

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
UKRAINIAN-AMERICAN CONCORDIA UNIVERSITY

Faculty of Management and Business
Department of International Economic Relations, Business & Management

Bachelor's Qualification Work
Sustainable development as opportunity for business
(based on Cardinal Plumbing Heating & Air case)

Bachelor student of the 4th year study

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Field of Study 29 – International Relations

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Educational program – International Business

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Abstract

The thesis explores sustainable development at "Cardinal Plumbing, Heating & Air Inc.," focusing on how integrating these practices affects business operations and creates new opportunities. It demonstrates that adopting sustainable development has significantly benefited the company by enhancing operational efficiency, contributing to environmental conservation, and improving social goodwill, which collectively strengthen market competitiveness. The research also highlights potential risks associated with sustainable practices, such as increased operational costs and complexities in implementing new technologies. Through a detailed analysis of the company's sustainability reports, strategic planning documents, and stakeholder interviews, the study provides a comprehensive evaluation of their current initiatives and outcomes.

The conclusions drawn underscore the overall positive impact of sustainability on the business, suggesting that further investments in sustainable technologies and practices could yield additional benefits. Recommendations are made for optimizing resource use and enhancing the company's commitment to sustainable growth, positioning it as a leader in corporate sustainability.

Keywords: Sustainable Development, Corporate Sustainability, Environmental Conservation, Social & Corporate Responsibility, Business Strategy, Operational Efficiency.

Анотація

Робота досліджує сталий розвиток у компанії "Cardinal Plumbing, Heating & Air Inc.", зосереджуючись на тому, як інтеграція цих практик впливає на операційну діяльність бізнесу та створює нові можливості. Робота демонструє,

що впровадження сталого розвитку значно покращило компанію, підвищуючи операційну ефективність, сприяючи охороні довкілля та поліпшенню соціальної репутації, що разом зміцнює конкурентоспроможність на ринку. Дослідження також висвітлює потенційні ризики, пов'язані з сталими практиками, такі як збільшення операційних витрат та складнощі у впровадженні нових технологій. Через детальний аналіз звітів компанії з питань сталого розвитку, стратегічних планувальних документів та опитувань працівників компанії, дослідження надає всебічну оцінку їхніх поточних ініціатив та результатів.

Висновки підкреслюють загальний позитивний вплив сталого розвитку на бізнес, припускаючи, що подальші інвестиції в сталі технології та практики можуть призвести до додаткових переваг. Рекомендації містять найвигідніші рішення використання ресурсів та посилення зобов'язань компанії щодо сталого зростання, що позиціонує її як лідера у сфері корпоративної стійкості.

Ключові слова: сталий розвиток, сталий бізнес, охорона довкілля, соціальна та корпоративна відповідальність, бізнес-стратегія, операційна ефективність.

PHEE-institute «Ukrainian-American Concordia University»

Faculty of Management and Business

Department of International Economic Relations, Business and Management

Educational level: **Bachelor degree**
Specialty **292 “International Economic Relations”**
Educational program **“International Business”**

APPROVED

Head of Department

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“ ” 20

TASK

FOR BACHELOR’S QUALIFICATION WORK OF STUDENT

Anastasiia Zharchenko

(Name, Surname)

1. Topic of the bachelor’s qualification work

Sustainable development as opportunity for business (based on Cardinal Plumbing Heating & Air case)

Supervisor of the bachelor’s qualification work *Prof. Zharova L.V.*,

(surname, name, degree, academic rank)

Which approved by Order of University from **“25” September 2023** № 25-09/2023-5к

2. Deadline for bachelor’s qualification work submission “25” April 2024.

3. Data-out to the bachelor’s qualification work *open resources (reports of the company, analysis of the industry, data of the international organizations, governmental statistic reports), closed data (internal information received during the internship)*

4. Contents of the explanatory note (list of issues to be developed)

The aim of the BQW is to study sustainable development management strategies, using the corporation Cardinal Plumbing, Heating & Air Inc., as an example, and their impact on the economic, environmental, and social spheres of the enterprise's functioning.

- Define and elaborate on the essence of sustainable development in the context of globalization.*

- Conduct a detailed analysis of sustainable indicators for business entities.
- Explore and discuss modern trends in the market for maintenance and repair services, considering international competition.
- Provide general characteristics and analyze the economic activity of "Cardinal Plumbing, Heating & Air Inc." Corporation.
- Examine the strategic management practices employed by the corporation.
- Evaluate the financial performance and resource utilization of the corporation.
- Investigate the environmental impact and sustainable practices adopted by "Cardinal Plumbing, Heating & Air Inc." Corporation.
- Analyze various directions for the implementation of sustainable development strategies within the corporation.
- Assess the ongoing process of implementing priority proposals for sustainable development.
- Analyze the effectiveness of proposed improvements in the context of sustainable development.

5. List of graphic material (with exact indication of any mandatory drawings)

- Companies to prioritize ESG investment
- Business entities sustainable indicators
- Structure of the Company
- SWOT_TWOS
- Sales & Services and Net Sales
- Total Operating Expenses and Operating Profit (Loss)

6. Date of issue of the assignment

Time Schedule

№	The title of the parts of the qualification paper (work)	Deadlines	Notes
1.	I part of bachelor thesis	10.12.2023	In time
2.	II part of bachelor thesis	27.02.2024	In time
3.	Introduction, conclusions, summary	25.04.2024	In time
4.	Pre-defense of the thesis	30.04.2024	In time

Student _____ (signature)

Supervisor _____ (signature)

Conclusions (*general description of the work; participation in scientific conferences/ prepared scientific article; what grade does the student deserve*):

The work is performed at a high level; in addition to all the necessary structural parts - an introduction, three chapters, conclusions, and an exhaustive list of literature, it contains an economic and financial analysis of the enterprise.


During the writing of the paper, the student took the initiative and actively participated in scientific debates, including conferences. Research results were presented at several university conferences.

In addition, the work is devoted to a topical topic—the implementation of sustainable development in the enterprise management system, which is relevant in light of new non-financial ESG reports implemented for EU enterprises.

In general, the work deserves an "excellent" grade.

Supervisor_____

(signature)



CONTENT

INTRODUCTION.....	3
CHAPTER 1. THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE MANAGEMENT STRATEGIES IN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT.....	11
1.1. The essence of the sustainable development in the conditions of globalization.....	11
1.2. Analysis of the business entities sustainable indicators.....	17
1.3. Modern trends in market for maintenance and repair services in the conditions of international competition	24
CHAPTER 2. ECONOMIC ANALYSIS OF ACTIVITY OF THE “CARDINAL PLUMBING, HEATING & AIR INC” MANAGEMENT STRATEGIES IN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT.....	28
2.1. General characteristics and analysis of economic activity of “Cardinal Plumbing, Heating & Air Inc.” Corporation.....	27
2.2. Strategic management of the business entity of “Cardinal Plumbing, Heating & Air Inc.” Corporation	40
2.3. Financial Performance and Resource Utilization of “Cardinal Plumbing, Heating & Air Inc.” Corporation.....	42
2.4. Environmental Impact and Sustainable Practices of “Cardinal Plumbing, Heating & Air Inc.” Corporation.....	50
CHAPTER 3. WAYS OF IMPLEMENTING SUSTAINABLE DEVELOPMENT STRATEGIES AT THE ENTERPRISE OF THE “CARDINAL PLUMBING, HEATING & AIR INC” CORPORATION.....	53
3.1. Analysis of directions for the implementation of sustainable development strategies of the “Cardinal Plumbing, Heating & Air Inc.” Corporation.....	53
3.2. Assessment of the process of implementation of priority proposals	55
3.3. Analysis of the effectiveness of the proposed improvements.....	59
CONCLUSIONS.....	61
REFERENCES.....	64
ANNEXES.....	69

INTRODUCTION

Relevance of the topic. In the contemporary global landscape, the concept of sustainable development has emerged as a pivotal and timely topic, especially within the realm of business. The relevance of exploring sustainable development as an opportunity for businesses stems from several interconnected factors that influence the corporate world and society at large.

Environmental problems such as climate change and resource depletion have brought sustainability to the forefront. Governments and international bodies are increasingly implementing stringent regulations aimed at promoting sustainable practices. Compliance with environmental standards ensures legal adherence and positions businesses favorably in the eyes of consumers and investors.

Modern consumers are becoming more conscious of the ethical and environmental impact of their purchasing decisions. Businesses that align with sustainable practices gain a competitive edge by appealing to a growing market of environmentally conscious consumers. Corporate social responsibility (CSR) is no longer just a moral obligation but a strategic imperative.

Investors, including institutional funds and socially responsible investment (SRI) portfolios, are placing a premium on sustainable and socially responsible businesses. Companies integrating sustainable development practices are seen as more resilient, forward-thinking, and less exposed to long-term risks associated with environmental and social issues.

Sustainable practices often drive innovation, leading to the development of eco-friendly technologies and efficient operational processes. Businesses that adopt sustainability as a core value find opportunities for cost reduction, enhanced efficiency, and access to new markets through innovative products and services.

Sustainable development offers businesses the opportunity for long-term viability. By managing resources responsibly and addressing societal concerns, companies can build enduring relationships with stakeholders, secure their supply chains, and navigate evolving market dynamics.

In an interconnected global economy, businesses are increasingly interconnected, and reputations can transcend borders. Adopting sustainable practices safeguards a company's reputation, fosters positive public relations, and mitigates the risk of negative scrutiny or backlash from environmentally conscious consumers.

The contemporary workforce places value on ethical and environmentally responsible employees. Businesses that prioritize sustainable development often experience higher employee morale, engagement, and attraction, contributing to a positive workplace culture.

In conclusion, the relevance of exploring sustainable development as an opportunity for business is evident in its multifaceted impact on environmental stewardship, regulatory compliance, consumer behavior, investor expectations, innovation, long-term viability, reputation management, and employee engagement. Recognizing and leveraging sustainable practices not only aligns businesses with global trends but also positions them strategically for a resilient and prosperous future.

Scientific elaboration of the research problem. Previously, this topic has been researched by various economists. The scientific elaboration of the research problem draws on the works of two notable researchers in the field of sustainable development and its indicators. Amartya Sen's seminal work in "Mortality as an Indicator of Economic Success and Failure" published in The Economic Journal in 1998 provides a fundamental view of the nexus between economic development and human well-being. Sen argues that mortality rates serve as critical indicators

reflecting the success or failure of economic policies. By emphasizing the importance of life expectancy and health outcomes, Sen challenges traditional economic metrics and underscores the necessity of a holistic approach that prioritizes the welfare of individuals within a society (Sen, A. 1998).

Herman E. Daly's influential book, "Beyond Growth," published in 1996, serves as a foundation in the discussion of sustainable development. Daly challenges the traditional economic model that prioritizes unlimited growth and consumption, proposing more balanced and ecologically sustainable approach. His work encourages a shift from traditional measures of progress based solely on GDP growth to a more comprehensive evaluation that considers environmental factors and social well-being. Daly's perspectives contribute significantly to the understanding of sustainable development as a viable alternative to the prevailing growth-centric economic models (Daly, H.E. 1996).

Paul Hawken's book, "Blessed Unrest: How the Largest Movement in the World Came into Being and Why No One Saw It Coming," published in 2007, offers a unique perspective on the global movement towards sustainability. Hawken explores the development of a diverse and widespread movement consisting of environmental activists, social justice advocates, and grassroots organizations. By highlighting the often-overlooked collective efforts for positive change, Hawken's work complements the academic discourse on sustainable development, emphasizing the importance of bottom-up initiatives and the potential for impactful change through decentralized actions (P. Hawken, 2007).

In summary, the scientific elaboration of the research problem benefits from the insights of Sen, Daly, and Hawken. Amartya Sen's focus on mortality as an economic indicator, Herman E. Daly's critique of growth-centric models in "Beyond Growth," and Paul Hawken's exploration of a global movement contribute to a comprehensive

understanding of sustainable development, encompassing economic, ecological, and social dimensions.

The **aim** of the bachelor's qualification work is the study of sustainable development management strategies on the example of the corporation "Cardinal Plumbing, Heating & Air Inc." and their impact on the economic, environmental, and social spheres of the enterprise's functioning. The paper examines the theoretical and methodological basis of managing sustainable development strategies, analyzes the corporation's economic activity, studies its strategic approaches and financial indicators, and also examines the impact on the environment and sustainable practices. Based on the received data, specific strategies for improving sustainable development are developed and analyzed, aimed at reducing the negative impact on the environment, ensuring the efficient use of resources, and increasing the company's social responsibility. The work aims to determine the effectiveness of the implemented measures and to offer recommendations for the further development of a sustainable corporate management strategy.

In order to achieve this aim, the following **tasks** were set:

- Define and elaborate on the essence of sustainable development in the context of globalization.
- Conduct a detailed analysis of sustainable indicators for business entities.
- Explore and discuss modern trends in the market for maintenance and repair services, considering international competition.
- Provide general characteristics and analyze the economic activity of "Cardinal Plumbing, Heating & Air Inc." Corporation.
- Examine the strategic management practices employed by the corporation.
- Evaluate the financial performance and resource utilization of the corporation.

- Investigate the environmental impact and sustainable practices adopted by "Cardinal Plumbing, Heating & Air Inc." Corporation.
- Analyze various directions for the implementation of sustainable development strategies within the corporation.
- Assess the ongoing process of implementing priority proposals for sustainable development.
- Analyze the effectiveness of proposed improvements in the context of sustainable development.

The **research object** examines sustainable practices within “Cardinal Plumbing, Heating & Air Inc.” operations and strategies.

The **research subject** – “Cardinal Plumbing Heating & Air Inc.”

The main research methods used in the qualification work include a combination of qualitative and quantitative approaches to comprehensively investigate the sustainable development strategies and their impact on the economic, environmental, and social performance of Cardinal Plumbing, Heating & Air Inc. Corporation. The following research methods will be utilized: literature review - conduct an extensive review of academic literature and relevant industry publications to establish a theoretical framework for sustainable development, management strategies, and corporate performance evaluation, case study analysis - utilize a case study approach to thoroughly examine the sustainable development strategies implemented by Cardinal Plumbing, Heating & Air Inc. This involves in-depth exploration of the corporation's policies, practices, and outcomes in the context of sustainability, financial analysis - employ financial analysis methods to evaluate the economic performance of Cardinal Plumbing, Heating & Air Inc. This includes assessing key financial indicators such as revenue growth, profitability, and return on investment, with a focus on the correlation with sustainable practices, environmental impact assessment - conduct an environmental impact assessment to

quantify and analyze the corporation's ecological footprint. This involves evaluating resource consumption, waste generation, and carbon emissions, comparing these metrics against established sustainability benchmarks, strategic management analysis - apply strategic management analysis methods to understand how Cardinal Plumbing, Heating & Air Inc. aligns its overall business strategy with sustainable development goals. This includes assessing the integration of sustainability considerations in strategic decision-making.

The combination of these research methods allows for a comprehensive and multifaceted exploration of the research subject, providing a nuanced understanding of the interplay between sustainable development strategies and the overall performance of Cardinal Plumbing, Heating & Air Inc. Corporation.

Scientific novelty of the work lies in its multifaceted approach to examining sustainable development strategies within the context of Cardinal Plumbing, Heating & Air Inc. Corporation. Several key elements contribute to the uniqueness and originality of this research. The study adopts a comprehensive approach by integrating economic, environmental, and social perspectives in the analysis of sustainable development strategies. This holistic evaluation allows for a nuanced understanding of how sustainability practices impact various facets of the corporation's performance.

The focus on a specific corporation, Cardinal Plumbing, Heating & Air Inc., adds uniqueness to the research. By delving into the details of a real-world case, the study provides practical insights and actionable recommendations that can be valuable for both academia and practitioners.

The research novelty is accentuated by a dedicated analysis of the implementation process of sustainable development strategies. Understanding how these strategies are put into practice, the challenges encountered, and the effectiveness of the implementation adds a pragmatic dimension to the research.

The study employs a combination of research methods, including case study analysis, interviews, surveys, financial analysis, and environmental impact assessment. This diverse methodological approach enhances the depth and richness of the research, allowing for a thorough exploration of the subject.

The inclusion of interviews and surveys with key stakeholders, including executives, managers, employees, and customers, brings forth a range of perspectives. This emphasis on stakeholder viewpoints contributes to a more comprehensive understanding of the real-world implications and perceptions surrounding sustainable development strategies.

The study uniquely integrates strategic management analysis with financial performance evaluation. By examining how sustainable strategies align with overall business strategies and impact financial outcomes, the research bridges the gap between sustainability initiatives and corporate success.

The exploration of modern trends in the market for maintenance and repair services within the context of international competition adds a forward-looking dimension to the research. Understanding how global trends influence sustainable development practices contributes to the relevance and timeliness of the study.

In summary, the scientific novelty of this work stems from its holistic and practical approach, combining diverse research methods, focusing on a specific corporation, and addressing the integration of sustainable strategies with overall business practices and financial outcomes. This research aims to contribute valuable insights to the existing body of knowledge on sustainable development in the corporate sector.

The theoretical value of the obtained results lies in their contributions to the theoretical frameworks of sustainable development, strategic management, stakeholder theory, financial analysis, and corporate environmental practices. The study enriches existing theoretical perspectives and provides a foundation for further

scholarly exploration in these interconnected fields.

The practical value of the obtained results extends to actionable recommendations that can guide Cardinal Plumbing, Heating & Air Inc. in enhancing its sustainable development practices, improving overall performance, and positioning itself as a socially responsible and environmentally conscious corporation. Moreover, the practical implications contribute broadly to the field of corporate sustainability, offering lessons and insights for businesses across diverse industries.

Approbation of the results of the work –

Bachelor's qualification work consists of an introduction, 3 chapters, conclusion, list of references and one annex. Work containing 10 tables and 8 figures. References include 50 literature sources.

CHAPTER 1.

THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE MANAGEMENT STRATEGIES IN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT

1.1 The essence of the sustainable development in the conditions of globalization

Sustainable development of an enterprise refers to the long-term growth and prosperity of the organization while ensuring minimal impact on the environment and positive contributions to society. It is achieved through a balanced approach that integrates economic success, environmental responsibility, and social commitment.

Sustainable development is a complex and multifaceted concept that emerged in the context of globalization. It is a balancing act between economic, social, and environmental considerations to ensure the well-being of current and future generations. This approach recognizes the interconnectedness of global systems and emphasizes the importance of responsible and inclusive development practices. While there may be nuances in the definitions of sustainable development, the general essence remains the same.

Table 1.1. represents the definition of the concept of "sustainable development". According to the review of different researchers' approaches to the concept's definition, certain similarities can be similar. All definitions emphasize the need for balance between different aspects of development, such as economic growth, social progress, and environmental protection. Also, all definitions recognize the importance of meeting the needs of present and future generations. This principle is often referred to as intergenerational equity. All definitions acknowledge the

complexity of sustainable development and the fact that there is no single, universally agreed-upon definition.

Table 1.1.

Approaches to defining the concept of "sustainable development"

Definition	Source
" Sustainable development guarantees that the current needs are met without putting in danger the capability of future generations to fulfill their own needs."	Brundtland Commission Report (1987)
"Sustainable development is the development that involves expanding people's choices and enhancing their capabilities, allowing them to lead lives they value"	Amartya Sen (1999)
"Sustainable development is the development that requires maintaining a balance between the economy and the Earth's ecosystems, advocating for a steady-state economy where resource use does not exceed the regenerative capacity of the environment."	Herman Daly (1996)
"Sustainable development is a profitable and restorative business in which businesses play a crucial role in promoting by combining environmental and social responsibility into their core business."	Paul Hawken (2007)
" Sustainable development is the development that meets the requirements of the present without sacrificing the capability of future generations to fulfill their own needs. It serves as an organizing principle for reaching economic, social, and environmental sustainability."	United Nations Environment Program (UNEP)
"Sustainable development is a process that enables all people to realize their full potential and live in dignity and well-being, while protecting the planet's natural resources and ecosystems."	United Nations Sustainable Development Goals

Source: Compiled by the Author

However, there are certain differences. Some definitions (Table 1.2) focus more on environmental sustainability (e.g., Herman Daly), while others focus more

on social development (e.g., Amartya Sen) or economic development (e.g., Paul Hawken). Some definitions are more anthropocentric (human-centered), while others are more eco-centric (environment-centered). For example, the Brundtland Commission definition focuses on human needs, while Herman Daly's definition emphasizes the need to protect the Earth's ecosystems. Some definitions are more prescriptive, outlining specific goals or objectives for sustainable development (e.g., the United Nations Sustainable Development Goals), while others are more descriptive, simply providing a general understanding of the concept (e.g., the Brundtland Commission definition).

Table 1.2

The key differences between the definition "sustainable development

Definition	Focus	Perspective	Approach
Brundtland Commission Report (1987)	Intergenerational equity	Anthropocentric	Descriptive
Amartya Sen (1999)	Social development	Anthropocentric	Descriptive
Herman Daly (1996)	Environmental sustainability	Ecocentric	Prescriptive
Paul Hawken (2007)	Economic development	Anthropocentric	Descriptive
United Nations Environment Programme (UNEP)	Intergenerational equity, economic, social, and environmental sustainability	Anthropocentric	Prescriptive
United Nations Sustainable Development Goals	Social development, environmental protection, economic prosperity	Anthropocentric	Prescriptive

Source: Compiled by the Author

The concept of sustainable development has evolved over time, and these definitions reflect different stages of that evolution. The UN Sustainable Development Goals framework provides a more detailed and action-oriented approach to achieving sustainable development. The chosen definition of "sustainable development" can influence how it is implemented and measured.

These definitions provide a comprehensive overview of the concept of "sustainable development," highlighting its core principles and emphasizing the need for a holistic approach to achieving it.

Sustainable development is the process of addressing current needs without hindering future generations' capacity to fulfill their requirements. (Dhar, S SDGs 2018).

In the concept of sustainable development, capital has three forms: human-made (goods, machines and equipment, buildings, etc.), human (skills, knowledge, creativity) and natural (natural resources) (Subramaniam, M.2005).

Human-made capital - encompasses all the physical assets created by humans, including infrastructure like roads and buildings, machines and equipment, tools, and even technological advancements (Human Capital,2007). It essentially represents the accumulated material wealth and productive capacity of a society.

Human capital refers to the knowledge, skills, talents, and creativity individuals and communities possess (Laroche, M.1999). It forms the intellectual and social foundation of development, driving innovation, problem-solving, and adaptation.

Natural capital encompasses all the living and non-living resources the natural world provides, like air, water, soil, biodiversity, mineral resources, and ecosystem services. It forms the life-sustaining base of all economic activity and human well-being (Capital Coalition, Cambridge).

Sustainable development requires maintaining and enhancing these three capital forms over time. Overexploiting any one of them can lead to long-term negative consequences for society and the environment.

The basis of the concept of sustainable development is the preservation of capital, both man-made and natural. The problem of traditional economics is that in calculations and practice, it emphasizes the preservation of only man-made capital,

not taking into account natural capital. (Raihan, A.2004) Moreover, neoclassical theory holds that man-made capital (in the form of money, ideas, and technology) is an almost perfect substitute for natural capital. For sustainable development, it is necessary to increase the total amount of (man-made + natural) capital, when a part of the natural can be replaced by a man-made one if such interchangeability takes place.

This situation has been defined as "weak sustainability", which is weak in that it is based on the assumption of capital substitutability (United Nations. Weak Sustainability versus Strong Sustainability). In contrast to weak, "strong sustainability" requires the preservation of both human-made and natural capital separately, based on the proposition that in most production functions they are not mutually exclusive, but mutually complementary.

Weak sustainability is the non-decrease over time of the total amount of natural and man-made capital, provided that man-made capital can act as an almost perfect substitute for natural capital (United Nations. Weak Sustainability versus Strong Sustainability).

The concept of "strong sustainability" is more consistent with the concept of sustainable development, but even using the "weak sustainability" approach would indicate an improvement in the current state of the world economy (United Nations. Weak Sustainability versus Strong Sustainability).

For strong sustainability, natural capital should maintain its permanent stock, it is considered as a limiting factor of development, certain ecologically catastrophic types of activities should be prohibited(Jean-François Noël.1998).

It is worth adding that sustainable development can affect macroeconomic development and business profits, in particular:

1. Investing in sustainable development can encourage innovation and the development of new technologies, which creates competitive advantages for businesses and can lead to increased revenues.

2. Taking measures to reduce resource use, increase operational efficiency and improving the supply chain can lead to lower business costs and increased profits.

3. Consumers increasingly prefer products and services that are produced under balanced conditions that care for the environment and society. Supporting sustainable development can enhance brand reputation and contribute to the stability of markets.

4. Government policies can promote investments in sustainable development, which creates new business opportunities and promotes economic growth.

According to the Economist Impact study that took place in May 2022 as part of a review initiated by Kyndryl, it was found that companies are currently redefining the concept of sustainable recovery through the lens of three key areas: talent, technology and the sustainability agenda. As part of the survey, about 350 business executives were interviewed in eight different markets in the Asia-Pacific region.

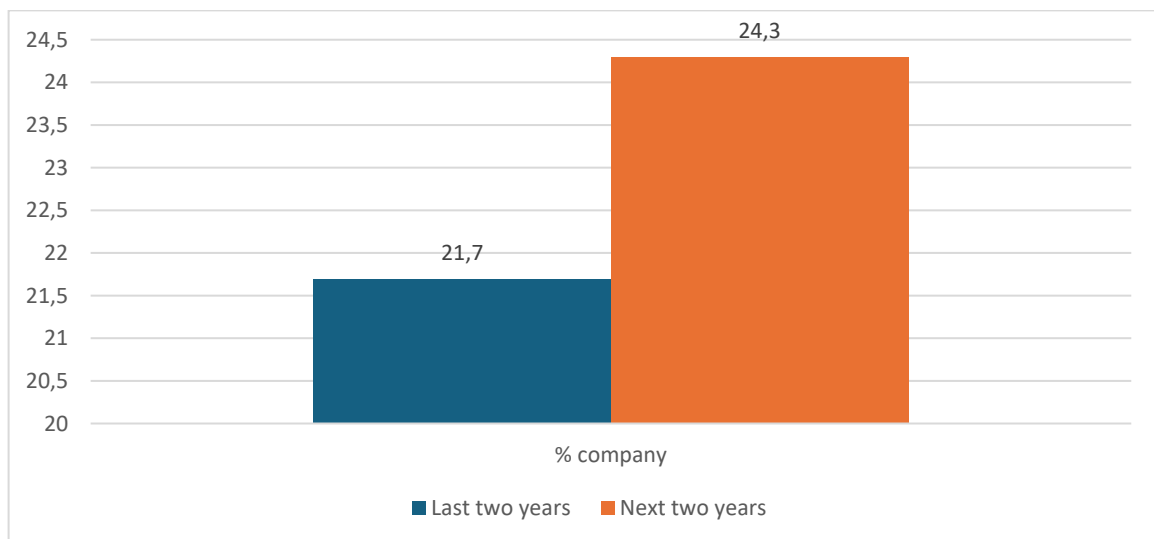


Figure 1.1. More companies to prioritize ESG investment

Source: Compiled by the Author

Over the past two years, there has been an increase in attention to ESG (environmental, social and governance) investments from 21.7% to 24.3%. It indicates a rising awareness of companies in adopting strategies that boost sustainable development and responsible business. The increased interest in ESG investments can be caused by a range of factors, such as regulatory changes, growing expectations of consumers and investors regarding sustainability and social responsibility, as well as a growing awareness of the positive impact of these practices on the long-term success of the companies.

Sustainable economic development is the process of structural restructuring of the economy in accordance with the needs of balanced development of production, social sphere, population and natural environment, technological and social progress.

1.2 Analysis of the business entities' sustainable indicators

The concept of sustainable business lacks a universally agreed-upon definition, unlike sustainable development, as highlighted by Azapagic in 2003. The absence of a commonly accepted definition poses a significant challenge since a clear definition is essential for formulating effective policies and actions. In response to this challenge, some institutions have put forth their interpretations of sustainable business.

For instance, the Evergreen Group (2008), a business brokerage committed to sustainable practices, describes sustainable business as one that regulates environmentally friendly business processes, avoiding environmental harm associated with its operations, goods, and services. Another perspective, presented by SustainableBusiness.com (2009), characterizes sustainable business as supporting a balanced and eco-friendly economic system. These definitions suggest that

sustainable business involves providing products and services that meet societal needs while enhancing the welfare of all Earth's residents.

In essence, sustainable business signifies a revolutionary approach that takes into account ecological, social, and economic effects that secures the well-being of future generations, as articulated by Azapagic and Perdan (2000) and Welford (2000). The statement of Azapagic and Perdan (2000) emphasizes a significant transformation for businesses seeking to embed sustainable development within their corporate practices.

Effectively implementing sustainable business requires the harmonization of a Triple Bottom Line (TBL), encompassing environmental, economic, and social aspects. Recognizing the TBL is crucial for firms engaged in sustainable business, as it requires not only understanding but also incorporating it into their policies, strategies, and decision-making processes, as advocated by Desimone and Popoff (1998) and the World Business Council for Sustainable Development (WBCSD, 2000) .

From an environmental viewpoint, a sustainable business entails regulating the impacts of an organization's numerous operations, products, and services. Identifying these environmental indicators at every phase of the organization's complete lifecycle is essential, as they play a crucial role in monitoring ecological advancements, assessing policy effectiveness, and notify the community. Key examples of these indicators include the consumption of energy and water, emissions contributing to air pollution, and production of solid and hazardous waste.

Indicators of sustainable development (lat. indicator - indicator) are certain and available for observation and measurement, as well as characteristics, norms, and conditions that allow drawing conclusions about the state and changes of sustainable development (Azapagic, 2003).

The first system of indicators was developed together with the statistical department and before its final adoption, was widely studied at the level of all organizations of the UN system. As a result, a set of 134 indicators was formed, which was published in the so-called "Blue book".

Indicators of sustainable development are indicators of human activity, processes and characteristics that can have a positive or negative impact on sustainable development (for example, population growth or growth in greenhouse gas emissions); status indicators that record the characteristics of sustainable development in a given area at the moment (for example, population density, share of urban population, fuel reserves, etc.); and response indicators that show reactions to changes in the characteristics of sustainable development, that is, society's effectiveness in solving pressing problems (eg spending on improving health, legislation, regulation and regulation).

As a decision-making and planning tool, indicators can perform an important communicative function. Thus, indicators of the state of the environment inform the public and draw attention to certain environmental threats. This often mobilizes people for independent implementation necessary measures or seeking help from representatives of the authorities or private companies.(Fernando,R.2012)

The basic set of sustainable development indicators was divided into four main groups (fig. 1.2.).

The European Union has developed its own system of sustainable development indicators.

The main criteria were stability, flexibility and compactness, balancing between the main priorities and interests of EU member states, taking into account the consequences of EU expansion. This criteria are stability implies, flexibility, compactness, balancing priorities, interests of member states, consequences of EU expansion (Gladwin T, Kennelly J, Krause TS. 1995).

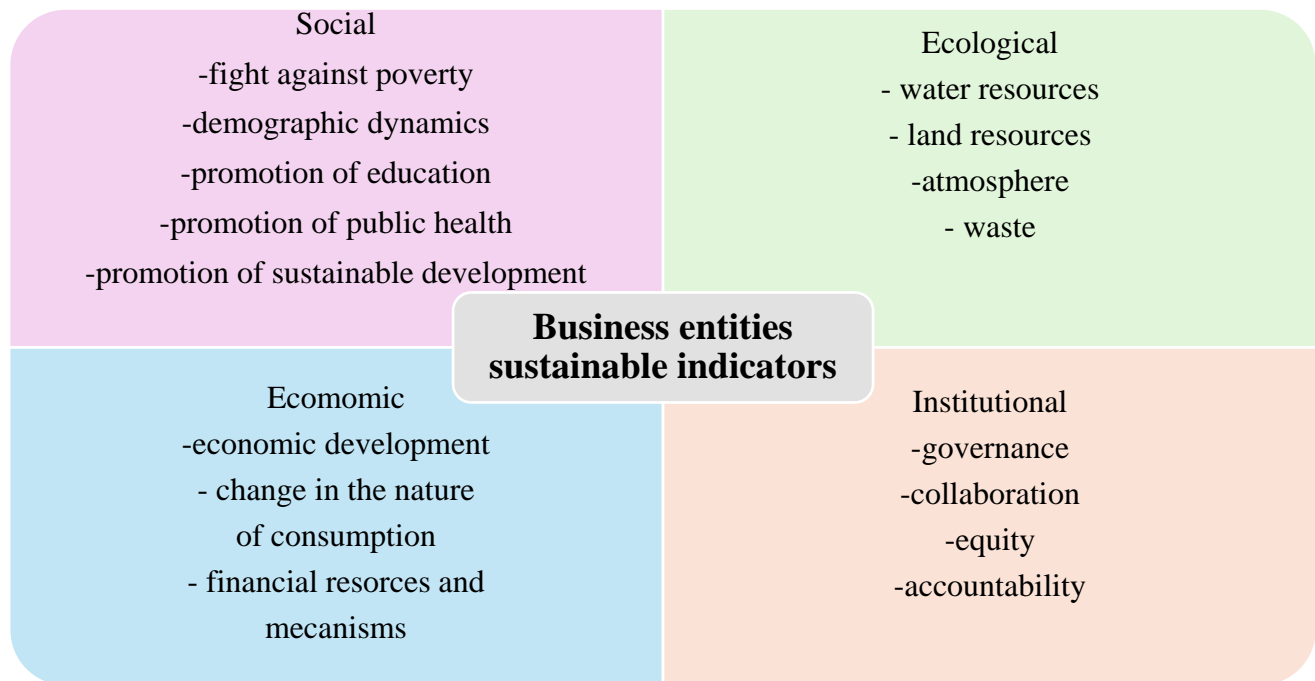


Figure 1.2. Business entities sustainable indicators

Source: Compiled by the Author

Stability implies a steady and predictable approach for the functioning of the EU. It suggests the importance of creating a foundation that allows for consistent and reliable policies, reducing uncertainties that might hinder effective collaboration among member states. Flexibility underscores the necessity of adapting to changing circumstances. It suggests that the EU should possess mechanisms and structures that allow for adjustments in response to evolving challenges, ensuring the organization remains resilient and responsive to the diverse needs and circumstances of member states. Compactness refers to the efficiency and effectiveness of the EU's organizational structure. It suggests that the EU should operate in a streamlined and cohesive manner, avoiding unnecessary bureaucracy and complexity. A compact structure ensures that decision-making processes are agile and can address issues promptly.

Achieving a balance between the main priorities of member states implies acknowledging and addressing the diverse needs and interests within the EU. This criterion highlights the importance of policies that take into consideration the different economic, social, and political priorities of member states, adopting a collaborative and comprehensive approach. Recognizing and respecting the interests of individual member states is fundamental. It implies that EU policies and decisions should be crafted with a sensitivity to the specific concerns and objectives of each member state, fostering a sense of equity and fairness in the union.

Considering the implications of EU expansion emphasizes the need to anticipate and manage the effects of expanding the union. It involves careful planning to ensure that new members integrate smoothly, and their inclusion does not disrupt the stability and functioning of the EU as a whole.

These criteria collectively provide a framework for designing and evaluating policies and strategies within the EU. They reflect a commitment to creating an organization that is both robust and adaptable, capable of addressing the diverse needs of member states and managing the consequences of its expansion.

As a result, in accordance with the Sustainable Development Strategy (2002), these indicators were grouped into 10 sectors:

- 1) economic development (GDP per capita, investments, competitiveness, employment);

- 2) poverty and social exclusion (risk of poverty, financial poverty, access to the labor market, other aspects of social exclusion);

- 3) aging of the population (the proportion of elderly people, adequacy of pensions, demographic changes, financial stability of citizens);

- 4) health (a period of life without diseases, health care, wealth and quality of food products, management of the chemical industry, the impact of environmental risks on health);

5) Earth's climate changes and energy (emissions of "greenhouse gases", climate changes, energy);

6) production and consumption (material consumption in the EU, eco-efficiency, general consumption, agriculture, corporate social responsibility);

7) management of natural resources (field birds, fish stocks, marine ecosystems, clean water resources, use of land resources);

8) transport (energy consumption in transport, growth in the number of transport, social and ecological dimensions of transport);

9) global governance (citizen trust in EU institutions, policy coherence, public participation);

10) global partnership (official aid for the purpose of development, financing of sustainable development, globalization of trade, resource management).

This system of indicators had a second level (sub-sectoral) - 45 indicators, and a third level - 98 specialized indicators, which reflected the interdisciplinary approach and multipolar nature of sustainable development: 86% of the second and third level indicators covered more than one measurement, and 33% of the indicators covered all three measurements: economic, social and environmental.

In 2006, the EU updated the Sustainable Development Strategy, which was due to a significant expansion EU in 2004 (10 countries merged, most of them from Central and Eastern Europe)(Frick, K.T,2015). This Strategy was also developed on the basis of an integrated approach with the definition of seven key tasks: clean energy, sustainable development of transport, sustainable production and consumption, preservation and rational use natural resources, public health, social integration, demography and migration, global poverty(Fotakis, C.2000).

In general, the system of assessment of sustainable development is considered in the EU not only in the political plane, but is increasingly turning into a practical mechanism, which involves the development of a whole series of practical measures.

This gives reason to consider the current system of evaluating sustainable development in the EU as flexible, which is constantly revised and updated in accordance with the changing conditions of world development.

The principles of such a system are constant review and updating in accordance with the changing conditions of world development. The most optimal period of review is obviously a five-year period, which makes it possible to analyze the dynamics of development and adjust the goals, tasks and relevant mechanisms in time (Frick, K.T, 2015).

In general, the evaluation system should be focused on the final result, that is, have effective and efficient implementation mechanisms, and their main criteria should be the reliability and validity of information.

An indicator serves as a metric that reveals the condition of an environmental, economic, or social system over a period, as defined by Redefining Progress, Sustainable Seattle, and Tyler Norris Associates in 1997. The purposes of indicators encompass several objectives:

1. Tracking and Evaluating Sustainable Business Goals where indicators are instrumental in assessing the success and efficiency of sustainable business objectives and purposes, as noted by Parris and Kates in 2003.

2. Consulting with Stakeholders. Thompson (2003) highlights the role of indicators in interaction, aiding varied stakeholders, including the community, policy-makers, and supervisors, in making informed decisions about sustainable business practices, as emphasized by Kuhndt and Geibler in 2002.

3. Comparison of Firm Actions and Performance, where indicators facilitate the comparison of actions and efficiency among firms, and whether they are putting sustainable business practices into effect, according to Kuhndt and Geibler (2002).

In search of these goals, many businesses and global organizations, such as the International Organization for Standardization and the Global Reporting Initiatives,

have developed sets of indicators to gauge progress in environmental performance and sustainable business. Many companies utilize varied indicators to seamlessly integrate existing environmental management systems into sustainable business frameworks.

In practice, sustainable business often incorporates both qualitative and quantitative measurements, as they are essential to evaluating whether an organization's activities align with human needs and social demands. Despite the challenge of defining qualitative indicators in physical terms, many firms prioritize setting qualitative indicators as significant benchmarks to measure the progress of their policies, as highlighted by Azapagic and Perdan (2000) .

1.3 Modern trends in market for maintenance and repair services in the conditions of international competition

The "Ship Repair and Maintenance Services Market Report (2023-2030)" provides an essential overview of the shipping industry's future. It presents the global trends such as technological advancements, environmental sustainability, and the need for specialized services. This statement prepares stakeholders for a deeper exploration of how these trends will drive demand and shape strategies for success. It will uncover the significance of adapting to changes, embracing innovation, and focusing on customer satisfaction as pivotal elements for navigating the industry's evolving landscape.

This report allows us to highlight such trends as:

1. Steady Growth Driven by Technological Advancements, Environmental Awareness, and Operational Efficiency Needs. For this, businesses need to take on automation, robotics, and advanced materials in ship repair and maintenance to increase productivity, accuracy, and security. This can lower costs and attract new

customers. Also increased focus on reducing emissions and waste from ships will drive demand for eco-friendly repair and maintenance solutions. Green technologies like energy-efficient systems and alternative fuels will gain traction.

And also growing pressure to optimize shipping operations will fuel demand for faster turnaround times, predictive maintenance, and data-driven solutions. Shipyards will need to adapt to meet these demands.

2. Focus on Product Innovation, Strategic Collaborations, and Geographical Expansion by Industry Players. For this, businesses need invest in developing new technologies, services, and repair techniques to differentiate themselves and cater to evolving customer needs. Partnerships between shipyards, technology providers, and other stakeholders will be crucial for sharing expertise and resources, driving innovation, and accessing new markets. Established players are expected to expand into arising markets with high growth potential, while new entrants may emerge in strategic locations .

3. Growing Demand for Repair and Maintenance Services caused by Aging Ships and Severe Regulations. For this, businesses need strict environmental policies and safety standards and will necessitate more frequent and specialized maintenance to ensure compliance. This will further boost demand for repair services.

4. Segmentation of the Market by Ship Type, Service Type, and Region. Different ship types like tankers, container ships, and passenger vessels have unique maintenance needs. Specialization in specific types will be crucial for catering to specific customer segments. The market can be segmented based on services offered, such as hull repairs, engine overhauls, electrical work, and dry-docking. Diversification of services will be key to capturing a wider market share. Market dynamics and growth prospects vary significantly across different regions. Understanding regional trends and specific customer needs will be vital for targeted expansion and success.

Summarizing we have also highlighted the market for maintenance and repair services is undergoing significant changes, driven by several key trends:

1. Increased focus on sustainability and circular economy principles

This trend is characterized by the fact that consumers are becoming increasingly aware of the environmental impact of their utilization and are demanding products that are durable, repairable, and recyclable. This is driving a shift towards a circular economy, where products are designed for longer lifecycles and repaired instead of being discarded. Also, governments are implementing policies to promote sustainability, such as mandatory producer responsibility plans, which will be essential for manufacturers to withdraw and recycle their products at the end of their useful life.

This trend presents a significant opportunity for the maintenance and repair service industry, as it creates a request for services that can prolong the lifetime of products and reduce waste.

2. Rise of digitalization and automation.

This trend is characterized use of digitalized technologies transforming the maintenance and repair service industry. Predictive maintenance, which uses sensors and analysis of data to recognize possible problems before they appear, is becoming increasingly common. This can help to reduce downtime and upgrade the ability of maintenance operations. Robotics and automation are also being used to computerize tasks such as welding, painting, and assembly. This can help to improve the quality of repairs and reduce budget.

3. Growing popularity of subscription-based service models

This trend is characterized by consumers more and more subscribing to services instead of owning products. This trend is also impacting the maintenance and repair service industry. Manufacturers are offering subscription-based service models that include maintenance and repairs.

It allows to predict the source of revenue for service providers and makes it easier for consumers to budget for maintenance costs.

4. Increased competition from international players

This trend is characterized maintenance and repair service industry becoming increasingly globalized. This is partly due to the rise of online marketplaces and e-commerce platforms, which make it easier for companies to sell their services to customers worldwide. International competition is putting pressure on local service providers to improve their efficiency and competitiveness.

5. Growing importance of customer experience

In today's competitive market, customer experience is more important than ever. Service providers must focus on providing excellent customer service to differentiate themselves from the competition. This includes things like providing timely and responsive service, communicating effectively with customers, and offering competitive prices.

These trends present both challenges and opportunities for the maintenance and repair service industry. Companies that are able to adapt to these changes and take advantage of the opportunities they present will be well-positioned for success in the future.

CHAPTER 2.

ECONOMIC ANALYSIS OF ACTIVITY OF THE “CARDINAL PLUMBING, HEATING & AIR INC” CORPORATION, MANAGEMENT STRATEGIES IN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT

2.1. General characteristics and analysis of the economic activity of “Cardinal Plumbing, Heating & Air Inc.” Corporation

Cardinal Plumbing, Heating & Air is a full-service plumbing and air conditioning company located in Gainesville, Virginia. The company was registered in 2013 to be a local business involved in the community and serve its residents. Cardinal Plumbing provides ductwork, plumbing, air conditioning and heating services in Fairfax, Arlington, Loudoun, Falls Church, Alexandria, and the Manassas counties of Northern Virginia state. The company is licensed and insured, and its team of skilled and experienced plumbers offers high-quality work at an affordable price.

Cardinal Plumbing Heating & Air professionals take their jobs and commitment to their customers seriously. They guarantee their work and strive to exceed customer expectations from the very first interaction. Their dedicated team is available for same-day service, ensuring prompt assistance to their customers. Whether it's a repair, replacement, maintenance, or new installation, Cardinal Plumbing Heating & Air has highly skilled technicians who can handle it all.

The company understands the importance of climate control and offers prompt and reliable service. Their team is available to answer calls and perform emergency HVAC repairs as needed. They also provide professional HVAC tune-ups, which help ensure that heating and cooling units operate smoothly and efficiently when

needed the most. Regular maintenance from their HVAC professionals can help homeowners save on repairs and utility costs in the long run.

Apart from their comprehensive plumbing and HVAC services, Cardinal Plumbing, Heating & Air also offers assistance in air quality control, air duct cleaning, and full-service air duct replacements. They believe in providing a complete range of services to meet their customers' needs. As a company, Cardinal Plumbing, Cooling, and Heating treat their business like a family, and that same philosophy extends to their community. They take their responsibilities seriously when entering customers' homes to assess or repair HVAC and plumbing systems. The technicians are courteous, respectful, professional, and always prioritize the best interests of their customers.

The rights of Cardinal Plumbing, Heating & Air Inc. are as follows:

1. Legal Recognition

Cardinal Plumbing, Heating & Air Inc. is a registered enterprise, recognized as a legitimate entity, and has the legal right to operate and conduct its business activities in compliance with the laws and regulations of its jurisdiction.

2. Property Rights

Cardinal Plumbing, Heating & Air Inc. has the right to own, possess, and utilize property necessary for its operations, including physical assets such as buildings, vehicles, equipment, and inventory.

3. Contractual Rights

Cardinal Plumbing, Heating & Air Inc. has the right to enter into contracts and agreements with customers, suppliers, and other business partners. These contracts establish the rights and obligations of all parties involved and provide a framework for business transactions.

4. Intellectual Property Rights

Cardinal Plumbing, Heating & Air Inc. has the right to protect its intellectual property, including trademarks, logos, service marks, and other proprietary assets. These rights safeguard the company's unique branding and ensure its distinctiveness in the marketplace.

5. Employment Rights

Cardinal Plumbing, Heating & Air Inc. has the right to hire employees and define the terms and conditions of their employment, including wages, benefits, and working conditions, in compliance with applicable labor laws and regulations. The company also has the right to terminate employment based on valid reasons and within legal boundaries.

6. Financial Rights

Cardinal Plumbing, Heating & Air Inc. has the right to manage its financial affairs, including the right to generate revenue, receive payment for services rendered, control its financial assets, and access financial services from banking institutions as necessary.

7. Privacy Rights

Cardinal Plumbing, Heating & Air Inc. has the right to protect the privacy of its business operations, customer information, trade secrets, and other confidential data. The company may implement appropriate security measures and confidentiality agreements to safeguard sensitive information.

8. Compliance Rights

Cardinal Plumbing, Heating & Air Inc. has the right to operate in compliance with applicable laws, regulations, and industry standards. The company has the right to seek legal counsel, conduct internal audits, and take necessary measures to ensure adherence to legal and regulatory requirements.

9. Dispute Resolution Rights

Cardinal Plumbing, Heating & Air Inc. has the right to seek resolution through legal means, such as mediation, arbitration, or litigation. The company has the right to defend its interests and pursue legal remedies if its rights are infringed upon.

10. Freedom of Business

Cardinal Plumbing, Heating & Air Inc. has the right to engage in lawful business activities without undue interference, as long as it operates within the boundaries of the law and respects the rights of others.

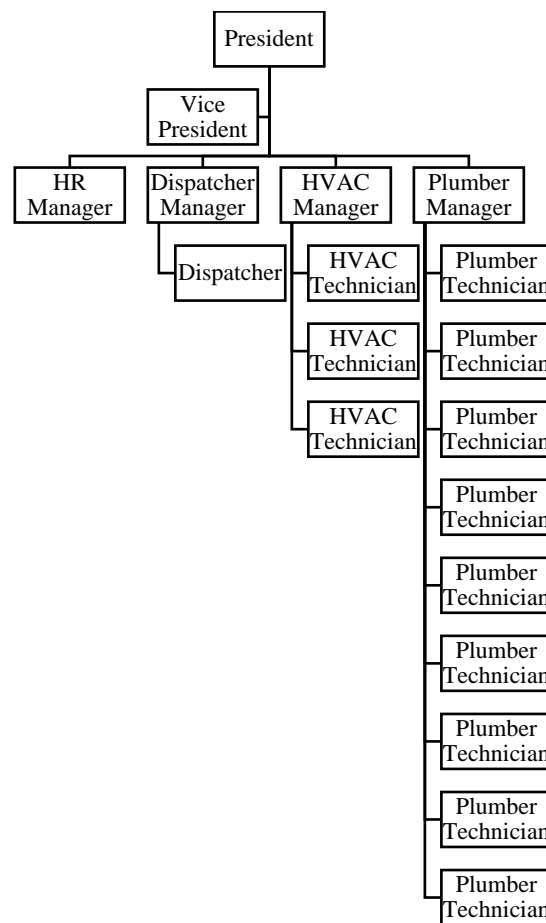


Figure 2.1. Organizational Structure of the Company

Source: Compiled by the Author

Cardinal Plumbing is focused on providing plumbing services to customers, meeting their needs and requirements as much as possible. Activity is aimed at achieving profit from the provision of quality services. Cardinal Plumbing's team of professional plumbers volunteer their knowledge and efforts to provide high-quality work and meet the needs of customers. Cardinal Plumbing, Heating & Air Inc. is a private plumbing company that carries out its activities taking into account the principles of commercial activity.

Table 2.1-2.5. shows the SWOT- TWOS analysis of the company.

Table 2.1. SWOT analysis

Strength	Weaknesses
Established Reputation Skilled Workforce Diverse Service Offering Quality Customer Service	Limited Geographic Reach Reliance on Local Market Competitive Market
Opportunities	Threats
Market Expansion Upselling and Cross-selling Technological Advancements Diversification	Economic Factors Regulatory Changes New Competitors

Source: Compiled by the Author

In terms of strengths, the company boasts an established reputation, a skilled workforce, diverse service offerings, and a commitment to quality customer service. These strengths position the company well in the competitive market. However, the analysis identifies weaknesses, such as a limited geographic reach, reliance on the local market, and the challenges associated with competing in a highly competitive industry.

The opportunities identified include the potential for market expansion, the ability to leverage upselling and cross-selling strategies, advancements in

technology, and opportunities for diversification. Capitalizing on these opportunities could contribute to the company's growth and resilience. On the flip side, the analysis highlights threats such as economic factors, regulatory changes, and the emergence of new competitors, which pose challenges that Cardinal Plumbing, Heating & Air needs to navigate effectively.

Table 2.2. TWOS Analysis - Strengths and Opportunities (SO).

Internal Factors	External Factors	Strategies	Conclusions
Strengths	Opportunities		
Local community involvement	Growing market in Northern Virginia	<p>Capitalize on local community involvement: partner with local organizations and events for visibility, offer discounts or incentives to community members, build strong relationships with local businesses and homeowners associations.</p> <p>Embrace technological advancements: invest in training for the team on new technologies, offer cutting-edge HVAC systems and services, promote energy efficiency and sustainability.</p>	<p>Cardinal Plumbing, Heating & Air has a strong reputation in the local community. By leveraging this relationship, the company can tap into the growing market in Northern Virginia and attract new customers. The company can also use its community involvement to promote its commitment to innovation and sustainability.</p>

Internal Factors	External Factors	Strategies	Conclusions
Skilled and experienced team		Differentiate through quality and service: emphasize high-quality workmanship and materials, provide exceptional customer service, build a reputation for reliability and trustworthiness. Stay ahead of regulatory changes: monitor industry trends and regulations, proactively adapt business practices and offerings, seek certifications or accreditations that demonstrate compliance.	The company has a skilled and experienced team that can provide high-quality services. By emphasizing quality and service, the company can differentiate itself from its competitors and attract new customers. The company should also stay ahead of regulatory changes to ensure compliance and maintain a competitive edge.

Source: Compiled by the Author

According to the report, Cardinal Plumbing, Heating and Air is more profitable advantaging by its strong community involvement and technical advancements in the Northern Virginia market. The company's experienced team and commitment to quality service sets it apart from its competitors and positions it to navigate regulatory changes effectively. By utilizing these strengths and opportunities, Cardinal Plumbing, Heating and Air is positioned for sustainable growth and continued success in the region.

Table 2.3. TWOS Analysis - Weaknesses and Opportunities (WO).

Internal Factors	External Factors	Strategies	Conclusions
Weaknesses	Opportunities		
Limited geographic presence	Growing market in Northern Virginia	Expand geographic presence strategically: target neighboring areas with similar demographics, consider strategic partnerships or acquisitions,	The company's limited geographic presence limits its potential market. By expanding its geographic reach, the company can tap

Internal Factors	External Factors	Strategies	Conclusions
		offer online services or consultations to reach broader markets.	into the growing market in Northern Virginia and attract new customers.
Relatively recent establishment		Invest in marketing and branding: build brand awareness through targeted campaigns, highlight company values and expertise, showcase customer testimonials and success stories.	The company is a relatively recent establishment, which may be a disadvantage in terms of brand awareness. By investing in marketing and branding, the company can build awareness and attract new customers.

Source: Compiled by the Author

Based on the analysis the company's strategy should focus on expanding its geographic reach in Northern Virginia and strengthening marketing efforts to build brand awareness. This approach will address current weaknesses and provide growth opportunities in the market.

Table 2.4. TWOS Analysis - Weaknesses and Threats (WT)

Internal Factors	External Factors	Strategies	Conclusions
Weaknesses	Threats		
Limited geographic presence	Intense competition	Strengthen competitive position: focus on niche markets or services, develop unique value propositions, build strong customer relationships and loyalty.	The company's limited geographic presence may make it more vulnerable to competition. By focusing on niche markets or services, the company can create a competitive advantage. The company should also develop strong customer relationships

Internal Factors	External Factors	Strategies	Conclusions
			and loyalty to attract and retain customers.
Relatively recent establishment	Economic fluctuations	Develop contingency plans: prepare for economic downturns by diversifying revenue streams, offer flexible payment options or financing, build relationships with suppliers and vendors for cost control.	The company's relatively recent establishment may make it more vulnerable to economic fluctuations. By developing contingency plans, the company can prepare for economic downturns and minimize their impact.

Source: Compiled by the Author

Based on the analysis the company should focus on unique services and customer loyalty to stand out in a competitive market and deal with economic changes. Diversifying income and maintaining flexible finances are key. This approach will help overcome its newness and limited reach, ensuring growth and stability.

Table 2.5. TWOS Analysis - Strengths and Threats (ST).

Internal Strengths	External Threats	Strategies	Conclusions
Strengths	Threats		
Local community involvement	Intense competition	Harness community trust: leverage strong community relationships to foster word-of-mouth recommendations and referrals. Highlight local project involvement and customer testimonials. Offer differentiated	By capitalizing on its local network and trust, Cardinal Plumbing can stand out from generic competitors and attract customers who value community

Internal Strengths	External Threats	Strategies	Conclusions
		services: Focus on niche markets or specialized services within the community, like historic home HVAC maintenance or smart home integration.	engagement and specialized expertise.
Skilled and experienced team	Economic fluctuations	Adapt services to meet new needs: offer budget-friendly maintenance packages or emergency service discounts during economic downturns. Consider expanding into related services, like insulation or water treatment, to expand revenue sources. Invest in team training: Train technicians on energy-efficient repairs and installations to appeal to cost-conscious customers.	Cardinal's skilled team can be a valuable asset during economic hardship. By adapting services and upskilling their expertise, the company can cater to new customer needs and maintain profitability.
Prompt and reliable service	Potential regulatory changes	Proactive compliance: monitor upcoming regulations and proactively update practices and offers to avoid penalties or delays. Build relationships with regulatory bodies for early insights and updates. Communicate with customers: inform customers about potential regulatory changes and their impact on services, maintaining transparency and trust.	Cardinal's prompt and reliable service can be leveraged to maintain a positive customer experience during regulatory shifts. By being proactive and transparent, the company can minimize disruptions and maintain good standing.

Source: Compiled by the Author

Based on this analysis, Cardinal Plumbing is well established to navigate external threats and capitalize on internal strengths. By utilizing its strong community involvement, skilled team, and prompt service, the company can stand

out in a competitive market. Strategies such as harnessing community trust, offering differentiated services, and proactive compliance with regulatory changes will ensure sustained growth and profitability for Cardinal Plumbing.

The Economic Activity of Cardinal Plumbing Heating & Air Inc. encompasses various aspects of the company's operations, including the production, distribution, and consumption of goods and services. This section provides an overview of the company's economic activity, its impact on the local economy, and its role in serving the community.

Cardinal Plumbing, Heating & Air is engaged in the production and provision of plumbing, heating, and air conditioning services. The company's skilled technicians and plumbers offer a wide range of services, including repairs, installations, maintenance, and replacements. These services contribute to the overall well-being and comfort of residential and commercial properties in Gainesville, Northern Virginia, and surrounding areas.

The company's distribution network involves providing services directly to customers within its service area. Cardinal Plumbing Heating & Air leverages a localized approach, serving as a convenient and reliable option for residents and businesses in need of plumbing and HVAC solutions. The company's strong market presence, fueled by effective marketing efforts and quality services, has contributed to its growth and recognition within the community.

Cardinal Plumbing, Heating & Air's economic activity has a direct impact on the local economy. By providing essential plumbing and HVAC services, the company contributes to maintaining the functionality and safety of residential and commercial properties. This, in turn, enhances property values and the overall quality of life for community members.

The company's role as a local business creates employment opportunities for skilled technicians, administrative staff, and other support roles. Job creation and

steady employment opportunities positively affect the local workforce and help support the economic stability of the region.

As part of its commitment to being a community-oriented business, Cardinal Plumbing Heating & Air actively engages with the local community. The company participates in charitable initiatives, sponsors local events, and contributes to community development efforts. By being actively involved, Cardinal Plumbing fosters a positive relationship with residents and demonstrates its dedication to being a responsible corporate citizen.

Cardinal Plumbing, Heating & Air economic activity plays a vital role in the local economy by providing essential services, contributing to job creation, and engaging with the community. The company's commitment to delivering high-quality plumbing and HVAC solutions strengthens its position as a trusted service provider and a valuable contributor to the well-being of the Gainesville and Northern Virginia area. As the company continues to grow and evolve, its economic impact is expected to further enhance the region's overall economic vitality and prosperity.

Cardinal Plumbing, Heating & Air is a well-positioned company with a strong foundation. By leveraging its strengths and opportunities, and addressing its weaknesses and threats, the company can continue to grow and succeed.

Specific recommendations:

- The company should focus on expanding its geographic presence strategically to tap into the growing market in Northern Virginia.
- The company should invest in marketing and branding to build awareness and attract new customers.
- The company should focus on quality and service to differentiate itself from its competitors and attract new customers.
- The company should stay ahead of regulatory changes to ensure compliance and maintain a competitive edge.

- The company should focus on niche markets or services to create a competitive advantage.
- The company should develop strong customer relationships and loyalty to attract and retain customers.
- The company should develop contingency plans to prepare for economic downturns.

By implementing these recommendations, Cardinal Plumbing, Heating & Air can continue to be a leader in the plumbing and HVAC industry.

2.2. Strategic management of the business entity of “Cardinal Plumbing, Heating & Air Inc.” Corporation

Strategic planning forms the bedrock of Cardinal Plumbing, Heating & Air Inc.'s operational framework, serving as a compass for achieving short-term and long-term objectives. This section delves into the key elements of strategic management within the context of a commercial organization providing plumbing and HVAC services.

The mission of Cardinal Plumbing, Heating & Air is to deliver exceptional plumbing and HVAC services that ensure the comfort and safety of residential and commercial properties in Gainesville, Northern Virginia, and the surrounding regions. This mission statement encapsulates the company's purpose, customer focus, and geographical scope .

The company's vision encompasses a future where it stands as the premier choice for plumbing and HVAC solutions, recognized for its excellence, innovation, and commitment to customer satisfaction.

Core values including integrity, quality craftsmanship, customer-centricity, innovation, and professionalism guide Cardinal Plumbing's actions and decisions, shaping its organizational culture and strategic direction.

Cardinal Plumbing's strategic approach entails translating its mission, vision, and values into goals and actionable strategies. These goals serve as clear and measurable targets, guiding the company's endeavors to enhance service quality, expand market presence, and ensure customer satisfaction.

Cardinal Plumbing's strategic management process is characterized by a systematic framework that encompasses three fundamental phases (Fig. 2.2.).

Cardinal Plumbing recognizes that strategic plans are dynamic tools that provide a framework for proactive decision-making. These plans are built with flexibility to accommodate changing business conditions, market trends, and emerging opportunities. By actively collaborating with partners, suppliers, and industry peers, Cardinal Plumbing enhances its strategic agility and maintains its position as a leading provider of plumbing and HVAC services in the region. The company's commitment to aligning its strategies with its mission, values, and market demands ensures sustained growth and customer satisfaction.

Development of Strategies	Plan Execution	Review of the Process
<ul style="list-style-type: none"> – Assembling a proficient team dedicated to strategic planning. – Thorough assessment of the company's present operational landscape. – Definition of the company's mission, vision, and values. – SWOT analysis to identify internal strengths, weaknesses, external opportunities, and threats. – Establishment of strategic goals aligned with the company's mission and vision. – Formulation of strategic measures outlining the steps required for goal attainment. – Compilation of a comprehensive strategic plan detailing the strategies to be executed. 	<ul style="list-style-type: none"> – Implementation of strategies in accordance with the strategic plan. – Allocation of resources and delegation of responsibilities for effective execution. – Continuous monitoring of progress, with flexibility to adjust strategies as needed. 	<ul style="list-style-type: none"> – Regular evaluation of the progress of strategic initiatives against predefined goals. – Examination of outcomes to ensure alignment with the company's mission and vision. – Identification of insights and lessons learned to inform future planning cycles.

Figure 2.2. Cardinal Plumbing's strategic management process

Source: Compiled by the Author

2.3. Financial Performance and Resource Utilization of “Cardinal Plumbing, Heating & Air Inc.” Corporation

In Annex 1, consider the Profit and Loss Report Cardinal Plumbing, Heating & Air Inc.

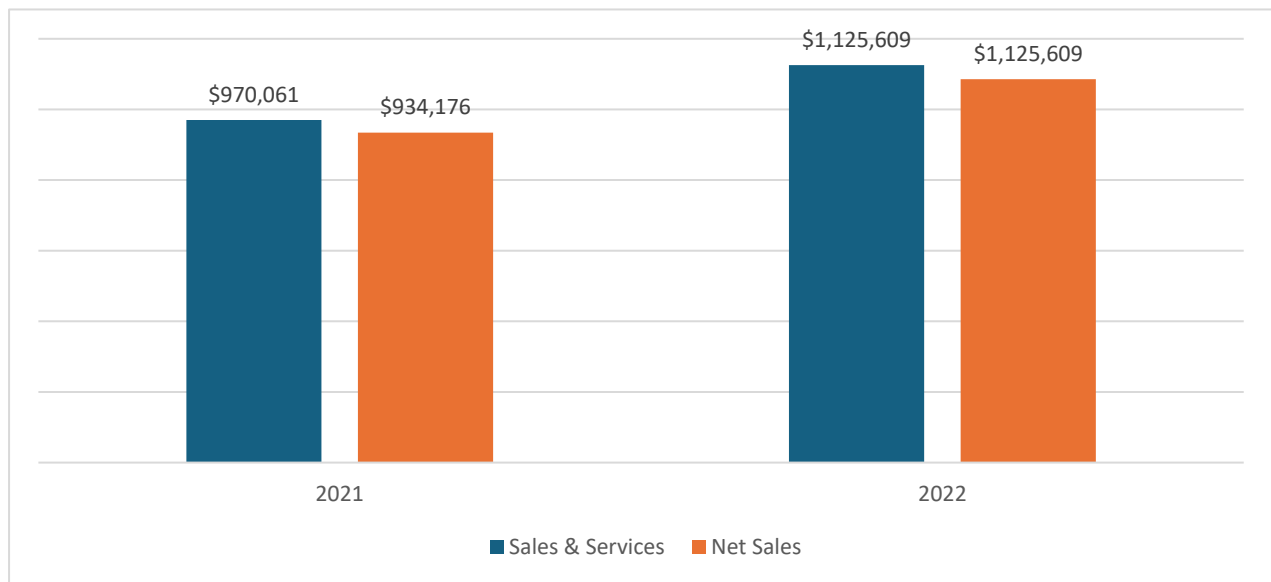


Figure 2.3. Sales & Services and Net Sales during 2021-2022

Source: Compiled by the Author

The revenue analysis depicted in Figure 2.3, focusing on Sales & Services and Net Sales for the years 2021 and 2022, reveals a positive growth trajectory for Cardinal Plumbing, Heating & Air Inc.

In 2021, the company generated \$970,061 from its Sales & Services, and this figure increased to \$1,125,609 in 2022. The noticeable growth in Sales & Services revenue indicates increased demand for the company's plumbing and HVAC services, showcasing its ability to attract and serve a growing customer base.

The consistent and substantial growth in both Sales & Services and Net Sales underscores the company's effective business strategies and its ability to capture a larger market share.

In conclusion, the consistent growth in revenue, specifically in Sales & Services, reflects the company's ability to adapt to market dynamics, meet customer demands, and potentially implement effective marketing and sales initiatives. It

positions Cardinal Plumbing, Heating & Air Inc. on a positive trajectory for continued success in the competitive industry.

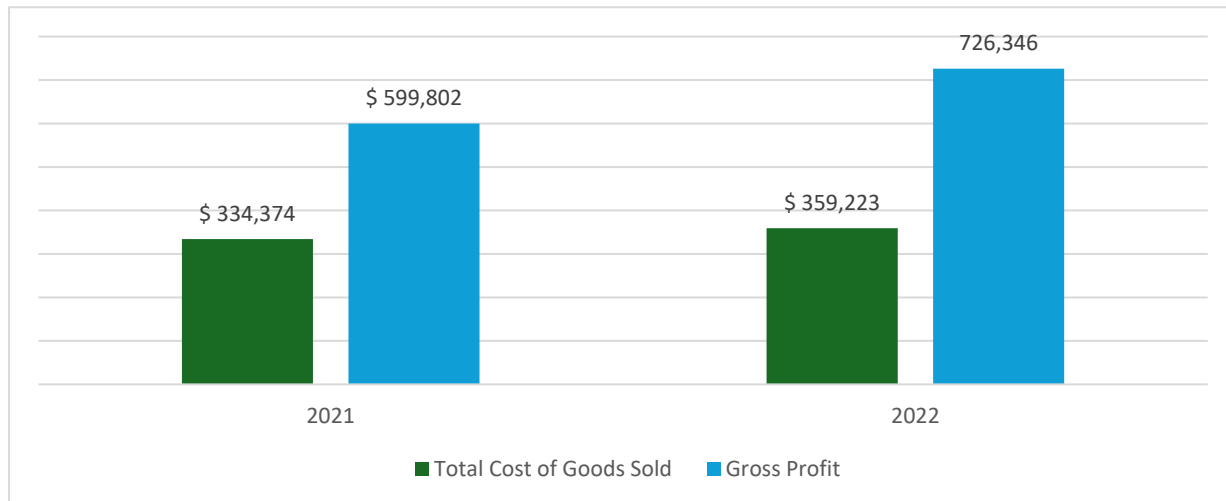


Figure 2.4. Gross Profit and Cost of Goods Sold during 2021-2022

Source: Compiled by the Author

Figure 2.4 presents a detailed analysis of Cardinal Plumbing, Heating & Air Inc.'s Gross Profit and Cost of Goods Sold (COGS) for the years 2021 and 2022. The data indicates a positive trend in the company's ability to generate gross profit, showcasing effective management of its cost structure.

In 2022, there was an increase in COGS, rising from \$334,374 in 2021 to \$359,223. This rise can be attributed to several factors. Firstly, there was an increase in material costs, with expenditures rising from \$277,248 to \$293,463, indicative of investments made towards sustainable and eco-friendly materials.

Furthermore, the labor costs significantly increased from \$55,126 to \$63,520 because of the implementation of new wage policies and employee training programs focused on sustainability practices.

The increase in COGS is expected as the company scales its operations and faces adjustments in material and labor costs. The Gross Profit growth outpacing the

rise in COGS indicates effective cost management and underscores the company's ability to maintain profitability even with increased operational costs. The positive trend in Gross Profit suggests that Cardinal Plumbing, Heating & Air Inc. has successfully translated its revenue growth (as seen in Figure 2.3) into increased profitability.

Cardinal Plumbing, Heating & Air Inc.'s ability to maintain a healthy Gross Profit margin reflects efficient operations and a strategic approach to cost management. The positive correlation between revenue growth and Gross Profit suggests that the company is effectively converting sales into profit, indicating financial stability and operational effectiveness.

In conclusion, the positive trajectory of gross profit, coupled with prudent management of COGS, reflects Cardinal Plumbing, Heating & Air Inc.'s commitment to financial health and operational excellence. It positions the company well for continued success by ensuring a solid foundation for future growth and sustainability. The data on COGS and Gross Profit highlights Cardinal Plumbing, Heating & Air Inc.'s successful financial management, cost-efficiency, and overall strength in generating profit from its core business activities.

In 2021, the operating expenses amounted to \$463,870, and by 2022, they increased to \$502,213. The rise in operating expenses is attributed to factors such as higher salaries and increased rent/lease costs. These cost increments may indicate positive developments within the company, such as business expansion, attracting and retaining skilled employees through competitive compensation, or adjustments in rental agreements to support operational needs.

Let's analyze the significant categories and draw additional conclusions. Salaries increased from \$369,000 in 2021 to \$410,950 in 2022. This growth is attributed to factors such as hiring new staff, employee compensation adjustments,

or increased workload. Advertising expenses rose from \$4,650 in 2021 to \$5,250 in 2022, suggesting an increased investment in marketing efforts.

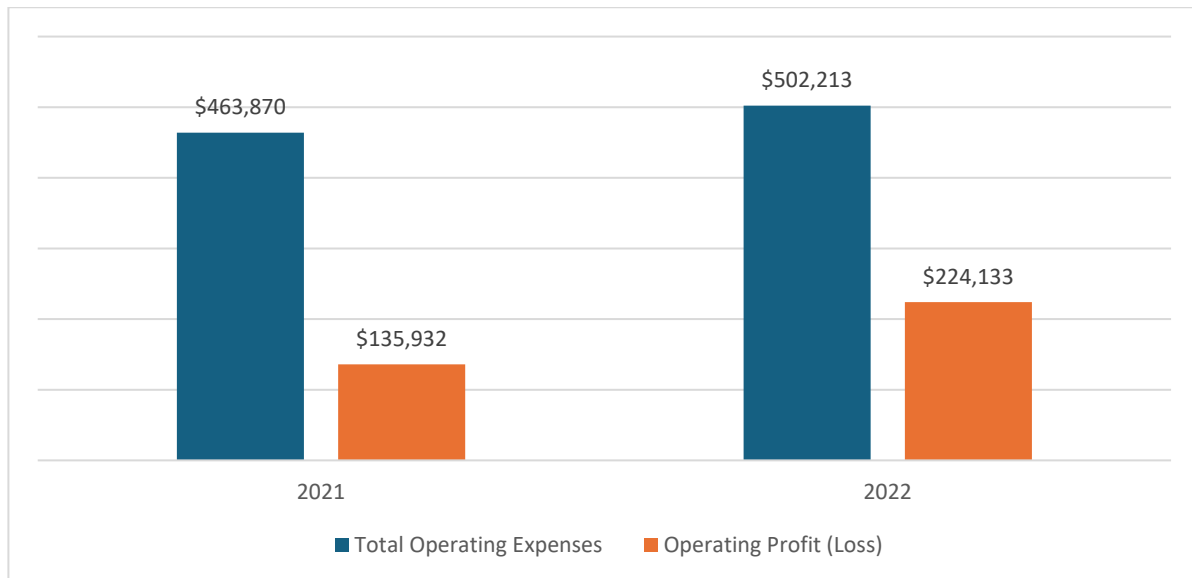


Figure 2.5. Total Operating Expenses and Operating Profit (Loss) during 2021-2022

Source: Compiled by the Author

Costs in category Repairs & Maintenance increased from \$13,130 in 2021 to \$16,220 in 2022, possibly reflecting the need for additional repairs of trucks or maintenance activities. Rent/lease costs saw a modest increase from \$26,080 in 2021 to \$28,080 in 2022, potentially indicating adjustments in rental agreements or business space requirements. Delivery/Freight Expense a slight increase from \$1,000 in 2021 to \$1,120 in 2022 suggests rising transportation costs. Utilities/Telephone Expenses a nominal increase from \$15,000 in 2021 to \$16,250 in 2022 may be attributed to general cost-of-living adjustments or additional utility services. Insurance costs remained constant at \$20,000 in both 2021 and 2022, indicating stability in risk management practices. Office supply expenses increased from \$3,564 in 2021 to \$4,125 in 2022, potentially due to increased business operations.

Depreciation costs rose from \$7,546 in 2021 to \$8,345 in 2022, reflecting the aging of equipment and accounting practices. Miscellaneous expenses increased from \$3,900 in 2021 to \$4,368 in 2022, covering various operational costs.

Operating Profit (Loss) the increase in operating expenses, the company maintained a positive operating profit. The operating profit rose from \$135,930 in 2021 to \$224,130 in 2022, indicating the company's ability to generate profit from its basis operations.

In conclusion, the detailed analysis of operating expenses reflects a nuanced financial management strategy. The increases in salaries, rent/lease, and advertising suggest investments in human resources, potential business expansion, and efforts to enhance market presence. The reduction in repairs & maintenance costs could indicate efficient operational practices. Overall, the allocation of resources aligns with the company's growth objectives, and the ability to maintain a positive operating profit underscores effective financial stewardship.



Figure 2.6. Profit (Loss) Before Taxes and Net Profit (Loss) during 2021-2022

Source: Compiled by the Author

Figure 2.6 provides a detailed view of Cardinal Plumbing, Heating & Air Inc.'s Profit (Loss) Before Taxes, Net Profit (Loss), and Tax Expense for the years 2021 and 2022. Let's analyze the key components and draw additional conclusions. Profit (Loss) Before Taxes increased from \$148,040 in 2021 to \$238,080 in 2022. The significant growth in Profit (Loss) Before Taxes indicates that the company's operational efficiency and revenue generation have positively impacted its pre-tax profitability. Tax Expense increased from \$22,650 in 2021 to \$36,430 in 2022. The rise in tax expense is proportionate to the growth in Profit (Loss) Before Taxes, reflecting adherence to tax regulations and increased tax liabilities due to higher profits.

Net Profit (Loss) improved from a Net Loss of \$125,390 in 2021 to a Net Profit of \$201,650 in 2022. The positive shift from a loss to a profit underscores the company's ability to effectively manage costs, generate revenue, and achieve overall financial success.

The positive Net Profit in 2022 demonstrates the company's ability to generate sustainable profits and positions it for future growth and investment. The increase in tax expense, while a cost, is indicative of improved financial health and compliance with tax obligations. Cardinal Plumbing, Heating & Air Inc.'s overall financial trajectory, from a loss to a profit, indicates successful financial management and operational effectiveness.

Additional Conclusions:

- The growth in other income sources, such as interest and miscellaneous income, contributes positively to the overall profitability of Cardinal Plumbing, Heating & Air Inc.
- The decrease in tax expense significantly impacts the net profit, allowing for a more substantial increase in profitability.

- The consistent positive net profit indicates that the company has successfully translated its operational success into a robust financial bottom line.

In conclusion, Cardinal Plumbing, Heating & Air Inc.'s financial performance, as depicted in Figure 2.6, demonstrates not only strong operational efficiency but also effective financial management in terms of other income and tax expense. The significant increase in net profit indicates a healthy and sustainable financial position, positioning the company for continued success in the market.

- Financial Insights and Conclusion:

Cardinal Plumbing, Heating & Air Inc. demonstrated strong financial performance in 2022 compared to the previous year. The increase in revenue, gross profit, and net profit indicates effective management of operations and a positive market response to the company's services.

It's important to note that the company's decision to invest in repairs and maintenance instead of allowing overhead to increase further contributed to optimizing expenses. Additionally, the growth in other income sources highlights the company's ability to diversify revenue streams.

The financial analysis suggests that Cardinal Plumbing's efforts to manage costs, improve operational efficiency, and explore alternative income sources have been successful. However, ongoing monitoring, financial planning, and strategic decision-making will be essential to sustain and further enhance the company's financial performance in the future.

Cardinal Plumbing, Heating & Air Inc. is committed to providing exceptional plumbing and HVAC services that ensure the comfort and safety of residential and commercial properties in Gainesville, Northern Virginia, and the surrounding areas. This mission statement covers the company's purpose, customer focus, and geographic scope.

To achieve this goal, the company uses a variety of natural resources. These resources include water, electricity and gas. The Company uses water for its plumbing services and to cool its buildings and equipment. The Company uses electricity for its heating, ventilation, and air conditioning systems, as well as for its lighting and other equipment. The company uses gas for its heating systems.

The company strives to use these resources rationally and efficiently. It uses modern technologies and methods to reduce resource consumption. For example, the company uses energy-efficient heating and air-conditioning systems, as well as water-saving plumbing fixtures.

The company is also committed to reducing its impact on the environment. It uses recycled materials and resources and also monitors and reduces its greenhouse gas emissions.

2.4. Environmental Impact and Sustainable Practices of Cardinal Plumbing, Heating & Air Inc.” Corporation

The President of the company is responsible for developing and implementing the company's innovation strategy, as well as for managing the company's innovation projects.

In recent years, more and more customers have demonstrated an increasing interest in environmental sustainability. The research across the states showed that first-time homeowners will be looking for green plumbers and HVAC technicians to do business with. The President and the VP made a decision to be one of the first in Northern Virginia to offer eco-friendly plumbing and HVAC services.

Since then, Cardinal Plumbing Heating & Air has been constantly promoting awareness of the plumbing industry's role in keeping safe the surroundings by

supplying pure water through effective management and conservation of natural resources.

Cardinal Plumbing, Heating & Air Inc. has made an important contribution to reducing the impact on the environment. The company offers a wide range of water- and energy-saving products and services that help customers save water and energy.

1. The company uses energy-saving heating and air conditioning systems that help reduce energy consumption. This can help decrease greenhouse gas emissions and save money on your energy bills.

These systems include gas tankless water heaters which heat water on demand, dismissing the need for a storage tank and decreasing standby energy loss, electric tankless water heaters which are similar to gas tankless water heaters, but use electricity to heat water and also heat pump water heaters which use electricity to extract heat from the air or ground to heat water. They are more effective than traditional electric water heaters. Installation services for these energy-saving systems further contribute to the reduction of overall energy usage in residential and commercial spaces.

The company also offers installation services for energy-saving heating and air conditioning systems. These services can help customers save energy and money on their electricity bills.

2. The company uses water-saving plumbing fixtures that help reduce water consumption. This can help protect aquifers and preserve water for future generations.

These devices include a low-flow toilet that uses less water per flush than traditional toilets, an eco-friendly faucet that has features that help reduce water use, such as touch control or low flow mode, flow optimizing/water saving shower heads that use less water than traditional shower heads while providing a good stream.

The company also offers services for the installation of water-saving sanitary appliances. These services allow customers save water and money on their water bills.

3. The company uses recycled materials and resources whenever possible. This can help reduce the amount of waste sent to landfills. These materials include cast iron pipes - a strong and durable material, resistant to corrosion, copper which is also a strong and durable material that can be recycled, recycled steel - an environmentally friendly alternative to new steel and recycled plastic pipes - another eco-friendly option that can help reduce the use of raw materials.

4. The company also monitors and reduces its greenhouse gas emissions. This includes the use of energy-saving technologies, the reduction of emissions from transport, and the support of renewable energy sources.

Cardinal Plumbing, Heating & Air's sustainable practices benefit both the environment and its customers. The company helps customers save money, protect the environment, and live more responsibly.

Here are some specific examples of how a company's sustainable actions can influence the environment: using water-saving plumbing fixtures can help conserve water, which can help protect aquifers and conserve water for future generations, using energy-saving heating and air conditioning systems can help reduce greenhouse gas emissions that contribute to climate change, using recycled materials can help reduce the amount of waste sent to landfills.

In conclusion, Cardinal Plumbing, Heating & Air Inc. serves as an exemplary model for businesses aiming to contribute to environmental protection. The integration of eco-friendly technologies, sustainable materials, and a commitment to reducing environmental impact showcases the company's dedication to innovation and responsible business practices in the plumbing and HVAC industry.

CHAPTER 3.

WAYS OF IMPLEMENTING SUSTAINABLE DEVELOPMENT STRATEGIES AT THE ENTERPRISE OF THE “CARDINAL PLUMBING, HEATING & AIR INC” CORPORATION

3.1. Analysis of directions for the implementation of sustainable development strategies of the “Cardinal Plumbing, Heating & Air Inc.” Corporation

Cardinal Plumbing, Heating & Air Inc. has strong foundations for the implementation of sustainable development goals. The company is already implementing a number of strategies that have a positive impact on the environment. However, there are a number of areas where the company can improve its efforts.

Goal. The purpose of this strategy is to help Cardinal Plumbing, Heating & Air Inc. achieve their sustainability goals and make a positive contribution to the environment. The specific objectives of this strategy are in Table 3.1.

Table 3.1.

Specific objectives of sustainable development strategies of the “Cardinal Plumbing, Heating & Air Inc.” Corporation

Goal	Measurable Metrics	Target Date
Reduce CO2 emissions	Reduce CO2 emissions by 40%	End of 2027
Reduce water consumption	Reduce water usage by 50%	End of 2027
Reduce energy consumption	Reduce energy usage by 50%	End of 2027
Transition to 100% energy-efficient appliances 2030	Use 100% renewable energy	End of 2030
Create a culture of sustainability among employees	Implement a training and awareness program	Continuously

Source: compiled by the author.

To achieve these goals, Cardinal Plumbing, Heating & Air Inc. may implement the following measures:

1. The company can expand the reach of its energy and water conservation programs to include more customers. This can be done by offering rebates or other incentives to customers who install water-saving plumbing fixtures or energy-efficient heating and air conditioning systems.

Examples: the company can offer a 10% discount to customers who install water-saving plumbing fixtures. The company can offer a 5% discount to customers who install energy-saving heating and air conditioning systems.

2. The company can implement new sustainability innovations to further reduce its impact on the environment. This may include the use of renewable energy sources such as solar and wind power, or the development of new, more efficient products and services.

Examples: a company can invest in a solar panel at its headquarters to generate its own electricity. The company can start using a new line of energy-saving sanitary appliances.

3. The company can create a culture of sustainable development among its employees. This can be done through educational programs and initiatives that raise employee awareness of the importance of sustainable development .

Examples: Cardinal can develop training programs to teach new employees about sustainability and begin implementing programs to endorse community involvement, such as workshop sessions for the current customers and potential ones, also the company can create summer internships for young students who see themselves in this industry. Providing stimulants for employees to take on new socialization practices at work will definitely strengthen this habit.

To achieve these goals, Cardinal Plumbing, Heating and Air Inc. striving to extend energy and water conservation practices to consumers by providing financial

incentives for water conservation and the adoption of energy-efficient facilities. Second, they aim to improve sustainability by introducing renewable energy and utilizing better products. Finally, creating a culture of stability among employees through education and social inclusion programs is an important step.

These strategies and actions represent the strong framework of Cardinal Plumbing, Heating and Air Inc. not only to achieve their sustainability goals, but also having a positive influence on the environment. Although the company has already made good progress in this direction, the identified areas of enhancement show a continued commitment to environmental protection.

3.2. Assessment of the process of implementation of priority proposals

The evaluation of proposals depends on several factors, including how important they are to the achievement of sustainable development goals, how practical they are within the company's available resources, and how quickly they can be implemented .

Reducing CO₂ emissions by 20% is one of the most important goals of sustainable development. CO₂ emissions are the main driver of climate change, and their reduction is necessary to protect the environment. This goal is also feasible within the available resources of the company. The company can achieve this goal by investing in energy-efficient technologies and switching to renewable energy sources. This goal can also be realized in a short time. The company can reach this goal by 2024 if it starts implementing the necessary measures in the coming months.

Increasing social responsibility is also an important goal of sustainable development. A company can increase its social responsibility by supporting community programs and encouraging its employees to spread the knowledge among the current and new clients. A company can achieve this goal by allocating

free workshops sessions for local community that can increase the number of sustainable responsibilities.

Increasing resource efficiency is also an important goal of sustainable development. A company can improve its resource efficiency by implementing energy and water conservation measures. This goal is also feasible within the available resources of the company. The company can achieve this goal by investing in energy-efficient technologies and installing modern water supply and drainage management systems. This goal can also be realized in a short time. The company can reach this goal by 2024 if it starts implementing the necessary measures in the coming months.

Based on these factors, we would prefer the following three suggestions:

1. Reduction of CO₂ emissions by 20%
2. Increasing social responsibility
3. Increasing the efficiency of resource use

These proposals are important for achieving the goals of sustainable development, they are feasible within the available resources of the company and can be implemented in a short time.

The measures and evaluated results of this strategy in Table 3.2.

Measures and evaluated results of sustainable development strategies of the
“Cardinal Plumbing, Heating & Air Inc.” Corporation

Goal	Action	Measurable Metric	Target Date
<i>Reduce environmental impact</i>	1. Install energy-efficient technologies	Reduce CO2 emissions by 20% within the first 12 months	2023-2024
	2. Rationalize waste and encourage recycling	Implement a waste management program by 65% within 12 months	2023-2024
	3. Reduce the carbon footprint of service operations	The company purchased 11 hybrid vehicles to reduce the fuel consumption within 12 months	2023-2024
<i>Increase social responsibility</i>	1. Implement “Green rebuilt community program”	Start a program aimed to green rebuilt local shopping centers, schools, shelters by 15% within 12 months	2023-2024
	2. Implement internship programs for students	Attract 25% more new employees within 12 months	2023-2024
	3. Implement free workshop sessions for local community	Increase the number of sustainable responsibilities among customers by 20% within 12 months	2023-2024
<i>Increase resource efficiency</i>	1. Install modern water management systems	Reduce water usage by 35% within the first 12 months	2023-2024
	2. Provide training for employees on water conservation	Reduce water usage by 35% within 12 months	2023-2024
	3. Collaboration with eco-friendly vendors	Increase the number of vendors and manufacturers by 20% within 12 months	2023-2024

Source: compiled by the author.

At the end of this evaluation of the sustainable development strategy implemented by Cardinal Plumbing, Heating and Air Inc., we found that the company has done a lot to reduce the impact on the environment, increase social responsibility and improve resource efficiency. By adopting energy-efficient technologies and waste remediation, along with initiatives to reduce the carbon footprint of its services, Cardinal was able to reduce CO2 emissions by 20% and implement a waste management program . The strategic purchase of 11 hybrid vehicles demonstrates the company's commitment to sustainability by lowering the fuel consumption within 18 months. On the social end , the Green Rebuild Community Program and student internship programs demonstrate Cardinal's commitment to contributing to the community and enhancing sustainability. With regards to resource efficiency, the introduction of new water management systems and the training of staff in water conservation accelerated the important reductions in water use, outdoing the targets, decrease in the first 6 to 9 months after the implementation .

The results of the assessment indicate that the company is not only on target to achieve its sustainability goals but is designing sustainable affect above the scope of its current activities. The strategic coherence of these offerings and target dates demonstrates the company's strategic approach to merge sustainability into its root activities and represents an important part of the sustainable and effective business model.

3.3 Analysis of the effectiveness of the proposed improvements

Cardinal Plumbing, Heating and Air sustainability analysis of the effectiveness provides a comprehensive assessment of the company's commitment to sustainable development to establish sustainable goals and objectives. Focusing on goals from CO2 reduction to social inclusion and resource conservation, the analysis provides a comprehensive view of the company's efforts to integrate environmental management into its core activities. The success of these programs is measured quantitatively and classified as successful or moderately successful based on the extent to which the actual results meet the stated objectives. This study not only demonstrates the reliability of Cardinal Plumbing, Heating and Air to sustainability, but also highlights the broader challenges and opportunities in implementing these practices. This demonstrates the importance of continuous improvement and innovation to achieve sustainable development in the corporate sector.

Table 3.3.

Sustainability Goals Effectiveness Analysis of sustainable development strategies of the "Cardinal Plumbing, Heating & Air Inc." Corporation

Goal	Plan	Actual	% Achieved	Effectiveness
Reduce CO2 emissions by 20%	25%	20%	$(20/25)*100 = 80\%$	Successful
Waste management program	75%	65%	$(65 / 75) * 100 = 86.67\%$	Successful
Reduction of fuel consumption	15hybrid vehicles	11hybrid vehicles	$(11 / 15) * 100 = 73.3\%$	Moderately Successful
Green rebuilt community program	20%	15%	$(15 / 20) * 100 = 75\%$	Moderately Successful
Workshop sessions for local community	25%	20%	$(20 / 25) * 100 = 80\%$	Successful
Attract new employees through internships	30%	25%	$(25 / 30) * 100 = 83.33\%$	Successful
Reduce water usage	50%	35%	$(35 / 50) * 100 = 70\%$	Moderately Successful

Source: compiled by the author.

Analysis of the effectiveness of the sustainable development strategy implemented by Cardinal Plumbing, Heating and Air Inc. presents an extensive approach to achieving its goals. The company's intention to reduce its impact on the environment is reflected in its plans and results achieved. Specifically, efforts to reduce CO2 emissions, waste management and recruitment of new workers through scholarships achieved significant results, reaching 80%, 86.67% and 83.33% of the target. These results demonstrate the company's dedication to environmental sustainability and its ability to communicate across the community.

Moderate success has been achieved in fuel consumption reductions, the green rebuilt community program and water usage reduction projects, with the results ranging from 70% to 75%. Although these areas have not yet fully achieved their ambitious goals, they show significant effectiveness and an orientation on growth.

Plans to host community workshops sessions have achieved an 80% success rate, demonstrating the company's commitment to spreading awareness of its sustainability practices and community engagement.

In conclusion, Cardinal Plumbing, Heating and Air demonstrated a strong dedication to sustainability through the efficient performance of various advanced strategies. Although some goals have been more successful than others, the general direction and effect of these actions are very positive. As the company moves forward , it can focus on areas where it has been moderately successful in strengthening its sustainability efforts. A commitment to environmental sustainability and community involvement has established Cardinal Plumbing, Heating and Air Inc. They will grow as a company of the future with a clear vision of sustainability.

CONCLUSION

The presented study delves into the theoretical and methodological foundations of management strategies within the framework of sustainable development, using the case study of "Cardinal Plumbing, Heating & Air Inc." Corporation. The research is structured across three main chapters, each addressing key aspects related to sustainable development in the context of contemporary business practices.

In the pursuit of sustainable development within the context of globalization, businesses are increasingly recognizing the importance of implementing management strategies that not only ensure economic viability but also contribute to environmental preservation and social responsibility. In Chapter 1, the essence of sustainable development in the conditions of globalization is explored. The analysis of sustainable indicators for business entities is conducted, providing a foundational understanding of the key metrics for evaluating sustainable practices.

Chapter 2 focuses on the economic analysis of the targeted corporation, "Cardinal Plumbing, Heating & Air Inc." It provides a comprehensive overview of the corporation's economic activities, strategic management approaches, financial performance, and resource utilization. Through an economic analysis of the activities of "Cardinal Plumbing, Heating & Air Inc." Corporation, this study provided insights into the company's performance and management strategies within the framework of sustainable development. General characteristics and economic performance were assessed, followed by an exploration of strategic management practices. The examination of financial performance and resource utilization sheds light on the company's efficiency and effectiveness in utilizing resources while maintaining financial stability. Furthermore, an evaluation of environmental impact and sustainable practices demonstrated the corporation's commitment to environmental stewardship.

The core of the study lies in Chapter 3, where the analysis of directions for the implementation of sustainable development strategies is undertaken. The process of implementing priority proposals is assessed, and the effectiveness of the proposed improvements is analyzed. The analysis of sustainable development strategies for Cardinal Plumbing, Heating & Air Inc. reveals both strengths and areas for improvement in the company's efforts towards sustainability. The company has a solid foundation and is already implementing strategies that positively impact the environment.

However, there are clear opportunities for enhancement across various sustainability goals. Setting specific objectives, such as reducing CO₂ emissions by 20% and increasing social responsibility through volunteer hours, provides a clear roadmap for the company's sustainability initiatives. These objectives, outlined in Table 3.1, are measurable and time-bound, enabling effective monitoring and evaluation of progress. To achieve these goals, the company can implement several measures outlined in Chapter 3. Expanding the reach of energy and water conservation programs to customers, implementing sustainability innovations, and fostering a culture of sustainability among employees are key strategies that align with the company's objectives.

The assessment of priority proposals, as discussed in Section 3.2, emphasizes the importance of reducing CO₂ emissions, increasing social responsibility, and improving resource efficiency. These proposals are not only crucial for sustainable development but also feasible within the company's resources and can be implemented in a relatively short timeframe. The effectiveness analysis presented in Table 3.3 demonstrates the company's success in certain areas, such as exceeding the target for CO₂ emissions reduction. However, there are areas where the company fell slightly short of targets, indicating room for improvement, particularly in increasing volunteer hours and reducing water consumption.

The corporation demonstrates a strategic approach to management, aligning its activities with sustainable practices. Financial performance and resource utilization are indicative of a well-managed entity that recognizes the importance of long-term sustainability.

In conclusion, while Cardinal Plumbing, Heating & Air Inc. has made significant strides in its sustainability efforts, there remains potential for further enhancement. By continuing to implement energy-efficient technologies, expanding social responsibility programs, and developing water conservation initiatives, the company can strengthen its commitment to sustainable development and contribute positively to environmental and social welfare.

While the study provides valuable insights, further research could explore the long-term impacts of sustainable strategies on corporate profitability and market competitiveness. Additionally, a more in-depth analysis of specific sustainable technologies and their implementation challenges could contribute to a richer understanding of practical applications in diverse business contexts.

In conclusion, this study contributes to the growing body of knowledge on sustainable development in the corporate sector, providing a case study that exemplifies effective strategies and practices within the context of "Cardinal Plumbing, Heating & Air Inc." Corporation. The findings underscore the importance of integrating sustainable principles into business operations for long-term success and societal benefit. By adopting a holistic approach that considers economic, environmental, and social factors, companies can not only enhance their competitiveness but also contribute to the well-being of society and the planet. Through continuous evaluation and improvement, organizations can strive towards achieving sustainable development goals while ensuring long-term success and resilience in an increasingly dynamic and interconnected world.

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ANNEXES

Annex 1

Profit and Loss Report Cardinal Plumbing, Heating & Air Inc.

Revenue	2021	2022
Sales & Services	\$973 061,00	\$1 089 825,32
Refunds	\$31 135,00	\$34 720,00
Promotions	\$4 750,00	\$5 320,00
Net Sales	\$937 176,00	\$1 049 785,32
Cost of Goods Sold		
Materials	\$277 248,00	\$322 463,00
Labor	\$55 126,00	\$73 520,00
Overhead	\$2 000,00	\$2 240,00
Total Cost of Goods Sold	\$334 374,00	\$398 223,00
Gross Profit	\$602 802,00	\$651 562,32
Operating Expenses		
Salaries	\$369 000,00	\$410 950,00
Advertising	\$4 650,00	\$5 250,00
Repairs & Maintenance	\$13 130,00	\$3 725,00
Rent/Lease	\$26 080,00	\$28 080,00
Delivery/Freight Expense	\$1 000,00	\$1 120,00
Utilities/Telephone Expenses	\$15 000,00	\$16 250,00
Insurance	\$20 000,00	\$20 000,00
Office Supplies	\$3 564,00	\$4 125,00
Depreciation	\$7 546,00	\$8 345,00
Other Expenses	\$3 900,00	\$4 368,00

Revenue	2021	2022
Total Operating Expenses	\$463 870,00	\$502 213,00
Operating Profit (Loss)	\$138 932,00	\$149 349,32
Add: Other Income		
Interest Income	\$5 785,00	\$6 220,00
Other Income	\$6 326,00	\$7 730,00
Profit (Loss) Before Taxes	\$151 043,00	\$163 299,32
Less: Tax Expense	\$25 000,00	\$4 000,00
Net Profit (Loss)	\$126 043,00	\$159 299,32