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“Exploring the Role of Artificial Intelligence in Supporting ESG
Strategy/ postgraduate dissertation”

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Abstract

This dissertation examines how Artificial Intelligence (AI) supports strategies for Environmental, Social besides Governance (ESG) goals in modern organizations. As companies experience a rising demand to improve how they sustain the environment, show their internal processes clearly and meet what stakeholders and regulators expect, the use of digital tools in ESG activities is a significant topic for researchers plus practitioners. In this setting many view AI as a functional tool that makes it possible for managers to analyze data, assess risks, create reports and make decisions that support sustainability goals.

To achieve the primary goal of this research, the study investigates if the use of AI leads to better ESG results and how changes within an organization help this process. The research measures three main areas the use of AI, the process of organizational change but also the resulting ESG performance. It treats the use of AI as a technological ability, organizational change as the internal process that makes results possible or ESG performance as the primary result.

By following a quantitative method, this research uses a cross sectional survey design. Data are from an online questionnaire where participants used a five point Likert scale. For this study 41 people who work in areas related to sustainability, governance, strategy and digital transformation provided valid answers. And the analysis of this data includes descriptive statistics, reliability tests, correlation tests and regression models.

The findings show that the use of AI is related to better ESG performance as well as more organizational change. In addition organizational change is related to better ESG performance but the statistical tests did not prove that organizational change acts as a bridge between the use of AI next to ESG results. On the whole the study suggests that AI is a functional tool for reaching ESG goals, even though the internal shifts that are necessary to support this may not be fully complete in many companies.

With those results, the dissertation adds to the existing academic writing about AI, sustainability and how organizations change. At the same time the text provides information for managers who want to connect new technology with strategic goals that focus on ESG.

Keywords

Artificial Intelligence, ESG, sustainability, organizational change, ESG performance

Περίληψη

Σε αυτή τη εργασία εξετάζεται ο τρόπος με τον οποίο η Τεχνητή Νοημοσύνη (TN) υποστηρίζει στρατηγικές για Περιβαλλοντικούς, Κοινωνικούς και Διακυβερνητικούς στόχους (ESG) σε οργανισμούς που λειτουργούν τώρα. Καθώς οι εταιρείες είναι αντιμέτωπες με μία ανάγκη που γίνεται ολοένα και μεγαλύτερη που όπως θα δούμε παρακάτω αφορά την βελτίωση των τρόπων προστασίας του περιβάλλοντος, την παρουσίαση των εσωτερικών διαδικασιών και την ανταπόκριση στις απαιτήσεις των ενδιαφερόμενων μερών και των ρυθμιστικών αρχών, η χρήση ψηφιακών εργαλείων σε δραστηριότητες ESG είναι μονόδρομος και ένα θέμα που απασχολεί ερευνητές και επαγγελματίες. Με αυτό το δεδομένο, η TN είναι για πολλούς ένα εργαλείο λειτουργίας που επιτρέπει στα διευθυντικά στελέχη να αναλύουν δεδομένα, να υπολογίζουν κινδύνους, να συντάσσουν αναφορές και να παίρνουν στρατηγικής σημασίας αποφάσεις που ενισχύουν τους στόχους για βιωσιμότητα.

Για την επίτευξη του πρωταρχικού στόχου αυτής της έρευνας, η μελέτη διερευνά εάν η χρήση της TN οδηγεί σε καλύτερα αποτελέσματα ESG και πώς οι αλλαγές εντός ενός οργανισμού βοηθούν αυτή τη διαδικασία. Η έρευνα μετρά τρεις κύριους τομείς, τη χρήση της TN, τη διαδικασία της οργανωτικής αλλαγής αλλά και την προκύπτουσα απόδοση ESG. Αντιμετωπίζει τη χρήση της TN ως τεχνολογική ικανότητα, την οργανωτική αλλαγή ως την εσωτερική διαδικασία που καθιστά δυνατά τα αποτελέσματα ή την απόδοση ESG ως το κύριο αποτέλεσμα.

Ακολουθώντας μια ποσοτική μέθοδο, η έρευνα αυτή χρησιμοποιεί ένα σχέδιο διατομεακής έρευνας. Τα δεδομένα προέρχονται από ένα διαδικτυακό ερωτηματολόγιο όπου οι συμμετέχοντες χρησιμοποίησαν μια πεντάβαθμη κλίμακα Likert. Για την παρούσα μελέτη, 41 άτομα που εργάζονται σε τομείς που σχετίζονται με τη βιωσιμότητα, τη διακυβέρνηση, τη στρατηγική και τον ψηφιακό μετασχηματισμό παρείχαν έγκυρες απαντήσεις. Και η ανάλυση αυτών των δεδομένων περιλαμβάνει περιγραφικά στατιστικά στοιχεία, δοκιμές αξιοπιστίας, δοκιμές συσχέτισης και μοντέλα παλινδρόμησης.

Τα ευρήματα δείχνουν ότι η χρήση της Τεχνητής Νοημοσύνης σχετίζεται με καλύτερη απόδοση ESG καθώς και με περισσότερες οργανωτικές αλλαγές. Επιπλέον, η οργανωτική

αλλαγή σχετίζεται με καλύτερη απόδοση ESG αλλά οι στατιστικές δοκιμές δεν απέδειξαν ότι η οργανωτική αλλαγή λειτουργεί ως γέφυρα μεταξύ της χρήσης της Τεχνητής Νοημοσύνης και των αποτελεσμάτων ESG. Τέλος, η μελέτη υποδηλώνει ότι η Τεχνητή Νοημοσύνη είναι ένα λειτουργικό εργαλείο για την επίτευξη των στόχων ESG, παρόλο που οι εσωτερικές αλλαγές που είναι απαραίτητες για την υποστήριξη αυτού μπορεί να μην είναι πλήρως ολοκληρωμένες σε πολλές εταιρείες.

Λέξεις – Κλειδιά

Τεχνητή Νοημοσύνη, ESG, βιωσιμότητα, οργανωτική αλλαγή, ESG επίδοση

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1. INTRODUCTION

1.1 Background

Over the last ten years, managers have changed how they treat Environmental, Social besides Governance (ESG) factors. In the past companies chose to follow those initiatives as part of their responsibility to society but now the factors are central to how organizations plan their goals. There is an increasing expectation from investors, regulators, customers and employees that firms will show their data clearly. To satisfy those groups, companies must produce results that people can measure and use processes where leaders are answerable for their actions. As this shift occurs, people do not view ESG only as a way to manage how others see the firm or how the firm follows laws. It is a framework that helps a company compete for a long time, handle potential dangers and recover from difficulties. By looking at data from previous studies, it is clear that this view is accurate. For organizations that include sustainability when they plan their actions, financial results are stronger and the systems that control the company work more effectively as time passes. (Eccles, Ioannou, & Serafeim, 2014). In addition, researchers have found that companies which follow environmental, social and governance standards often achieve higher profits. These results support the idea that sustainable methods help a business increase its worth over many years (Friede, Busch, & Bassen, 2015).

At the same time companies have changed their systems to use more electronic tools this change happens quickly besides Artificial Intelligence (AI) is a common technology that affects how modern businesses operate. It is widely known that AI is a tool that helps a company function because it makes data processing, forecasting, automation and decision making by managers more effective. By using advanced algorithms plus machine learning techniques, AI systems give organizations the ability to examine high quantities of data that are organized or unorganized those systems find patterns that are difficult to see, make predictions more accurate and assist with difficult choices when outcomes are not certain (Brynjolfsson & McElheran, 2016). Due to those factors, AI is not only a piece of hardware or software, but it is also a resource that makes operations efficient, fosters new ideas and allows managers to use facts for their decisions.

In the current business environment, the way companies align environmental, social and governance strategies with artificial intelligence is important. For organizations to follow those strategies, they must collect data, measure performance, monitor activities plus report results but information about the factors is often stored in different departments, lacks a uniform level of quality and is difficult for leaders to include when they plan or make decisions. As studies on sustainability reporting show, there are problems with how accurate, comparable but also reliable this information is, which makes the data less useful for people inside and outside the company (Michelon, Pilonato, & Ricceri, 2015). With the use of analytics that run on artificial intelligence, companies can resolve those issues. By using the tools, it is possible for firms to combine data more effectively, analyze future sustainability trends, make reporting tasks automatic as well as respond to situations with more accuracy and speed.

As European regulations change, they make this issue more important. Due to reporting requirements for sustainability that are more demanding, firms must make their accountability, transparency and data governance for ESG stronger. At the same time, it is expected that organizations update their digital infrastructure to help them follow rules and change their strategies. In Greece, those developments are relevant because firms are aligning with expectations for sustainability plus are also moving forward with digital transformation projects but the way that AI works in practices for ESG is not but studied much in empirical research, especially when researchers look at how organizations are managed.

To address this the study is about how AI besides ESG strategy meets. More specifically, it is an examination of how Artificial Intelligence helps ESG strategies in organizations and an exploration of how changes in the organization make this relationship easier. By doing this the study is an attempt to help people understand how firms use AI as a tool for technology and as a mechanism for strategy to improve results that relate to sustainability.

1.2 Problem Statement

Despite the growing need for and importance of ESG-related strategies and the increasing use of artificial intelligence technologies, the choice of artificial intelligence in the choice of ESG improvement in organizations remains unclear. In today's era, many companies choose to invest in sustainability improvement programs and digital technologies, however, the connection between these two areas has not been sufficiently researched. Organizations that are in the process of improving their performance in the area of society, the environment and the organization (ESG) often face significant issues in the implementation of sustainability goals. These issues include fragmented data, insufficient coordination between departments, limited analytical capabilities, weak integration between ESG and strategic management, and difficulties in effectively monitoring sustainability indicators.

The literature on this topic has provided a lot of important information about sustainability and its impact on better performance and the value of capabilities in analytics and digitalization. Studies have shown that adding sustainability can lead to improvements in organizational processes and performance in the long term (Eccles, Ioannou, & Serafeim, 2014). Also, data-driven capabilities can improve the productivity and quality of companies' decisions (Brynjolfsson & McElheran, 2016). On the other hand, there seems to be limited research examining the extent to which the use of artificial intelligence contributes to ESG processes and outcomes within organizations.

An issue that concerns the organizational conditions under which Artificial Intelligence can effectively deliver ESG benefits. Successfully integrating Artificial Intelligence into organizations is not only a matter of technological investment, but also a matter of organizational readiness, supporting employee health and inclusion, and adapting to processes. Research has shown that organizations tend to have difficulty seeing and integrating the expected benefits of AI when adoption is not accompanied by the necessary structural and cultural changes (Jöhnk, 2021). Therefore, organizational change is likely to play a very important role in determining whether the adoption of Artificial Intelligence brings significant and meaningful improvements related to ESG.

The gap discussed above is particularly important in the Greek context, where organizations are increasingly required to meet ESG-related expectations and reporting obligations, thus pursuing their digital transformation. However, evidence from Greek organizations on the interaction between AI adoption, organizational change, and ESG performance remains limited. As a result, there is a well-documented need for primary research that examines these relationships from a management perspective and provides evidence on how organizations can perceive the role of AI in supporting strategic ESG.

1.3 Research Objective

The aim of this study is to examine in depth the role of Artificial Intelligence in supporting ESG strategies within organizations and to show the extent to which AI can function as one of the main strategic factors in the transformation to sustainability. In modern organizations, it is now expected to have financial and operational efficiency, but also environmental responsibility, social accountability and effectiveness in governance. At the same time, continuous technological developments and more specifically the rapid development of Artificial Intelligence have created new opportunities for organizations to improve data analysis, automate processes and assist in strategic decision-making. In this context, this study aims to investigate whether and how Artificial Intelligence can contribute to ESG.

The study aims to explore the extent to which organizations are adopting Artificial Intelligence in ESG-related activities and whether this adoption is reflected in sustainability-related strategies and operational practices. Specifically, it seeks to investigate whether Artificial Intelligence appears to be recognized as an important technological capability, whether it is supported by the management of organizations, and whether it is integrated into organizational processes, monitoring, and ESG risk analysis. All of this is important as the importance of Artificial Intelligence in the ESG field depends not only on the existence of technological tools, but also on the extent to which these tools are integrated into organizations.

Finally, the study attempts to analyze the role of organizational change in facilitating the integration of AI into ESG practices. Whether organizations adopt AI does not depend solely on technical or digital transformation, but may be a process that requires leadership support for organizational transformation, understanding and active participation from employees, and the ability to adapt to new technologies. For these reasons, organizational change is viewed as a critical internal mechanism that can influence whether AI adoption leads to ESG improvements.

1.4 Research Questions

Based on the above scopes, the study focuses on the following research questions.

1. To what extent do organizations adopt Artificial Intelligence in ESG related activities?
2. How does AI adoption influence ESG performance?
3. What is the role of organizational change in the integration of AI into ESG practices

4. Does organizational change mediate the relationship between AI adoption and ESG performance?

These questions aim to detect the importance of AI adoption in terms of its impact on ESG and internal processes within organizations.

1.5 Research Hypothesis

To test the proposed relationships with data, the study uses the following hypotheses

H1: Companies that use Artificial Intelligence show higher levels of ESG performance.

H2: Companies that use Artificial Intelligence undergo more changes to their internal structures.

H3: Companies that change their internal structures show higher levels of ESG performance.

H4: Organizational change is the process through which Artificial Intelligence adoption leads to higher ESG performance.

By using those hypotheses, the study argues that AI is a tool that makes ESG-related decisions, monitoring and strategic execution more effective, but the advantages of this technology are greater when organizations change their internal processes, structures and employee practices to match the technology. Under the conditions, the results are more successful.

1.6 Contribution of the study

This study adds value to literature in several ways. First, it adds to the body of research that relates AI to strategic sustainability and organizational transformation. Previous studies have separately investigated sustainability performance and organizational readiness for AI integration. Even fewer studies have integrated these two dimensions into a single empirical framework. By combining AI use, organizational transformation, and ESG performance, this study may contribute to a more comprehensive understanding of how organizational and technological factors relate to strategic sustainability.

Furthermore, the study participates empirically using primary data based on surveys and collected from surveyed organizations. This is very important as a significant part of the existing literature is based on conceptual arguments and secondary data. By giving importance to managerial perceptions within organizations, the study helps to provide a more direct picture of how companies understand and evaluate the importance of the role played by Artificial Intelligence in ESG-related processes and activities.

The study also contributes by focusing on Greece. By concentrating on Greek organizations, study makes a contribution in the existing literature, particularly when it comes to applying ESG implementation and organizational transformation with the help of Artificial Intelligence. Therefore, the conclusions can contribute to international research by providing

data from a European context where sustainability demands and digital transformation pressures are increasing.

Finally, the study has value for organizational management and decision-makers. The results of the research can help organizations understand that the correct and effective use of AI in ESG strategy depends not only on investments in technology but also on change management, the active participation of employees in its adoption, and internal alignment and support from leadership. Under these circumstances, the study can offer useful guidance for organizations that are trying to align Artificial Intelligence initiatives with sustainability goals in a more correct and strategic way.

1.7 Structure of the Dissertation

The dissertation's following sections have been structured as follows.

The literature review is given in Chapter 2. The most important theoretical and empirical contributions related to ESG strategy, ESG measurement and reporting. Artificial Intelligence as an organizational resource, the role of AI in supporting ESG, and the value of organizational transformation are all studied. The theoretical part of this chapter covers and develops the conceptual framework and the study hypotheses.

Moreover, the research method used in this study is explained in Chapter 3. It describes the research's approaches, research design, sampling approach, data collection process, variable measurement, and methods of statistical analysis used in the study.

Chapter 4 presents the empirical results of this research. It includes a description of statistical, reliability analysis and factor analysis and testing of hypotheses. Finally, Chapter 5 discusses the findings in relation to the findings of the research and the literature. It also presents the theoretical and managerial implications of the study, as well as identifying its limitations and offers suggestions for future research.

2. LITERATURE REVIEW

2.1 Artificial Intelligence (AI)

Artificial Intelligence (AI) is a technology that exerts a significant impact on current commercial operations. As various authors define this concept in multiple ways, it is generally described as the capacity of digital systems to complete activities that normally depend on human mental processes, like the acquisition of knowledge, logical analysis, the resolution of issues, the forecasting of events and the selection of options (Russell, S., & Norvig, & P., 2003). AI is not restricted to the mechanical execution of repetitive tasks, but it is a broad technical resource that allows companies to manage data with greater effectiveness and act more quickly when they encounter complicated situations. (Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations and implications of Artificial Intelligence. Business Horizons, 2019)

The theoretical origins of this field are present in the early research of Turing (Turing, A., & M, 1950), who asked if machines are able to think plus in the work of McCarthy et al. (1955) (McCarthy, και συν., 1955), who established AI as a discipline that focuses on how people build intelligent hardware and software. Since that time AI has changed to a great degree in both its scientific forms and its use as a functional business instrument. In the last few years, the increase in processing speeds, the high volume of available data but also the improvement of mathematical methods are factors that have caused more industries to use AI. To many organizations, those systems are now a primary part of the shift toward digital processes.

In a corporate environment, managers often see AI as a long-term resource for competition instead of just a hardware tool. It allows companies to examine large amounts of organized and unorganized information, make more accurate forecasts, perform recurring tasks without human input and assist people when they must choose a course of action during uncertain periods. And because of the functions, AI helps a company to be efficient in its daily work while also helping the firm to create new products as well as adjust to new conditions. Those attributes are useful when a market is complicated, when laws are strict and when the public expects a high level of openness and responsibility. (Artificial Intelligence for the Real World. Harvard Business Review., 2018)

For the purpose of this research, AI is pertinent because it has the potential to assist with environmental or social objectives. By using AI, firms can better manage data that relates to Environmental, Social besides Governance (ESG) standards, which require high data quality, tracking of results, the detection of risks and the cooperation of different departments. Since AI makes it easier for individuals to process information and perform analysis, it is a factor that supports better ESG results. If one views AI as a capability of an organization, it provides a basis for studying how this technology helps a firm to achieve its ESG goals.

2.1.1 Artificial Intelligence Categories

It is possible to categorize Artificial Intelligence according to how complex its tasks are and what those tasks cover. In academic literature, researchers usually distinguish between

Artificial Narrow Intelligence and hypothetical forms of intelligence like Artificial General Intelligence besides Artificial Superintelligence.

As a specific type, Artificial Narrow Intelligence or Weak AI, consists of systems that people build to do certain tasks in a restricted area. Those systems do not have intelligence that is like the intelligence of a human but they are effective when they solve problems that have clear definitions. As an example they are useful for image recognition, recommendation systems, natural language processing, fraud detection and predictive analytics. Many AI tools that organizations use now are in this category. In business settings, Narrow AI is the form of AI that people use most often. It is important because it assists specific parts of an organization and provides benefits that individuals can measure in terms of how well they work and how they analyze data. (Nilsson & J, 2009)

By contrast Artificial General Intelligence or Strong AI, is a more advanced idea where machines would be able to do many different mental tasks at a level that is equal to human intelligence. Such systems would not be limited to tasks that people define for them in advance. They would be able to think, learn and change their behavior in different situations. Although this idea is important when people discuss theories, it is not but something that organizations use in reality (Collins & H., 2018).

To describe another stage, Artificial Superintelligence is a hypothetical level where the intelligence of machines would be greater than the mental abilities of humans in almost every area. And because this is theoretical, individuals discuss this category mostly during debates about philosophy and ethics rather than in research about how to manage businesses (Bostrom & N., 2014). Due to the reasons, the distinction between those categories is helpful to make concepts clear but this study focuses mainly on Narrow AI, because Narrow AI is the form of Artificial Intelligence that organizations currently use when they support their daily work and their long-term plans.

2.1.2 Artificial Intelligence Technologies: Machine Learning and Deep Learning

Organizations use Artificial Intelligence because technologies like Machine Learning besides Deep Learning are available. Those approaches provide the method for analysis in many AI systems and are the primary reason why businesses use AI more frequently.

Machine Learning is a part of Artificial Intelligence that allows systems to use data to improve how they function. It does not require a person to program the system for every task. By using statistical models and algorithms, Machine Learning finds patterns in data to create predictions and help with how a system classifies items or makes decisions. For many organizations, Machine Learning is a common tool for analyzing customers, predicting future trends, identifying errors and suggesting products. It is useful because it changes large amounts of data into information that people can use to make decisions that are more accurate and faster.

Deep Learning is a specific type of Machine Learning that is more complex. It uses artificial neural networks that are similar to the way neurons are organized in a brain. Deep Learning is effective when data sets are large and do not have a clear structure. **Brynjolfsson, E., &**

McAfee, A. (2017). The Business of Artificial Intelligence. Examples of this include when a system recognizes speech, analyzes images or processes in human language. As a difference from older Machine Learning methods, Deep Learning models can find patterns in raw data with less help from humans (Benedikt C, F, & Osborne, & & Osborne, 2013).

In this study those technologies are significant because of how they affect the strategy of an organization (Strivastana & S., 2022). By making it possible for a system to analyze data and automate tasks, Machine Learning or Deep Learning improve what AI can do. To improve performance in fields that have many data points, like ESG, organizations use the tools. Since processes for sustainability require a system to analyze information that is often in different parts, those technologies assist when a person monitors progress, assesses risk or makes a decision.

2.2 Artificial Intelligence in Organizations

In recent years, organizations have increasingly focused on integrating Environmental, Social and Governance (ESG) elements into their strategies. data for better decision-making, better risk assessment and organizational effectiveness.

At the same time, the great evolution of Artificial Intelligence (AI) has transformed organizational processes by enabling advanced data analysis, automation and decision-making capabilities (Russell & Norvig, 2021). The application of the technique presents a significant opportunity for organizations to improve transparency and better manage risks.

In organizations, AI has been increasingly used to automate processes, improve efficiency, and support data driven decision making (Davenport & Romanik, 2018). AI is a major factor for digital transformation, enabling organizations to achieve competitive advantage through improved productivity and innovation (Bughin, et al., 2017).

AI technologies are quite helpful when large and complex datasets exist. AI is an important tool for managing sustainability-related data as ESG-related processes include gathering, analyzing, and processing of large amounts of data. (Vinuesa, The role of artificial intelligence in achieving the Sustainable Development Goals. Nature Communications, 2020)

However, the adoption of AI depends on organizational awareness, including technical support, employee skills, and strategic alignment (Jöhnk, 2021).As organizations strive to use cutting-edge technologies to improve sustainability, performance, and transparency, the connection between ESG and AI has proven to be an important research area. In this chapter, we review the existing literature on AI adoption, ESG performance, and organizational change, providing a theoretical basis for the study and supporting a need for further research. As businesses want to use cutting-edge technology to improve sustainability, performance, and transparency, the nexus between AI and ESG has become a crucial field of research.

This chapter reviews the existing literature on AI adoption, ESG performance, and organizational change, providing the theoretical foundation for the study and supporting the development of the research framework.

2.3 Organizational Performance and ESG Strategy

Environmental, Social and Governance (ESG) criteria have emerged as a priority in the modern strategy of organizations, demonstrating the growing importance of sustainability and responsible business practices. (Creating Shared Value., (2011).)

Environmental factors include climate change mitigation, resource efficiency and carbon footprint reduction. Social factors are related to improving the working environment as well as governance focusing on transparency, accountability and making critical strategic decisions. (Fatemi, Glaum, & Kaiser, 2018).

Research suggests a positive correlation between ESG performance and financial performance, meaning that organizations adopting sustainable practices tend to achieve superior long-term outcomes. (Does ESG performance have an impact on financial performance?, 2017)

Since they improve stakeholder trust, company image, and risk management abilities, ESG practices are essential to an organization's achievement (Fatemi, Glaum, & Kaiser, 2018).

2.4 The Role of AI in Supporting ESG

Researchers and managers study the connection between Artificial Intelligence besides ESG with more frequency. Because organizations experience demands to enhance sustainability, govern more strictly plus report ESG data clearly, they use AI as a tool to achieve those goals. It contributes to the areas because it processes large data sets, finds patterns, predicts future outcomes, monitors activities automatically and assists when managers make choices. (Artificial Intelligence and Business Models in the Sustainable Development Goals Perspective., 2020)

In environmental matters, AI is able to monitor how much gas a firm emits, how much energy it uses, how it handles waste but also how it uses resources. By using analytics and processing data as it arrives, organizations find where they are inefficient, see risks before they happen as well as choose environmental actions based on facts. On this path AI helps firms act before problems occur because it creates information and allows for quick responses (Vinuezas, The role of artificial intelligence in achieving the Sustainable Development Goals. Nature Communications, 2020).

For social issues, AI assists when firms analyze their staff, monitor how diverse their employees are, talk with stakeholders or measure how they affect society. As organizations use data to look at inclusion, the health of workers and social projects, they rely on AI to organize this information. It is possible for AI to find patterns or problems that need attention. This is useful in large firms because social success requires that managers oversee many different people next to look at many types of data.

To improve governance, AI helps firms follow rules, control internal tasks, find fraud, see risks and make reports clear. Because governance tasks require people to look at many documents about laws, policies, money plus rules, they use AI to help those systems work

with speed and keep results the same, which makes an organization more responsible but also open.

And beyond those individual parts, AI helps when a firm combines ESG with its main strategy. For an ESG strategy to work, a firm must gather data that is correct, link sustainability numbers to business tasks and turn separate pieces of information into knowledge that leads to action. If AI makes data integration as well as decisions better, it acts as a tool that helps a firm follow its ESG plans but academic writers also say that AI does not provide ESG benefits automatically. Due to ethical problems, risks to data privacy, bias in code and governance issues, the quality of AI in ESG might vary (Floridi & et, 2018). AI is not a solution that works alone but is a tool that works only when a firm puts it into its wider management systems.

On a general level, AI is a tool that firms use to support their ESG strategy. It is important because it makes operations efficient or allows organizations to perform better in sustainability, show their actions clearly and make choices that meet environmental and social goals next to governance goals. (Artificial Intelligence and ESG Performance., 2024)

2.5 Organizational Change and AI Adoption

In the process of integrating Artificial Intelligence into how organizations operate, successful results depend on more than the purchase of technology. It is also necessary for the organization to change. To explain this differently, when a company adopts AI, it is not merely a technical event. As the organization evolves, this transformation alters structures, daily routines, how people make decisions, how managers lead and what employees do. Due to these factors, researchers often state that an organization must be ready plus manage change well so that AI leads to results that have clear significance (Burnes, 2017).

Organizational change happens when companies modify their structures, processes, behaviors and capabilities because they feel pressure from inside or outside the firm (Burnes, 2017). If a company adopts AI, it might redesign how work flows, help staff develop new skills, include digital tools in decision processes but also build a culture where people accept new ideas but if the changes do not occur, the organization might install AI technology without creating actual value. (Organizational Change., 1999)

By looking at existing research, it is clear that leaders are central to how well an organization changes. For instance, managers distribute resources and set priorities as well as they also affect how individuals throughout the company view and accept change. When leaders give a clear strategic direction or show that they support new technology, employees are more likely to understand why the change is happening and act in a way that is helpful. And so the way managers communicate, their vision next to their commitment are parts of the AI adoption process that determines its success.

If an organization introduces AI, employee participation is also a factor. Because AI can change job roles, responsibilities and what is expected of workers, it can cause people to feel uncertain or to resist if the process is not handled well. In studies about change management, researchers find that employees are more likely to support a transformation when they know

its purpose, feel they have a part in it plus get the help and training they need. To ensure AI adoption works, a company should have commitment from the top but also involve employees from the bottom while developing their internal skills.

With regard to ESG, the need for an organization to change is even higher. As companies follow ESG practices, they must often coordinate across different departments, measure performance in new ways, be more transparent and connect sustainability goals with daily work. If AI enters this environment, organizations are required to adapt to their strategies as well as their culture rather than just their technology (Strivastana & S., 2022). The internal mechanism that turns AI adoption into results that relate to ESG is organizational change.

For this study organizational change is the factor that explains the link between AI adoption besides ESG performance. It is a measure of how well organizations support AI providing managerial help, clear strategies and ways for employees to understand, participate or adapt. On this basis it is the environment that determines if AI succeeds or fails when a company uses it as part of an ESG strategy.

2.6 ESG and AI in the European and Greek Companies

In recent years, the European Union has attempted to encourage transparency, sustainability, and responsible business in its regulatory framework regarding ESG practices, aiming to promote transparency, sustainability, and responsible business conduct.

Regulations such as the Corporate Sustainability Reporting Directive (CSRD) require organizations to disclose detailed ESG-related information, increasing the importance of accurate data collection and reporting. (European Commission (2022))

Within this context, Artificial Intelligence is increasingly recognized as a key enabler for managing ESG data and ensuring compliance. AI technologies facilitate the processing of large datasets, improving reporting accuracy and supporting decision-making processes (Kotsantonis & Pinney).

Given stakeholder expectations and legal restrictions, ESG adoption is progressively rising in Greece, especially among major enterprises. However, adoption of AI into ESG processes is still in its early stages, with challenges related to organizational preparation, technical infrastructure, and expertise.

Therefore, studying the relationship between AI adoption, organizational change, and ESG performance in the Greek context is particularly important, as it provides insights into how organizations can leverage AI to support sustainable development.

2.7 Conceptual Framework and Hypothesis Development

By reviewing the literature in this chapter, this study creates a conceptual framework to observe how organizations adopt Artificial Intelligence, how they change and how they perform regarding ESG. There is a central premise in the framework that AI is a tool to assist

sustainability results. It is also a premise that changes in the organization are a way to make this process possible (Burnes, 2017).

On the first relationship, the focus is the connection between the adoption of AI besides ESG performance. In the literature, there are suggestions that AI makes the analysis of data for sustainability better and is helpful for making decisions. It is also useful for monitoring plus for managing risks. Due to the fact that ESG depends on how people process information and track results, the use of AI is a factor that leads to better ESG results. It is expected that organizations that use AI in a more active manner are the same organizations that have high levels of ESG performance (Vinuesa, The role of artificial intelligence in achieving the Sustainable Development Goals. Nature Communications, 2020).

With the second relationship, the focus is the link between the adoption of AI and organizational change. As firms adopt AI, they frequently must modify their internal processes but also build new capabilities. It is also necessary that leaders show commitment and that employees understand how technology changes work. There is an expectation that organizations with high AI adoption are organizations that have clear strategies, support systems and the ability to adapt.

To understand the third relationship, the study looks at how organizational change affects ESG performance. When there is support from managers as well as when employees participate, organizations are more likely to put sustainability strategies into practice. By creating those internal conditions, organizational change allows ESG goals to become actual operational results.

And finally the study tests if organizational change is a mediator between the adoption of AI or ESG performance. If this logic is correct, AI adoption improves ESG results directly and also indirectly. In this indirect path, AI requires the organization to adapt first. On that account organizational change is the process that turns technological capability into performance for sustainability.

As a result of this framework, the hypotheses are proposed

H1 The adoption of Artificial Intelligence has an effect on ESG performance.

H2 The adoption of Artificial Intelligence has an effect on organizational change.

H3 Organizational change has an effect on ESG performance.

H4 Organizational change is a mediator for the relationship between Artificial Intelligence adoption next to ESG performance.

For this study those hypotheses are the theoretical logic and are the basis for the research model or the questions in the survey. If we look at the variables, AI adoption is the independent variable, organizational change is the mediating variable besides ESG performance is the dependent variable. By using this framework, it is possible to see the

direct and indirect links between the parts. It is also possible to explain how Artificial Intelligence a support for ESG strategy in organizations is.

3. RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, an attempt will be made to present the methodological framework that we will follow as well as the optimal strategic planning that we will follow. The main purpose is to present to the reader, as much as possible at a readable level, the findings that we collected and the information that we received. It is important to emphasize at this point that the goal of the methodological approach is the entire overall framework of activities and empirical data for the best extraction of conclusions at a reliable and valid level for the reader.

The methodology that we will follow concerns the investigation of the use of Artificial Intelligence as well as the percentage of employees of organizations who are receptive and willing to collaborate with Artificial Intelligence technologies. The methodological approach that we are called upon to follow is based on previous empirical data from previous research on sustainability, particularly studies that investigate the mediating role of organizational change.

In this work, the first part concerns the productive approach, since in full cooperation with the existing bibliography, we are called upon to shape the situation that prevails in general society from the use of Artificial Intelligence technologies. While in the second part, a questionnaire is used, where the results are translated and 4 hypotheses are defined.

3.2 Research Design

In this study the researcher uses quantitative cross sectional survey design. For this research, a quantitative approach is suitable because the goal is to measure how specific variables relate to each other, those variables are Artificial Intelligence Adoption, Organizational Change besides ESG Performance. By using statistical analysis, the study tests hypotheses about how AI adoption relates to ESG performance. It also tests if organizational change connects those two factors.

When a cross-sectional design is used, data are collected at one specific time from people who know about AI or ESG practices in their companies. This design is common in management research when the goal is to study how people perceive relationships between abstract concepts. As the key variables are difficult to see directly across different companies, a survey is used. Instead of direct observation, the study relies on how respondents evaluate what happens within their organizations.

To answer the research questions, a survey method is appropriate. The study is not a case study of one firm or one sector, but it aims to collect data from many different organizations to find general patterns. By doing this the research shows how Artificial Intelligence supports ESG strategies. On this basis a cross-sectional questionnaire is the most useful method for the study.

If a longitudinal study were used, it would show more about how things change over a long period but the current cross-sectional design is sufficient for this work. It provides a picture of what respondents think at this moment. And it allows the researcher to test the proposed ideas using a structured statistical process.

3.3 Research Instrument and Questionnaire Development

The method of conducting the sampling concerns the quantitative process, according to which the data will be collected online through Google Forms, followed by the processing and analysis of them and finally the best presentation of the results. The technical approach that we will follow, as we mentioned above, makes use of the questionnaire, making it a special technique that gives the researcher the ability and the ability to construct and adapt the content in order to direct the research and bring it closer to the goals that have been set. The questionnaires will be shared electronically and of course full confidentiality and anonymity will be maintained in completing the questionnaire.

The questionnaire was developed based on the conceptual and measurement approach described by (Jiachen Li, 2024) in their study titled “The Impact of Artificial Intelligence Adoption Intensity on Corporate Sustainability Performance: The Moderated Mediation Effect of Organizational Change.” In particular, the article’s measurement section provided the theoretical basis for identifying the relevant constructs and for designing items related to Artificial Intelligence adoption, organizational change, and sustainability-related organizational outcomes.

However, the questionnaire used in this study did not reproduce verbatim from the article used. On the other hand, it was adapted to fit the specific research purpose of this study, which is to examine the role of Artificial Intelligence in supporting ESG strategy. This was necessary in order to ensure consistency with the dissertation title, the research questions, and the context of ESG organizational practices. The final wording of the questionnaire items reflects this adaptation process while remaining grounded in literature and in the measurement, logic proposed by Li and Jin (Jiachen Li, 2024) .

All answers were measured with a five-point Likert scale, where:

- 1 Strongly disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly agree

The questionnaire consisted of four sections. The first section included introductory information and instructions regarding the purpose of the study, the anonymity of participation, and the response scale. The remaining three sections corresponded to the core constructs of the research model: Adoption of Artificial Intelligence in Organizations, Organizational Change, and ESG Performance.

3.4 Population, Sampling and Data Collection

As mentioned, the study will have a research approach and will concern a case study in Greek companies. The method that we will follow for data collection will be done using a questionnaire and specifically using Google Forms. The target population of the study and to whom the questionnaire will be given are employees, managers and professionals working in companies related to sustainability, compliance, governance, strategy and digital transformation as well as ESG. We expect the employees who will answer the questionnaire to have sufficient knowledge of the practices followed by their organization regarding the adoption of Artificial Intelligence and ESG so as to obtain meaningful answers.

The use of Artificial Intelligence is a promising topic that constantly attracts new research from researchers. However, the creation of the research questions aimed to delve deeper into the main issues being studied through understandable and readable proposals. It is known, however, that several determining factors may change the expectations we expect in the specific results and the research questions we have set.

By using a reliable method, the questionnaire, the research is conducted in a smoother manner. However, there is always the risk that some individuals from the general sample will not answer honestly, and therefore our results will not reflect reality.

The sample size relates to employees of technology organizations based in Greece, but not from all companies. More specifically, our sample constitutes a section of the overall industry. Therefore, in order to have a more complete picture, it would be ideal if all employees in all technology companies in Greece had been interviewed. This fact means that while our research can be considered reliable, there is still an unexplored context.

3.5 Measurement of Variables

The model used in the study and in the formulation of the questionnaire includes an independent variable, an intermediate and a dependent variable.

3.5.1 Artificial Intelligence Adoption

The use of Artificial Intelligence refers to the extent to which companies adopt Artificial Intelligence in their processes and specifically in processes related to ESG. In this study, it is recorded whether Artificial Intelligence is understood as a technology that is very important for the organization. It also examined whether management supports its adoption and integration, as well as whether it is used in ESG analyses and strategic sustainability.

The specific structure of the thesis was made from the broader logic of measuring the intensity of adoption of Artificial Intelligence discussed by Li and Jin (Jiachen Li, 2024). However, it was adapted to fit the ESG strategy of this specific thesis.

3.5.2 Organizational Change

Organizational change refers to internal processes, adjustments, and support mechanisms that enable the successful integration of AI into ESG-related practices. It reflects the extent to which employees understand the changes introduced, participate in ESG and AI initiatives, receive support from management, and operate within an organization that adapts effectively to technological developments.

This construct is particularly important because the literature suggests that the successful implementation of AI depends not only on technological investment but also on organizational readiness, process alignment, and change management. In line with Li and Jin (Jiachen Li, 2024), organizational change is treated as a mediating mechanism that can explain how AI adoption translates into sustainability-related outcomes. One item in this construct is negatively worded: “Change initiatives related to ESG and AI do not always deliver the expected outcomes.”

This item should be reverse coded prior to statistical analysis so that higher values consistently represent more positive perceptions of organizational change.

For a five-point Likert scale, reverse coding is calculated as:

New score = 6 – original score Excel formula: =6-A1

3.5.3 ESG Performance

As the dependent variable of this study, ESG Performance describes the degree to which an organization appears to manage its environmental, social and governance activities plus results. In the context of this dissertation, this variable represents how an organization commits to being sustainable and responsible. It is also a measure of how an organization turns those commitments into specific priorities, investments but also ways to monitor actions. On a practical level, it includes the benefits an organization receives regarding its reputation.

To choose ESG Performance as the outcome variable, the study relies on academic texts that connect sustainability to organizational value, resilience and trust. As previous research indicates, organizations that focus on ESG usually show better results over long periods of time as well as manage risks more effectively. For the organizations, legitimacy is higher among investors, customers, employees and the public (Eccles, Ioannou, & Serafeim, 2014). In this framework, ESG performance is not a simple reporting result. It is a broad indicator of how an organization includes environmental, social or governance factors in its daily operations and its general direction.

In the present study, the measurement of ESG Performance involves six questionnaire items that describe the main parts of sustainability in an organization. To evaluate this the items ask if the organization makes environmental sustainability a priority. By using those questions, the study determines if social responsibility is a main part of the strategy. And the items check if the organization maintains responsible ESG practices while it achieves strong operational or financial results. If an organization invests in technologies for sustainability besides ESG rules, the items record this action. When an organization monitors ESG data

with AI technologies, the measurement captures that process. For the final part of the assessment, the items ask if ESG actions make the reputation of the organization stronger.

By selecting the items, the study ensures the measurement is practical next to focuses on the organization, those items are suitable because they show how ESG relates to technology investments and better results. Because of this design, the construct matches the topic of the dissertation plus the logic of the model. In this model ESG Performance is the primary result that changes when an organization adopts AI and undergoes internal changes.

With this approach, ESG Performance is a variable with many parts. It shows how effectively an organization deals with environmental, social but also governance goals through its strategy and its focus on performance.

3.6 Questionnaire Structure

The questionnaire consisted of the following sections.

Section 1: Introduction and Instructions

In this specific section, respondents are informed about the purpose of the dissertation, the academic nature of the research, as well as the anonymity they will have during their participation and the format of their responses.

Section 2: Adoption of Artificial Intelligence in Organizations

This section of the questionnaire includes 4 items.

- Artificial Intelligence (AI) is a key technology in modern organizations.
- The management of our organization actively supports the integration of AI into ESG-related functions.
- Our organization uses AI to analyze ESG risks (e.g., environmental, social, and regulatory risks).
- The use of AI is integrated into our organization's sustainability strategy.

Section 3: Organizational Change

This section of the questionnaire includes 8 items.

- Change initiatives related to ESG and AI do not always deliver the expected outcomes.
- The changes implemented to integrate AI into ESG practices are well understood by employees.
- Employees actively participate in ESG initiatives related to AI.
- Management supports the changes required to integrate AI into ESG processes.
- Changes are implemented with clear ESG strategy and objectives.
- Our organization adapts quickly to technological developments related to ESG and AI.
- Changes related to ESG and AI enhance the organization's performance and transparency.
- Employees understand the importance of AI in achieving ESG objectives.

Section 4: ESG Performance

This section of the questionnaire includes 6 items:

- Our organization prioritizes environmental sustainability.
- Social responsibility is a key pillar of our strategy.
- Our organization demonstrates strong financial or operational performance alongside responsible ESG practices.
- Our organization invests in technologies that enhance and comply with ESG standards.
- We systematically monitor and improve our ESG indicators using AI technologies.
- Our organization's reputation is strengthened by the ESG initiatives we implement.

3.7 Reliability and Validity

To assess the quality of the measurement instrument, this study will examine both validity and reliability.

In this study, Cronbach's alpha was used to assess the reliability of the items measured by each construct.

As reported by UCLA. (Statistical Methods and Data Analytics) Cronbach's alpha measures internal consistency, that is, how closely a set of items are related as a group. It is considered a measure of scale reliability. A "high" value for alpha does not mean that the measure is unidimensional. If, in addition to measuring internal consistency, you want to provide evidence that the scale in question is unidimensional, additional analyses can be performed. Exploratory factor analysis is a method of testing dimensionality. Technically, Cronbach's alpha is not a statistical test. It is a reliability coefficient.

Cronbach's alpha can be written as a function of the number of test items and the average inter-correlation among the items. Below, for conceptual purposes, we show the formula for the Cronbach's alpha:

$$\alpha = \frac{Nc^-}{u^- + (N - 1)c^-}$$

N = number of items,

c^- is the average inter-item covariance among the items

u^- = the average variance.

From this formula we can see that if you increase the number of items, you increase Cronbach's alpha. Finally, if the average inter-item correlation is low, alpha will be low. As the average inter-item correlation increases, Cronbach's alpha increases as well (holding the number of items constant).

Because the questionnaire was developed based on the measurement logic described by Li and Ji (2024) (Jiachen Li, 2024), in the present study, reliability testing is particularly important. Even if a questionnaire is based on scales that have been used before, any adaptation requires new empirical testing on the new sample.

Validity is seen from the degree to which the instrument measures what it is designed to measure. The validity of the questionnaire structure could be assessed with exploratory factor analysis, which helps to find out whether the data reveal the expected factors. In this study, factor analysis is used to verify whether the questionnaire items are empirically grouped into 3 structures: Artificial Intelligence adoption, organizational change and ESG performance. Before conducting factor analysis, two tests are applied. One is the Kaiser-Meyer-Olkin sampling adequacy measure and the Bartlett test of sphericity.

KMO (Kaiser-Meyer-Olkin) is a statistical measure to determine how suited data is for factor analysis. The test measures sampling adequacy for each variable in the model and the complete model. The statistic is a measure of the proportion of variance among variables that might be common variance. The higher the proportion, the higher the KMO-value, the more suited the data is to factor analysis. (GLOBAL)

In statistics, Bartlett's test, named after Maurice Stevenson Bartlett, is used to test homoscedasticity (or "homogeneity of variance"), that is, if multiple samples are from populations with equal variances. Some statistical tests, such as the analysis of variance, assume that variances are equal across groups or samples, which can be checked with Bartlett's test.

In a Bartlett test (Wikipedia), we construct the null and alternative hypothesis. For this purpose several test procedures have been devised. The test procedure due to M.S.E (Mean Square Error/Estimator) Bartlett test is represented here. This test procedure is based on the statistic whose sampling distribution is approximately a Chi-Square distribution with $(k - 1)$ degrees of freedom, where k is the number of random samples, which may vary in size and are each drawn from independent normal distributions.

Bartlett's test is unbiased in the Neyman–Pearson sense and consistent, but sensitive to departures from normality. That is, if the samples come from non-normal distributions, then Bartlett's test may simply be testing for non-normality. Levene's test and the Brown–Forsythe test are alternatives to the Bartlett test that are less sensitive to departures from normality.

Some statistical methods assume that variances are equal across groups or samples. The Bartlett test can be used to verify that assumption. For example, in ANOVA, one can first verify that different populations have the same variance using Bartlett's test, then check that they have the same mean. However, George Box argued that using Bartlett's test to check whether it is appropriate to apply ANOVA would be like "putting a rowing boat to sea to find out whether conditions are sufficiently calm for an ocean liner to leave a port", because when different populations are of roughly equal sample size, the F-test is robust to both non-normality and different variances.

3.8 Data Analysis Techniques

The researcher analyzed the data from the questionnaire with quantitative statistical techniques. Since the study examines how three main constructs relate to each other and tests hypotheses that the researcher defined previously, statistical analysis is necessary so that the conceptual framework of the research has empirical support.

With descriptive statistics, the analysis began to summarize the responses and show how respondents perceive Artificial Intelligence Adoption, Organizational Change besides ESG Performance, the researcher calculated frequencies, means, standard deviations, minimum values and maximum values. As descriptive statistics are useful in survey based research, they allow the researcher to see how the sample tends to respond generally before more advanced forms of analysis occur.

By using reliability analysis, the process continued in order to assess how consistently the items in each construct relate to each other, the researcher used the Cronbach's alpha coefficient. It is important to test reliability because this indicates if the items of each scale measure the same concept in a consistent way. For this study the researcher conducted reliability analysis separately for the AI Adoption, Organizational Change or ESG Performance constructs.

And validity diagnostics were used to examine if the data are suitable for factor analysis. To do this the researcher used the Kaiser-Meyer-Olkin measure of sampling adequacy next to Bartlett's test of sphericity, those tests determine if the correlations among the items are high enough so that an examination of the structure of the factor of the measurement instrument is justified.

On completion of those steps, correlation analysis occurred to examine the strength and direction of the relationships among the three main constructs. To determine if AI Adoption, Organizational Change besides ESG Performance have positive associations and if the relationships are statistically significant, the researcher calculated Pearson correlation coefficients.

The researcher used regression analysis to test the research hypothesis. By estimating simple linear regression models, the researcher examined how AI Adoption affects ESG Performance or Organizational Change and how Organizational Change affects ESG Performance. If Organizational Change mediates the relationship between AI Adoption next to ESG Performance, a multiple regression model shows this effect.

There are regression equations used in the study which are presented as follows

$$\text{Organizational Change} = b_0 + b_1(\text{AI Adoption}) + e$$

$$\text{ESG Performance} = b_0 + b_1(\text{AI Adoption}) + e$$

$$\text{ESG Performance} = b_0 + b_1(\text{AI Adoption}) + b_2(\text{Organizational Change}) + e$$

In those equations, b_0 is the constant term, b_1 and b_2 are the regression coefficients of the independent variables and e is the error term.

To examine mediation, the study followed the logic where mediation exists when AI Adoption predicts Organizational Change significantly, AI Adoption predicts ESG Performance significantly and the direct effect of AI Adoption on ESG Performance is lower

when Organizational Change is in the model. The researcher examined the indirect effect through statistical testing.

Due to the need for a systematic and statistical examination of the conceptual model, the researcher selected the techniques to ensure the findings have support from empirical evidence.

3.9 Ethical Considerations

The purpose of this research is to examine how Artificial Intelligence (AI) is utilized by organizations to support Environmental, Social, and Governance (ESG) strategies. The participation is anonymous, and all data collected will be used solely for academic purposes. No personal information is required. The responses were collected and recorded anonymously and used for academic reasons.

3.10 Chapter Summary

This chapter presents the methodological approach used. Data were collected through an online Google Forms questionnaire created based on the structure described by Li and Jin (2024) (Jiachen Li, 2024) adapted to this specific work. The questionnaire measured 3 constructs: Artificial Intelligence adoption, ESG performance and organizational change. The chapter also explained the sampling process, the structure of the questionnaire, the operationalization of the variables, the reliability and validity procedures as well as the statistical analysis techniques and the ethical parameters of the research.

4. Results

4.1 Introduction

In this chapter the empirical findings are present based on the data that participants provided through the questionnaire. A total of 41 valid responses are part of the analysis. It is the goal of this chapter to show the results in a structured manner and to test the hypotheses that the study proposes.

For the structure of the analysis, the three main parts of the research model are used, which are Artificial Intelligence Adoption, Organizational Change besides ESG Performance. Descriptive statistics are used so that the perceptions of the respondents are visible. The reliability of the measurement scales is tested with Cronbach's alpha. The validity of the dataset is checked with factorability diagnostics. The correlation is measured to see how strong and in what direction the parts of the model relate to each other. Regression analysis is used to test the research hypothesis and to see how Organizational Change acts as a mediator.

And the findings show that participants view Artificial Intelligence adoption or ESG performance in a favorable way but organizational change is at a lower level and is more difficult to define. Because of this result, it is evident that organizations understand that Artificial Intelligence is useful for activities related to ESG. If this is true the internal changes that are necessary to integrate those systems are still happening.

4.2 Descriptive Statistics

The first step of the analysis involved the calculation of descriptive statistics for the three main constructs of the study. Table 4.1 presents the mean values, standard deviations, and the minimum and maximum scores for each construct.

Table 1. Descriptive Statistics of Main Constructs

Construct	N	Mean	Std. Deviation	Minimum	Maximum
AI Adoption	41	3.933	0.731	1.000	5.000
Organizational Change	41	3.424	0.447	2.250	4.500
ESG Performance	41	3.797	0.550	2.500	5.000

Source: Author's calculations based on survey data.

In Table 1, the data shows that Artificial Intelligence Adoption is the variable with the highest average value ($M = 3.933$, $SD = 0.731$). By those numbers it is clear that the people who answered the survey view the use of technology as a significant and frequent part of how their companies operate. To follow this ESG Performance is also at a level that is above the middle point ($M = 3.797$, $SD = 0.550$). On this scale the results show that the participants describe the actions of their companies regarding environment, social and governance goals in a positive way but Organizational Change is the category with the lowest average value

($M = 3.424$, $SD = 0.447$). As the data indicates, this specific area is at a stage that is not as advanced as the other two categories.

For the purpose of this research, the specific differences are useful for analysis. It is evident that organizations understand that AI is a tool for strategy and that ESG results are necessary. Due to the lower scores for the third variable, the internal steps that a company takes to adapt so that it can combine AI with ESG methods are still in a state of growth. In simpler terms the aspects that relate to technology and measurable results are more prominent than the aspects that relate to how a company alters its internal structure.

4.3 Reliability Analysis

In order to assess the internal consistency of the measurement scales, Cronbach's alpha coefficients were calculated for all three constructs. The results are presented in Table 2.

Table 2. Reliability Analysis of Main Constructs

Construct	Number of Items	Cronbach's Alpha
AI Adoption	4	0.810
Organizational Change	8	0.560
ESG Performance	6	0.782

Source: Author's calculations based on survey data.

The results show that the AI Adoption scale is internally consistent with an alpha of 0.810 and the ESG Performance scale is reliable with an alpha of 0.782. Both values are above the standard requirement of 0.70. On that account the items in those constructs measure the intended concepts in a uniform way.

But the Organizational Change construct is less consistent because it has a Cronbach's alpha of 0.560. On further inspection, it is clear that the reverse coded item "Change initiatives related to ESG and AI do not always deliver the expected outcomes" makes the scale less coherent. When researchers remove this item from the construct, the reliability coefficient is higher, as people can see in Table 3.

Table 3. Reliability of Organizational Change After Removing the Reverse-Coded Item

Construct	Number of Items	Cronbach's Alpha
Organizational Change (without Item 1)	7	0.760

Source: Author's calculations based on survey data.

As the alpha value rose from 0.560 0.760, it is probable that participants understood the negatively worded item in a way that differs from other items. Because of this difference, the item made the scale less consistent. In survey-based research, this result is common because

items that use reverse wording often cause participants to feel confused. And it is possible that those items do not match the other items in the same construct in a conceptual way. Although researchers coded the item in reverse before they started the analysis, it is necessary that they recognize how this item affects the results. To ensure a complete report, the researchers should include this item as a limitation of the study in a later section. (Jöhnk, 2021)

4.4 Validity Assessment

To begin the study required an assessment of the data to see if factor analysis is appropriate before the examination of how the main variables relate. For this purpose the researchers calculated the Kaiser-Meyer-Olkin measure of sampling adequacy besides Bartlett's test of sphericity.

On the scale for the Kaiser-Meyer-Olkin test, the result is 0.672. As this number is higher than the required level of 0.60, it shows that the sample size is large enough for factor analysis. By applying Bartlett's test of sphericity, the researchers found a result that is statistically significant at $\chi^2(153) = 391.921$, $p < 0.001$. Because of this result, the correlations between the items are at a level where factor analysis is possible.

With those results, it appears that the instrument measures the intended constructs and the data allow for an analysis of the factor structure within the questionnaire. If the diagnostic tests are successful, they provide evidence that the tool in this study is functional for its purpose. (Jiachen Li, 2024)

4.5 Correlation Analysis

Pearson correlation coefficients were calculated in order to examine the strength and direction of the relationships among the three main constructs. The results are presented in Table 4.4.

Table 4. Pearson Correlations Among Main Constructs

Variable	1	2	3
1. AI Adoption	1.000		
2. Organizational Change	0.464**	1.000	
3. ESG Performance	0.593***	0.431**	1.000
** $p < 0.01$, *** $p < 0.001$			

Source: Author's calculations based on survey data.

In Table 4.4, the data show that all correlations are positive and have statistical significance. It is clear that the link between AI Adoption besides ESG Performance is the most prominent ($r = 0.593$, $p < 0.001$). As organizations adopt AI more extensively, they also document

higher levels of ESG performance. By those results the data offer early evidence that AI helps organizations achieve results that relate to sustainability.

And the correlation between AI Adoption or Organizational Change is positive and statistically significant ($r = 0.464$, $p < 0.01$). With higher levels of AI adoption, organizations also maintain internal conditions that support change this relationship means that AI adoption is linked to performance results plus to how organizations prepare for and manage transformation processes.

To conclude the analysis, the correlation between Organizational Change next to ESG Performance is positive and significant ($r = 0.431$, $p < 0.01$). If an organization has conditions that favor change, it also tends to report ESG performance that is high. Due to the findings, the correlation analysis is consistent with the logic of the study. For all three constructs, the relationships are in the positive direction that the researchers expected.

4.6 Regression Analysis and Hypothesis Testing

In the next part of the analysis, researchers used regression testing so that they could examine the proposed hypotheses. It is the case that four hypotheses describe how AI Adoption affects ESG Performance besides Organizational Change. And descriptions also exist for how Organizational Change affects ESG Performance. By including those factors, the study shows if Organizational Change acts as a mediator.

4.6.1 Testing H1: The Effect of AI Adoption on ESG Performance

In the first hypothesis, researchers suggested that companies improve their Environmental, Social, Governance results when they use Artificial Intelligence. To test this claim, the authors calculated a simple linear regression model. For this calculation, the Environmental, Social or Governance performance is the variable that changes based on others & Artificial Intelligence use is the variable that stays independent. With the data processed, the outcomes are in Table 4.5.

Dependent Variable: ESG Performance

Table 5. Regression Results How Artificial Intelligence Use Affects Environmental, Social & Governance Performance

Predictor	B	Std. Error	t	p	95% CI Lower	95%CI Upper
Constant	2.045	0.388	5.273	<0.001	1.260	2.829
AI Adoption	0.446	0.097	4.594	<0.001	0.249	0.642

Source: Author's calculations based on survey data.

Table 6. Model Summary

R	R ²	Adjusted R ²	F	p
0.593	0.351	0.335	21.110	<0.001

Source: Author's calculations based on survey data.

As the results in Table 4.5 show, the adoption of Artificial Intelligence (AI) affects ESG Performance in a way that is both positive and statistically significant ($B = 0.446$, $p < 0.001$). It is evident that the model accounts for 35.1% of the variance in ESG Performance ($R^2 = 0.351$). In the context of survey-based research on organizations, this amount is large enough to be relevant. On that account the data support H1.

By looking at this finding, one can see that organizations integrate AI at higher levels when they also have stronger perceived ESG performance. To describe this in practical terms, organizations are more likely to report results related to sustainability when they treat AI as a core strategy. And those organizations report better results because they use AI tools more frequently within functions that relate to ESG.

4.6.1 Testing H2: The Effect of AI Adoption on Organizational Change

In the second hypothesis, the researcher suggests that organizations change in positive ways when they adopt Artificial Intelligence. To test how those two factors relate, the researcher calculated a second simple linear regression model. For this model Organizational Change is the dependent variable besides AI Adoption is the independent variable. As shown in Table 4.6, the results describe this relationship.

Dependent Variable: Organizational Change

Table 7. Regression Results: Effect of AI Adoption on Organizational Change

Predictor	B	Std. Error	t	p	95% CI Lower	95% CI Upper
Constant	2.307	0.347	6.651	<0.001	1.605	3.008
AI Adoption	0.284	0.087	3.275	0.002	0.109	0.459

Source: Author's calculations based on survey data.

Table 8. Model Summary

R	R ²	Adjusted R ²	F	p
0.464	0.216	0.196	10.724	0.002

Source: Author's calculations based on survey data.

As displayed in Table 4.6, the adoption of AI influences organizational change in a positive and statistically significant way ($B = 0.284$, $p = 0.002$). The model accounts for 21.6% of the variance that occurs in organizational change ($R^2 = 0.216$). The data support H2.

In this finding it is evident that organizations are more likely to report internal conditions for change that are beneficial when they adopt AI at higher levels. It is suggested by this result that the adoption of AI is linked to outcomes related to ESG. And it is also linked to the processes where organizations transform so they can support those outcomes.

4.6.3 Testing H3: The Effect of Organizational Change on ESG Performance

The third hypothesis states that Organizational Change increases the quality of ESG Performance. To test this hypothesis, a researcher used a simple linear regression model where ESG Performance is the dependent variable besides Organizational Change is the independent variable. In Table 4.7, the data shows those results.

Dependent Variable: ESG Performance

Table 9. Regression Results How Organizational Change affects ESG Performance

Predictor	B	Std. Error	t	p	95% CI Lower	95% CI Upper
Constant	1.981	0.613	3.232	0.003	0.741	3.221
Organizational Change	0.530	0.178	2.986	0.005	0.171	0.889

Source: Author's calculations based on survey data.

Model Summary

R	R ²	Adjusted R ²	F	p
0.431	0.186	0.165	8.914	0.005

Source: Author's calculations based on survey data.

In Table 7, the data show that Organizational Change affects ESG Performance in a positive and statistically significant way ($B = 0.530$, $p = 0.005$). To quantify this the model accounts for 18.6% of the variance in ESG Performance ($R^2 = 0.186$). For those reasons, the evidence supports H3.

And this result shows that organizations are more likely to report favorable ESG outcomes when they possess specific internal conditions. As part of the conditions, managers provide resources, the strategy is easy to understand, and the structure is able to adjust to new situations but the explanatory power of this model is less than the power of the AI Adoption model. If the effect is compared, it is still significant in a statistical sense and is large enough to be important.

4.6.4 Testing H4: The Mediating Role of Organizational Change

In the fourth hypothesis, it is stated that Organizational Change is a factor that connects AI Adoption to ESG Performance. To test this hypothesis, a multiple regression model was used. It includes both AI Adoption besides Organizational Change as variables that influence ESG Performance. The results are shown in Table 8.

Dependent Variable: ESG Performance

Table 10. Multiple Regression Results AI Adoption & Organizational Change as

Predictor	B	Std. Error	t	p	95% CI Lower	95% CI Upper
Constant	1.480	0.560	2.643	0.012	0.346	2.614
AI Adoption	0.376	0.108	3.474	0.001	0.157	0.595
Organizational Change	0.245	0.177	1.383	0.175	-0.114	0.603

Source: Author's calculations based on survey data.

Table 11. Model Summary

R	R ²	Adjusted R ²	F	p
0.618	0.382	0.350	11.761	<0.001

Source: Author's calculations based on survey data.

As the results indicate, AI Adoption is a statistically significant predictor for how a company performs on ESG measures this relationship remains when researchers add Organizational Change to the statistical model ($B = 0.376$, $p = 0.001$). For the factor of Organizational Change, the values are positive but are not statistically significant ($B = 0.245$, $p = 0.175$). It is observed that the explained variance of the model is 38.2%, which is a small increase from 35.1%.

And when researchers performed a bootstrap test for the indirect effect, the estimated value is 0.074. By looking at the 95 % confidence interval, the range is from -0.034 0.245. Because zero is within this interval, the indirect effect is not statistically significant. Due to those findings, the data do not support H4.

To clarify the results, AI Adoption is a significant predictor for Organizational Change and for ESG Performance but even though Organizational Change besides ESG Performance have a positive relationship, the mediating role of Organizational Change is not statistically confirmed for this specific group of data. In this context it is more accurate to say that AI Adoption has a direct influence on ESG Performance instead of an indirect influence through changes in the organization.

4.7 Summary of Hypothesis Testing

In order to provide a clear overview of the empirical results, Table 9 summarizes the status of all four hypotheses.

Table 12. Summary of Hypothesis Testing

Hypothesis	Statement	Result
H1	AI Adoption has a positive effect on ESG Performance	Supported
H2	AI Adoption has a positive effect on Organizational Change	Supported
H3	Organizational Change has a positive effect on ESG Performance	Supported
H4	Organizational Change mediates the relationship between AI Adoption and ESG Performance	Not supported

Source: Author's calculations based on survey data.

Table 9 shows that three of the four hypotheses are consistent with the data. It is evident that the use of Artificial Intelligence leads to higher levels of ESG Performance besides Organizational Change. And there is a relationship where Organizational Change leads to higher levels of ESG Performance within the simple regression model but the data does not show that Organizational Change functions as a bridge between the other variables. Due to the results of the statistical tests, the mediating role of Organizational Change is not confirmed.

4.8 Discussion of Findings

The research results show that Artificial Intelligence adoption serves as the strongest predictor within this model. It is observed that organizations with high levels of this technology also show high environmental, social and governance performance and many indicators of organizational change. As a result, companies do not view this technology as a simple piece of equipment but instead treat it as a strategic ability that helps reach sustainability goals.

On the analysis of the data, the direct link between Artificial Intelligence adoption and environmental, social and governance performance is statistically significant. For many organizations, the use of this technology provides immediate benefits like faster data processing, better decision making and more precise monitoring of sustainability activities. To those companies, the advantages exist even when the internal structures of the business are not fully developed.

By looking at other factors, organizational change is also relevant because it connects positively to both technology adoption and sustainability performance but the statistical tests do not confirm that this change acts as a necessary middle step. Due to multiple factors, this relationship is not clear. In the first case, the measurement of organizational change is less consistent than other metrics, which reduces its explanatory power. If the sample size were larger, a significant indirect effect might become visible. And it is possible that those specific organizations gain sustainability benefits directly from technology rather than through a formal process of internal restructuring.

To understand the data further, the average scores of the different categories provide useful information. Artificial Intelligence adoption has the highest average value, whereas organizational change has the lowest average value this is evidence that the technical part of the relationship is more established than the structural part. In practice organizations are more advanced in their use of technology than they are in ensuring that employees are aligned, participating and ready for new methods.

When the findings are viewed together, they support the idea that Artificial Intelligence is a functional tool for reaching environmental, social and governance outcomes but the results also indicate that the internal systems of a company are less developed. On that account future studies should examine those internal mechanisms with more detail.

4.9 Chapter Summary

In this chapter the researcher describes the data from 41 responses. It is evident from the descriptive analysis that AI Adoption has the highest average value. By comparison ESG Performance has the next highest value besides Organizational Change has the lowest average value. As the reliability analysis shows, the internal consistency for AI Adoption or ESG Performance is at a high level but the consistency for Organizational Change is lower because the scale includes one item with reverse coding.

To assess validity, the researcher determined that the data is appropriate for factor analysis. And the correlation analysis shows that all three variables have positive and measurable relationships with one another. By using regression analysis, the researcher found that AI Adoption causes an increase in ESG Performance next to Organizational Change. If Organizational Change is examined alone, it also causes an increase in ESG Performance. The mediation analysis does not show that Organizational Change acts as an intermediate step between AI Adoption besides ESG Performance.

On the basis of those results, it is clear that Artificial Intelligence has a direct function in how organizations achieve results related to ESG. With regard to Organizational Change, the function is more complicated, and the statistical evidence is less consistent. For the general theory that technology helps sustainability, the findings are a source of data. Due to the results, the specific ways that organizations transform are a subject for more research.

5. Discussion and Conclusions

5.1 Introduction

In this chapter the study concludes with a final discussion of the research. As the previous chapter provided empirical data, this section explains those results in relation to the questions and the hypotheses that the author proposed. For a complete perspective, it also compares the results to existing literature. By doing so the chapter describes how the study adds to theory and how it is useful for practical tasks. To be transparent, it lists the main factors that limited the research. If researchers want to continue this work, the chapter suggests directions for future studies.

It was the main objective of this dissertation to examine how Artificial Intelligence supports ESG strategies in organizations. With a specific focus, the study looked at how organizations change during this process. To analyze this it investigated if organizations that adopt AI have specific ESG performance levels. And it checked if the adoption of AI is connected to organizational change. When the study looked at ESG performance, it also asked if organizational change helps the outcomes. If organizational change is a mediator, it would explain the relationship between AI adoption besides ESG performance.

On the whole the findings show that Artificial Intelligence is associated with results that relate to ESG. Due to those findings, organizations view AI as a capability that is necessary for their sustainability strategies but the results also show that organizational change is a factor that involves many different parts. In this sample it is not possible to confirm that organizational change acts as a mediator because the statistics do not show a significant link.

5.2 Discussion of Findings

In this study the results provide evidence about how the adoption of Artificial Intelligence, organizational change besides ESG performance, relates to one another. It is generally the case that organizations with higher levels of AI adoption also show higher levels of ESG performance. As a result, this supports the idea that AI acts as a tool that makes sustainability practices and outcomes possible. For a more specific example, the findings show that AI may improve what an organization is capable of doing regarding ESG because it processes data, analyzes risks, helps managers make decisions based on facts and monitors ESG activities.

To compare those results with existing research, the findings match literature which states that AI can make organizations more efficient, better at analysis and faster to respond to strategy. In situations involving ESG, the abilities are necessary because organizations must collect, process, interpret and report large amounts of data about sustainability. The positive link between AI or ESG in this study follows logical theory and supports the claim that AI helps strategies that focus on sustainability.

By looking at the findings further, it is clear that AI adoption has a positive effect on organizational change. If an organization focuses on AI, it is also more likely to have favorable conditions for internal change, like managers who provide help, strategies that are easy to understand and a high ability to adapt. And this finding is important because it shows

that people do not see AI adoption as a technical project that stands alone but as one part of a process where the whole organization transforms. Because of this the result aligns with research on digital transformation which says that leaders who are committed and organizations that are prepared are necessary when people implement AI technologies.

On another point the results show that organizational change has a positive effect on ESG performance when it is measured by itself. With more supportive environments for change, organizations tend to report better results for ESG. In a practical sense, this means that support from managers, understanding from employees, clear strategies and the ability to adapt help an organization reach its ESG goals. It is consistent with literature on change management to say that transformation is more likely to create positive results when there is clear direction, communication and engagement from staff.

But one of the findings is that organizational change did not act as a middle step that connects AI adoption to ESG performance in a way that is mathematically certain. Although AI adoption predicted organizational change and organizational change related to ESG performance, the indirect link was not significant. For the current group being studied, this suggests that the effect of AI on ESG is direct rather than indirect.

There are multiple ways to explain this finding by first account, organizations may already get direct benefits from AI in ESG areas, like better data management and reporting, even when internal change is not but complete. On a second point, the result may be influenced because the measures for organizational change were not perfectly consistent. If the sample size is small, the study might also lack the mathematical power to find a middle connection.

To summarize, Artificial Intelligence is the strongest factor in this model, while organizational change is a factor that is less mathematically certain but this does not mean that organizational change lacks importance. On the contrary the individuals who answered the survey recognized that support from managers and clear strategies are relevant. The data shows that organizational change did not serve as a full bridge that explains the link between AI adoption next to ESG performance in this specific study.

5. 3 Discussion in Relation to the Research Questions

In the first part of the study, the researchers asked how many organizations use Artificial Intelligence for activities related to Environmental, Social besides Governance (ESG) standards. The results show that people in those organizations see AI as a tool that helps them achieve long term goals. Management provides resources and help when workers put AI into functions that involve ESG. AI is present and people value it in the organizations that participated but the level at which the technology functions fully may differ.

On the second research question, the study looked at how using AI changes ESG performance. Data shows that when organizations use AI, their ESG performance increases in a way that is not accidental, which means that organizations that use AI repeatedly have results that meet ESG goals better. On that account the study provides evidence that AI helps organizations perform better in ways that support sustainability.

To answer the third research question, the study measured how changing the structure or habits of an organization affects how they put AI into ESG practices. Findings indicate that when an organization changes, it also uses more AI and reaches better ESG goals. And this confirms that factors like how management helps or how easily an organization adapts are important when individuals integrate AI into tasks for ESG.

If we look at the fourth research question, it examined if organizational change is the bridge that connects AI use to ESG performance but the mathematical results did not show that this bridge exists. Because this organizational change is important but the study does not prove that it is the primary way that AI use creates better ESG performance.

5.4 Theoretical Contribution of the Study

In multiple ways this research adds information to existing academic writings. To start it adds to the collection of studies that focus on how Artificial Intelligence, environmental and social governance and how companies change relate to each other. As previous authors often look at the ability to use AI, how well a company meets sustainability goals or how a company changes as separate topics, this paper combines those elements into one practical model.

For a second point, the study provides evidence on how the use of AI connects to environmental, social and governance outcomes using data from surveys this is useful because many papers on this topic are based on ideas or use data from second hand sources instead of direct views from people in companies. By using survey results, the study shows how employees see the way AI functions in situations that relate to social and environmental standards.

And third, the research examines if the way a company changes acts as a link between other factors but the data does not support the idea that this change is a middle step, which is a result that still has theoretical value. It suggests that the link between using AI and social or environmental performance is direct. If the results are different elsewhere, it is because of how researchers measure data, the specific groups they study or the specific situations involved. In this way the paper is helpful because it proves certain ideas and also makes it clear which ideas the data does not confirm.

The work is relevant to the specific situation of companies in Greece, where researchers have not done much work on this topic. Since many global studies look at very large markets or data sets, evidence from Greece makes the discussion better. It provides details about a country where the rules for social responsibility and the pressure to use digital tools are both becoming more frequent.

5.5 Practical and Managerial Implications

In this study the results provide information that managers and organizations can use in practical ways. It is possible that managers use AI to improve results that relate to ESG factors. Managers are encouraged to treat AI as a resource for strategy that helps them reach goals for sustainability, rather than treating it only as a tool for technology or efficiency.

But the results also show that support from management is a primary factor. As organizations try to connect AI with ESG goals, it is necessary for leaders to support this process with actions. For success leaders must provide directions for the strategy and explain why AI projects for ESG are important to all people in the company. If management does not show a commitment that others can see, the use of technology might stay divided or fail to connect to the general goals for sustainability.

On another point, the data show that it is necessary to spend money on technology and also on the internal environment where people use it. Even though the data did not show that one factor changed the other directly, the way an organization changes has a positive link to how it uses AI and how it performs in ESG. To get the most value from AI during ESG processes, it is helpful if firms spend resources so that employees are aware, ready for change, clear about strategy and able to adapt.

By looking at the current state of those activities, organizations can see that the way they put AI into ESG work is still in a period of growth. If firms want to improve, they can use a method that has more structure for AI projects. This method is more effective when it includes specific examples for use, rules for how to manage data, training for staff and a stronger link between AI tools and the way the company reports on sustainability.

And finally the results suggest that organizations can improve their reputation and their position in the market when they use AI to support ESG practices. Because of this potential, the who make decisions can view AI projects for ESG as more than just ways to follow laws. It is likely that those projects are ways to create value over a long time, increase the clarity of information and build the trust that stakeholders have in the company.

5. 6 Limitations of the Study

Although the research provides information, it has some features that require careful observation.

By starting with the first point, the researchers collected data from 41 individuals. If researchers conduct an exploratory quantitative analysis for a postgraduate dissertation, this number of people is enough, but it is difficult to apply those results to all groups because the group size is small. Larger groups are useful because they make statistical tests more powerful and allow for more reliable testing of how variables connect, particularly when one variable acts as a link between two others.

In the second point, the researchers gathered data that participants reported about themselves. It is important to note that the findings describe how participants see their situation instead of using physical measurements of how an organization performs. As a result, the data are likely to contain the personal opinions of individuals or a tendency for people to answer in a way that makes them look good.

On the third point, the study uses a cross-sectional design where researchers gathered all data at a single moment. Because of this method, it is possible to see that variables are connected but it is not possible to prove that one variable cause another. If researchers use longitudinal

methods, they can better observe how organizations adopt AI and change over many years. And they can see how the actions change environmental, social and governance results over a long period.

For the fourth point, the scale for Organizational Change is less consistent than the other two scales, because one item is written in a reverse format. There is a possibility that this measurement issue changed the results for the regression and the linking effects. When individuals read the findings, they must consider this factor.

To address the fifth point, the study is about perceptions from organizations that work in one specific environment. It is not designed to show the differences between types of business, the size of companies or how much experience a firm has with AI, those factors are important because they might change how strongly variables relate to each other. If there is future research, those areas are available for more detailed study.

5. 7 Suggestions for Future Research

Based on the limitations and findings of the study, several directions for future research can be proposed.

First, future studies could use larger and more diverse samples in order to improve generalizability and allow stronger statistical testing. Larger samples would also make it possible to examine subgroup differences across sectors, organization sizes, or respondent roles. (Jiachen Li, 2024)

Second, future research could use longitudinal designs in order to explore how AI adoption and organizational change develop over time and how their relationship with ESG performance evolves. This would provide a stronger basis for causal interpretation. Third, future studies could incorporate objective performance indicators in addition to perceptual data. For example, researchers could combine survey responses with ESG reporting metrics, sustainability ratings, or digital transformation indicators in order to obtain a more comprehensive view of organizational performance.

Fourth, future research could refine the measurement of organizational change. Since this construct showed weaker reliability in the present study, future studies may benefit from revising item wording, excluding problematic reverse-coded items, or using alternative validated scales.

Fifth, future research could examine additional moderating or mediating variables. For example, factors such as organizational culture, digital maturity, leadership style, firm size, or industry characteristics may influence the relationship between AI adoption and ESG performance.

Finally, comparative studies across countries or regions would be particularly useful. Since regulatory environments, digital maturity levels, and ESG expectations differ across contexts, cross-country comparisons could offer a richer understanding of how AI supports ESG strategies under different institutional conditions.

5. 8 Overall Conclusion

In this study the authors examine how organizations use Artificial Intelligence to support environmental, social and governance strategies. As part of this research, they focus on how organizations change during this process. For the data collected, the results show that when companies adopt Artificial Intelligence, their environmental, social and governance performance improves. With this adoption, the internal structures of the organization also change. It is clear that organizational change relates to better performance in those areas but the data does not prove that change acts as a necessary bridge between technology plus results. (Jöhnk, 2021)

To understand the findings, one can see that managers view Artificial Intelligence as a tool that helps them achieve goals related to sustainability. At the same time the results indicate that the internal shifts required to support this technology are still in progress. By observing those patterns, it appears that this internal transformation is not but a formal process in every company.

The main point of this work is that Artificial Intelligence assists environmental, social and governance strategies. If a company uses this technology, it improves its daily actions and the way it makes decisions but the study also shows that the general processes that happen when a company integrates this technology are complicated. Because of this complexity, researchers but also managers need to study the processes more closely. In this way the paper helps people understand how Artificial Intelligence and sustainability strategies work together. And it emphasizes that a company is more effective when it makes its technical tools match its long-term goals in a logical way.

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