Uluslararası İleri Doğa Bilimleri ve Mühendislik Araştırmaları Dergisi
Sayı 7, S. 251-262, 7, 2023

Araştırma Makalesi

IJANSER
https://as-proceeding.com/index.php/ijanser
ISSN: 2980-0811

International Journal of Advanced Natural Sciences and Engineering Researches
Volume 7, pp. 251-262, 7, 2023

Research Article

An Overview of the Sustainability of Performance and Productivity in the Service and Production Sector: Evaluation in terms of Small and Medium-Sized Enterprises (SMEs)

Ayşenur ERDİL[*] [1]

[1] *Department of Business Administration, Istanbul Medeniyet University, Turkey*
[*]*runesyalidre61@gmail.com, ORCID:0000-0002-6413-7482*

(Received: 17 August 2023, Accepted: 29 August 2023)

(1st International Conference on Recent and Innovative Results in Engineering and Technology ICRIRET 2023, August 16-18, 2023)

ATIF/REFERENCE: Erdil, A. (2023). An Overview of the Sustainability of Performance and Productivity in the Service and Production Sector: Evaluation in terms of Small and Medium-Sized Enterprises (SMEs), *International Journal of Advanced Natural Sciences and Engineering Researches*, 7(7), 251-262.

Abstract – One of the important tasks of business executives is to ensure that the firm operates at the maximum level of efficiency so that partners and shareholders can make a profit. In some cases, business executives ignore these and prioritize their own interests.
Research has been conducted on the performance of small and medium-sized enterprises within the scope of manufacturing and service sectors and the impact of liquidity, profitability, productivity and leverage ratios on the sustainability of the firm has been examined. As a result of this research, it has been seen that performance is a major factor on the sustainability of the business and the structure of the business on productivity has a high impact on this issue. Small and medium-sized companies (SMEs) are regarded as the driving force behind a country's sustainability since they offer a crucial advantage for the expansion of SMEs' sustainability-related business characteristics. Due to globalization and quick environmental changes, businesses all over the world—and SMEs in emerging economies in particular—face an expanding variety of dangers and obstacles. In order to analyze the mediating impacts of customer retention and company continuity, this research will first outline a specific methodology and view of sustainability on firm performance, manufacturing productivity, and small- and medium-sized enterprise services. Through cause-and-effect diagrams and Strengths, Weaknesses, Opportunities, and Threats (SWOT) analyses, the way they are applied to the context of SMEs in the changing economic, social, and environmental contexts in developing approaches strengthens the originality of this research. In general, this study makes a significant addition to our comprehension of how SMEs in developing nations may employ sustainability to increase performance, productivity, and customer retention. The results of this study might aid SMEs in becoming more lucrative and sustainable, which could improve the economies of developing nations.

Keywords – Performance, Productivity, Small and Medium-Sized Enterprises (SMEs), Sustainability.

I. INTRODUCTION

Small and medium-sized businesses (SMEs) in emerging economies, in particular, are experiencing a rising number of dangers and difficulties as a result of globalization and quick environmental changes. The goal of this study is to define the particular impact of corporate social responsibility (CSR) on company performance before examining

the role that customer engagement and continuity of operation play as mediating factors. The novelty of this research is furthered by its application to the context of SMEs in the changing economic and environmental circumstances in developing nations. The findings of this study can help business owners and upper management layers of organizations improve the performance of SMEs in developing countries in a sustainable way (Le et al., 2021).

Small and medium-sized businesses are regarded as the lifeblood of a country's economy since they offer a significant advantage for economic expansion (Beck et al., 2005), the eradication of poverty, and the creation of jobs and innovative processes (Terziovski, 2010; Barnett et al., 2012).

One of the most important accelerators of productivity development in manufacturing SMEs is the ability to effectively take use of the opportunities provided by contemporary IT to assist the order fulfilling procedure. Nevertheless, it is sometimes unclear as to how effectively the installed IT systems are utilized and how well they truly operate, or at the very least, it is seldom assessed and constructed in a systematic manner. The absence of methodology and tools for frequently and methodically evaluating, assessing, benchmarking, and developing the IT performance in SMEs whilst minimizing effort and expense is perhaps the most significant of the many causes. In this study, a technique for modeling, assessing, measuring, and enhancing the IT effectiveness of manufacturing SMEs is proposed (Dürr et al., 2013).

Regarding manufacturing SMEs, increasing competitiveness presents a significant challenge and necessitates enormous effort in several ways. Due to the ineffective use of information technology (IT) by small and medium-sized businesses (SMEs), there is a lot of remaining opportunity. The company fulfillment of orders process is modeled and analyzed using a structured technique in the initial phase of effectiveness analysis. An comprehensive set of unique key performance indicators (KPI) are proposed for efficiency assessment and for spotting possible flaws. The expense of IT vs the advantages of IT use or performance must be balanced in order to present a complete overview of IT efficiency (Albayrak et al., 2009; Cosgrove, 2010).

The sustainability performance and maturation of SMEs vary greatly. This study aims to determine which components of SME operations, including their connections to supply chain participants, contribute to an organization's sustainability performance. The research performs a survey with participants in a 100-company sustainability development initiative run in the Greater Copenhagen region using an analytical framework for evaluating SME sustainability performance and maturity according to literature. The sample of businesses spans a number of sectors, including producing goods, technological services, hotel/conference, and building. Regression analysis and paired sample t-tests are used in the study to analyze survey data. The findings indicate that the following elements contribute to the explanation of the sustainability performance and sophistication of the sampled SMEs (Salvador et al., 2023).

To evaluate the advantages and drawbacks of Korea's financial relocation strategy, it is important to compare the efficiency of the capital area and non-capital regions. We observed an efficiency difference in the output of each location and discovered that the efficiency score of comparatively large-sized firms was high. Researchers also contrasted the efficiency index according to several company and industry kinds. The study's findings lead us to the conclusion that the country as a whole benefits from the efficiency and equitable distribution of equity in Korea's political system. Additionally, we discovered some policy ramifications, such as the necessity of improving efficiency for small and medium-sized businesses and operating guidelines for government financing. This study used the Data Envelope Analysis (DEA) approach to assess the scale effectiveness and technical efficiency of locally sponsored small- and medium-sized businesses in Korea. This study additionally reconsiders the data in light of modern internationalization and local perspectives on the problem, taking into account the significance and variety of roles of small and medium-sized businesses in Korea (Yang, 2016).

Many small and medium-sized businesses (SMEs) from developing nations think about entering established markets as a method to improve the performance of their home nations. This study uses data from 377 Chinese SMEs with operations in industrialized countries and takes a resource-based

perspective on it. The results show that the foreign financial and non-financial performance of emerging-market enterprises is positively correlated with that of their home country, with the technical learning and demonstration effect acting as mediators. The capacity of enterprises to integrate resources is a positive moderator of the association between host country performance and technical learning. This study is among the first to pinpoint the mechanism by which the success of emerging-market SMEs in developed nations is impacted by their activities there. The conclusions are useful in directing the worldwide expansion of SMEs in markets that are developing (Li et al., 2022).

Studying the factors that make a difference to the viability of Small and Medium-Sized Enterprises (SMEs) is essential since they play a significant role in the economy (Abbasi et al., 2020).

Considering their large contributions to the gross domestic product, tax revenue, and employment, small and medium-sized enterprises (SMEs) are seen as being an essential component of an economy (Lu, 2018; Rosavina et al., 2019). For instance, SMEs make up about 50% of the UK's GDP (Lu, 2018). Therefore, it's critical to pinpoint particular processes that might boost SMEs' productivity and, in turn, increase their capacity for survival. New technologies have entered the business sector as a result of the fourth industrial revolution, which integrates technology into company operations. This implies the significance of taking national culture into account when evaluating whether FinTechs increase SME efficiency. Third, we use the idea of reasoned action to explain how FinTech adoption improves SMEs' productivity. Fourth, this study uses a more reliable econometric technique to argue that FinTechs and SME efficiency are positively correlated.

In order to evaluate the degree to which encouraging circularity improves their economic performance and disentangle this effect for the various quantiles of the Return on Assets (ROA) distribution, this study examines the interaction intensity of businesses implementing circular economy (CE) practices. We gathered and studied the online marketing initiatives of a sample of Italian manufacturing enterprises using a web-scraped dataset of companies' webpages. The findings suggest that Small and Medium-sized enterprises (SMEs) who score in the lower middle of the performance range may gain by prominently highlighting their the circular economy on their online presence (Blasi et al., 2021).

A basic approach for ensuring long-term corporate success, sustainability is becoming more and more significant in company operations (Blasi et al., 2018).

Researchers analyze the market's responses to online communications about SMEs' use of circular practices since it is crucial for managers to comprehend how to promote the adoption of circular offers in a way that encourages company success. Our results provide crucial management recommendations on whether and, if so, how SMEs may effectively advertise their CE practices online. This research illuminates a workable plan for maximizing a CE's advantages with regard to promoting SMEs' circular business practices (Schaltegger, 2011).

According to earlier research, improving competitive advantage requires senior managers to be able to use procurement recognition to improve purchasing quality performance. The advantages of buying recognition are disputed, though, especially in emerging markets for small and medium-sized businesses (SMEs). This study advances the literature by proposing that the relationship between purchasing recognition and purchasing quality performance is dependent on a variety of financial assistance and contextual generosity factors (Essuman et al., 2021).

The study aims to investigate the effectiveness of Carrolls' pyramid framework for small-to-medium businesses (SMEs) as a business approach to improving organizational performance in developing nation industries that are in the early stages of Industry 4.0 advancement. The updated Carol's pyramid in industrial SMEs using the Industry 4.0 strategy is supported empirically by this study. The results of this study point out to the upper management of SME in the industrial sector that carrying out the modified CSR model would constitute a creative and aggressive business strategy, which can successfully enhance company performance by means of innovations in organization and permit to foster Industry 4.0 advancement (Lu et al., 2020).

II. Materials and Method

A. Sustainability

A variety of additional sustainability-sustainable aspects are necessary for the structure for sustainability, which considers how the economy, society, and environment have been interrelated, to be successful. Social sustainability, ecological sustainability, and economic sustainability are some of these purposes. There are many more aspects of sustainability that are crucial for a future that is sustainable in addition to the three sustainable foundations (environmental, economic, and social).

(i)Economic Sustainability: The ability of the economic system to satisfy the needs of the general populace includes the reduction of poverty through the elimination of unequal income distribution, the elimination of discrimination against human beings concurrently alongside this, and the equitable distribution of useful goods and services. The realization of a sustainable development model ought to be guaranteed by the smooth functioning of such a robust and secure financial system. The only thing that can lead to environmental conservation and poverty alleviation is robust growth in the economy (Dasgupta and Heal, 1974; Hartwick, 1978; Dasgupta and Heal, 1979; Burns and Holden, 1995; Goodland, 1995; Dollar, 2001; Redclift, 2005):

(ii) Ecological Sustainability: Ecological sustainability is made possible by preserving the equilibrium of the environment. For the concept of sustainable growth to be successful, the basic ecological balance, systems that sustain life, renewable resource structures, genetic variation, productivity of organisms, locations, and ecosystems must be effectively maintained (Munasinghe, 1993; Burns and Holden, 1995; Goodland, 1995; Markandya et al., 2002).

(iii) Social sustainability: social custom Social sustainability is unable to be debated in a nation where the system of society is not widely recognized. In order to maintain social sustainability and a solid social system, social organisations' cultural groups must first be allowed to function in a healthy way. On the other hand, equitable society and participation in decision-making ought to be ensured, and an environment should be developed which provides for the greatest level of interaction, in addition to continuously satisfying fundamental human needs. To put it another way, it's critical to encourage the participation of all society groups in the development of plans for sustainable development. This aims to successfully execute economic and environmental processes of decision-making (Burns and Holden 1995; Adger, 2000; Markandya et al., 2002; Folke et al., 2005; Yeni, 2014; Blewitt, 2015).

B. Sustainability in Production, Manfacturing and Services Sectors

Sustainable manufacturing (SM) has emerged as one of the most important concerns facing manufacturing companies worldwide. Due to dwindling government laws, pressure from non-governmental organizations over social and environmental issues, and rising customer demand for eco-friendly products, sustainability has been acknowledged as a critical criterion. Any business that successfully implements SM will have improved quality, raised its share of the market and higher profitability. One of the difficult problems facing companies that manufacture automobile components is sustainability evaluation. It has been noted that businesses producing automobile components have identified themselves as major consumers of natural raw resources such aluminum, transparent material, iron ore, and petroleum products utilized in the production of rubber, plastics, and fibres (Jayal et al., 2010; Nambiar et al., 2010; Swarnakar and Vinodh, 2016; Swarnakar et al., 2020).

It grows into vital for manufacturing companies of automobile components to analyze their sustainability performance. The current study suggests a set of "key performance indicators (KPIs)" for evaluating a manufacturing organization's sustainability performance. Depending on the "triple bottom line (3BL)" viewpoints, the presented KPIs are seen to be relevant for evaluating the sustainability of automobile component production organizations. The "Analytical Hierarchy Process (AHP)" is used in the study to analyze the KPIs utilizing the opinion of the experts. A structure based on hierarchy has also been created to evaluate the sustainability

performance of five case organizations that were chosen. The study's conclusions help industrial managers evaluate a manufacturing the business's performance in sustainability. The findings of this study also inspire professionals and academics to deepen their understanding of sustainability evaluation (Swarnakar et al., 2021).

Global industries now place a great deal of importance on sustainable production. Due to depleting non-renewable resources, more stringent environmental and occupational health and safety requirements, and growing consumer demand for eco-friendly products, accomplishing sustainable manufacturing has been acknowledged as a key necessity. According to reports, businesses who embrace sustainable strategies are able to expand their market share, improve the quality of their products, and boost their earnings. Additionally, it has been seen that competitive results are favorably correlated with sustainable manufacturing methods. As a result, creating sustainable manufacturing processes has been seen as a crucial worldwide problem. Manufacturing that minimizes adverse environmental effects, conserves natural assets and energy, protects workers, communities, and customers, and is profitable is referred to as sustainable manufacturing (Rusinko, 2007; Ijomah et al., 2007; US Department of Commerce, 2009; Jayal et al., 2010).

The production of cement has been noted as a significant user of energy, fossil fuels, and natural resources as well as a significant generator of several pollutants. Therefore, assessing sustainable manufacturing in this sector has become essential. The triple bottom line of sustainability is used in this research to suggest a set of Key Performance Indicators (KPIs) for measuring sustainable manufacturing that are thought to be relevant for the cement sector (Amrina et al., 2015).

C. Sustainable Factors of Manufacturing

Sustainable manufacturing is a fundamental idea for tackling these issues since industrialisation has had a big influence on the environment. Sustainable manufacturing is the production of manufactured goods using ethically sound procedures that reduce their adverse effects on the environment while preserving energy and resources. Additionally, it improves product, belonging, and employee safety. Sustainable manufacturing has several advantages, involving: Reduced ecological consequences: Sustainable manufacturing may aid in resource conservation, pollution reduction, and climate change mitigation. Better economic performance may be attained through sustainable manufacturing, which can also result in lower production costs, more efficiency, and higher brand recognition. Improved workplace health and safety for staff members: Sustainable production may provide for a safer environment for workers. Strengthened populations: Local communities may benefit from the creation of employment and other economic possibilities by sustainable manufacturing. Although adopting sustainable manufacturing is not without its difficulties, the potential rewards are enormous. Sustainable manufacturing is a growing concern as people's awareness of the effects of production on the environment grows. Some instances of sustainable manufacturing techniques include the following (Reilly and Weirup, 2010; Jayal et al., 2010);

Utilizing renewable energy: To lessen their dependency on fossil fuels, many manufacturers are moving to renewable energy sources like solar and wind power.

Reducing waste: By using less material, reusing more resources, and discovering new applications for waste goods, manufacturers are reducing pollution.

Water preservation: Businesses are exploring methods to recycle water and use it more wisely.

Energy efficiency: By modernizing machinery and putting energy-saving practices in place, manufacturers are using energy more effectively.

Materials that are environmentally friendly: Manufacturers use environmentally friendly materials like recycled content and bio-based products. Although it is a complicated topic, sustainable manufacturing must be addressed if we are to save the environment and secure a sustainable future. Businesses may lessen their environmental effect, boost their economic performance, and enhance the planet for coming generations by embracing sustainable manufacturing techniques.

On the other hand, growing social consciousness and environmental issues focus everyone's focus on industrialisation and manufacturing technology. The energy and natural resources used in modern production are enormous, and the waste they produce, some of which are harmful to the air, water, and land, is as well. Historically, the primary goals of industrial process research have been cost reduction, increased accuracy and efficiency. Sustainable manufacturing techniques are becoming more and more necessary as a result of the negative environmental effects of conventional manufacturing procedures. With research being done on how to lessen the environmental effect of manufacturing procedures, there seems to be a trend in recent years favoring environmentally friendly production. To safeguard the environment and secure the future of humanity, companies must confront the complicated and difficult process of developing sustainable manufacturing. We can get closer to a more sustainable future by investigating sustainable manufacturing techniques, creating new technology, and putting rules in place. Experts are assisting in the creation of new technologies which may reduce manufacturing's negative environmental effects and pave the way for a more sustainable future by doing research on sustainable manufacturing techniques(Linke et. al., 2013)

Environmental, economic, and social factors are used to assess how sustainably industrial firms are developing. Maintaining all economic units operating efficiently, coordinating the growth of industrial businesses and society, and minimizing adverse environmental repercussions are all goals of sustainable growth. Sustainable development involves more than merely reducing harmful environmental consequences. Additionally, it involves coordinating the growth of commercial companies and society, as well as maintaining economic units' efficiency and profitability. Industrial businesses may build a sustainable future for themselves, their workers, their communities, and the earth by achieving a balance among these three pillars (Qinge, et. al., 2009).

Eco development refers to the creation of new technologies at the production level of an operation or product. Knowing this makes it obvious that industrial procedures must be redesigned and evolved in order to accomplish pollution management, cleaner output, and the reduction of natural resources. The phrase "sustainable product design" was defined in the research by Westkamper et al. (2000) as offering decrease of adverse environmental effects throughout the life cycle of products while upholding the business's perspective on its marketplace and its place in community (Westkamper et al., 2000; Zhu et al., 2012).

There are three key goals for this study: (i) keeping an eye on sustainable manufacturing from all angles Assessment of sustainable manufacturing parameters for life cycle stages, (ii) determining sustainable manufacturing determinants and their consequences, and (iii). In order to accomplish sustainable manufacturing, everyone provide a framework stressing analyzed indicators and objectives. They also offer advice for decision-makers or analysts of businesses looking to build a management approach. In their 2009 study, Dehghanian and Mansour examined the three main goals associated with sustainable advancement: (i) maintaining high and steady levels of employment and growth in the economy; (ii) providing effective preservation of the environment; and (iii) fostering progress in society that takes into account the needs of all people.

As a result of the industrial and technological revolutions driving businesses to create new technologies in highly competitive markets, strategies for innovation are formed. Innovation in technology offers solutions to reduce the use of unnecessary time, energy, and resources that are natural. Strategic management of technology is said to have similar processes to management performance and competitiveness in terms of productivity, development, comes back and capitalization in the market. This increases the competitiveness of organizations and long-term sustainability (Momoya, 2005).

The creation of environmentally conscious goods through effective resource use requires both technological and environmental perspectives, which are combined in environmentally conscious innovation and eco-innovation. Through developing fresh designs, redesigning existing ones, and acquiring substitutes for existing processes or products, environmentally friendly innovation has been a driving factor behind the establishment of sustainable industrial systems. Multiple investigations in the literature show that some

parameters have an impact on environmental innovations in ways that lead to the development of cleaner technology, the establishment of effective manufacturing procedures, and the possibility of cost savings.Eco-innovation is essential for guiding the industrial sector's transition to environmentally friendly operations (OECD, 2009).

Following to research by Horbach (2008), company strategy, technology, market, and laws are the four key variables for environmental innovation in the body of literature.

According to Dyllick and Hockerts (2002), a socio-efficiency is the combination of society and economic elements. In the same research, the relationship connecting a company's value contributed and its social implications is discussed as socioefficiency.

D. Sustainability Performance Of SMEs

The effect of Enterprise Resource Planning (ERP) usage on SMEs performance has been investigated. First of all, if it is necessary to explain ERP, it can be explained as follows; Today, software for businesses is generally made according to business-to-business applications. ERP is one of these software. ERP has emerged by combining departments such as human resources and accounting. One of the biggest advantages of the ERP system is that it brings departments together and prevents the emergence of corrupted data to a large extent and also eliminates information delays. Another advantage of outsourcing is that it speeds up the work and also saves labor. In general, the main reasons why firms turn to outsourcing are the lack of information and the desire to leave the work to the experts and the desire to avoid extra costs. The disadvantages of outsourcing can be as follows. The company's private information may be revealed due to the assignment of the department to a foreign company, or although outsourcing is a low-cost option, different costs may arise as a result of extraordinary situations (Demirsel, 2006; İşler, 2008; Özdemir, 2009; Şahin, 2011).

The method used in the research on the effect of information technologies on organizational performance of SMEs is as follows. First of all, to collect all the information together by conducting a comprehensive review in the literature. Then, to determine the purpose of the research and the hypotheses to be used. At the next stage, a preliminary study on the subject should be done by preparing a questionnaire. Then, survey studies are conducted and survey questions are directed to the necessary people. The data for the survey results are coded and organized and the final result is evaluated. At the end of these processes, statistical analyzes are made (Demirsel, 2006).

The criteria for an independent business are as follows; the first criterion is that they should not own 25 percent or more of another company other than themselves. The other criterion is that they should not hold 25 percent or more of the shares of another legal entity or governmental organization. If it is not included in the consolidated accounts and is not regulated, that is, if it is not a subsidiary, it is an example of this type of independent business. The criteria for a joint enterprise are as follows; first of all, it should not be dominant over an enterprise. If another enterprise does not have a 25 percent to 50 percent say in the capital and voting rights of another enterprise, this enterprise is a joint enterprise. must have the capital and rights of an enterprise. Another enterprise has the authority to appoint and dismiss high-ranking members. If there is an authorization as a person in the agreements made in another enterprise, this enterprise is a subsidiary enterprise (Bayhan, 2015).

Although high, the profitability rate in SMEs is low. The place of SMEs in our country is important. Because it contributes in many areas such as employment. If we talk about the main features of SMEs, the business owner is usually the manager of the business. Therefore, they make their own decisions without depending on anyone. Another important feature is their personal relationships with people. The SME owner is intertwined with both customers and employees. Unlike large enterprises, SME owners know their employees and customers closely and this feature is of great importance for a company. Because SMEs knowing their customers well, learning what their customers want or what they expect from SMEs and conducting studies accordingly are behaviors that will be in favor of the company. In addition, one of the benefits of knowing its employees well is that it can analyze in which area they are more talented and thus increase the productivity of the employee and the company. The biggest advantage of SMEs. Since SMEs are not a structure that requires large investments and

technology, it will not be as problematic as large enterprises to make changes and it will take less time to adapt to the change (Demirsel, 2006; İşler, 2008; Bayhan, 2015).

III. RESULTS

To explain the SWOT analysis. It is seen that there are positive aspects and negative aspects of outsourcing. The most important issues here are future opportunities and threats. Because the important thing is to identify the opportunities that we will encounter in the future in a timely manner and try to use those opportunities for the benefit of the business. On the other hand, it is important to analyze the threats correctly and find ways to eliminate the threats that may arise in a short time.

In order to establish a reputation in a dynamic market and to outperform competitors, each business needs to know what strengths and weaknesses it has. One of the techniques that facilitates this is SWOT analysis. The application of this analysis compares the strengths and weaknesses of the business and identifies opportunities and threats. In order to improve itself, a telecommunications industry needs to identify strengths, minimize weaknesses, take advantage of opportunities, and respond to threats. The strengths indicated in the below strength, weakness, opportunities, threats factors actually show the advantages of this sector, the capabilities and strengths that make it different from competitors. In the weaknesses section, it is aimed to identify the sector's shortcomings and drawbacks and improve them. Opportunities is the part that will make things easier and shows in which areas the sector wants to develop. Finally, threats are likely obstacles that the sector will face, and it should be constantly aware of them. Usually strengths and weaknesses depend on the internal environment, while opportunities and threats depend more on the external environment. This SWOT analysis is presented as below;

(i) Strengths Factors

- Continuous analysis; Control of the process
- Protection of consumer rights; Durability; Upgrade Capability
- Produce repairable products; Significant reduction in costs as a result of outsourcing.
- Technical skills; Use of energy efficient or renewable energy
- Outsourcing reduces labor requirements; Skilled workers
- Communication with customers; Increased market share in outsourcing, transportation and logistics

(ii) Weaknesses Factors

- The possibility of disclosure of proprietary information of businesses due to outsourcing
- The necessity to meet constantly changing demands; Production cost; Labor cost
- Outsourcing can bring extra costs as a result of supplier-related extraordinary circumstances.
- Packaging cost; Transportation cost
- Difficulty for customers to reach the distributor; Raw material cost
- If the supplier assigned for outsourcing works for more than one enterprise
- inability to operate our own business at full efficiency; Obligation to collect data

(iii) Opportunities Factors

- Outsourcing enables businesses to get ahead of other businesses in competition
- Sufficient labor force; Harmony within the company; Width of the stock
- The power of marketing management
- Elimination of many of the fixed costs of outsourcing; Eco-label system
- Access to new markets; Technological developments

- Maximum efficiency from employees to reduce the activities to be focused with outsourcing
- Environmental Legislation; New customer access; Dynamic Market

(iv) Threats Factors

- Problems that may arise due to suppliers assigned for outsourcing; Environmental accidents
- Competitors' new technology; Losing employees
- SMEs may not use outsourcing because it does not have a clear contribution to their financial performance.
- Media/internet; Functional risk (the product may not work as expected)
- Outsourcing because SMEs do not trust suppliers (the idea of not receiving the desired quality of service)

-Hazardous emission; Hazardous material/chemical volume

- Carbon footprint; Energy Consumption

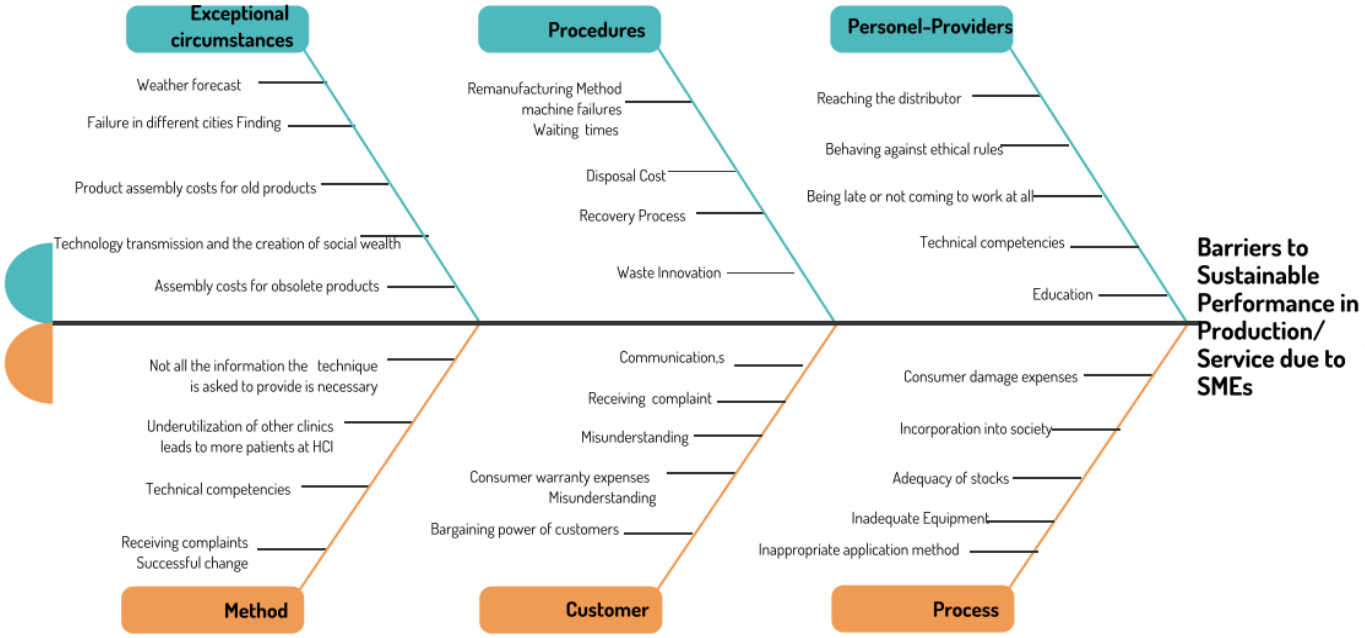

Figure 1. Numerical and verbal values of the scale for the AHP method (designed and modified by author)

In terms of production sustainability, it takes a lot of time to fix the fault. This leads to customer dissatisfaction. If the staff does not behave according to ethical rules, if customers' complaints are not given importance, customers may stop subscribing because they are not satisfied with the communication. In an extreme case, when a breakdown occurs, the company tries to find the best way how to repair it. Therefore, in the process of production and service delivery, defect detection, measurement and analysis methods provide a roadmap for improvement and how the company should behave in future situations. Analyzing - at this stage it is necessary to thoroughly examine the problem, identify its root causes and validate the findings with data. Therefore, a number of scientific tools are used at this stage, such as: cause-effect diagrams (fishbone or Ishikawa diagram), scatter diagrams, confidence intervals, hypothesis tests, ANOVA, etc. According to this isssue,The barriers to Sustainable Performance in Prodcution/Service due to SMEs is presented via Cause and Effect Diagram in Figure 1. The essence of a cause-effect diagram is that it identifies a number of possible causes for a problem and shows this information in a sequential and graphical form.

IV. CONCLUSION

Straightforward approaches to small and medium-sized businesses and the national economy may result in erroneous interpretations. This is especially true when there are little time series data and few comprehensive data sources. Examining the relationship and impacts of SMEs on the national economy from a macro perspective, however, is important. The outcome of the study shows that local SMEs promoting funds have invested to assisting SMEs in terms of the scale of financed composition; nevertheless, when compared to other regulations funds, the aforementioned funds showed that they did not significantly provide to the management accomplishments of SMEs due to inflexible fund management, rigid oversight of target industry and assistance limit per enterprise, complex support processes, rigid managing of favor sector and support restriction.

As seen in the research, the main reason for firms to outsource is to focus on their core competencies by outsourcing the activities in which the firm is inadequate. By focusing on its fundamental competence, the firm would develop itself in this activity and market a better product or service. In addition, in the research, it was seen that

outsourcing is a service that enables firms to make fast production. Moreover, another factor is the cost issue. In line with the research, it is an information received by the managers that outsourcing reduces costs and none of the SMEs subject to the research said otherwise. One of the important factors is that outsourcing is also predicted to increase service quality. As a result of these factors, it is seen that the year-end net profits of the firms will increase. Outsourcing was found to contribute to SME financial performance only in the field of transportation and logistics. No significant effect was observed in other areas. Supplier selection is of great importance in outsourcing. This is because choosing the wrong supplier can lead to disruption and delay in the work and bring extra costs to SMEs. Therefore, when choosing a supplier, it would be right to choose suppliers with high experience in this business and recognized by everyone. Outsourcing can and should be used in most businesses today, because if a business does not outsource an activity in which it is inadequate, it will produce a low quality product or service. On the contrary, if it outsources the activity in which it is inadequate, the output it will produce will be of high quality. On the other hand, another factor that can be seen as an opportunity for SMEs is in the field of personnel. When working in the area in which the company is inadequate, situations such as psychological distress or feeling inadequate may arise. In the case of outsourcing the inadequate activity, both personnel productivity and business productivity will increase as the personnel focus on the core competence of the company. Unlike large enterprises, outsourcing may seem costly for SMEs, but in the long run, costs will be replaced by revenues.

ACKNOWLEDGMENT

I desire to show my appreciation to the company executives, employees, and experts who gave me useful information during the research's factors.

REFERENCES

[1] Abbasi, K., Alam, A., Du, M. (Anna) and Huynh, T. L. D. (2020). FinTech, SME efficiency and national culture: Evidence from OECD countries. Technological Forecasting and Social Change, 120454.

[2] Albayrak, CA, Gadatsch, A. and Olufs, D. (2009). Life Cycle Model for IT Performance Measurement: A Reference Model for Small In Dhillon G, Stahl BC, Baskerville R, editors. Proceedings IFIP Working Group 8.2 International Conference, CreativeSME; 2009, p. 180.

[3] Amrina, E. and Vilsi, A. L. (2015). Key Performance Indicators for Sustainable Manufacturing Evaluation in Cement Industry. Procedia CIRP, 26, 19–23.

[4] Barnett, M. L. and Salomon, R. M. (2012). Does it pay to be really good? addressing the shape of the relationship between social and financial performance. Strategic Management Journal, 33(11), 1304–1320.

[5] Bayhan, A. (2015). Paratic. KOBİ Nedir, Özellikleri Nelerdir? Kimler KOBİ Sayılır?, https://paratic.com/kobi-nedir-ozellikleri-nelerdir/

[6] Beck, T., Demirguc-Kunt, A. and Levine, R. (2005). SMEs, Growth, and Poverty: Cross-Country Evidence, 10 (3), 199-229.

[7] Blasi, S., Crisafulli, B. and Sedita, S. R.(2021). Selling circularity: Understanding the relationship between circularity promotion and the performance of manufacturing SMEs in Italy. Journal of Cleaner Production, 303, 127035.

[8] Blasi, S., Caporin, M. and Fontini, F. (2018). A multidimensional analysis of the relationship between corporate social responsibility and firms' economic performanceEcological Economics, 147, 218-229.

[9] Blewitt, J. (2015). Understanding sustainable development, Routledge, Abingdon.

[10] Burns, P. and Holden, A. (1995). Tourism: A New Perspective. London, Prentice Hall; 1st edition, 250 p.

[11] Cosgrove, J. (2010). Factories of the Future Beyond 2013. Which role for ICT? Workshop Brussels, 14 October 2010, p. 19.

[12] Dasgupta, P. and Heal, G. (1974), The Optimal Depletion of Exhaustible Resources, Review of Economic Studies, 41, 3-28.

[13] Dasgupta, P. and Heal, G. (1979), Economic Theory and Exhaustible Resources, Cambridge University Press, Cambridge.

[14] Dollar, D.(2001). Aart KraayThe World Bank Development Research Group Macroeconomics and Growth April 2001, Policy Research Working Paper.

[15] Dehghanian, F. and Mansour, S. (2009). Designing sustainable recovery network of end-of-life products using genetic algorithm. Resources, Conservation and Recycling, 53, 559–570.

[16] Demirsel, M. T. (2006). İhracata yönelik üretim yapan KOBİ'lerde kullanılan bilişim teknolojilerinin örgütsel performansa etkileri: Konya organize sanayi bölgelerinde bir uygulama, Yüksek Lisans tezi, Selçuk Üniversites Sosyal Bilimler Enstitüsü,192 p.

[17] Dürr, P., Braun, A., Westkämper, E., Bauernhansl, T., Haag, M., Heilala, J., & Grossmann, F. (2013). Improving Manufacturing SMEs' Competitiveness through Systematic IT Efficiency Evaluation and Advancement. Procedia CIRP, 12, 408–413.

[18] Dyllick, T. and Hockerts, K., (2002). Beyond the business case for corporate sustainability. Budsiness Strategy and Environment, 11 (2), 130-141

[19] Essuman, D., Anin, E. K. and Muntaka, A. S. (2021). Does purchasing recognition help or hinder purchasing quality performance in developing market SMEs?

Effects of resource conditions. Journal of Purchasing and Supply Management, 100717.
[20] Folke, C., Hahn, T., Olsson, P. and Norberg, J. (2005). Adaptive governance of social-ecological systems. Annual Review of Environment and Resources, 30(1), 441-473.
[21] Goodland, R. (1995). The Concept of Environmental Sustainability, Annual Review of Ecology and Systematics, 26, 1-24.
[22] Hartwick, J. M. (1977). Intergenerational Equity and the Investing of Rents from Exhaustible Resources, *American Economic Review*, *67(5*), 972-74.
[23] Horbach, J. (2008). Determinants of environmental innovation—New evidence from German panel data sources. Research Policy, 37 (1), 163-173.
[24] Ijomah, W. L., McMahon, C. A., Hammond, G. P. and Newman, S. T. (2007). Development of design for remanufacturing guidelines to support sustainable manufacturing. Robotics and Computer-Integrated Manufacturing, 23(6), 712–719.
[25] İşler, D. B. (2008). Rekabetçi Avantaj Yaratma Çerçevesinde Kobi'lerde E-Ticaret Ve E-Ticaretin Stratejik Kullanımı . Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi , 13(3) , 277-291 .
[26] Jayal, A. D., Badurdeen, F., Dillon, O. W. and Jawahir, I. S. (2010). Sustainable manufacturing: Modeling and optimization challenges at the product, process and system levels. CIRP Journal of Manufacturing Science and Technology, 2(3), 144–152.
[27] Joung C. H., Carrell J. Sarkar P. and Feng S.C. (2012), Categorization of indicators for sustainable manufacturing, Ecological Indicators, 24, 148-157
[28] Le, T.T., Huan, N.Q., Tran Thi Thuy Hong, T.T.T. and Tran, D.K.(2021). The contribution of corporate social responsibility on SMEs performance in emerging country, Journal of Cleaner Production, 322, 129103.
[29] Li, W., Liu , Z., Xia, S., Yan , J., Xiong , Y., Sakka , G. and Li, R. Y. (2022). How can emerging-market SMEs domestically benefit from their performance in developed countries? Empirical evidence from China, Journal of Business Research, 142, 200-210.
[30] Linke, B. S., Corman, G. J., Dornfeld, D. A. and Tönissen, S. (2013). Sustainability indicators for discrete manufacturing processes applied to grinding technology. Journal of Manufacturing Systems, 32(4), 556–563.
[31] Lu, L. (2018). Promoting SME finance in the context of the Fintech revolution: a case study of the UK's practice and regulation. Review of Banking & Financial Law, 33 (3), 317–343.
[32] Lu, J., Ren, L., Zhang, C., Rong, D., Ahmed, R. R.and Streimikis, J. (2020). Modified Carroll's Pyramid of Corporate Social Responsibility to Enhance Organizational Performance of SMEs Industry. Journal of Cleaner Production, 122456. doi:10.1016/j.jclepro.2020.122456 .
[33] Lui, A. (2013). Macro and micro prudential regulatory failures between banks in the United Kingdom and Australia 2004-2009. Journal of Financial Regulation and Compliance, 21(3), 241–258.
[34] Markandya, A., Harou, P., Bellù, L. G. and Cistulli, V. (2002). Environmental Economics for Sustainable Growth: A Handbook for Practitioners, Edward Elgar, Cheltenham, 528 p.
[35] Momaya, K.K. and Ajitabh, A. (2005). Technology management and competitiveness: is there any relationship. International Journal of Technology Transfer and Commercialization, 4(4), 518- 524.
[36] Munasinghe, M. (1993). Environmental Economics and Sustainable Development, The World Bank, Washington, D.C., 95 p.
[37] Nambiar, A.N. and others, Challenges in sustainable manufacturing, in: Proceedings of the 2010 international conference on industrial engineering and operations management, Dhaka, Bangladesh, 2010, pp. 9–10.
[38] OECD (2009). Eco-innovation in industry: Enabling Green Growth.
[39] Qinghe, Y., Yanhui, H. and Xinhua, W. (2009). Study on Assessment of the Sustainable Development of Regional Industrial Enterprises, IEEE: 2146-2153.
[40] Özdemir, A. İ. (2009). Erp Kullaniminin Kobilerin Algilanan Performansi Üzerine Etkisi: Kayseri İmalat Sektörü Örneği, Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, Sayı: 33, Temmuz-Aralık 2009, ss.173-187.
[41] Pretty, J. and Ward, H. (2001). Social Capital and the Environment. World Development, 29(2), 209-227.
[42] Reilly, A. and Weirup, A. (2010) Sustainability Initiatives, Social Media Activity, and Organizational Culture: An Exploratory Study, Journal of Sustainability and Green Business 1-15. Rennings, K. (2000). Redefining Innovation: Eco-innovation Research and the Contribution from Ecological Economics. Journal of Ecological Economics. 32: 319-332
[43] Rosavina, M., Rahadi, R. A., Kitri, M. L., Nuraeni, S. and Mayangsari, L. (2019). P2P lending adoption by SMEs in Indonesia. Qualitative Research in Financial Markets, 11(2), 260–279.
[44] Rusinko CA. (2007). Green manufacturing: an evaluation of environmentally sustainable manufacturing practices and their impact on competitive outcomes. IEEE Transactions on Engineering Management, 54(3), 445-54.
[45] Şahin, O. (2011). Kobi'lerde Finansal Performansi Belirleyen Faktörler . Uluslararası Yönetim İktisat Ve İşletme Dergisi , 7 (14) , 183-200.
[46] Salvador, R., Søberg, P.V., Jørgensen, M.S. Kallesøe, L.L.S. and Larsen, S.B. (2023). Explaining sustainability performance and maturity in SMEs – Learnings from a 100-participant sustainability innovation project, Journal of Cleaner Production, 419, 138248
[47] Schaltegger, S. (2011). Sustainability As A Driver For Corporate Economic Success, 33(1), 15-28.
[48] Swarnakar, V., Singh, A. R. and Tiwari, A. K. (2021). Evaluation of key performance indicators for sustainability assessment in automotive component manufacturing organization. Materials Today: Proceedings.
[49] Swarnakar, V. and Vinodh, S. (2016). Deploying Lean Six Sigma framework in an automotive component

manufacturing organization. International Journal of Lean Six Sigma, 7(3), 267–293.
[50] Swarnakar, V., Tiwari, A. K. and Singh, A. R. (2020). Evaluating critical failure factors for implementing sustainable lean six sigma framework in manufacturing organization. International Journal of Lean Six Sigma, 11(6), 1069–1104.
[51] Terziovski, M. (2010). Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: a resource-based view. Strategic Management Journal, n/a–n/a.
[52] US Department of Commerce (2009). Sustainable manufacturing initiative. Proceedings of the 2nd Annual Sustainable Manufacturing Summit 2009.
[53] Westkamper, E., Alting L. and Arndt, G. (2000). Life Cycle Management and Assessment Approaches and Visions Towards Sustainable Manufacturing. Annals of the CIRP, 49(2), 501-526.
[54] Yang, J.-C. (2006). The efficiency of SMEs in the global market: Measuring the Korean performance. Journal of Policy Modeling, 28(8), 861–876.
[55] Yeni, O. (2014), Sürdürülebilirlik Ve Sürdürülebilir Kalkınma: Bir Yazın Taraması, Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 16/3, 181-208.
[56] Zhu, Q., Sarkis J. and Kee-hung, L. (2012). Green supply chain management innovation diffusion and its relationship to organizational improvement: An ecological modernization perspective. J. Eng. Technol. Manage. 29, 168–185.