>0.859</b>	<b>39.62%</b>

These include the mean (M), standard deviation (SD), and coefficient of variation (CV) were calculated and reported in table (4.9). The descriptive statistics for the independent variable “Strategic Management Processes” were ( $M = 2.171, SD = 0.796, CV = 36.66\%$ ), for the dependent variable “Sustainability Practices” were ( $M = 2.301, SD = 0.858, CV = 37.28\%$ ), for the mediator variable “Digital Technological Tools” were ( $M = 2.169, SD = 0.859, CV = 39.62\%$ ).

**Table (4.10): Bivariate correlation**

<i>Construct</i>	<i>Pearson Correlation</i>	<i>Strategic Management Processes</i>	<i>Corporate Governance Principles</i>	<i>Digital Technological Tools</i>	<i>Firm's Performance</i>
<i>Strategic Management Processes</i>	<i>Correlation</i>	1	.677***	.662***	.746***
	<i>Sig. (2-tailed)</i>		0.000	0.000	0.000
<i>Digital Technological Tools</i>	<i>Correlation</i>			1	.694***
	<i>Sig. (2-tailed)</i>				0.000
<i>Sustainability Practices</i>	<i>Correlation</i>				1
	<i>Sig. (2-tailed)</i>				

## **Chapter Five: Conclusion, Practical Implications, Limitation and Recommendation for future research:**

### **5.1. Discussion and Conclusion:**

Strategic management practices involve the formulation and implementation of major goals and initiatives, informed by an



organization's internal and external environments. These practices guide companies in making decisions that shape their long-term direction and success. By integrating sustainability into strategic management, organizations can align their operational goals with broader societal values, creating a framework that not only drives profitability but also promotes responsible stewardship of resources.

Integrating Sustainability Practices (Environmental, Social, and Governance - ESG) into corporate strategic management processes is increasingly important for several reasons. First, it enhances risk management by helping companies identify potential risks such as regulatory changes, environmental impacts, and social issues that could affect operations. Strong ESG practices also protect a company's reputation, making it less vulnerable to public backlash or scandals.

Moreover, adopting ESG principles can provide a competitive advantage. Companies that prioritize sustainability can differentiate themselves from competitors and appeal to environmentally and socially conscious consumers. This focus on sustainability often drives innovation in products and services, further enhancing market positioning.

Financial performance is another critical aspect. Sustainable practices can lead to long-term profitability by generating cost savings, such as increased energy efficiency. Additionally,

investors are increasingly interested in companies with robust ESG practices, viewing them as lower risk and more sustainable investments.

Stakeholder engagement is also improved through ESG integration. Transparent practices foster trust among stakeholders, including customers and employees, leading to higher morale and retention rates. Furthermore, adhering to ESG standards helps ensure compliance with the growing number of regulations regarding environmental impact and social responsibility.

As global challenges like climate change escalate, businesses that embed sustainability into their core strategies are better equipped to adapt and thrive. Overall, the integration of ESG is not just about compliance or risk mitigation it's about seizing opportunities for growth, innovation, and long-term success in an evolving business landscape

Sustainability has been a major concern for companies all around the world in recent years. It is now more crucial than ever for businesses to include sustainability into their strategic management in order to find new opportunities, cut expenses, improve their reputation as a brand, and benefit society and the environment. In order to achieve long-term success, this article addresses the significance of integrating sustainability into a business's strategic management. It focuses on the connection between strategic management and sustainability as well as how strategic planning

affects sustainability. The significance of strategic management for sustainability has been emphasized in a number of studies. For example, according to David (2017), integrating sustainability into a business's strategic management can result in cost reductions, innovation, improved reputation, and increased employee engagement. Furthermore, because it offers a framework for companies to connect their economic, social, and environmental goals, sustainability should be regarded as an essential part of strategic management, according to (A. Leal Filho, 2020), (Ali, M. et al., 2021), and (Alkhodary, 2021). Additionally, banks that incorporate sustainability into their strategy are more likely to report favorable financial success, according to research by Jacqui Ewart and Mark Shanahan (2018).

These research' conclusions provide credence to the idea that strategic management improves sustainability. By incorporating sustainability into strategic management, businesses may give environmental and social objectives top priority, which enhances financial performance and benefits society. emphasizes the connection between environmental sustainability objectives and strategic management. The significance of establishing environmental sustainability objectives as a component of a business's strategic management process has been emphasized by numerous studies. Elkington and Beloe (2019), for instance, stress the significance of a long-term strategic strategy that takes into account the social and environmental effects of company actions.

In a similar vein, Lacka and Charłampowicz (2018) underline the significance of environmental goals in sustainable business strategies and talk about the difficulties businesses have incorporating sustainability into their supply chain management procedures. These research' conclusions provide credence to the idea that strategic management benefits sustainability objectives related to governance, society, and the environment. Businesses should prioritize sustainability and reduce their environmental effect, which will increase environmental sustainability, by incorporating environmental, social, and governance sustainability goals into their strategic management process. focuses on how strategic plan implementation affects sustainability, on the other hand. One of the most important steps in making sure sustainability programs are successful is putting strategic plans into action. In addition to highlighting the importance of leadership in advancing sustainability programs, a study by Sarkar and Roy (2018) offers guidance on how businesses can efficiently track and assess their advancement toward sustainability objectives.

In conclusion, the article emphasizes the value of integrating sustainability into a business's strategic management for long-term success. According to the results of numerous studies, strategic management improves sustainability, especially environmental sustainability goals, and successful strategic plan implementation can strengthen sustainability efforts even more.

To accomplish their objectives, boost financial performance, and support sustainable development, businesses should give sustainability top priority in their strategic management procedures. Overall, the study indicates that social, environmental, and governance sustainability goals for Egyptian petroleum businesses can be positively impacted by incorporating sustainability into strategic management methods. According to the report, companies should emphasize sustainability in their strategic management procedures, set sustainability goals, assess opportunities and risks, and implement sustainable practices.

## **5.2. Recommendation:**

It is recommended that Egyptian Petroleum Companies adopt proactive measures to include sustainability into their strategic management procedures in light of the study's conclusions. Among the particular suggestions are:

- Create a sustainability-focused strategic management model (Fig. Nos. 01 & 02): companies should to think about creating a model that integrates sustainability goals with business objectives. Finding sustainability opportunities and threats and incorporating them into their strategic planning process may be one way to achieve this.
- Set sustainability goals: Companies should have specific sustainability goals that support their overall business plan.

Goals such as eliminating greenhouse gas emissions, reducing water usage and waste, and encouraging sustainable supply chain approaches may all come under this umbrella.

- Implement sustainable practices across the organization: Companies need to make sure that sustainable practices are incorporated into all aspects of their operations, from production to distribution to procurement. This may involve implementing eco-friendly transportation methods, cutting down on waste from packaging, and using sustainable materials and energy sources.
- Monitor and report on sustainability performance: Companies should keep a close eye on their sustainability performance, including how well they're doing in terms of achieving sustainability goals and how their sustainability practices are affecting the environment and society. Businesses can enhance their reputation, establish themselves as leaders in sustainable business practices, and generate long-term value for their stakeholders by following these suggestions.
- Implement the Digital Transformation tools in the whole process of formulate the corporate strategy through the Environmental scanning stage to the implementation, control and evaluation steps. Such as using digital tools in data collection step in the internal and external Environmental scanning and also using a digital tool to calculate the scope

01, 02 and 03 GHG Emission in the Carbon Footprint Calculations. And finally present a dash board with the whole company performance to the top management.

- PETROJET has valuable start of the sustainability journey by integrating the sustainability approach to the corporate strategic plan and issue the first ESG and Carbon Footprint report for the year 2025. It could be a well reference and guidance for the companies in the Egyptian petroleum sector who are seek for start the Sustainability journey.

### **5.3. Future Research:**

The difficulties Egyptian petroleum companies can encounter when incorporating sustainability into their strategic management procedures could be the subject of future studies. Case studies of businesses that have successfully adopted sustainable practices as well as those that have had difficulties in doing so could be conducted as part of this. Furthermore, studies might look into how stakeholders influence sustainability policies in Egyptian oil firms and how these businesses might interact with stakeholders to advance sustainable practices. Examining how sustainability affects the companies' financial success may be another topic for future study.

Under the direction of strategic management procedures, this can entail carrying out a series of studies to evaluate the relationship between sustainable practices and financial success

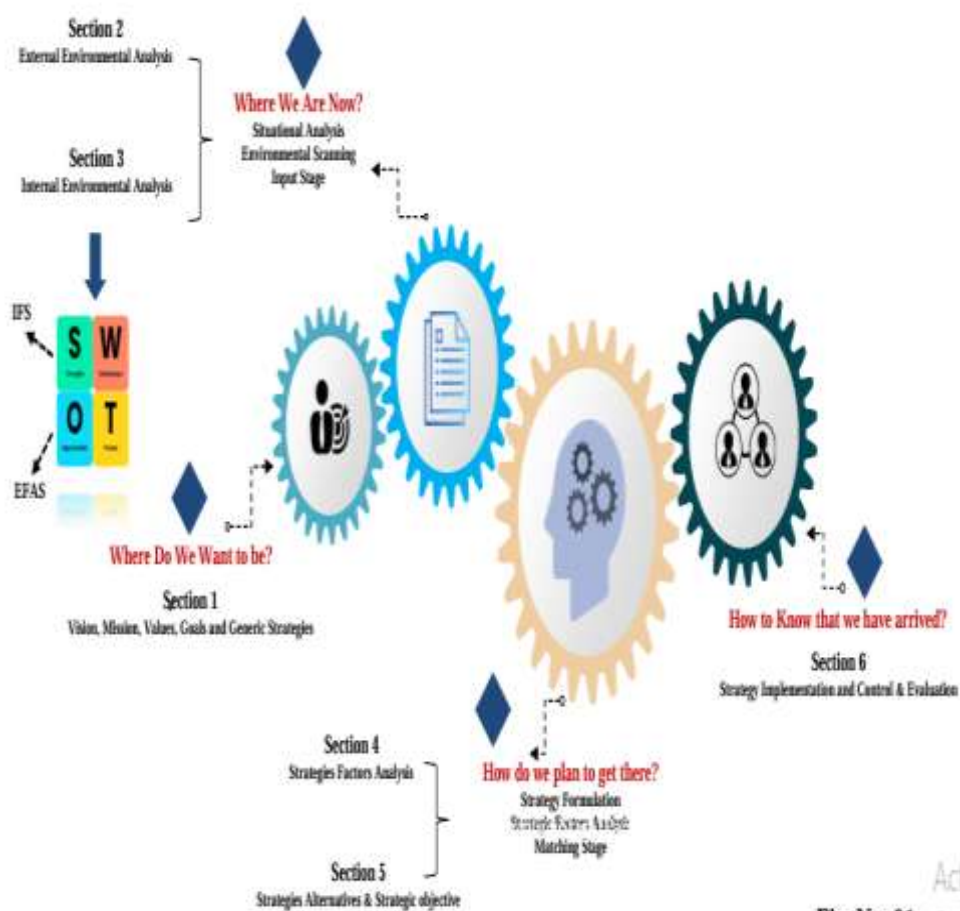
over time. All things considered, additional study can contribute to our comprehension of how Egyptian petroleum companies can successfully include sustainability into their strategic management procedures and attain long-term success.

#### **5.4. Limitation of The Study:**

This study has a number of limitations that should be noted. First off, the study only looked at 14 Egyptian Petroleum companies rather than the entire companies, hence the sample size was small. It can restrict how broadly the results can be applied. Second, self-reported data, which could be biased, were used in the study. A survey was used to get the data, and it's possible that some respondents gave false or insufficient information. Future studies might look into augmenting self-reported data with more objective indicators of sustainability success, including water or carbon footprint for example.



## Strategic Plan Processes



Acti  
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**Fig. No. 01**

## Integrate the Sustainability Objectives into the Corporate Strategic Plan Processes

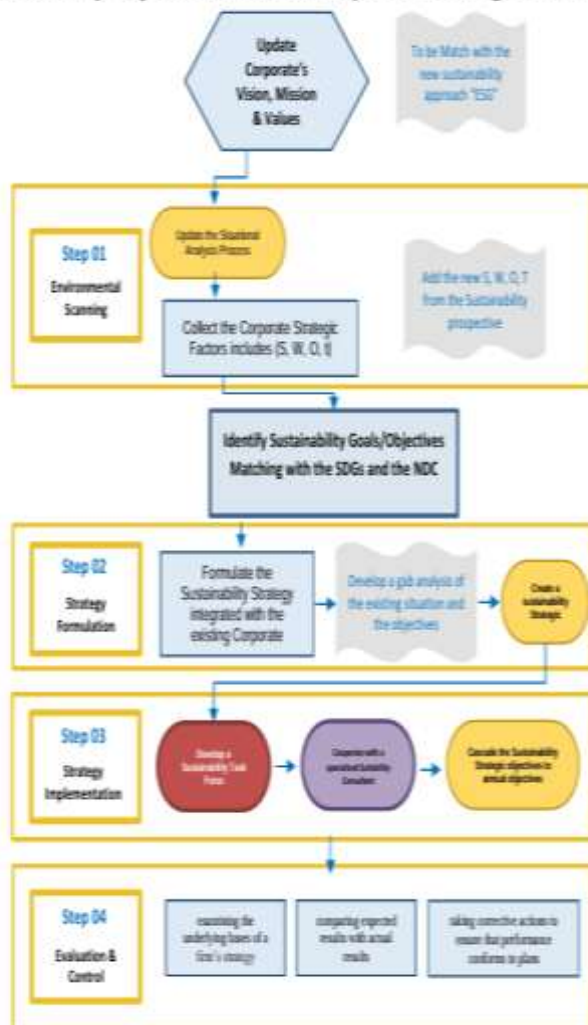


Fig. No. 02

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