

# Digital Transformation and Sustainability: The Future of Business

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## Abstract

Businesses must simultaneously go through digital and sustainable transformation. From product development to manufacturing and operations, they may leverage digital technologies to leverage massive volumes of data. Systems and procedures must be fundamentally redesigned for a business to become truly sustainable. The study aims to analyse the dynamics of digital transformation and sustainability for the future of business through analysing the success factor of digital sustainability transitions, develop a maturity assessment framework and proposing policy interventions for equitable technology distribution. Social exchange theory is used in this research as it helps engage stakeholders and the organisation within a reciprocal exchange that further influences the outcomes related to sustainability. The data for this study are gathered from various papers and reports using a secondary qualitative data analysis method. Academic publications and journals are excellent resources for secondary data analysis. However, for the selection process of the data used for the thematic analysis, a PRISMA flowchart 2020 is used in this study, as it helps in recording, inspecting, identifying, excluding, and including data at each stage.

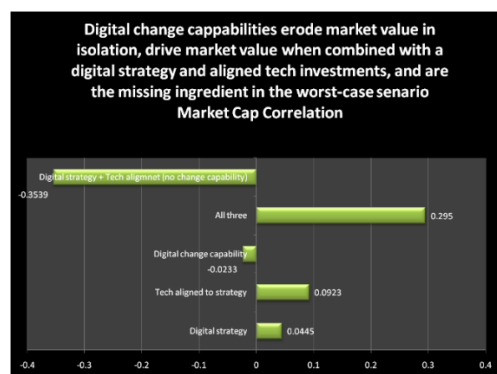
The findings of the study indicate that businesses can get a variety of benefits by integrating technology into their operations, including improved customer satisfaction, enhanced corporate profitability, increased agility, and a better approach to data-driven decision-making. Hence, it is also analysing through this study that different regions from Europe, Asian and North America are positively implementing digital and sustainable transformation for shaping the future of their business. Through lessening strain on the environment and their influences on society, technology can result in more resource-efficient economic and production systems.

**Keyword:** Digital, sustainable, business, transformation, decision-making, workforce, transition, environment, technology, Industry 4.0

## Introduction

### Background

Digital transformation is critical for businesses to achieve sustainability through integrating technology to enhance transparency in operational dynamics, improve efficiency and reduce waste. This transformation further led towards sustainable practices, like better engagement with the stakeholders, reduced emissions of carbon and optimised utilisation of resources. Ultimately, it also helps businesses to align with the goals of global sustainability and achieve long-term value creation. Digitalisation and sustainability are two megatrends that are influencing society and the economy and calling for significant changes (Guandalini, 2022, p. 457). However, those terms are strategic imperatives and game changers that have the power to bring about significant changes.



**Figure 1: Market cap correlation** (Source: Self-developed based on Darbyshire, Scoble-Williams & Kearns-Manolatos, 2024)

Digital changes are linked to numerous digital projects and have the potential to make or break successful digital revolutions. Organisations estimate a market capitalisation difference of up to 14% when these capabilities are in line with digital strategies and technology expenditures. vii Approximately US\$2.75 trillion is what that amounts to for Fortune 500 companies alone (Darbyshire, Scoble-Williams & Kearns-Manolatos, 2024). Adopting change alone for its own sake is not the solution, either, since companies that prioritise change report three times lower market capitalisation than those that only employ digital strategies. As opposing ideas, they cause a paradigm change in social and ecological systems. The Deloitte Global analysis of 4,600 companies' 10K filings and financial statements over the last five years highlights which digital change themes are trending up and down across a "digital change" agenda that is only continuing to grow in prominence, breadth, and importance as leaders assess their capacity for digital change.

Digital transformation has been driven by a number of variables, even though digital technology is the main enabler. These include data availability, digital competitions, and changing customer expectations and habits. It has been observed that the effects of digital transformation are extensive and go beyond business operations or consumer behaviour to other fields, including social dynamics and healthcare (Feroz, Zo&Chiravuri, 2021, p. 1). Industry 4.0 (I4.0) is a strategy for changing businesses and offers new technical opportunities, including automation and information and communications technologies (ICTs), which interact to provide peak performance. In this sense, CS stands for businesses' contributions to raising societal standards of living and promoting global prosperity. As per da Rocha et al. (2022, p. 3), it is reasonable to view these two components as the industry's pillars, working in tandem to maximise its advantages. Additionally, the sustainability triangle, or environmental sustainability, is predicted to suffer as a result of digital transformation.

The process of incorporating digital technology into a company in a way that is moral, sustainable, and considerate of society and human values is known as responsible digital transformation. It entails taking precautions to reduce any adverse effects and thinking about the possible effects of technological progress on people and communities. This could entail interacting with many stakeholders to comprehend the requirements and worries of various groups, in addition to creating procedures and regulations that responsibly encourage technology use (Pappas et al. 2023, p. 946). Using digital technologies and procedures to generate shared benefits while keeping in mind the long-term effects on people and the environment is known as responsible for digital transformation.

Given the hazards associated with traditional production methods and the regulations imposed by stakeholders and the government, enterprises must prioritise sustainability and digitalisation in the current socioeconomic environment. There is a complicated relationship between technology and sustainable development (Pasqualino, Demartini&Bagheri, 2021, p.1). On the one hand, technologies demand significant socio-technical changes and resources that have an effect on the environment. However, by lessening the strain on the environment and its impact on society, technology can result in a more resource-efficient economic and production system.

### **Research Purpose**

**Aim:** The purpose of the research is to explore the dynamics of digital transformation and sustainability for the future of business.

### **Objective:**

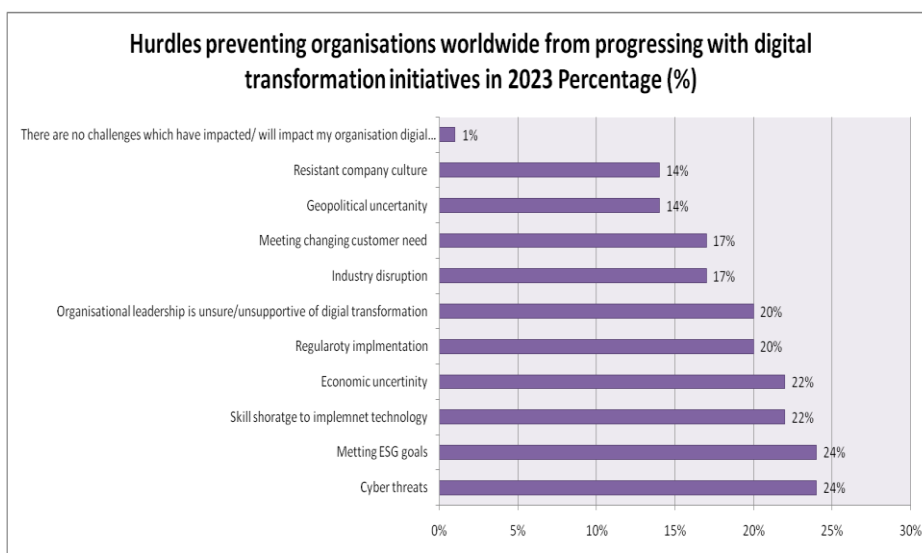
- To identify the critical success factors for digital sustainability transitions
- To develop a maturity assessment framework
- To propose policy interventions for the distribution of equitable technology

### **Research Question**

- How do the levers of the digital transformation differentially influence environmental vs. economic sustainability?
- What organisational architectures enable the outcomes of the synergistic digital sustainability?
- Which mitigation strategies allows for addressing rebound effects from adoption of the technology?

**Problem Statement**

In order to improve operational efficiency, digital transformation entails incorporating cutting-edge technologies, such as hardware, software, and systems, into every aspect of a company. This change has increased production and is becoming more and more necessary to meet sustainability goals. Technology's role in sustainability is changing as it tackles environmental problems and negotiates constraints like connection and resource scarcity. Every aspect of business gets benefits from the transition, from cloud computing and teleconferencing tools that reduce carbon output through virtual exchanges to predictive maintenance that lessens environmental costs. A clean, green, digital, and sustainable environment can be achieved with each byte sent and each online transaction completed. As per Savastano et al. (2022, p. 1), numerous research streams, including those in the domains of quality management (QM), information systems (IS), and strategic management, have focused on the effects of digital technologies. They have identified both major opportunities, such as increased performance and competition, and threats, such as cost pressure, reorganisations, and greater failure risks to the business world.



**Figure 2: Factors preventing digital transformation globally in 2023** (Source: Self-developed based on Taylor, 2024)

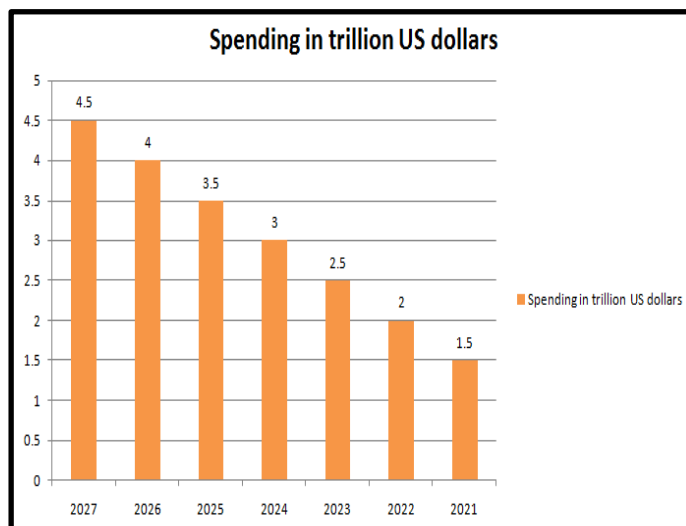
According to a 2023 poll, the biggest obstacles to implementing digital transformation projects are cyber threats and ESG goals. Global investment in information security has surged as a result of growing concerns about cyberattacks (Taylor, 2024). In order to improve operational efficiency, digital transformation entails incorporating cutting-edge technologies, like hardware, software, and systems, into every aspect of a company. This change has increased production and is becoming more and more necessary to meet sustainability goals. Technology's role in sustainability is changing as it tackles environmental problems and negotiates constraints like connection and resource scarcity. Whereas, the paradigm of sustainability in business goes much beyond protecting the environment. It covers social and environmental aspects, helping organisations to accurately gauge their impact. Several environmental issues, lessen and prepare for the effects of climate change, and ensure the welfare of our world and future generations by using digital technology responsibly.

**Literature Review**

***Digital transformation for the conceptual foundation:***

Digital transformation (DT) has been significantly progressing with the foundation of different digital technologies within entire aspect of the business operations, the approaches of fundamentally altering processes by companies to deliver values towards the customers (Trevisan et al. 2024. p, 2090). Hence the digital transformation has been subjected to be on of the innovative approach to make the business successful and make the customers satisfied by providing them effective customer service. This involves not only digitalizing the existing operation process of the business, it remarkably implementing for redesigning effective business model. It helps business for improving the customers experience with the adoption of new technology and also helps for analyzing market trends. There are different key aspects that include in the

organizational transformation, adoption with agile technology, focusing on the respective or potential customer needs and also leverage with emerging technologies.



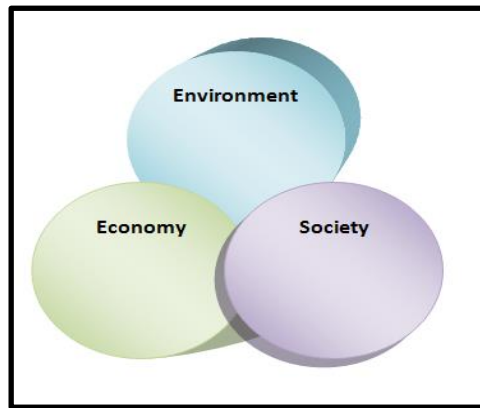
**Figure 3: Digital transformation of technology and services worldwide from 2017 to 2027**

(Source: Self-developed based on Statista)

As mentioned in the above graph, organizations have been effectively investing trillions of dollars to make the organization successful and achieve competitive advantages from the year of 2021 and upcoming 2027 (Statista, 2025). However, this can be identified that the amount of money that has been invested in technological aspects has been constantly increasing constant basis. There are different types of advantages that businesses acquire with the help of leveraging technology in their operating process and they are increased business profitability, customer experience enhancement, improvement of agility and a better data-driven decision-making approach. This phenomenon helps businesses to foster a digital culture and strengthen with the help of resource management to boost the entire productivity of the business. Digital transformation's key areas are organizational transformation, agile methodologies, process with a customer-centric approach and emerging technologies according to the requirements for business development (Chukwunweike & Aro, 2024. P, 24). Thus, the transformation into digital technology is not only possessed with deriving the fundamental work it also brings a significant mindset shift and embraces the culture to adopt innovation and changes.

#### ***Business sustainable dimensions:***

Sustainability in the business remarkably process with discussing the main three core aspects or dimensions and they are **social, environmental and economic** approach (Nascimento et al. 2024. P, 450). These respective three pillars has been process with the "triple bottom line" or "3BL". The main highlights of these bottomlands are for business balancing their respective economic performance considering the impact of society and environmental aspect. **Environmental sustainability** subjected to be the significant approach and the ability for preserving and also providing protection to the natural environmental needs with time by leveraging appropriate policies and practices. Also, meeting current needs instead of compromising resources availability for the future aspect helps busi8nes to achieve success. The environmental aspects influence through several factors which have process with remarkable impact towards ecological balance and also planets ability for sustaining life. Main factors are water, air and silk pollution. This also brings with the effects of clement change that is effectively caused due to resealing an excessive amount of the green house gas to the atmosphere for several human activities.

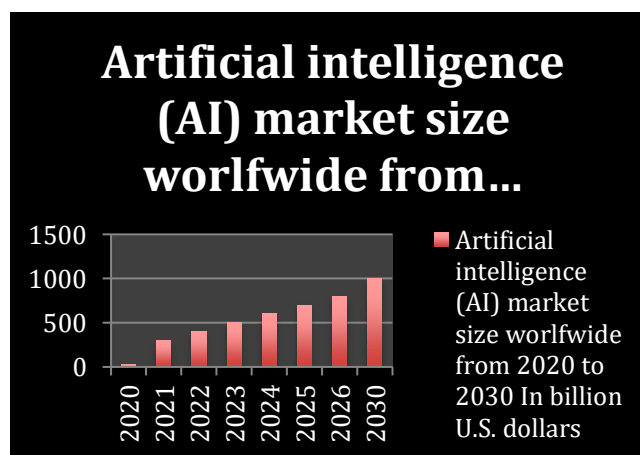


**Figure 4: Triple bottom line** (Source: Self-developed)

Furthermore, this also brings with losing biodiversity and the achieve overexploitation of the natural resources. **Social sustainability** has also process with focusing on people well-being and also the entire communities. The main motive of social sustainability is to promote human rights, equity, education access and a decent work environment. Social sustainability targets for creating an inclusive society, reducing inequity and also ensures the phenomenon of long-term well-being for entire people at the time of preserving the social justice and cohesion. This is also need to look after about the aspects of discrimination among several people to get equal opportunity. Furthermore, **economic sustainability** considers with a significant aspect whereby the economic activities have conducted with a way for promoting and preserving a long-term economic well-being (Thorisdottir et al. 2024. P, 442). There are different factor that influence economic sustainability and it include the responsibility of managing of resources, the efficiency capacity and economic system innovation and enterprises. Financial stability with a micro level approach is also influence through economic sustainability.

**Interlink ages among sustainability and DT:**

The digital transformation and the sustainability have been process with deeply intertwined, with the help of DT, serves as an powerful tool for achieving a sustainable goal within several sectors (Das, 2024. P, 820). Through leveraging technologies in the areas of IoT, AI and also big data analytics, digital transformation have been effectively improving resource efficiency, facilities much cleaner production, reduce wastage and finally contributes for more future sustainability. Hence, with the help of optimizing resources utilization enabling real-time optimization and monitoring about resource consumption for agriculture and manufacturing and other energy sector significantly reduce in wastage and improves efficiency. Smart waste management process is also an important aspect that achieve with the help of the incorporate technology such as AI, IoT sensors.



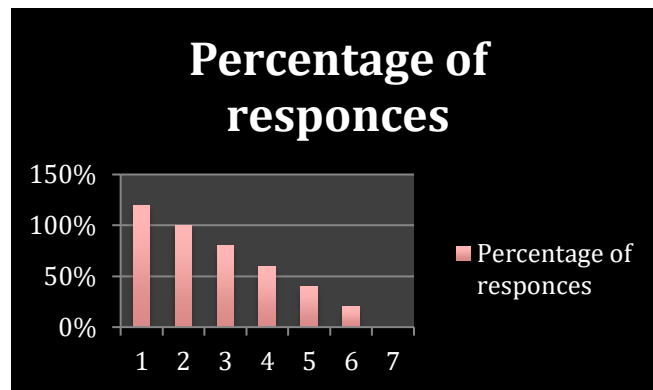
**Figure 5: Artificial intelligence (AI) in the market size based on worldwide from 2020 to 2030**

(Source: Self-developed based on Statista)

As mentioned in the above graph that, artificial intelligence have been increasingly emerging into the marketplace with a continuous investment of US billion dollars (Statista, 2025). However, this technology helps business to mitigate environmental challenges with the help of its green technologies and cleaner production process.

**Organizational and sectoral context:**

The intersection of the DT and sustainability depends remarkably on several specific sectors and also in the organizational form. In the agricultural aspects, DT have improve sustainability and efficiency with the help of precision farming, instead several challenges exists to ensure the equitable access towards technology (Adewusi et al. 2024. P, 2279). Manufacturing industry consider its focus on the industry 4.0, to drive sustainable approach with the help of principle of circular economy and lean production. On the other hand, in the corporative approach considers their respective focus on economical and social benefits, offers a unique opportunity to achieve sustainable DT.



**Figure 6: supply chains transformation process with artificial intelligence (AI) among worldwide in the year of 2022**

(Source: Self-developed based on Statista)

The above graph has been reflecting the transformation of supply chain process with the implementation of AI within the operational process (Statista, 2025). This helps business to achieve success and maintain ethics and due to this an increasing amount has invested continuously to leverage technology within business.

**Social Exchange Theory (SET)**

SET is the gold standard for analysing the behaviour of the workplace. This theory proposes that organisations and their stakeholders engage in the reciprocal exchanges, which can influence sustainability outcomes. For instance, fair HR practices lead to employee engagement and motivation, that contribute towards environmental performance. The SET was defined by Ahmad et al. (2023, p. 1) as (i) an actor initiating contact with the target, (ii) a reciprocal attitudinal or behavioural response from the target, and (iii) the relationship that results. In today's business environment, relationships are getting more complicated. As a result, SET has to be updated in light of the growing complexity of organisational operations and employee behaviour.



**Figure 7: Social Exchange Theory Framework**

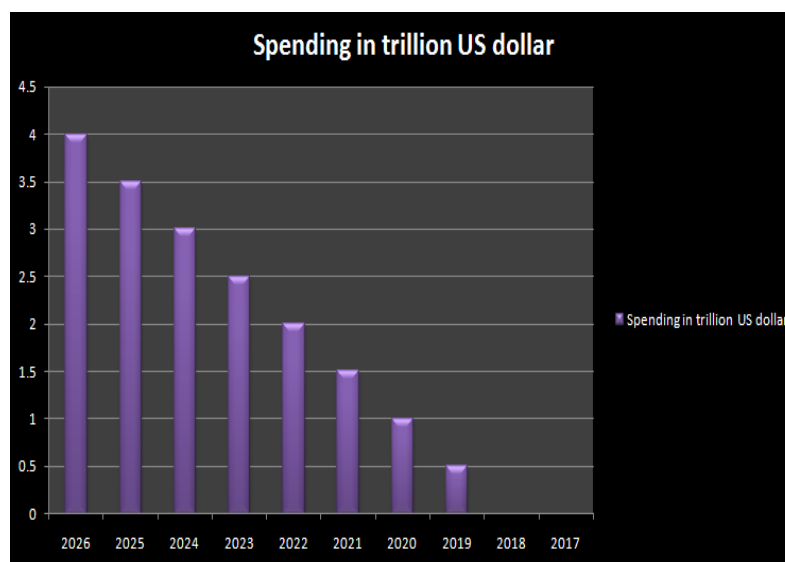
(Source: Self-developed based on Ahmad et al. 2023 and Xuecheng et al. 2022)

In social exchange, leaders typically inspire staff members to achieve their shared objectives. According to the social exchange theory, improving organisational performance requires information sharing that is founded on social reciprocity. Employees can synthesise knowledge in the workplace, for example, which is essential to maximising their long-term potential (Xuecheng et al. 2022). Suppressing information, however, can have a detrimental effect on their performance. As a result, adopting sustainable performance and sharing knowledge about sustainability are significantly predicted by responsible leadership. SET in the workplace suggest the relationship of the workplace, such as that between employers and employees, based on the cost-benefit analysis.

## Results

### ***Theme 1: Critical success factors for digital sustainability transitions helps business for increasing their operational efficiency, cost reduction and stakeholder engagement***

This is important for the business to complement digital transformation in their respective business operation process because this helps them for increasing their operational productivity and boost business growth. Siemens AGs has been effectively process with the implementation of digital transformation in their respective business process. This also brings with twin technology with the significant approach of reducing emission based on the prototype testing process especially with a value of 37% (Das et al. 2024). Digital twins are subjected to be the phenomenon of virtual presentation of different physical system, it allows for analysis and simulation for products before the time they have built physically. Hence, the particular techniques reduce the recruitment of extensive testing of products physically. The shift towards the simulation leaders towards more effective process for design aspects and lower the resources consumption helps business to achieve success. However, these innovative approaches help the company to reduce their operational cost and enhance business performance. Siemens have developed the ELVIS with “digital grid model” specification for Finland’s transmission approaches and also collaborating with the “American Electric power system”.



**Figure 1: Spending on AI with trillion dollar globally** (Source: Self-developed)

There is another company based in EU named Schneider Electric has been significantly focusing on sustainable digital transformation to make their organization successful and at the same time promotes sustainable approach towards the environment. Schneider Electric has deployed an Iota sensor system for monitoring their usage of energy across different equipment of their manufacturing department (Shaanxi, 2025). These sensors are significantly responsible for identifying inefficiencies and also serve actionable insights for reducing the consumption of energy through the adjustment of machine setting with automatic basis. Furthermore, Unilever is also a company that has been remarkably focusing on the needs of natural resilient of nature and the agriculture ecosystem process for thriving. The Unilever living plan with sustainable approach has been processed with serving as a compelling of illustration aspects for the transformative potential process of inherent within sustainability-driven leadership approach. The company does not only process with achieving social and environmental aspects but also focuses on bolstering its respective brand reputation and remarkably attracting different socially concern inventors towards its business process (Shriven & Visalia, 2024). Moreover, IKEA is subjected

to be a popular brand that operates in the EU country and focuses on sustainability throughout its business process and has incorporated different digital tools to achieve the improvement of its respective resource management process, enhancing customer experience and reducing wastage. IKEA have remarkably aimed towards accessing leadership methods and strategies based on technological emphasis which contributes to drawing success within the business process of the company in the competitive marketplace through its digital leadership process or journey (Khan & Starker, 2024). Based on future markets with the implementation of digitalization the company has taken the decision to incorporate digitalization in the business process for generating business revenue and maintain competitive advantage.

Philips is also another company that has been operating with the uses of digital technology for innovating healthcare systems with deriving different products based on energy consumption and sustainable products (De Wolf & Brocken, 2024). Different leading companies and also public bodies have been processing with developing their business circular model and the significance of reducing wastage and raising the concept with the help of Light as a service that is with the incorporation with Philips.

***Theme 2: The maturity assessment framework helps organization to consider a structural business approach and define its key metric and goals***

Alibaba is one of the leading companies operating in the region of Asia has been remarkably process with the intergradations of block chain-supply chain process to improve the ethical compliance of sourcing with 29% (Chen et al. 2024). The company has been successfully processing its entire supply chain process with the incorporation of digital technology integration by enhancing its overall transparency and efficiency. Through the incorporation of digital technology, the company become able to streamline its process, reduce operating costs and also offers more seamless and personalized experience for the customers. However, the digital transformation has significantly fueled growth of Alibaba and strengthened respective competition position within global marketplace. Samsung is subjected to be operating based on “multinational conglomerate headquartered” and the company is significant known for its mobile phones and electronics device.

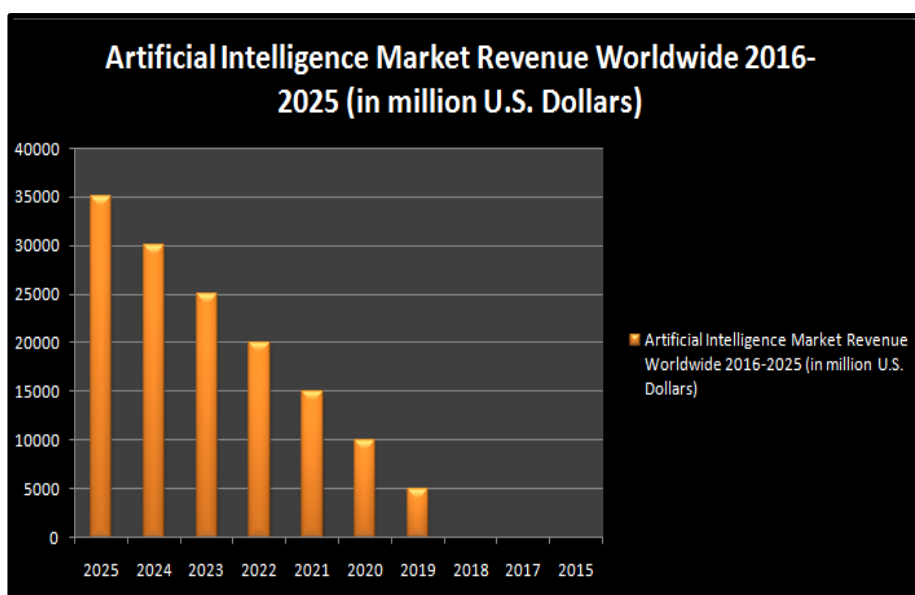
Samsung electronics have developed semiconductor memory that has achieved 50% of the global market share with the help of transforming its operating process towards digitalization (Kim & Yang, 2024). Digital transformation significantly increases business operational productivity and makes the customer satisfied with both digital effectiveness and sustainability approach. Furthermore, Toyota is another company operating their business in the significant region of Asia and faintly responsible for automakers. This company has effectively incorporated digital transformation in their auto manufacturing department to enhance market opportunity and expansion (Strazzullo et al. 2025). Positive customer experience and market expansion both are subjected to be the aspects that help business to achieve success and also personalized different customer experience. However, these companies have been effectively enlarging their business through the incorporation of maturity and assessment framework. This framework helps large, based companies to establish an effective framework according to business aim and objective.

The respective phenomenon has a process with providing a systematic approach to the company to maintain and does not miss any important objective to achieve success with digital transformation in the global marketplace. Additionally, Hyundai is a company that has adopted the aspects of digital transformation to achieve success in the digital age. The company has benefited in different ways through the incorporation of digitalization in the areas of reducing the development time. The time reduction has process through automatic aspects of design through AI-powered tools. However, this AI powered tool has been helping the company to reduce its development time with the help of maintaining the framework of maturity assessment (Sunwoo, Choi & Blazquez, 2024). The company has also leverage with AI generative option for divers’ design; it helps engineers to explore their ideas more irrespective of presenting through physical format only. This also saves time, effort and cost of the engineers and business and henceforth increases business growth.

The company has significantly exhibited business success through its transformation from the aspects of traditional and international engine combustion manufacturers to smarter solutions with mobility provider. There are different advantages that the company has been achieved through digital transformation, and they are cost efficiency, innovation improvement, improvement of sustainability helps the company to achieve competitive advantages in the competitive era.

**Theme 3: Policy intervention subjected to be crucial aspect to ensure business distribute technology equally and development of technologies**

Apple is one of the leading companies that has been taken a charge to lead in sustainability and digital transformation aiming towards becoming effectively carbon neutral among its total value chain process by the year of 2030. The respective commitments reflect their remarkable investment in reviewable energy and towards innovative and recycling technology and also focus on using different renewable and recycled materials for their respective product packaging and product development equipment. The respective company has already been reported to avoid the significant amount of 23 million metric of tons for emission and also focuses on the measurement of recycling material product (Korana, 2024). Furthermore, the company has also been processing the policy inspiration based on the program of clean energy that aims for the reduction of emission due to manufacturing process through the collaboration with different suppliers and also advocates for several policy changes. The clean energy policy for Apple suppliers encourages different suppliers to adopt 100% of renewable energy and reduction of manufacturing emissions ((Sharma & Kohli, 2024). Another laddering company based on North America Google has been significantly operating with effective sustainability strategy.



**Figure 2: AI market revenue worldwide (Source: Self-developed)**

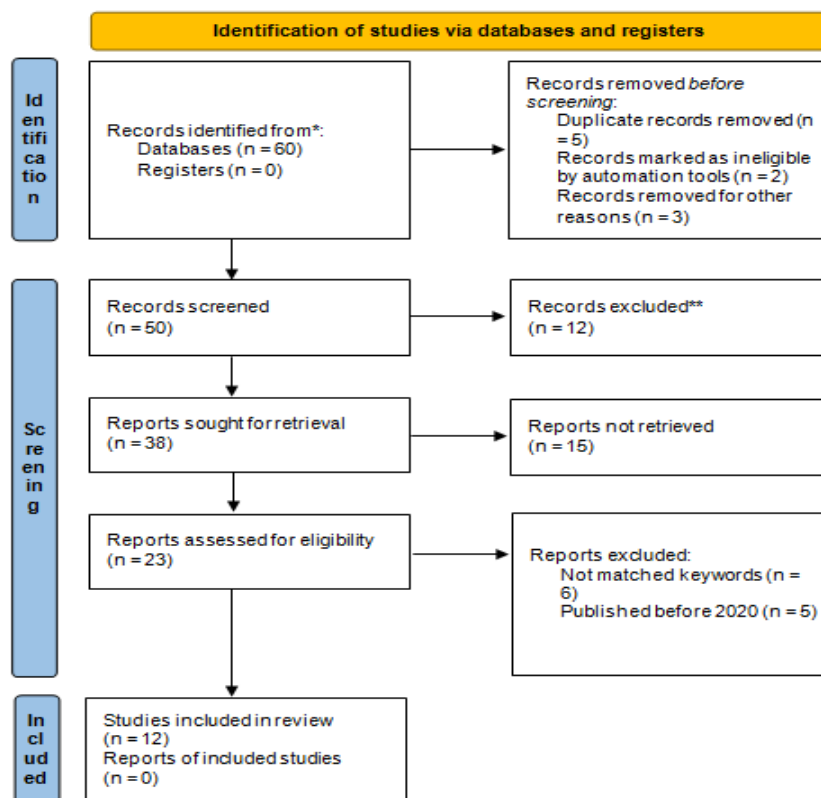
Google has remarkably committed for operating on the basis of 24/7 with the uses of carbon free energy by the year of 2023. The respective company has also issued sustainability with \$5.75 billion bon towards the finance department project for aiming at phenomenon of addressing the social and environmental issues (Sharma & Kohli, 2024). Furthermore, with the uses of wind and solar power energy the company helps to reduce their respective carbon prompt and also transitions towards effective sustainable sources of energy with comprehensive manner. Hence, the solution of integrating strategies in the areas of renewable energy enhances customer satisfaction and makes the business to generate positive perception for their customers. Microsoft is also an innovative company that also has been focusing on the digital transformation to achieve success in the competitive marketplace. The company has also leverage with Iota to identify its entire operating effectiveness and transparency of the business through technological sensor and achieve success. Microsoft Azure has represented or reflects with over 50% for cloud spending aspects to share in the Q1 of 2023 (Banka & Uchihira, 2024). However, with the effectiveness of technological aspect business become success full and incorporate effective policy intervention to achieve technological development.

**Methodology**

The study, based on the digital transformation and sustainability and their influences on the future of business, is conducted by using a secondary qualitative data collection method through thematic analysis. The study adopts a secondary data gathering approach to compile the study findings from different published sources. Thematic analysis, which focuses on assessing the objective of the study, is used to analyse data. The conceptualisation of qualitative research through

adopting thematic analysis, as it allows for maintaining “qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, and phenomena in terms of the meanings people bring to them” (Lochmiller, 2021, p.2030). Data are taken from the electronic databases, which include Scopus, Wos, IEEE and other authentic resources for data analyses.

**Table 1: PRISMA Flowchart**



The selection procedure and the quantity of records inspected, identified, excluded, and included at each stage are recorded using a PRISMA 2020 flowchart in Table 1. The PRISMA 2020 flow diagram makes it clear that it is intended to track the total number of records retrieved from each information source (Rethlfe & Page, 2022, p.254). The PRISMA Model facilitates the study of systematic reviews by providing a standardised framework that aids in documenting the research process and guarantees uniformity and transparency regarding the dynamics of the review that is carried out. Additionally, it lets readers evaluate the study's quality and dependability, which eventually serves to increase the study's credibility by reducing bias and streamlining the review process. In contrast, Table 2 uses objectives to pick and determine the notion of the theme that will be covered in each theme of the thematic analysis. As a result, the theme is coded and further developed.

### Discussion

Transition in digital sustainability through leveraging technology allows businesses to enhance their operational efficiency, engage stakeholders and reduce costs. This is achieved by the implementation of different forms of strategies, like resource optimisation for improving the efficiency of decision-making. Further digital transformation also allows to enable companies to engage with their supply chains and customers, to foster transparency and collaboration. Digital transformation drives sustainability by enabling dynamic capabilities like green capabilities, fostering a culture for a green organisation and enhancing innovation and agility. Through leveraging digital technologies, businesses allow themselves to reduce their environmental footprint, adapt to changing conditions in the market and cultivate a culture of sustainability. As per the findings, Hyundai Motors exhibits a successful transformation in its business towards smart mobility solutions provider. Adoption of technology faces challenges such as cultural barriers, high costs and organisational resistance,

however, these can also help in overcoming through enabling a culture which embraces change, leadership commitment and stakeholder engagement.

Businesses can also leverage data as it helps them to achieve competitive advantage and sustainability goals through building strong capabilities in business dynamics. This includes the use of data that allows to understand trends of the market, improve the efficiency of resources, innovate services and products and optimise operations, which ultimately allows for a resilient and sustainable business. As examples, Siemens AG implements digital transformation in this business process however, it aligns with twin technology that approaches for reducing emissions based on the testing process, with the value of 37%. Sustainable performance is the result of ongoing innovation and modifications to the company's business strategy brought about by digital transformation. Digital resources and efficiency increase company productivity, which enhances the long-term performance of goods, services, and businesses. The foundation of an organisation's long-term competitive advantage is the growth of its dynamic skills to intentionally reconfigure its internal resources and capabilities in response to external changes.

Emerging trends like Industry 4.0. Big data and AI provide promising avenues for enhancing the dynamics related to sustainability. Hence, the study findings indicate that the etcaholgies can lead the cooperative structures which focus on social and economic influences and also explore transparency and data sharing in sustainable operations. Alibaba is one of the leading companies operating in the region of Asia has been remarkably successful with the integration of blockchain-supply chain process in order to improve the ethical compliance of sourcing by 29%. The company has been successfully processing its entire supply chain process with the incorporation of digital. Schneider Electric have deployed an Iot sensor system for monitoring their usage of energy across different equipment in their manufacturing department. These sensors are significantly responsible for identifying inefficiencies and also provide actionable insights for reducing the consumption of energy through the adjustment of machine settings on an automatic basis. Furthermore, Unilever is also another company that has been remarkably acknowledging the dynamics of digital and sustainable transformation.

### Conclusion & Future Scope

Digital transformation and sustainability are generally intertwined with each other and offer businesses a dynamic path towards a profitable and resilient future. Integration of digital technologies in the business process improves innovation and efficiency however, it also contributes towards social and environmental goals. This needs a holistic approach that helps in enabling technological advancement and organisational changes, stakeholder engagement and leadership paradigm. Smart manufacturing, also known as Industry 4.0, is the result of the digital transformation of the sector and offers real-time decision making, increased efficiency, flexibility, and agility to redefine how businesses produce, develop, and distribute their goods. The study came to the conclusion that while digital transformation, particularly through technical improvements, has a positive and immediate impact on the Sustainable Development Goals, the impacts are permanent. Additionally, digital transformation greatly speeds up information flow, increases the effectiveness of resource use, and improves a company's ability to respond to market dynamics—all of which are vital for sustainability and profitability.

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