

Enhancing Competitiveness And Addressing Urban Challenges: An Exploratory Study On The Integration Of Sustainable Development Goals (Sdgs) Among Msmes In Bengaluru

M. Abiya Emima¹, Sayantani Banerjee², Urvi Begum³

¹M. Abiya Emima is a PhD Scholar in the Department of Commerce at St Joseph's University, Bengaluru, Karnataka-560027, India, abiya.emima@sju.edu.in, ORCID:- <https://orcid.org/0009-0008-4789-3455>

²Sayantani Banerjee is an Assistant Professor in the Department of Commerce at St Joseph's University, Bengaluru, Karnataka-560027, India, sayantani.banerjee@sju.edu.in, ORCID:- <https://orcid.org/0000-0003-4223-1256>

³Urvi Begum is a Research Scholar in the Department of Political Science at St Joseph's University, Bengaluru, Karnataka-560027, India, urvibegum4@gmail.com

Abstract

Micro, Small, and Medium Enterprises (MSMEs) are crucial in stimulating economic growth and entrepreneurship development. Even with an escalated inquisitiveness from entrepreneurs regarding business sustainability, awareness remains considerably limited, reducing their competitiveness among the socio-economic factors. The study aims to analyze the factors that influence MSMEs to adopt the Sustainable Development Goals. It also examines the urban business challenges of MSMEs and the need for utilizing SDGs as a tool to tackle those challenges. An inductive qualitative approach is utilized. The data is collected through semi-structured interviews and surveys with 10 MSME owners from KR Road (Bamboo basket Weavers) and Pottery Town (Potters) as case studies from Bengaluru's urban district, who observe SDGs in their businesses. The data is analyzed using the Gioia Method. The findings reveal that the first approach, sustainability as a means to cognizance, ensures the importance of the inevitable inclusion of sustainable business practices in MSMEs through the help of Government initiatives. The second approach, sustainability as a competitive advantage, identified the uniqueness of MSME businesses for their innovation. The third approach, sustainability as an Eco-efficiency approach, considers sustainability as an important tool to deal with the environmental, social, and financial concerns of the nation. The study offers insights for future researchers and MSME businesses to facilitate the transition of MSMEs toward sustainability.

Keywords: Sustainability, MSMEs, SDGs, competitive advantage, urban challenges.

INTRODUCTION

The Micro, Small, and Medium Enterprises (MSMEs) have emerged as a rising sector. It has effectively aided the nation's social and financial growth over the past 50 years by fostering entrepreneurship and generating significant employment opportunities (Kinara Capital, 2024). While the MSMEs comprise 8% of the nation's GDP, Karnataka ranks as the third-largest contributor among the Indian states, accounting for 8.2% (Muhammed, 2024). In addition to the efforts taken by the administration sector of the Karnataka government, the new industrial policy of Karnataka has proposed to form at least five industrial areas every year, spreading over several 5000 - 8000 industries (Verma, 2019). Respective electricity and water departments will be directed towards supplying the required power and water to the designated industrial area. Higher capital formation helps promote excessive trade development in the production industry. As MSMEs play an integral part in achieving sustainable development goals (SDGs), examining how they implement them is fundamental (UN-DESA, 2020). This is mainly because sustainability entails more than just ecological problems; it also considers social, economic, and environmental factors (Parvathamma, 2015).

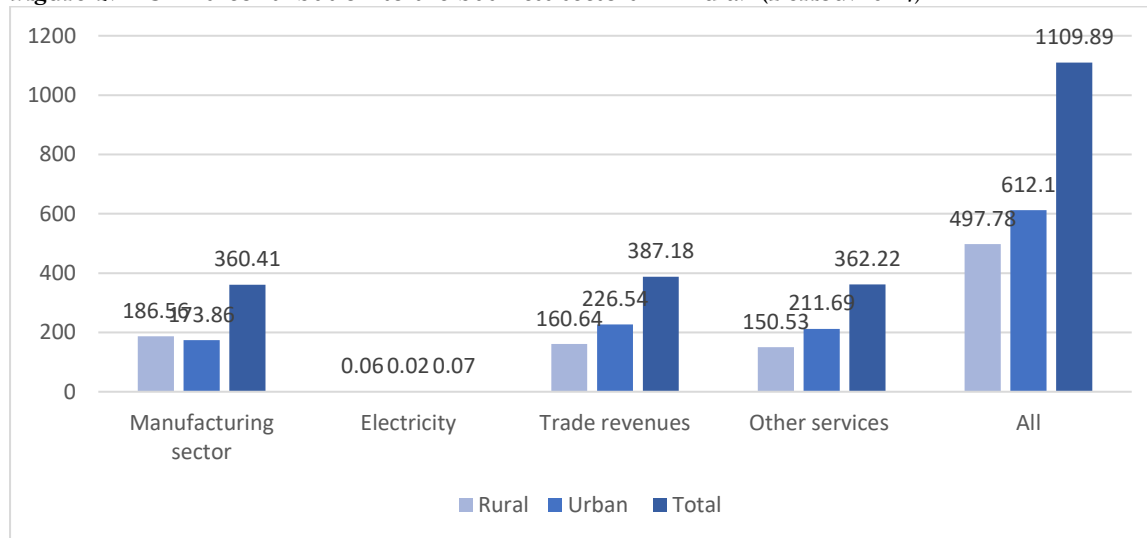
The Government of Karnataka has developed various initiatives to support MSMEs financially and through awareness programs for the industries that grow proficiently in the economy. With the better utilization of multiple growth programs, MSMEs have benefited tremendously from manufacturing and promoting their products (KES, 2021-22). Industrialists have also developed and shared strategies to achieve massive growth through practices focusing on profit maximization and ensuring success through eco-friendly business methods (Evotix, 2024). Micro, Small, and Medium Enterprises (MSMEs) are also majorly recognized for their significant contribution to utilizing Sustainable Development Goals (SDGs) and Corporate Social Responsibility (CSR) in their business operations. (Sobir, 2018) Also, MSMEs constitute a significant portion of all private companies in developed and developing nations, paving the way for economic growth. Decoupling and resource efficiency are the SDGs' crucial technological tools for ensuring environmental sustainability and fostering economic growth (Sobir, 2018). The Global nations have signed various agreements and pacts to develop a comprehensive approach towards sustainability. However, owing to the poor launch and execution of these agreements, they could have been done better, which caused significant concerns regarding the lack of sustainable development measures (UN-MCPR, 2024). So, the central focus of the United Nations member states turned towards initiating Millennium Development Goals (MDGs) in the year 2000 to bring down poverty and secure world peace among the nations (Verma, 2019). These MDGs were later scrutinized in relation to the contemporary requirements of modern times and replaced by SDGs (SDGF, 2015). SDGs enclose an agenda of 17 goals and 169 targets to be pursued and achieved before 2030 (UN-DESA, 2015). So, with the introduction of SDGs in businesses, every developing and developed nation must achieve these objectives and targets through a global partnership. In addition, SDGs significantly contribute to improving education and healthcare, preserving nature, and addressing the pressing issues of climate change and pollution control (Azmat et al., 2023). It is restricted to handling inequalities and poverty and has a broader scope in maintaining a balance between the country's economic, social, and ecological aspects (Verma, 2019). MSMEs can initiate inclusiveness by recruiting, training, and hiring local community members, which facilitates the inclusion of impoverished communities and populations into the MSME value chain (UNESDA, 2024). MSMEs are addressing the gap in healthcare by offering a more excellent range of fundamental laboratories and imaging supplies as well as higher-quality healthcare services (Mahesh et al., 2022). Furthermore, as competition for the same customer base increases, MSMEs gradually take the lead as pioneers of low-cost, high-volume delivery strategies, allowing them to have a competitive advantage over their competitors (Gao, 2023). However, MSMEs face several obstacles, including a lack of rigorous standards and inadequate resources to employ experts who can handle operational inefficiencies (Sharma, 2024). Enhancing healthcare delivery while advancing closer to this mission can be accomplished by assisting small and medium-sized healthcare businesses to overcome these obstacles (Loo, 2023).

Karnataka being an Industrial Base

The Micro, Small, and Medium enterprises in Karnataka are considered to be the backbone of Karnataka's industrial sector; they play a massive role in the contribution of Karnataka's GDP, where they contribute to almost 30% and 50% of the nation's exports. Moreover, Karnataka is home to more than 8.5 lakh MSMEs, which boosts employment opportunities for over 55 lakh people in the rural and financially backward sectors (The Economic Times, 2025). The state has also invested about RS 4 Lakh crores in the last five years to rejuvenate small businesses. It is ranked third in the country in terms of industrial growth and sustainable development. The existence of MSMEs is evident as it boosts economic and social well-being. These enterprises contribute majorly to the state's industrial output by acting as a supply chain for large industries, manufacturing sectors, essential component producers, and service deliveries (Muhammed, 2024). Karnataka has also focused on economic and industrial development with the outlook for evolving needs. In the era of globalization, the MSMEs have faced many challenges as they try to build themselves and progress in a competitive market. Karnataka, the largest state in South India, has grown substantially over the years. According to (The Economic Survey, 2024) released on 5th March 2022, Karnataka's per capita Gross State Domestic Product of Rs 3.05 lakh, estimated for the financial

year 2022, is the highest among the top five states. The state is generating 11% of all formal jobs in the country while contributing 8.7% to the national GDP in FY 22 and constituting less than 5% of the population” (Muhammed, 2024).

Figure 1. MSMEs' contribution to the business sectors in India. (Period:2024)



Source: HINDU BUREAU 2024.

Figure 1 indicates that MSMEs have contributed tremendously towards the growth of the Manufacturing sector, which is 360.41 lakhs, thus paving the way for future generations to have scope in entrepreneurship and business. Trade revenues add up to a total of 387.18 lakhs, which indicates the flow of exports and revenue generation in the form of GDP (Hindu Bureau, 2024). Moreover, MSMEs also enhanced the industrial phase of Karnataka and established its position as a leading manufacturing hub (KES, 2021). In contrast to the larger companies and Multi-National Corporations, MSMEs offer a wide range of services to entrepreneurs and business beginners in terms of adapting to the dynamic conditions of the market, minimal responsibility in the management of the business, the flexibility of business operations, and catering to the growing needs of the customers (Jamieson & et al., 2012). In addition, MSMEs act as a driving factor in the development process by ensuring quality production and reasonable pricing methods (Deccan Herald, 2021).

Bengaluru Urban: A Hub for Competitiveness and Business Innovation:

The MSMEs in Bengaluru have been the axis for introducing business innovation and reliable production, laying the foundation for thriving industrial advances. To add stimulus to this, the State Government has designed career awareness programs to help and assist entrepreneurs and encourage them to start businesses in rural and developing parts of the country (Balakrishnan & Gowda, 2024). Moreover, the Department of Industrial Commerce runs self-employment programs that help unemployed graduates learn about the primacy of entrepreneurship, leadership, and self-employment (DGE, 2024). This simultaneously led the MSMEs to take advantage of new business opportunities by following ethical and sustainable business practices to survive in the competitive market conditions.

It is also stated that Bengaluru Urban District's Peenya Industrial area (PIA) contributes to over 6000 crore exports (PIA, 2024) and is mainly run by families and has contributed to almost 8% of the state's exports, and this made "Karnataka ranks first in shaping industrial policy as it implemented an "industrial policy to encourage the MSMEs" to utilize the state's resources to create employment and economic growth. This initiated the other states in India to plan their industrial policies and set their standards high, thus resulting in improving their economic status among their competitors (India Briefing News, 2021 – 2022).

Table 1. Success rate of Sustainable Development Goals followed by MSMEs in Bengaluru. (Period:2023)

SDG ranking for Bengaluru city (Between 75 - 100)	
Climate Action	75
Peace and strong institutions	76
Decent work and economic growth	79
Gender equality	81
Quality Education	81
Affordable and clean energy	91
Responsible consumption and production	100

Source: NITI AYOOG 2023.

According to a survey conducted by the Government of India, the index rank of Bengaluru stands at 13. At the same time, Shimla ranks 1st among the states that have successfully implemented SDGs in their business sectors, followed by Coimbatore and Chandigarh. The average score it has acquired against the 17 SDG goals is only 69.07, which shows that Bengaluru still has a long way to reach its sustainability destination. Table 1 indicates that Bengaluru has scored 75 out of 100 and has achieved goals like gender equality, quality education, and responsible consumption (Niti Aayog, 2023).

The above data clearly states that Bengaluru has scored 100/100 in successfully penetrating SDG 12, i.e., Responsible Consumption and Production, which is established to achieve sustainable management, better utilization of resources, and considerable reduction in the generation of industrial and other wastes (Gasper et al., 2019). Moreover, the goal achieved was the elimination of loss of excess food waste and maintaining severe regulations in the supply chains to ensure the harmless and clean disposal of garbage without polluting the environment (Wang & et al., 2021). In addition, SDG 4 has also seen a striving rise in providing quality education to all of Bengaluru's younger generation with fairness and free tutoring (Saini & et al). SDG 7 has been concentrated more in Bengaluru in recent times as the need for affordable and clean energy has shot up due to rapid industrialization and expansion of the city, which the Government has forecasted to see an increase in the implementation of renewable energy to generate electricity and run automobiles, instead of relying only on non-renewable resources for extracting energy (Citizen matters, 2023).

LITERATURE REVIEW

Exploring Urban Challenges in Business Sustainability

Contemporary research has revealed that sustainability can be categorized into two interesting concepts where: it can be a meaningful competitive principle that seeks the business sector's strategic notice and conceals itself with the patterns of the entrepreneur's attitude, or it can be the integrated fundamental proposition from the preliminary stages (Caputo & et al., 2024). India's MSMEs operate in several sectors identified as highly polluting, such as the chemical and associated industries like the leather industry, the textile processing industry, the pharmaceutical industry, the agricultural chemicals industry, and the food processing industry (ICRA, 2022).

Also, (Ismagilova, 2019) claims that urban growth and pollution caused by industries became building factors of urbanization, which led to the depletion of the environment around their business premises. (Giles-Corti, 2016) agrees that quality degradation in the water bodies due to the discharge of industrial wastes on the occasion of urban built-ups has become a massive threat to the state's residents. He also identified that a rising population is the leading cause of the deficiency of natural resources, and thus arose the concern of sustainable development for future generations.

According to (Durani et al., 2024), the reasons why MSMEs cannot comply with environmental standards range widely from lack of knowledge and capital, ability to govern organizations efficiently, and lack of adaptability to regulations related to the environment, society, economic conditions, and technological problems faced by local businesses. Moreover, (M. R. et al., 2024) also agree that internal factors influence the growth and development of MSMEs, including challenges in recruiting qualified personnel, lack of awareness regarding environmental issues, and absence of environmental pressures from stakeholders.

The sole approach to accomplishing internal and external areas of expertise to boost MSMEs' capability is implementing sustainable development goals (SDGs) in MSME enterprises, encouraging them to adopt ethical procedures that minimize the collateral damages and consequences of reckless production methods (UNDESA, 2018). In the context of infrastructure, MSMEs have much to improve in terms of the types of machinery and technological equipment required for manufacturing. They have to develop their business standards to stand out from the existing competition and pave the way to expand their business to national projects like constructing bridges and roads, and being suppliers to such infrastructure projects (Tambunan, 2023).

The MSMEs in developing countries face both financial and environmental hindrances when following sustainable business practices, which results in slow facilitation of the SDGs in their business operations (Centre, 2019). (Fiseha, 2015) states that the major problems that the MSMEs face are a lack of financial and resource facilities, poor business knowledge, limited access to the market, and small-scale production spaces. Hence, in order to boost the performance of the Sustainable Development Goals, practical tools and techniques should be implemented to monitor and measure the activities followed by companies and industries.

Moreover, authentic data is unavoidable in measuring the progress of companies towards sustainable development (Simon, 2015). (Jones, 2016) examines that to ensure corporate and MSME business sustainability, the SDGs need more integration across the value chains to strengthen their relation with the customers and shareholders, which will considerably increase the sense of social responsibility among the citizens and help to gain more market share by increasing sales and profits on the other hand.

Significance of SDGs on MSMEs' Sustainability Framework

The list of SDG Goals, which is entrusted to achieve both financial sustainability and environmental protection for Corporate Social Responsibility, is included in this study to improve the MSME's competitiveness towards big companies and industries, and is given as follows:

- Goal 9 - Increase Industry, Innovation, and Infrastructure
- Goal 11 - Mobilize Sustainable Cities and Communities
- Goal 16 - Guarantee Peace, Justice, and Strong Institutions (NJ MED, 2024)

Moreover, MSMEs additionally possess an excellent deal of opportunity to incorporate the SDGs into their operations for several reasons, which include the following: They can mitigate the detrimental impacts of mass manufacturing by swapping natural resources in commodities with recycled and upcycled post-consumer products, they ensure that every industrial waste that cannot be avoided is utilized to the maximum extent possible (Paul, 1995). They significantly limit the quantity of waste to be disposed of, such as transforming organic waste into fuel for running industrial plants and machinery. A basic audit assesses how effectively the company's budget addresses the waste disposal issue, its strategy, and how MSME businesses can mitigate negative ecological impacts (ESSA, 2020). This audit serves as an initial step in developing an effective environmental plan. Additionally, the intervention of the SDGs will create fair employment opportunities from MSMEs, which will perpetually help those economically disadvantaged, particularly women and the youth generation (Saluja, 2023). This will eventually decrease poverty, provide a suitable income, and ultimately have an advantageous impact on household expenditures relating to education and health care.

The failure of the government and the companies to utilize the opportunity of the SDGs would result in significant climatic and catastrophic changes, which were warned about before their adoption (Griggs, 2014). According to (Oncioiu, 2017), clearly states that a positive connection exists between the SDGs and business innovation, climate change control, and economic financial growth. Moreover, as the Indian MSMEs eminently concentrate on the environmental aspects of performing sustainable business, they lead towards cleaner manufacturing techniques, business innovation, and renewable methods. The MSMEs have the exceptional capacity to adapt to the contemporary needs of the economy and are anticipated to be flexible to evolving circumstances; hence, these modifications are achievable for all MSMEs to include in their business processes (Liu, 2018).

RESEARCH METHODOLOGY

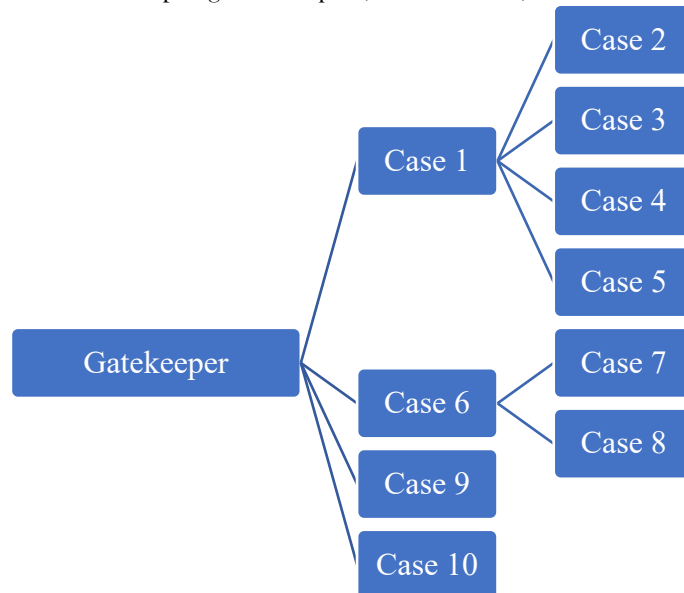
The analysis was performed using primary data collected through Semi-structured interviews with the MSME owners. The study distinctly concentrates on sustainability-based aspects and organizational performance of the Micro, Small, and Medium Enterprises in Bengaluru Urban. The three Sustainable Development Goals: SDG 9 – Industry, Innovation and Infrastructure, SDG 11 – Sustainable Cities and Communities, and SDG 16 – Peace, Justice, and Strong Institutions are examined for analyzing MSMEs' sustainability in the competitive industrial city.

Research Design and Data Collection

The study was conducted by collecting data from ten MSME owners of Bengaluru Urban District and carried forward using the multiple case study methodology. The exploratory method can be considered an appropriate methodology for scrutinizing the particular research topic due to the limited research in this field. The semi-structured interviews were performed using a formal questionnaire containing twelve questions, which were verbally explained to the MSME owners for effective response due to the problem of the literacy gap. The interviews were conducted between the period of January and March 2025. All the interviews were conducted face-to-face as the respondents were tentative about talking on online platforms and found it challenging to complete questionnaires alone. The questionnaire for the semi-structured interviews was created by considering the objectives of SDGs 9, 11, and 16. The interview protocol was deeply analyzed to ensure it was amenable to the research objectives (Gioia, Corley, & Hamilton, 2013). The multiple case study method was found to be a suitable procedure for conducting the interviews, as the study's main focus was on measuring MSMEs' organizational performances and development by utilizing sustainable business practices. This method offers a detailed overview of activities firms can apply to further sustainable practices in their business operations (Yin, 2017). Moreover, to get a clear vision of the MSMEs' operational strategies and performance, the interviews were conducted with the business originators and the founding leaders of the industry. As the MSME owners were traditional and native people of Karnataka, data collection was quite challenging as they were more comfortable sharing information with a native language speaker than with an outsider. So, in order to bridge the gap between reaching them and recording their responses, a gatekeeper would be considered a suitable option. The gatekeeper was selected to be a native Kannada speaker from Bengaluru and a researcher in the field of Cultural Studies. In this scenario, it is understood that reaching the target audience can be achieved by selecting an appropriate gatekeeper linked to the culture and tradition of the MSME owners (Yin, 2016). The study is conducted in the urban area of Bengaluru district, instigating the understanding of survival, sustainability, financial support, and promotion of their goods and services to the general public. Moreover, a mediator from the MSMEs in the sample area was selected to introduce the business owners regarding the reasons for conducting this research and to ensure confidentiality. This is performed by ensuring the MSME entrepreneurs that the information collected will be utilized only for academic purposes and that sensitive content or data will never be spread to any media or for any political reasons. In addition, the study will help to find measures to support their business by helping them develop a competitive advantage among the other competitors in the market, either Multi-National Corporations or big enterprises that do monopolistic business. To ensure the MSME owner's accessibility, trust, and convenience, the snowball sampling method was employed. This method of sampling is found appropriate as it helped to counteract the trust issues among the MSME owners and leaders towards the interviewers (Yin, 2016). This sampling method works based on introducing other MSME operators and owners from the same locality through the help of the initially interviewed interviewee, who served as a mediator to other suitable interviewees from the sample district. The response was collected from those MSME owners who were selected as interviewees, who were recommended by the initial interviewees, assuring that their statements and responses would be kept secure and anonymous. The chosen interviewees were addressed carefully to make them feel comfortable about the interview and respond with ease and proficiency. The interviews were held in their respective business spaces and homes for easy access and to boost their confidence in answering the questions. This was highly effective with the

interviewers' approach, as the MSME owners were satisfied and gave their experiences and opinions directly without showing any signs of confinement and fear of exposure.

Figure 2. Snowball Sampling Technique (Period: 2025).



Source: Primary data through interview.

Moreover, the interview was conducted in the native language of Karnataka, i.e., Kannada, to make the interviewees feel more confident even when they were aware of other languages like Tamil and Hindi. This gave the MSME owners the perception that the interviewers were insiders and considerably reduced trust concerns. In order to make it safe and more anonymous, the names of the MSME owners were not included in the final report. Finally, the interviews were completed due to the efficient cooperation of the MSME owners and managers in the targeted area.

Research context

The MSMEs considered for this study are from the Kumbaras community in Pottery Town and the Medaras Community from the KR Road of Bengaluru Urban District, Karnataka. The potters are predominantly managed by the Kumbara Kara-kushala Kaigharika Sahakara Sangha, Ltd for potters in Pottery Town (The Indian Express, 2025). This Kushala Kaigharika Sahakara Sangha was formed to manage the challenges and issues of the Medara Community while they continue their business operations. In addition to this, the committee writes petitions directly to the Government regarding the Basket weavers' problems regarding land ownership due to the lease expiry for their business locations. Previously, the lease pay was only Rs. 500 per year until 2004. However, after the expiry of the lease, the corporations have not made enough efforts to extend the duration of the lease (The Hindu, 2025). The "Kumbara Kara-kushala Kaigharika Sahakara Sangha, Ltd currently has approximately 120-130 potter members who are active within the association. As of now, 15 main leaders manage the association, and they handle the problems within the community by making important decisions on behalf of the basket weavers (Hasiru Dala, 2023). Moreover, the Shanti Medara Sankshema Sangam is the local association for basket weavers in KR Road, which assists the members of the community in acquiring loans from financial institutions like banks and insurance companies at lower interest rates. This association further provides financial protection for the MSMEs in the Medaras community and helps them branch out their networks to grab business and promotion opportunities for their customers (The Hindu, 2018).

Bengaluru Urban has been functioning as the industrial hub for small businesses across Karnataka State, promoting handicraft development and sustainable business practices. This sample area, i.e., Bengaluru Urban Agglomeration, has grown faster and can be considered the correct location to collect information regarding the concept of sustainability in their business processes (Reddy B. S., 2013).

MSME Case Selection

The cases selected for the study were sorted into two categories of MSMEs from the KR Road and Pottery Town of Bengaluru Urban, Karnataka District. The selection criteria for these MSMEs were based on the number of employees working under the enterprises, which should be less than 250, and included in the segment of small businesses. The interview was supposed to handle responses only from the MSME owners and managers who have administered and held managerial positions in the business for years. They should have managed the budgets and profits of the business for a minimum period of 10 years. This was ensured to understand the growth and projection of the business of these MSMEs, or their extinction due to urbanization and other financial problems. Moreover, the first five cases were from the Medara Community, who were Basket Weavers, and the following five cases were selected from the KR Road of Bengaluru, all Potters belonging to the Kumbaras Community. Another selection category was that these candidates of the MSME family should have their business in these areas for generations, and not be newcomers to the market. Based on these categories and criteria, a small meeting was conducted with the Kumbara Kara Kushala Sahakara Sangha Ltd and the Medara Sankshema Sangam to identify the number of willing candidates ready to give their interview. These candidates should satisfy the above criteria in order to give their responses. The meeting helped identify those MSME owners from the pool of other candidates who were also present in the sector. The interview process was conducted using the snowball sampling method, where after completing the interview with the first case, the following Cases 2,3,4, and 5 were selected using the introduction given by Case 1 for the Basket Weavers' community of KR Road. After identifying through the Kumbara Kara Kushala association for the potters in Pottery Town, we found Case 6, who later introduced us to other MSME owners of the same criteria, which includes Cases 7 and 8. Cases 9 and 10 were directly found with the help of the gatekeeper, who was familiar with the targeted location and the sample groups (see figure 2). The cases were selected and utilized for data collection until they reached theoretical sufficiency (Yin, 2016). Table 2 explains the information collected from the 5 Cases from the KR Road of MSMEs. Table 3 will give a brief information on the 5 MSME owners of Pottery town in the order in which the interview was conducted. The data collected for the study is purely primary and was collected directly from the supporting associations and the MSME owners. Secondary data was utilized to get more relevant data about the companies and MSMEs for their overall economic position, financial information, and registration in the Udyam registration Portal of the Government. Secondary data also included data from articles and the official MSME Ministry website, which is considered valuable for finding more relevant information about the origin and growth strategies of the industries and businesses (Eisenhardt, 1989). Hence, by connecting the primary and the secondary data to analyze the questions when, who, what, and where (Hox, 2005), we formulated the study's findings more accurately and meaningfully.

Data Analysis and Interpretation

The data analysis process was conducted by analyzing the primary data collected from the MSME owners of the two target locations. The responses were gathered, noted, and segregated according to the different dimensions of MSME owners towards sustainability. The responses were coded from the responses recorded in the interview process by the researchers in the initial coding phase. Once the various dimensions of responses were sorted and clubbed, the researchers examined the answers and suggestions of the MSME owners to compare and contrast the results for the study (Yin, 2016). To avoid any opinionated bias, the recorded interviews were individually read and interpreted by the researchers. Once the interpretation was over, the first-order codes were derived, and through their use, the second-order codes were summarised to form the three approaches to support the study.

The results of the researchers were combined and compared to develop a defined conclusion, which approximately took a month from March 2023 to April 2023. This analytical process involved comprehending meaningful discussions and continuously scrutinizing the obtained responses to check for any potential bias and conceptual bias. Moreover, the data regarding MSMEs from Urban Bengaluru were checked for the latest information, not past data. The three order codes were formed considering the primary and secondary information retrieved from journals and articles.

The first, second, and third-order codes were collectively prepared based on the sustainability of the MSMEs in the urban world and their competitiveness amongst their competitors through strong industrial formation, ancestral business background, and cultural significance. The literature review was also examined to include concepts like the significance of employing sustainable development goals in business practices to survive in the economy. In addition to this, the key challenges and hurdles were also identified by the interviewers from the MSME owners to try to find a solution and help these owners to sustain both financially and environmentally. These were brought into the order codes to form the business approaches to have a perspective on these small entrepreneurs' real work-life constraints and advantages towards their potential customers.

The Gioia, Corley, and Hamilton (2013) method was utilized for the purpose of data analysis. This method was a systematic approach to qualitative data analysis and is important in deriving theories and approaches from the collected information for deeper insights and patterns. Hence, this method served as an important analysis technique because the current study is a collection of demand and supply, trending patterns, and innovations.

After the final analysis, the order codes were structured based on each researcher's view and findings, which basically consisted of a branching method routing from first-order to second-order to reach the third-order codes. So, in order to avoid exploitation of individual ideas, each researcher performed the data interpretation process separately (Yin, 2016). Then the findings were scrutinized intensely and repeatedly to reach the study's objectives.

Table 2. Case Description of Bamboo Basket Weaving MSMEs from KR Road in Bengaluru Urban. (Period:2025)

MSME Case	Interviewee	Core Business	Number of employees	Turnover	Business Function
1	Bamboo Basket firm owner	Wholesale and retail trade of Bamboo baskets and mats	15	4,50,000	This MSME operates within the Urban territories of the district and aims to sell it to local markets and supermarkets.
2	Basket manufacturing firm owner	Manufacturing of bamboo baskets, bamboo mats, flower baskets, and vegetable baskets.	27	7,00,000	This entrepreneur makes an effort to sell his baskets to tourists, pooja needs, and the young generations.
3	Bamboo basket owner	Wholesale trade of bamboo baskets, fancy trays, and rice husk removing trays.	42	9,50,000	The main target for this MSME is weddings, as they sell their bamboo fancy trays for Thanksgiving gifts, and also concentrate on selling them to big companies as a byproduct of their primary produce.
4	Bamboo basket entrepreneur	Retail trade of bamboo baskets,	8	4,00,000	The sales happen mostly in the

		cribs, and flower baskets.			surrounding areas of the business location. These MSMEs target mostly their known crowd, supply their goods to weddings, newborn baby families to use as a crib for better sleep, and to traditional Kannada families for their cultural importance.
5	Bamboo basket business owner	Production of bamboo baskets, pooja accessories, and mats for bathrooms.	18	5,50,000	The products are sold for events, poojas, functions, festivals, tourists, and to the homemaking population.

Source: Primary data collected through an interview.

Table 3. Case Description of Pottery MSMEs from Pottery Town in Bengaluru Urban. (Period:2025)

MSME Case	Interviewee	Core Business	Number of employees	Turnover	Business Function
6	Pottery firm entrepreneur	Retail trade of pots, oil lamps, idols, and water jars.	54	10,20,000	MSME owner and his employees make an effort to sell their pots to locals, health-conscious adults, and the young generations for their eco-friendly touch.
7	Pottery owner	Manufacturing of Idols, pots, plates, jugs, and jars.	12	6,50,000	This MSME operates under a family-oriented business that aims to sell its products to other businessmen, local markets.
8	Pottery owner	Manufacturing of flower pots, Dristi accessories, lamp stands, and idols.	37	12,00,000	The sales happen mostly on a larger scale, where they sell their products in markets, exhibitions, government stalls, and roadside showcases. These MSMEs target mostly the native people of

					Karnataka, who are used to their customs and traditions. These MSMEs also concentrate on plant lovers by providing flower pots to them in different models, sizes, and shapes.
9	Pottery business owner	Retail trade of flower pots and plates for holding the pots.	22	7,70,000	The target for this MSME is plant nurseries, as they sell their flower pots and holding plates for the process of growing plants and trees in them. They concentrate on selling them to big gardens, the elite population, and plant lovers.
10	Pottery shop owner	Production of lamp stands, idols, small useful clay articles, colourful ceramic collections, innovative small statues, cooking pots, and water jugs.	7	8,50,000	The products are sold for festivals and for the artistic needs of its customers. Moreover, they supply their goods to college students and younger generations who are attracted to beautiful new things. This firm also has a market base in the government exhibitions, where it is supported by the state of Karnataka.

Source: Primary data collected through an interview.

FINDINGS

The results were obtained through the use of coding from data analysis. This led to the conclusion of revealing the three business approaches identified from the various characteristics and challenges of the MSMEs from Bengaluru Urban. The three approaches include 'Sustainability as a Means to Cognizance Approach', 'Sustainability as a Competitive Advantage Approach', and 'Sustainability as an Eco-efficiency Approach'. The three approaches are explained in Table 4 and in the following sections.

Table 4. Coding Structure. (Period:2025)

First-Order Codes	Second-Order Codes	Third-Order Codes
-------------------	--------------------	-------------------

<p>1) Lack of awareness about the markets and recent trends of sustainability.</p> <p>2) Insufficient ability to capture the attention of the current youth.</p> <p>3) Less awareness about the modern necessities of youths.</p> <p>4) The Government's initiative is very important for growth, and that support is still pending.</p> <p>5) Economic benefits and profits are not enough.</p>	<ul style="list-style-type: none"> • Lack of awareness towards the importance of sustainability and the Sustainable Development Goals. • Economic benefit and good returns can be made possible through the application of sustainable practices. 	Sustainability as a Means to Cognizance Approach
<p>1) MSMEs need financial resources to adapt to inflation and price rise.</p> <p>2) Following the traditional methods for beautifying the baskets with intricate designs and visually appealing braids leads to sustainable business practice.</p> <p>3) Sustainability depends on recycling used raw materials and water.</p>	<ul style="list-style-type: none"> • The motives of the SDGs are aligned with the goals of the MSMEs – profits and growth. • Sustainability depends upon the popularity of brands and the innovation of products. 	Sustainability as a Competitive Advantage Approach
<p>1) Promoting sustainability by teaching pottery through workshops and classes.</p> <p>2) Sustainability means efficient use of limited resources for the MSME owners.</p> <p>3) Sustainability increases the value of the firm in the market and creates a competitive advantage.</p> <p>4) Collaboration with the Government to conduct exhibitions for eco-friendly products to motivate the responsible youth generation.</p>	<ul style="list-style-type: none"> • Sustainability that restructures the business practices that harm the environment. • Implementation of collaboration with the Government, artisans, and big companies to promote their products. 	Sustainability as an Eco-efficiency Approach

Source: Framed data

The 'Sustainability as a Means to Cognizance' Approach

The MSME owners who were interviewed under the Medara and the Kumbara Community, who were traditional basket weavers and potters, reveal that they consider sustainability as a chance for opportunity and awareness of the realities of the current tremendous growing economy. This can be achieved through the use of the Sustainable Development Goals, as the significant aim of these SDG implementations was to support the livelihood of the MSMEs, innovative business producers, and small owners who own businesses that form the backbone of the nation. Most of the MSME owners state a condition where they tirelessly work in order to sustain financially, to continue their business operations, rather than working towards environmental sustainability. They also had this idea where their main business aim was to earn

more profits and to increase the wealth of their workers. This is due to the concern of reducing demands for environmentally friendly products produced by small businesses and micro entrepreneurs who have been performing family and community businesses for generations.

Firm 3: The businesses have been continuing for generations, which was started by their ancestors decades ago, to build their livelihoods. But due to our lack of awareness about the markets and recent trends, we lacked the ability to capture the attention of the current youth and other customers in their market. We were well-versed in manufacturing our products with good quality and at a lower cost, but we were less aware of the modern necessities.

Firm 5: We have been producing baskets that are biodegradable and eco-friendly for decades by our ancestors and past generations. We are well aware of the need to preserve our nature from harmful chemicals and polluting agents. The Government's initiative in including the SDGs in businesses is an important need in the current times. So, we are abiding by the rules of the Government, and this has helped us to reach the environment-friendly target groups, thereby helping us to gain a new market among the youngsters and responsible adults.

Firm 7: The importance of sustainability is still in a dim light for us as we run daily to meet our expenditures and raw material costs. We have less time to think about meeting the needs of sustainability. Moreover, if and only if our economic benefit is derived from following the Sustainable Development Goals, it would be a turning point in the lives of our MSMEs.

Firm 10: The products produced by our firm are basically raw materials taken from the earth, and due to the collapse of various lakes and ponds due to modernisation and urbanization, it has become difficult for us to bring them. So, we are pushed to buy raw materials from different districts like Andhra Pradesh, Tamil Nadu, or the outskirts of Bengaluru, which is usually costly due to the involvement of middlemen and sales agents. Hence, our children are showing less interest in carrying out our family business of pottery as it brings less profit and involves huge costs. The MSME owners and managers of these enterprises and small firms have recognized the significance of the Sustainable Development Goals, which has led to their awakening to follow the concept of sustainability. This showed them the way to capture more target audience as well as taught them a strategy to earn a regular source of income for their families. But, in order to enhance the capabilities of their businesses, the MSME owners claim that the government's support is inevitable in providing financial benefits to proceed with their business operations as well as to sustain the deep roots of their state's culture.

The 'Sustainability as a Competitive Advantage' Approach

The results revealed that sustainability is often perceived as a chance for competitive advantage among the millions of producers and manufacturers in the country. The context of sustainability is now deeply embedded in the minds of the MSME owners due to the rising competition from various superior brands in the market. They often lack the financial resources and physical resources to compete with the Multinational Corporations and the huge quantity manufacturers. The main aim of Sustainable Development Goals 9 and 11 is to promote sustainable cities and encourage small and struggling businesses to have a fair chance to show their skills and innovations in the country. This was adopted by the Government to bring the small, rural businesses to showcase and sell their produce in the modern markets. This is considered extremely helpful for the MSMEs and small businesses to get a new group of customers and keep their arts and skills safe for the next generation to carry on. The importance of preservation of culture and art by supporting the purchase of products produced by these MSMEs has to be taken under control by the Government before the art goes into extinction.

Firm 1: We have been manufacturing and selling bamboo baskets from the obvious raw material, bamboo, which is soaked in water and stripped into small cables, then softened for days to bend it into beautiful baskets. This process needs immense care and craftsmanship to make high-quality produce. But the baskets sold by big brands in malls are usually overpriced and lack good finishing. So, our regular customers buy repeatedly from us as they feel value for their money, and along with getting their premium quality goods that will last decades, unlike the lower quality products manufactured by machines.

Firm 2: The water that was used to soak the bamboo cables is redirected to water the trees near our locality. The water is not just used to soak some bamboo sticks, but for a lot of bunches, ranging from 1 to 5 bunches. We follow the traditional methods for beautifying the baskets with intricate designs and visually appealing braids. These do not require any artificial colouring or plastic to bind with, as the raw materials are completely natural. This is one of our significant contributions to Mother Earth, and it gives a unique touch to our products.

Firm 8: The waste from our firm is usually collected regularly by the BBMP vehicles of Karnataka and does not leave any pollution in our neighbourhood. We never get any complaints from our neighbours and nearby residents regarding the disposal of our business's solid waste. I think in this way we are more aligned with the motives of the Sustainable Development Goals. Due to our shop's responsible behaviour, we have been called to supply kulhads and take-away gifts for various festivals and weddings that prefer less harm to the environment.

Firm 9: The employees from our business who were considered as family love to work in our firm as they are talented artisans who try to bring innovation in this sector. But the financial aspect always holds us back, and the support system for MSMEs is very weak; most of the time, we are forgotten among the rich population and the wealthy classes. We would like to get some kind of financial assistance or subsidy from the government to compete in the market. Moreover, sustainable practices have created a special place in the state where there are minimal alternatives for our products, and we hope it will raise the demand for it. As suggested by the firm 9, financial assistance plays a huge role in developing the MSMEs' competitiveness among their competitors. Moreover, their innovative work and unique artwork add a competitive advantage to their businesses. Already, these MSMEs have a strong base of craftsmanship, and they are also willing to stay sustainable for the future. But, only because of fewer profits and fewer subsidies, they are not able to change their business processes according to the current demands and trends. In order to deal with the above situation, big companies can also show a helping hand to these MSMEs by purchasing their products and having a partnership with these small producers. In this way, it helps the economy to have an inclusive growth, by developing the native brands as well as the micro, small, and medium enterprises.

The 'Sustainability as an Eco-efficiency' Approach

The basic concept of the above-recognized MSMEs under the two categories of production: Bamboo basket Weavers and Pottery makers, is to produce eco-friendly products. The equipment needed to produce these goods is hands and an innovative mind. It doesn't require any modern machines or polluting factors that disrupt the environmental well-being of society. The concept of sustainability emerges from those MSMEs who produce premium quality goods for affordable prices with maximum utilization of the limited resources. This third-order code is derived from analyzing the information provided by the candidates in the interview. The MSME owners claim that the SDGs are the stepping stone for tomorrow's success because of their nature to cope with the problem of climate change and overexploitation of resources for greedy needs. This method of business will offer a new way of convention for the existing businesses to take note of changing their harmful practices to earn profits. So, the important aspects of the SDGs should be clearly thought through to make the companies follow Corporate Social Responsibility with the aim of reducing their damage to the environment. Moreover, through the implementation of effective SDGs, the business owners can identify gaps in sustainability in their operations.

Firm 4: We have learned well about the fact of bringing new products into our business. Instead of throwing away small cables of bamboo, which we used to do before, now we make small baskets for decoration. Our employees are asked not to throw the waste on the road or on other neighbouring locations. We try to learn from our mistakes, which we made in our past, that disrupted the natural order of society.

Firm 6: Our products have attracted a lot of tourists from all over the world for our beautiful designs and intricate artwork. For further reach of our products, we use basic harmless colours to paint the idols and

pots. We place them on full display along the roadside to attract more customers. This has led us to financially sustain ourselves in the markets, due to our effort to bring modernity to our produce.

Firm 7: In order to bring to the notice of the traditional importance of this pottery art, we conduct workshops and pottery classes for students who have an interest in this field. We make our work interesting among the current students who thought that pottery was just a poor person's job. Instead, practising pottery in the modern era, with expertise, anyone can make a good amount of money. It just needs good concentration, an artist's touch, and a better marketing platform. Now, technology has taken part in improving the growth of our small businesses, as some conduct classes and some have also made it into exports. Finally, it is understood that these MSMEs are already in the current need's platform. They have the potential to change the perspective of business methods and strategies if they try to utilize technological devices and smartphones to promote their products on online websites and social media platforms. Moreover, even though they are on the verge of going into extinction, these MSMEs still strive to achieve sustainability, which makes them a fighter for holding onto their artwork and ancestral knowledge.

CONCLUSION AND DISCUSSION

Based on the findings revealed by data analysis, three approaches have been framed, which include the cognizance approach, the competitive advantage approach, and the eco-efficiency approach. The approaches were framed to understand which statement would gather more knowledge about the sustainability concept of the MSME owners, which can be referred to in Table 4. The first approach, 'Sustainability as a means to cognizance', analyses the opportunity given to the business owners in finding the need for undergoing sustainable practices, which is in line with the Sustainable Development Goals. These goals are challenging for multinational companies to adopt, so MSMEs play a vital role in acquiring them, with the ability to have close contact with the local communities. This has also led to the conclusion that cognizance regarding the importance of sustainable business practices is inevitable in the current scenario due to the complex dimension of the business background. The second approach, 'Sustainability as a competitive advantage', describes that the MSME owners from both KR Road and Pottery Town's excellent craftsmen had their own unique products that have beautiful artistic work, and handmade accessories. These products generally don't have many copies or duplicates available in the market. The products manufactured by the big companies and industries may have similar kinds of goods, but they can never bring life to the product. This can be obtained only from the handmade pots and beautiful baskets made by MSME businesses, who toil so hard and bring quality goods to the table. But often, their goods are not valued for the time spent to manufacture them and the costs incurred to buy the raw materials. The customers try their best to bargain with these small businesses, but easily buy things from supermarkets with brands and good packaging. It is also interpreted that from the third approach, 'Sustainability as an Eco-efficiency', MSME owners consider economic benefit and profits more important than concentrating only on sustainability. This ensures that financial assistance by the Government can be an influencing factor to encourage the MSME owners to safely discard their wastes and have consideration for the environment's welfare, as well as sustain financially to take forward the development of the business. SDGs 9, 11, and 16 play a major role in building the small business sector, as their goal is to bring inclusive growth and sustainable industrialization by fostering innovation (UNOOSA, 2025). The business ideas and implications of this study can provide important insights to facilitate addressing environmental, social, and economic sustainability concerns that disrupt the flow of sustainable business practices to ensure better working conditions in the future. Moreover, to conclude, it is mandatory to conduct further empirical studies on the need for sustainability-oriented business approaches to promote the 'sustainability as an eco-efficiency approach in Bengaluru Urban District. Finally, the study concludes by suggesting that further research is needed to explore the role of SDGs in promoting sustainability towards the MSMEs. This could provide valuable insights to shed more light on how supporting these small businesses can serve as a crucial turning point for balancing financial distribution, leading towards an increase in GDP of the country and addressing environmental welfare equally.

DECLARATIONS

- 1) **Data Availability Statement** - The data that support the findings of this study are available from the corresponding author upon reasonable request.
- 2) **Competing Interests** – Author 1 is a PhD scholar in the Department of Commerce, St Joseph's University, Bengaluru; Author 2 is employed in the Department of Commerce, St Joseph's University, Bengaluru; Author 3 is a Research Scholar in the Department of Political Science, St Joseph's University, Bengaluru. The present study's authors have declared no conflicts of interest regarding the research, authorship, or publication of this article.
- 3) **Funding** - The authors received no financial support for this article's research, authorship, or publication.
- 4) **Authors' Contribution** - AE conducted the survey, analyzed the MSME owners' data, and framed the three approaches regarding the SDGs and their role towards sustainability. UB examined resources through secondary data collection and cross-verified the interpretations and approaches. SB performed the examination of the competitive behaviour of the MSME owners and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

REFERENCES

1. Azmat, F., Lim, W. M., Moyeen, A., Voola, R., & Gupta, G. (2023). Convergence of business, innovation, and sustainability at the tipping point of the Sustainable Development Goals. *Journal of Business Research*, 167, 114170. <https://doi.org/10.1016/j.jbusres.2023.114170>
2. Balakrishnan, A., & Gowda, A. A. (2024). Role of MSMEs in Stirring The Social Economy at Bengaluru. *Journal of Applied Management and Business*, 5(2), 100-109. DOI: <https://doi.org/10.37802/jamb.v5i2.858>
3. Caputo, A., Pizzi, S., & Santini, E. (2024). Sustainability and SMEs: Opening the black box. *Journal of Management & Organization*, 30(3), 413-420. DOI: <https://doi.org/10.1017/jmo.2024.10>
4. Chander, S., Kumari, V., & Tyagi, R. (2019). Knowledge of laws about crime against women in Haryana: A sociological analysis. *International Journal of Education and Management Studies*, 9(2), 106-108.
5. Citizen Matters (2023). - <https://citizenmatters.in/urban-indicators-for-sustainable-development-goals/>
6. Department of Economic and Social Affairs (DESA, 2020) - MSMEs' Growth: Opportunities and Challenges. Micro, Small and Medium-sized Enterprises (MSMEs) and their role in achieving the Sustainable Development Goals.
7. Directorate General of Employment (DGE) | GoI | India https://dge.gov.in/dge/schemes_programmes
8. Durrani, N., Raziq, A., Mahmood, T., & Khan, M. R. (2024). Barriers to adaptation of environmental sustainability in SMEs: A qualitative study. *Plos one*, 19(5), e0298580.
9. Environmental and Social Systems Assessment (ESSA), 2020 - <https://msme.gov.in/sites/default/files/EnvironmentalSocialAssessmentRAMP.pdf>
10. Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532-550. doi: 10.2307/258557
11. Evotix (2024) - Sustainable Operations: Balancing Profit and Environmental Obligations.
12. Fiseha, G. G., & Oyelana, A. A. (2015). An assessment of the roles of small and medium enterprises (SMEs) in the local economic development (LED) in South Africa. *Journal of Economics*, 6(3), 280-290.
13. Gasper, D., Shah, A., & Tankha, S. (2019). The framing of sustainable consumption and production in SDG 12. *Global Policy*, 10, 83-95. <https://doi.org/10.1111/1758-5899.12592>
14. Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, 16(1), 15-31. doi: 10.1177/1094428112452151
15. Griggs, D., Smith, M. S., Rockström, J., Öhman, M. C., Gaffney, O., Glaser, G., ... & Shyamsundar, P. (2014). An integrated framework for sustainable development goals. *Ecology and society*, 19(4). <https://www.jstor.org/stable/26269703>
16. Hasiru Dala Pottery Town visit report, (2023) - https://punaravartan.org/wp-content/uploads/2023/08/Hasiru-Dala-Pottery-Town-visit-report_21.8.23-1.pdf
17. HERRMANN GLOBAL tourism Insights and Marketing (2024) - <https://herrmannglobal.com/2024/02/12/five-critical-challenges-to-sustainable-development/>
18. Hox, J. J., & Boeijs, H. R. (2005). Data collection, primary vs. secondary. *Encyclopedia of social measurement*, 1(1), 593-599.
19. ICRA (2022)- Bureau of Energy Efficiency, Ministry of Power, Resilience in MSMEs to Strengthen the Indian Chemical Industry. https://beeindia.gov.in/sites/default/files/Pharma_Sector_Energy_and_Resource_Mapping.pdf
20. Ilahi, Y. F., Abidin, M., & Ekowati, V. M. (2024). The Role of Micro, Small and Medium Enterprises (MSMEs) in Alleviating Poverty Caused by Unemployment. <https://doi.org/10.22219/jep.v21i02.27331>

21. India: IREDA CMD unveils plans to set up a retail subsidiary and elevate rooftop solar financing. MENA Report (2024).
22. International Trade Centre. (2019). *SME Competitiveness Outlook 2019: Big Money for Small Business-Financing the Sustainable Development Goals*. UN.
23. Ismagilova, E., Hughes, L., Dwivedi, Y. K., & Raman, K. R. (2019). Smart cities: Advances in research—An information systems perspective. *International journal of information management*, 47, 88-100. <https://doi.org/10.1016/j.ijinfomgt.2019.01.004>
24. Jamieson, D., Fettiplace, S., York, C., Lambourne, E., Braidford, P., & Stone, I. (2012). Large Businesses and SMEs: Exploring how SMEs interact with large businesses. *ORC International*, July, 8.
25. Jones, P., Hillier, D., & Comfort, D. (2016). The sustainable development goals and business. *International Journal of Sales, Retailing and Marketing*, 5(2), 38-48.
26. Karnataka Economic Survey, (2021-2022). <https://planning.karnataka.gov.in/storage/pdf-files/Economic%20Survey/Chapter%20Eng%2010.pdf>
27. Kinara Capital (2024). - <https://kinaracapital.com/growth-and-expansion-of-msmes-in-india/>
28. Lahiri, R. (2014). A case study on the opportunities and challenges of micro, small, and medium enterprises (MSMEs) in Howrah district in West Bengal. *International Journal of Management of Research and Business Strategy*, 3(4).
29. Liu, C. K. (2018). Policy Brief: The Role of Micro-Small and Medium Enterprises in Achieving SDGs-1. Micro-, Small and Medium Enterprises (MSMEs) and their potential contributions to SDGs-2. MSMEs' Growth: Opportunities and Challenges. Micro-, Small and Medium-sized Enterprises (MSMEs) and their role in achieving the Sustainable Development Goals.
30. Loo, M. K., Ramachandran, S., & Raja Yusof, R. N. (2023). Unleashing the potential: Enhancing technology adoption and innovation for micro, small and medium-sized enterprises (MSMEs). *Cogent Economics & Finance*, 11(2), 2267748.
31. Mahesh, K. M., Aithal, P. S., & Sharma, K. R. S. (2022). Seven Pillars of Inclusive Ecosystem-Transforming Healthcare Special reference to MSME & SME sectors. *International Journal of Case Studies in Business, IT and Education (IJCSBE)*, 6(1), 237-255. DOI: <https://doi.org/10.47992/IJCSBE.2581.6942.0162>
32. Mahesh Kulkarni, DHNS, Mahesh Kulkarni, & DHNS. (2021, January 19). Karnataka targets 10% industrial growth annually and releases a new industrial policy. *Deccan Herald*.
33. Mahmud, M. R. (2016). Bankers' perception of Green Banking: Learning from the experience of Islamic banks in Bangladesh. <https://core.ac.uk/download/77967160.pdf>
34. Muhammed, J. (2024b, May 23). The role of MSMEs in Karnataka in the economic development of the state. Kinara Capital.
35. New Jersey Minority Educational Development (NJ MED): https://worldtop20.org/global-movement/?gad_source=1&gclid=Cj0KCQjw6oi4BhD1ARIsAL6pox32OJizWJLmkkZgyzi6uzlqNRZe42jvrGxJeb9uKNH9EmcJzApfXYYaAp0eEALw_wcB
36. Oncioiu, I., & Raluka, F. Bilcan, & Petrescu, AG (2017). *The Potential Role of Innovative Indian SMEs in Sustainable Growth*. *EuroEconomia*, 36 (01).
37. Parvathamma, G. L. (2015). Policy initiatives for empowering MSMEs in Karnataka: An overview. *International Journal of Humanities and Social Science Invention*, 4(7), 29-38.
38. Peenya Industries Association (2024). - <https://www.peenyaindustries.org/about-us/>
39. Promoting smart manufacturing through innovation system building in Serbia. MENA Report, (2022).
40. Saini, M., Sengupta, E., Singh, M., Singh, H., & Singh, J. (2023). Sustainable Development Goal for Quality Education (SDG 4): A study on SDG 4 to extract the pattern of association among the indicators of SDG 4 employing a genetic algorithm. *Education and Information Technologies*, 28(2), 2031-2069.
41. Saluja, S. (2023). 13 An Analysis of MSMEs' Contributions to the Promotion of SDGs in India. *Sustainability, Green Management, and Performance of SMEs*, 227.
42. Sengupta, N., D'Souza, C., & Mithanil, Z. (2022). Investment Decisions and Preferences: A Case Study in South Mumbai. *Sankalpa*, 12(2), 17-21.
43. Sharma, A. S. N. Navigating the Obstacles: A Systematic Review of Challenges Faced by MSMEs in India, 2024. DOI:10.52783/eel.v14i1s.1358
44. Shrivastava, P. (1995). The role of corporations in achieving ecological sustainability. *Academy of Management Review*, 20(4), 936-960. <https://doi.org/10.5465/amr.1995.9512280026>
45. Simon, D., Arfvidsson, H., Anand, G., Bazaz, A., Fenna, G., Foster, K., Jain, G., Hansson, S., Evans, L. M., Moodley, N., Nyambuga, C., Oloko, M., Ombara, D. C., Patel, Z., Perry, B., Primo, N., Revi, A., Van Niekerk, B., Wharton, A., & Wright, C. (2015). Developing and testing the Urban Sustainable Development Goal's targets and indicators - a five-city study. *Environment & Urbanization*, 28(1), 49-63. <https://doi.org/10.1177/0956247815619865>
46. SMEs for SDGs: How SMEs Drive Sustainable Development Goals, By Saumya Tyagi December 15, 2023 - <https://askelsustainabilitysolutions.com/smes-for-sdgs-how-smes-drive-sustainable-development-goals/>
47. Sobir, R. (2018). Micro-, Small and Medium-sized Enterprises (MSMEs) and their role in achieving the Sustainable Development Goals. *New York: United Nations*.
48. Sustainable Development Goals Fund (SDGF), 2015 - <https://www.sdgfund.org/mdgs-sdgs>
49. The Hindu Bureau. (2024, July 12). Mysuru will host 'Integrate 24' to boost MSME growth.

50. The Hindu - Woes of Weaving: In a world dominated by plastic, traditional bamboo weavers in the city struggle to carve a niche for themselves, (2018) - <https://www.thehindu.com/society/woes-of-weaving/article24511482.ece>
51. The Indian Express, (2025) - Pottery Town may soon become history, say artisans.
52. The Role of MSMEs in Karnataka in the Economic Development of the State. <https://kinaracapital.com/a-complete-guide-to-explain-the-role-of-msmes-in-the-economic-development-of-karnataka/>
53. Toran Lal Verma, D. D. (March 2019). Role Of Micro, Small And Medium Enterprises (MSMES). *International Journal for Research in Engineering Application & Management (IJREAM)*.
55. Tyagi, S. (2023). SMEs for SDGs How SMEs Drive Sustainable Development Goals.
56. UNDESA - Report on MSMEs and the Sustainable Development Goals (2024) - https://sustainabledevelopment.un.org/content/documents/26073MSMEs_and_SDGs.pdf
57. UN-DESA: Department of Economic and Social Affairs: Sustainable Development (2015) - <https://sdgs.un.org/2030agenda>
58. UN-DESA: Micro-, Small, and Medium-sized Enterprises (MSMEs) and their role in achieving the Sustainable Development Goals (SDGs), 2020.
59. United Nations - Meetings Coverage and Press Releases (UN-MCPR, 2024) - <https://press.un.org/en/2024/ga12627.doc.htm>
60. United Nations Office for Outer Space Affairs (UNOOSA), 2025 - <https://www.unoosa.org/oosa/en/aboutus/index.html>
61. Vasu, M. S. V. D. M. S., & Jayachandra, K. (2011). Growth and Development of MSMEs in India: Prospects and Problems. *Indian Journal of Applied Research*. <https://doi.org/10.15373/2249555x/may2014/40>
62. Verma, T. L. (2019). Role of micro, small, and medium enterprises (MSMEs) in achieving sustainable development goals. *Small And Medium Enterprises (MSMEs) In Achieving Sustainable Development Goals (April 1, 2019)*. DOI: 10.18231/2454-9150.2019.0189
63. Wang, Y., Yuan, Z., & Tang, Y. (2021). Enhancing food security and environmental sustainability: A critical review of food loss and waste management. *Resources, Environment and Sustainability*, 4, 100023. <https://doi.org/10.1016/j.resenv.2021.100023>
64. Wikipedia - <https://en.wikipedia.org/wiki/Bengaluru>
65. Yin, R. K. (2016). *Qualitative research from start to finish* (2nd ed.). New York, NY: The Guilford Press.
66. Yin, R. K. (2017). *Case study research and applications: Design and methods*. Thousand Oaks, CA: Sage.