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## Article

# Framework of SDG leadership among SMEs in South Asian nations-using Interpretive Structural Modelling

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## MANAGEMENT | RESEARCH ARTICLE

# Framework of SDG leadership among SMEs in South Asian nations-using Interpretive Structural Modelling

Priti Bakhshi<sup>1</sup>, Reena Agrawal<sup>2</sup>, Suhan Mendon<sup>3</sup>, Ramona Birau<sup>4\*</sup> and Iuliana Carmen Bărbăcioru<sup>5</sup>

**Abstract:** This research paper investigates the enablers of Sustainable Development Goals (SDG) leadership among Small and Medium Enterprises (SMEs) in South Asian nations using Interpretive Structural Modelling (ISM). The study focuses on identifying the factors that facilitate SDG leadership in SMEs, including shared vision, long-term perspective, co-creation, shared responsibility, empowering people, eco-centric values, creativity and innovation, bonding and trust, knowledge sharing, strategic adaption, and progressive culture. The research findings show that these factors are interrelated, and their integration can help SMEs to achieve sustainable development and become SDG leaders in their respective industries. The study contributes to the existing literature by providing insights into the enablers of SDG leadership among SMEs in South Asian nations and proposing a framework for their successful implementation. The proposed framework can be used as a guide for policymakers, managers, and entrepreneurs to promote sustainable development in their organizations and the region.

**Subjects:** Economics; Finance; Business, Management and Accounting

**Keywords:** leadership; Small and Medium Enterprises (SMEs); shared vision; co-creation; creativity; innovation; sustainable development; organization management; Sustainable Development Goals (SDGs); emerging economy

## 1. Introduction

Small and Medium Enterprises (SMEs) play a critical role in the economic development of South Asian nations. However, these nations face several challenges related to poverty, environmental degradation, and social inequality, among others (World Bank, 2021). In response, the United Nations introduced the Sustainable Development Goals (SDGs) to promote sustainable development and address these challenges (United Nations, 2020). Small and medium-sized enterprises (SMEs) play an enormously crucial part in the modern world economy, demonstrating the most unique and incredible ground-breaking system. SMEs' employment statistics and future worker needs make it a focus of policies among rising economies. Small and medium-sized enterprises (SMEs) are a significant engine of financial expansion and socioeconomic advancement (Taylor & Murphy, 2004; Najeeb, 2021). SMEs include all private sector small and medium-sized industries, businesses and economic entities (Durst & Runar Edvardsson, 2012). SMEs have a vital role in implementing the plan set under Sustainable Development Goals (SDGs) (Verboven & Vanherck,

2016) as this sector creates jobs that diminish unemployment and poverty at a lower level. The SMEs have generated 90% of new positions in the formal sector (Tahir et al., 2018; Joan et al., 2022).

The United Nations Sustainable Development Goals (SDGs) call for action by all countries, sectors, and stakeholders to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. The SDG Global Report (UN, 2022) highlights the progress made towards achieving the SDGs, but also reveals the challenges and the urgent need to accelerate progress. The Asia and Pacific SDG Progress Report 2022 (UN Asia Pacific SDG Report, 2022) highlights the widening disparities amid COVID-19, which have affected the progress towards achieving the SDGs in the region. The report emphasizes the need for collective action, including by small and medium-sized enterprises (SMEs), to address the challenges and ensure that no one is left behind. Research has shown that SMEs play a crucial role in achieving the SDGs (Sonntag et al., 2022; UN, 2020). SMEs are recognized as important drivers of economic growth, employment, and innovation, and are well-positioned to contribute to sustainable development. However, challenges such as lack of awareness, resources, and capacity, as well as weak regulatory frameworks, can hinder SMEs' ability to contribute to the SDGs. To overcome these challenges, SMEs must implement sustainable practices and align their operations with the SDGs. The importance of implementing SDGs by SMEs is highlighted by Sonntag et al. (2022), who provide evidence from Germany and Poland on how SMEs can contribute to sustainable development by adopting sustainable business practices. The UN (2020) also underscores the importance of SMEs in achieving the SDGs and calls for greater collaboration and support to enable SMEs to contribute more effectively.

Iqbal and Piwovar-Sulej (2022) emphasized sustainability-oriented leadership style in SMEs, it should contribute to the achievement of three types of goals: environmental, economic, and social, and thereby it shall enhance resilience and wellbeing of the stakeholder. The study by Iqbal and Piwovar-Sulej (2023) focused only on two factors such as employees' organizational citizenship behavior and green organizational climate, which are influenced by sustainable leadership; Thananusak and Suriyankietkaew (2023) studied sustainability drives in community-based tourism-based social enterprises; the study by Piwovar-Sulej et al. (2023) was limited to fostering green behavior through green HRM in energy sector and Winit et al. (2023), talked about global knowledge base on sustainability and brand and touched aspects such as customer attitudes and behavior, tourism marketing, societal marketing etc. Suriyankietkaew et al (2014, 2016). and Suriyankietkaew et al. (2022), proposed that small business enterprises needs to adopt a range of management practices in order to generate a proper balance between economic, social, and ecological objectives while attaining high performance, resilience, and sustainability. The SMEs are captivating a prominence in fulfilling the business-linked SDGs for sustainable economic growth for decent work and generating a constructive shove for an elevated worth of living, education, and health for all. These enterprises significantly contribute to poverty reduction, particularly in the rural areas for uneducated but skilled men and women. They support low-income families to run their expenditures by earning at a small level (World Bank, 2019). The SDGs demand converting plans with systemic modification in financial markets and institutions work (World Bank, 2019). Thus this research paper aims to use Interpretive Structural Modelling (ISM) to identify the enablers of SDG leadership among SMEs in South Asian nations. ISM is a methodology that can help to identify and analyze complex interrelationships among factors. The paper will propose a framework for integrating these enablers into SMEs' business strategies, which can help them to become SDG leaders in their respective industries. The current research was taken up to seek answers to the following research question:

**RQ1:** To identify key enablers in adoption of SDG Leadership among SMEs in South Asian Nations.

**RQ2:** To evaluate the contextual relationships among identified key enablers.

**RQ3:** To develop hierarchical framework of key enablers in adoption of SDG Leadership among SMEs in South Asian Nations.

## 2. Literature Review

The Asian Development Bank Institute (2018) conducted a study on the role of small and medium-sized enterprises (SMEs) in Asia and their challenges in accessing finance. According to the report, SMEs contribute significantly to employment and economic growth in Asia, accounting for up to 98% of all enterprises in some countries. However, despite their importance, SMEs face significant difficulties in accessing finance due to factors such as a lack of collateral, insufficient credit history, and high interest rates. The report highlights the importance of developing policies and programs that address these challenges, such as improving financial literacy, promoting the use of alternative financing sources, and implementing credit guarantee schemes (ADBI, 2018). The study's findings are relevant in the context of achieving the Sustainable Development Goals (SDGs), particularly SDG 8, which aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all (United Nations, 2015). By addressing the challenges faced by SMEs in accessing finance, policymakers can support the growth of SMEs, which in turn can contribute to the achievement of SDG 8 and other SDGs.

### 2.1. SMEs in Asian Sub-Continent

A survey that the Asian Development Bank (Asia SME Finance Monitor - ASM) carried out on 20 countries from 5 ADB regions 1 showed that SMEs accounted for an average of 96% of all enterprises and 62% of the national labor forces across the ASM countries. These countries cover Central Asia, East Asia, South Asia, Southeast Asia, and the Pacific. Meanwhile, the latest data reveal that SMEs contributed an average of 42% of the gross domestic product (GDP) or manufacturing value added in ASM countries (ADB 2015). SMEs have continued to influence trade. The latest data indicate that SMEs in the People's Republic of China (PRC) and India accounted for more than 40% of the total export values, followed by 26% in Thailand, 19% in the Republic of Korea, and 16% in Indonesia (ADB 2015). Definitions of SMEs differ between countries, not only as a common indicator, such as employment, but also in the types of indicators used. Along with employment, the common criteria are assets or capital and revenue, the definition being sales or turnover. Many economies set two criteria, one being employment and the other being assets or capital and revenue. For example, Malaysia considers manufacturing firms to be SMEs if they have fewer than 200 workers or revenue of less than RM50 million (about \$12 million). There may also be different criteria for different sectors. The PRC has 15 sector definitions, Japan has 4, and Singapore has 1. To make matters even more complicated, government agencies within the same country may use different definitions. A ministry may use one definition while the national statistics office uses another, and a priority lending policy may adopt yet another (Yoshino & Taghizadeh-Hesary, 2018). Four indicators commonly gauge the importance of SMEs. They specify the SME share of the total for (i) the number of enterprises, (ii) employment, (iii) the domestic output, and (iv) exports. Not all economies compile data on all four indicators, with the first two being the most common. Tables 1 and 2 present recent available data on 15 Asian economies, including the region's three largest—the PRC, Japan, and India. The share of the total number of enterprises is the most consistently used indicator across countries, both in Asia and around the globe. The share for our Asian group is in the narrow range between 97% and over 99%. Both Bangladesh, which until recently was a low-income country, and the Republic of Korea, a high-income one, have shares of 99% or more (Vandenberg, Chantapacdepong, & Yoshino, 2016).

The Asian Development Bank (ADB) released the Asia Small and Medium-Sized Enterprise (SME) Monitor 2020 which provides an in-depth analysis of the SME sector across 14 economies in the Asia and Pacific region (ADB, 2020). The report emphasizes the significance of SMEs in the region's economic development, job creation, and innovation. The report also examines the SME sector's performance in terms of access to finance, technology adoption, and export competitiveness. According to the report, SMEs in Asia and the Pacific face several challenges in accessing finance, including high collateral requirements, complex loan procedures, and a lack of awareness about

**Table 1. Key enablers of SDG leadership**

SN	Name of Enablers	Brief Description	References
1	Shared Vision	Shared vision about the future growth	Avery and Bergsteiner (2011); Benn et al. (2014); Hsu and Wang (2012); Costa et al. (2014); Tideman et al. (2013); Whipple et al. (2015); Boiral et al. (2014); Arnold (2017); Jang et al. (2017); Etzion et al. (2017); Behrendt et al. (2017); Burlea-Schiopoiu and Mihai (2019); Bontis et al. (2018); Haney et al. (2020); Tolstikh et al. (2021); Fry and Egel (2021); Armani et al. (2020); Agrawal (2022).
2	Long-term Perspective	Long-term planning and strategies	Avery and Bergsteiner (2011); Suriyankietkaew et al. (2022); Hargreaves and Fink (2012); Ferdig (2007); Tideman et al. (2013); Crews (2010); Agrawal (2022); McCann and Sweet (2014); Behrendt et al. (2017); Burns et al. (2015); Jang et al. (2017); Robertson and Barling (2017); Robertson and Carleton (2018); Fry and Egel (2021); Yukl et al. (2019).
3	Co-creation	Engage all stakeholders in creation process	Boiral et al., 2009; Crews (2010); Quinn and Dalton (2009); Avery and Bergsteiner (2011); Tideman et al. (2013); Hsu and Wang (2012); Benn et al. (2014); Boiral et al. (2014); Costa et al. (2014); Agrawal et al. (2023); Whipple et al. (2015); Arnold (2017); Etzion et al. (2017); Behrendt et al. (2017); Jang et al. (2017); Bontis et al. (2018); Haney et al. (2020); Fry and Egel (2021); Tolstikh et al. (2021); Uhlauer et al. (2012); Sen and Cowley (2013); Arnold (2017); Burlea-Schiopoiu and Mihai (2019)
4	Shared Responsibility	Collective responsibility	Behrendt et al. (2017); Tideman et al. (2013); Burns et al. (2015); Jang et al. (2017); Robertson and Barling (2017); Robertson and Carleton (2018); Yukl et al. (2019); McCann and Sweet (2014); Fry and Egel (2021).
5	Empowering People	Develops everyone continuously	Behrendt et al. (2017); Etzion et al. (2017); Suriyankietkaew et al. (2022); Bontis et al. (2018); Deiner et al. (2015); Chiva et al. (2018); Burlea-Schiopoiu and Mihai (2019); Whipple et al. (2015); Arnold (2017); Jang et al. (2017); Bontis et al. (2018).

(Continued)

**Table 1. (Continued)**

SN	Name of Enablers	Brief Description	References
6	Ethical & Eco-centric values	Moral norms, environmental attitudes and values	Boiral et al. (2014); McAdam et al. (2010); Burns et al. (2015); Jang et al. (2017); Agrawal (2021); Vásquez et al. (2019); Deinert et al. (2015); Tyler et al. (2020); Kantabutra (2020); Vásquez et al. (2019); Yukl et al. (2019); Tajasom et al. (2015); Klewitz and Hansen (2014).
7	Creativity & Innovation	Building continuous improvement and fostering innovation	Crews (2010); Ferdig (2007); Avery and Bergsteiner (2011); Tideman et al. (2013); Burns et al. (2015); McCann and Sweet (2014); Behrendt et al. (2017); Jang et al. (2017); Yukl et al. (2019); Robertson and Barling (2017); Fry and Egel (2021); Robertson and Carleton (2018); McAdam et al. (2010); Bos-Brouwers (2009); Heikkurinen et al. (2019).
8	Bonding and Trust	Building trust through establishing fairness	Boiral et al., 2009; Crews (2010); Avery and Bergsteiner (2011); Quinn and Dalton (2009); Hsu and Wang (2012); Benn et al. (2014); Boiral et al. (2014); Costa et al. (2014); Whipple et al. (2015); Agrawal (2021); Arnold (2017); Etzion et al. (2017); Tideman et al. (2013); Jang et al. (2017); Behrendt et al. (2017); Pillai et al., 2017; Haney et al. (2020); Bontis et al. (2018); Fry and Egel (2021); Tolstyk et al. (2021); Burlea-Schiopoiu and Mihai (2019).
9	Knowledge-sharing	Continuous sharing of knowledge	Cohen and Kaimenakis (2007); Yukl et al. (2019); Hu and Randel (2014); Fry and Egel (2021); Vásquez et al. (2019); Yukl et al. (2019); Tolstyk et al. (2021); Tajasom et al. (2015); Armani et al. (2020); Klewitz and Hansen (2014).
10	Strategic Adaptation	Embracing change and Adopting Sustainability strategies	Jansen et al. (2009); Hsu and Wang (2012); Quinn and Dalton (2009); Battilana et al. (2010); Carro-Suárez et al. (2017); Arnold (2017); Kurucz et al. (2017); Niu et al. (2018); Vásquez et al. (2019); Yukl et al. (2019); Tajasom et al. (2015); Wiesner et al. (2017); Klewitz and Hansen (2014); Bos-Brouwers (2009); Heikkurinen et al. (2019).
11	Enabling Culture	Fosters a supporting culture.	Suriyankietkaew et al. (2022); Carro-Suárez et al. (2017); Vásquez et al. (2019); Yukl et al. (2019); Tajasom et al. (2015); Klewitz and Hansen (2014); Chiva et al. (2018); Armani et al. (2020); Yukl et al. (2019); Deinert et al. (2015); Fry and Egel (2021); Tolstyk et al. (2021).

Source: Author Creation.



alternative funding sources (ADB, 2020). The report also highlights the need for governments and financial institutions to increase their efforts to support SMEs and enhance their access to finance, technology, and market opportunities.

Southeast Asia's robust growth over the past 10 years has been underpinned by micro, small, and medium-sized enterprises (MSMEs); strengthening their role through structural reform will be critical in maintaining the region's dynamism. Using national classifications, MSMEs accounted for an average 97% of all enterprises, 69% of the total workforce, and 41% of a country's gross domestic product (GDP) during 2010–2019. The share of MSME employees to total employees and MSME contributions to GDP expanded moderately. The impact of the novel coronavirus disease (COVID-19) in 2020 exacerbated already growing global trade tensions and economic uncertainty in the region. In many ways, MSMEs hold the key to economic recovery in developing Asia. Entrepreneurship development is key for accelerating inclusive growth in developing Asia.

## **2.2. MSMEs in Asian Sub-Continent**

In Southeast Asia, 61%–89% of MSMEs are in services, many engaged in traditional wholesale and retail trade. Their operations are typically low-technology and domestically focused with little drive among owners to expand their business. Young entrepreneurs, start-ups, and technology-based MSMEs are far more growth-oriented, have innovative mindsets, and look to tap regional and global markets. However, they remain a small fraction of MSMEs in Southeast Asia. It is crucial to foster this MSME segment to ignite resilient and inclusive growth at both national and regional levels. Local MSMEs have the potential to create more jobs. In Southeast Asia, 72%–85% of MSMEs operate in rural areas. They absorb 70%–84% of MSME employees in their countries. Thus, their growth is crucial for providing jobs for the unemployed or informal workforces. Improved basic infrastructure in rural areas—such as electricity, internet penetration, and transportation—can attract more workers with new and innovative business ideas to outside national capital regions.

Southeast Asian economy has been underpinned by micro, small, and medium-sized enterprises (MSMEs). They stimulate domestic demand, job creation, innovation, and competition. The region's slowing economic growth can be recovered by strengthening dynamics of MSMEs. Based on national firm classifications, MSMEs in Southeast Asia accounted for an average 97.2% of all enterprises, 69.4% of the total workforce, and 41.1% of a country's gross domestic product (GDP) during 2010–2019. The share of MSMEs to total enterprises slightly declined across the region, dropping at a compound annual rate of 0.3%. Meanwhile, the share of MSME employees to total employees rose by 0.8%, and MSMEs' contribution to GDP expanded by 2.3% at a compound annual rate. During 2010–2018, MSMEs contributed 20.4% of a country's export value on average (a compound annual decline of 0.05%).

## **2.3. MSMEs in ASEAN (Association of Southeast Asian Nations) Region**

The ASEAN (Association of Southeast Asian Nations) has recognized the significance of micro, small and medium enterprises (MSMEs) in the region. MSMEs have become the engine of growth and a vital source of employment, accounting for over 97% of total enterprises in the ASEAN region (ASEAN, 2020). Moreover, the ASEAN region has continued to expand, with its MSMEs representing an increasing share of the region's GDP. In addition, these enterprises are also crucial for the ASEAN community to achieve its goal of building a resilient and inclusive economy (ASEAN, 2020). The ASEAN (2020) report emphasizes the significance of MSMEs in the region's economy and their development. The report provides an overview of MSMEs in the ASEAN region, including their contribution to the economy, challenges faced by these enterprises, and policy recommendations to support MSME development. The report suggests that promoting the growth of MSMEs is crucial for creating employment, reducing poverty, and generating economic growth in the ASEAN region (ASEAN, 2020).

The report also notes that MSMEs in the ASEAN region face significant challenges, including limited access to financing, lack of technology and innovation, regulatory barriers, and limited



access to markets (ASEAN, 2020). Addressing these challenges requires a comprehensive approach that includes improving access to finance, creating a conducive policy environment, developing technology and innovation capacity, and promoting market access (ASEAN, 2020).

Micro, Small and Medium Enterprises (MSMEs) are integral to the economic development and growth of ASEAN Member States. Allowing for different definitions, there are 70 million MSMEs in ASEAN, accounting for between 97.2%–99.9% of total establishments in ASEAN Member States. Where data is available, the micro enterprises often constitutes the largest share of enterprises. Regionally, the MSMEs contribute 85% to employment, 44.8% to GDP and 18% to national exports.

#### **2.4. SDG Achievement in Asian Countries**

Many developing countries struggled to recover economically while recording high inflation, high interest rates and rising debt burdens (UN SDG Global Report, 2022). Out of 169 targets of the SDGs, 112 targets are measurable. Less than 10 per cent of the measurable targets are on track to be achieved by 2030, and the remaining targets require urgent and rapid acceleration of progress or reversal of negative trends. The region must accelerate progress towards 81 targets while reversing regression against 21 targets (UN Asia Pacific SDG Report, 2022). There is a mixed picture of SDG progress in South and South-West Asia. Despite performing well in no poverty (Goal 1), the targets for 2021 were not met. In fact, South and South-West Asia has the highest multi-dimensional poverty ratio among all other sub regions (29.2 per cent). In countries, such as Pakistan and Bhutan, income poverty is relatively low (3.9 per cent and 1.5 per cent, respectively), but multidimensional poverty is high (38.3 per cent and 37.3 per cent, respectively). South and South-West Asia performed exceptionally well in providing electricity to people, which helped accelerate progress on affordable and clean energy (Goal 7). However, much more needs to be done to increase access to and affordability of renewable energy. Insufficient progress is being made on zero hunger (Goal 2) in South and South-West Asia. The prevalence of malnutrition and stunting among children under 5 years of age has substantially reduced, but more people in South and South-West Asia are suffering from moderate or severe food insecurity. For instance, food insecurity has increased in Afghanistan (from 49.6 per cent in 2016 to 63.1 per cent in 2019) and Nepal (from 31.2 per cent in 2016 to 36.4 per cent in 2019). The pace of progress is extremely slow on decent work and economic growth (Goal 8) and reduced inequalities (Goal 10). Despite overall GDP growth in the subregion since 2015, some countries, such as Afghanistan (−0.9), Iran (Islamic Republic of Iran) (−8.9) and Pakistan (−1.6), experienced a negative growth rate of output per worker in 2019. Furthermore, the unemployment rate has increased while the level of compliance with labour rights has declined, which further slowed progress on Goal 8. The sub-region must improve resource efficiency in consumption and production as both material footprint in production and domestic material consumption have increased since 2015 (UN Asia Pacific SDG Report, 2022). The major enablers of SDG Leadership among SME include:

##### **2.4.1. Shared Vision**

Shared vision is critical for SMEs to align their goals and objectives with those of their stakeholders and to foster collaboration and partnerships for SDG implementation (Avery & Bergsteiner, 2011; Benn et al., 2014; Hsu & Wang, 2012). In addition, shared vision enables SMEs to communicate the importance of SDGs to their employees, customers, and suppliers, which can enhance their reputation and increase their competitiveness in the market (Arnold, 2017; Boiral et al., 2014; Etzion et al., 2017; Jang et al., 2017; Tideman et al., 2013; Whipple et al., 2015). Shared vision works stakeholder empowerment into all aspects of the change project. This makes it an effective approach for leading change (Behrendt et al., 2017; Burlea-Schiopoiu and Mihai (2019) (Bontis et al., 2018; Haney et al., 2020; Tolstykh et al., 2021).; Developing a deeper understanding of the process of building shared vision is critically important for the success of change projects. As indicated by Senge (1990), a shared vision is a force that touches people's hearts, a force of impressive power. More so, a shared vision helps transform the company into mine and ours, where employees begin to take responsibility for their work and maintain an environment dominated by teamwork. According to Bell and Kozlowski (2002) effective leaders are those who can

create a visionary image of the desired achievement of the future situation, but also Quigley (1994) shares the same opinion and says that when the personal vision of a leader is shared with members of the organization, then the difference between a true leader and a simple manager becomes obvious. Moreover, a shared vision becomes a shared contract that binds the leader and followers' moral obligation (Quigley, 1994). Another line of thought is that a shared vision creates a special bond between leaders and their followers (Bell & Kozlowski, 2002; Shamir & Howell, 1999). And at the same time, the vision gives direction and meaning to its managers and their teams by building their energies together and participating in transforming the practice (Armani et al., 2020; Fry & Egel, 2021). It is also important to note that leaders closely monitor the energy level of the team and organization to maintain a balance between innovation/transformation/entertainment (Armani et al., 2020; Fry & Egel, 2021).

#### 2.4.2. Long-Term Perspective

A long-term perspective can also enable SMEs to anticipate potential challenges and risks associated with sustainable practices, leading to the development of more effective mitigation strategies (Kaur et al., 2021). This, in turn, can lead to increased resilience and adaptability in the face of external challenges such as market fluctuations, regulatory changes, and climate-related risks. The literature indicates that organizations should consider long-term perspectives rather than short-term views for sustainable growth. Minkov and Hofstede (2011) cultural study also indicates that long-term orientation is prominent in Asian cultures and becomes crucial for the economic development. Research indicates that a sustainable enterprise must focus on the long term over the short term to achieve sustainability and resilience (Robertson & Barling, 2017; Yukl et al., 2019). Leaders and members with the long-term orientation tend to emphasize the long-term future actions and outcomes, including thinking, planning decisions and strategies, instead of the short-term goals. Built on the previous studies, the long-term orientation also requires diverse sustainability leadership competencies, namely, strategic (management) competence, systems thinking competence and anticipatory (foresight thinking) competence (Lumpkin et. al, 2011). These sustainability leadership competencies incorporate the ability to think strategically and systematically in order to analyze complex systems toward sustainability strategies and future transformation. The competencies also help anticipate potential consequences for future sustainability issues and decisions made by the enterprise at present (Robertson & Carleton, 2018; Fry and Engel, 2021). Apart from its long-term thinking and management orientation, building long-term stakeholder relationships with related stakeholders (i.e., suppliers, customers, employees and the community) helps enhance future business wellbeing and the prosperity of SMEs (Behrendt et al., 2017; Burns et al., 2015). The word "sustainability" clearly implies the long-term span over time. In the CBSE context, community leaders and their members are held accountable for their decisions and actions that affect related stakeholders in both the short and long term (Sikka et. al, 2018). Every decision-maker must consider long-term impacts. The long-term orientation can improve the CBSE sustainability when all stakeholders are satisfied and a compromise between short-and-long-term goals in all prudent decision-making are prudentially considered (Crews, 2010; Jang et al., 2017; McCann & Sweet, 2014). Long-term orientation allows organizations to outperform their competitors with the short-term thinking. Companies with long-term thinking and investments outperform their counterparties (Suriyankietkaew et al., 2022, Hargreaves and Fink, 2006; Ferdig, 2007; Tideman et al., 2013). In light of the literature, the long-term orientation is a critical practice to create sustainable impacts in CBSEs (Lumpkin, et. al, 2010; Avery & Bergsteiner, 2011;).

#### 2.4.3. Co-Creation

Co-creation involves collaborative efforts between firms and stakeholders in the design, production, and delivery of products or services that align with SDGs (Fry & Egel, 2021; Tolstykh et al., 2021). The study argues that co-creation helps SMEs to better understand the SDGs, identify new business opportunities, and enhance their competitiveness in the market (Haney et al., 2020; Uhlaner et al., 2012). The findings of this study are consistent with previous research that highlights the importance of co-creation in promoting sustainable business practices (Wang and

Cotton, 2018; Arnold, 2017; Burlea-Schiopoiu & Mihai, 2019; Sen & Cowley, 2013). Co-creation can facilitate knowledge sharing, foster innovation, and enhance stakeholder engagement, which are critical components of SDG leadership. People are core to organizational sustainability, and human capital is essential to socio-economic development (Chijioke & Amadi, 2019). Continuous people development or human resource development (HRD) is fundamental to human capital through various forms of education and skills trainings (Nafukho et al., 2004). In practice, human resource management (HRM), comprising positive relationships with laborers, valuing people, staff retention and succession planning, is key to creating sustainable well-being and success in businesses, consistent with the literature and sustainable HRM research (Benn et al., 2014; Boiral et al., 2014; Costa et al., 2014; Whipple et al., 2015). The literature also stresses the importance of people priority and long-term staff retention within the community to create sustainable enterprises (Suriyankietkaew et al., 2022). Importantly, people priority also extends to care for stakeholder orientation (Arnold, 2017; Behrendt et al., 2017; Bontis et al., 2018; Etzion et al., 2017; Jang et al., 2017). Leaders care for all employees and stakeholders in sustainable firms. Sustainability leadership works toward establishing good stakeholder relationships and partnerships with both internal and external stakeholders (e.g., staff, customers, suppliers, locals, academics, NGOs and governments). Stakeholder engagement and capacity building are imperative for sustainable leadership (Hsu & Wang, 2012; Andriof et al., 2017). These competencies strategically and systematically enhance people engagement, stakeholder interdependence and organizational ethical values, which can help transform future sustainability leadership and enterprises (Boiral et al., 2009; Avery & Bergsteiner, 2011; Crews, 2010; Quinn & Dalton, 2009; Tideman et al., 2013).

#### 2.4.4. *Shared Responsibility*

Murshed et al. (2023) emphasize the importance of shared responsibility in promoting the engagement of SMEs in SDG-related activities, as well as facilitating their integration into global value chains. The authors note that SMEs can play a critical role in achieving the SDGs, given their potential for innovation and their ability to respond quickly to changing market demands (McCann & Sweet, 2014; Robertson & Barling, 2017; Fry and Engel, 2021).

Social and environmental responsibility is the core to develop sustainability leadership in sustainable enterprises. Sustainable businesses should positively contribute to society to grow social responsibility, preserve cultural heritage and promote ecological conservation (Lu et al., 2021). The literature stresses the importance of anticipatory and ethical competence in thinking about how to pave sustainable paths forward with foresight as well as to enable social and environmental responsibility toward sustainable futures (Burns et al., 2015; Jang et al., 2017; Robertson & Carleton, 2018; Yukl et al., 2019). Ethical values and norms—specifically, the pro-environmental behaviors and values with a focus on strict social and environmental responsibilities—become the crucial element in a sustainable entrepreneurship model (Suriyankietkaew et al., 2022). Scholars also call for the balancing of personal ethical values and business objectives when planning and implementing social-and-environmental responsibility activities (Behrendt et al., 2017; Tideman et al., 2013). According to the SL theory, sustainable enterprises are primarily concerned about social and environmental responsibilities. In the CBSE context, enterprises do not solely focus on generating economic benefits but also gear toward social and ecological benefits to support the community (Santra et al., 2020).

#### 2.4.5. *Empowering People*

According to Ismail et al. (2022) Jang et al. (2017), and Bontis et al. (2018), empowering employees through training and development programs, and providing them with the necessary resources and support can significantly contribute to SDG leadership among SMEs in South Asian countries. The authors suggest that empowering employees can lead to the development of innovative solutions to social and environmental challenges, thereby contributing to the achievement of SDGs (Burlea-Schiopoiu & Mihai, 2019; Chiva et al., 2018). Empowering women entrepreneurs in South Asian countries can lead to sustainable economic growth and development (Bontis et al., 2018; Etzion et al., 2017; Suriyankietkaew et al., 2022). The authors suggest that empowering women

entrepreneurs through education, training, and access to finance and technology can enable them to contribute to the achievement of SDGs, particularly those related to gender equality and poverty reduction (Arnold, 2017; Behrendt et al., 2017; Deinert et al., 2015; Whipple et al., 2015).

#### 2.4.6. *Eco-centric Values*

SMEs with eco-centric values are more likely to adopt sustainable practices and take actions aligned with the SDGs. Eco-centric values reflect a concern for the environment and prioritize the health and well-being of the planet over profits (Tyler et al., 2020; Kantabutra, 2020; Vasquez et al., 2019; Yukl et al., 2019). Ethical values and behaviors are essential for sustainability leadership to build sustainable firms. Leadership principles should stem from ethics and moral principles as the foundation for business sustainability (Burns et al., 2015; Jang et al., 2017; Vasquez et al., 2019). A moral purpose and ethics must be embedded in enterprises to create corporate sustainability (Maak, 2007). Ethics help create positive organizational impacts (e.g., integrity, loyalty and fairness at work) as well as promote equitable and virtuous environments with justice, equality and human rights. Scholars highlight that enterprises need to support ethical leadership to foster a strong ethical culture and create corporate values that drive sustainable performance outcomes (Boiral et al., 2014; Mc Adams et al., 2016; Deinert et al., 2015). In the literature, ethical enterprises are found to enhance employee satisfaction, a superior business performance competitive advantage (Murphy, 1999). According to the literature, ethics are key to corporate sustainability and resilience. Yet, evidence-based research that investigates ethics and sustainability in the CBSE setting is still lacking. Therefore, this research aims to study this SL element and the associated competencies to advance the SL theory in this sphere as well as to explore how these ethical and moral values are operated to develop sustainability leadership and build a sustainable CBSE (Klewitz & Hansen, 2014; Tajasom et al., 2015).

#### 2.4.7. *Creativity & Innovation*

Creativity and innovation are enablers of SDG leadership among SMEs in South Asian nations (Behrendt et al., 2017; Jang et al., 2017; Yukl et al., 2019). SMEs need to create a culture of innovation by encouraging employees to come up with new ideas, providing training and development opportunities, and investing in research and development (R&D). Such initiatives can lead to improved productivity, competitiveness, and sustainable growth, thereby helping SMEs achieve SDGs (Bos-Brouwers, 2009; Heikkurinen et al., 2019). Sustainability leaders must rely on innovation to build successful enterprises. Continuing innovative organizations can lead to long-term growth and sustainable results. The research states that SMEs need to cultivate an empowered culture to create innovation capability. Innovation and trusting team members are important for SMEs and small enterprises should rely on their teams' abilities to be innovative and achieve competitive advantages. In recent research, a trusting, innovative team is a significantly positive driver for enhanced sustainability performance outcomes, particularly long-term financial performance and stakeholder satisfaction, in the SME and entrepreneurial contexts. In total, innovation is key to sustainable firms and socio-economic development (Fry & Engel, 2021; Robertson & Carleton, 2018; McAdam, et al., 2010). Researchers also indicate that social innovation can drive long-term success and sustainability in small community enterprises. The literature also highlights that building sustainability leadership with innovation requires diverse competencies. They are the strategic management, systems thinking, anticipatory and ethical competencies (Crews, 2010; Robertson & Barling, 2017). The sustainability leaders are required to think strategically and manage their innovation initiatives in anticipation of future sustainability needs and ethical-oriented values to achieve a balancing socio-economic and environmental responsibility. Furthermore, the recent literature indicates that social innovation enhances sustainable development in community enterprises. Social innovation is referred to as a "distinctive and effective response to address unmet needs motivated by a social purpose which enhances social assets and capabilities". The social innovation can be developed or grown from their traditional cultural and/or rich environmental heritage (Ferdig, 2007; Avery & Bergsteiner, 2011, Tildeman et al., 2013; Burns et al., 2015; McCann & Sweet, 2014).

#### 2.4.8. Bonding and Trust

Bonding and trust among stakeholders within SMEs and in their external environment play a crucial role in enabling SDG leadership (Arnold, 2017; Costa et al., 2014; Etzion et al., 2017; Tideman et al., 2013; Whipple et al., 2015). Trust among stakeholders leads to effective communication, collaboration, and knowledge sharing, thereby promoting sustainable business practices and helping SMEs to achieve SDGs. Trust among stakeholders is necessary for sustainable practices to emerge (Avery & Bergsteiner, 2011; Benn et al., 2014; Hsu & Wang, 2012; Quinn & Dalton, 2009).

Teamwork (including employee contributions) and an ability to mobilize employees around long-term ecological goals, thus developing co-creation of ideas—Focus on stakeholder engagement and creating a culture that is integrated resulting in a sharing approach—Building strong social relationships (both internal and external) and recognizing interdependence, interconnectedness, continuity and common purpose of all stakeholders both long and short-term influencing and collaborating, building trust and establishing fairness (Bontis et al., 2018; Burlea-Schiopoiu & Mihai, 2019; Fry & Egel, 2021; Haney et al., 2020; Tolstykh et al., 2021)—Developing an understanding, personal connection and empowerment to act for sustainability—Learning, lobbying, and forming alliances with a focus on communication—Application of an ecosystem model that makes it possible to form a friendly environment where the goals of all stakeholders aiming to achieve sustainable productivity are harmonized (Boiral et al., 2009; Behrendt et al., 2017; Pillai et al., 2017; Boiral et al., 2014; Crews, 2010; Jang et al., 2017).

#### 2.4.9. Knowledge-sharing

Knowledge sharing within SME networks facilitated the transfer of knowledge, resources, and expertise, leading to increased competitiveness and innovation (Hu & Randel, 2014; Fry & Egel, 2021). Knowledge sharing creates a learning culture within organizations, which leads to the adoption of sustainable practices (Vasquez et al., 2019; Tolstykh et al., 2021; Yukl et al., 2019). Knowledge sharing facilitates the identification of sustainable business opportunities and promotes collaboration, which leads to the development of innovative solutions to environmental and social challenges (Armani et al., 2020; Klewitz & Hansen, 2014). Knowledge-sharing and management is key to sustainable community development and resilience. Regular meetings and continuous communication among community members are essential for successful CBSEs (Cohen & Kaimenakis, 2007; Tajasom et al., 2015).

#### 2.4.10. Strategic Adaptation

A study by Linnenluecke, Griffiths, & Winn (2013), and Adams et al., (2016) found that strategic adaptation was positively related to the environmental and social performance of firms. Similarly, a study by Kolk and Pinkse (2008) found that firms that were proactive in responding to environmental challenges were more likely to achieve sustainable business practices (Carro-Suarez et al., 2017; Kurucz et al., 2017; Nui et al., 2018; Vasquez et al., 2019; Arnold, 2017). Transformational and relational, transactional and task leadership and change leadership behaviours are important strategic leadership practices for pro-environmental initiatives, and are related to managerial effectiveness and strategic sustainability. Tasks such as setting direction, creating alignment, and maintaining commitment are required, as well as developing actions plans, communicating, making decisions and solving problems, deploying resources, and driving change that requires action to be taken on sustainability values (Klewitz & Hansen, 2014; Tajasom et al., 2015; Wiesner et al., 2017; Yukl et al., 2019). Making intentional changes to an organization's mission and values leads to changed products, processes or practices that create environmental value (Bos-Brouwers, 2009; Heikkurinen et al., 2019). Co-creation is a way of sharing, combining and renewing resources, knowledge and ideas to create value through new forms of interaction, service and learning—Sustainability strategies and environmental practices help to decrease their negative impact and promote cost effectiveness (Battilana et al., 2010; Hsu & Wang, 2012; Jansen et al., 2009; Quinn & Dalton, 2009).



#### 2.4.11. *Progressive Culture*

SMEs with a progressive culture are more likely to engage in sustainable practices, create a positive social impact, and achieve long-term success (Armani et al., 2020; Chiva et al., 2018; Deinert et al., 2015; Yukl et al., 2019). A culture that values social and environmental responsibility can positively influence employee behavior and decision-making towards sustainable practices. Sustainable leadership theory puts emphasis on building a strong organizational culture (Fry & Egel, 2021; Tolstikh et al., 2021). Scholars signify that a shared, strong culture and values drive longevity, resilience and long-term corporate success. Underlying values and beliefs in a culture suggest how people should behave and help employees identify desirable behaviors. Collins & Porras's study shows that "built-to-last" companies shared strong cultures with their people, which make them the "special place to work". Empirical research also suggests that a strong and shared culture is a significant predictor of employee satisfaction (Carro-Suárez et al., 2017). The recent literature suggests that sustainability leaders should strategically and systematically enable people to develop "personal connection" and "empowerment to act" to achieve sustainability in business (Bhavani et al., 2021; Klewitz & Hansen, 2014; Tajasom et al., 2015). Despite the strategic and systemic thinking competence, the organizational culture also requires interpersonal and ethical competence to build sustainability leadership and organizations (Suriyankietkaew et al., 2022; Yukl et al., 2019).

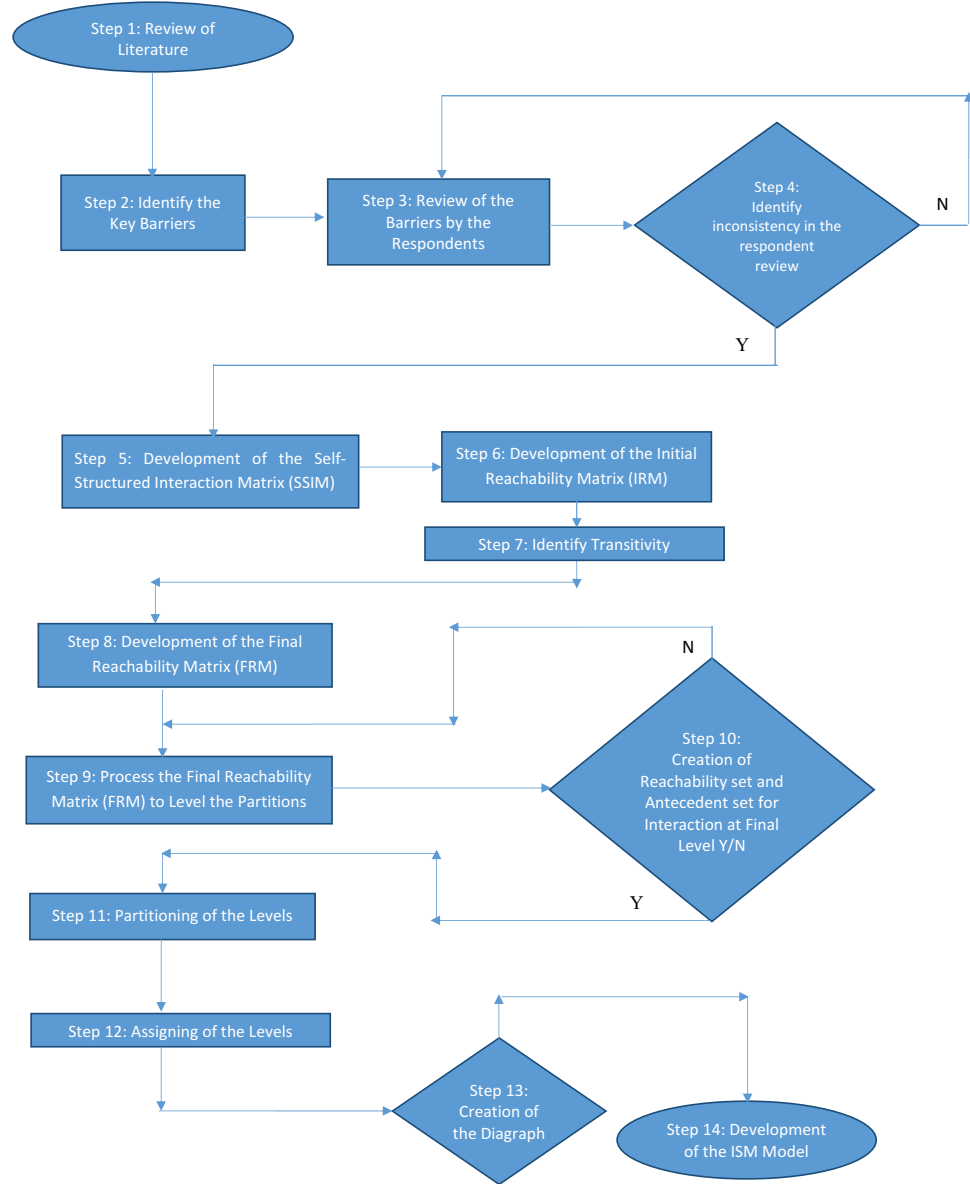
Based on the above literature, following are the main enablers of SDG Leadership:

### 3. Research methodology

In this study, Interpretive Structural Modeling (ISM) method is used (Rana et al., 2019). Interpretive Structural Modeling (ISM) measures the inter-relationships among the variables chosen for the study. Interpretive Structural Modeling (ISM) uses the practical knowledge and experience of experts/respondents to design and develop a logical hierarchical structure of variables cited in the study (Agi & Nishant, 2017; Agrawal et al., 2023; Al-Muftah et al., 2018). The current study was done in the following manner: (a) literature review was done to identify the variables that were linked to the problem addressed in the research, (b) nine key barriers in the adoption of FinTech by roadside vendors were identified (Table 1), (c) a series of zoom meetings were done with the respondents to collect the required data, to explore the contextual relationships between listed key barriers in the adoption of FinTech, (d) a structural self-interaction matrix (SSIM) was created through pair-wise interactions between listed barriers. (e) initial reachability matrix (IRM) was developed using structural self-interaction matrix (SSIM), (f) the initial reachability matrix (IRM) was then converted into final reachability matrix (FRM), to develop FRM, transitivity analysis was done, (g) Using final reachability matrix (FRM) partitioning of levels was done and (h) then an ISM model was developed (Figure 1).

The respondents included the SME player across India, Sri Lanka, Bangladesh, Pakistan, and Nepal. These were majorly the third and fourth generation of the entrepreneurs. These SMEs were engaged in the manufacturing of packaging material, agriculture equipment, electrical goods, safety gadgets, electronic products, paint, automobile parts, leather products, rubber products and machine equipment, etc. We used convenience sampling method to identify the respondents. Selection of respondent was done from five different nations of South Asia. The idea was to understand the perspective of SME player operating in different countries and this helped in eliminating the local biases. In total 95 people were contacted but out of these 23 SME entrepreneurs said they were not willing to take part in interviews, so 72 respondents were left. Out of these 72 SME entrepreneurs, 50 were men and 22 were women. The respondents which included 23 from India, 11 from Sri Lanka, 14 Bangladesh, 13 Pakistan, and 11 Nepal were interviewed in order to collect data and to comprehend the inter-linkages among the chosen variables. These respondents were of age group of 40 to 55 years. These respondents were well educated as most of them had completed either technical education or business education. The balance sheet size of these SMEs ranged up to between USD 1 million.

**Figure 1. ISM process (Adopted from Hughes et al., 2016).**



## 4. Data analysis

### 4.1. Development of Self-Structured Interaction Matrix (SSIM)

After finalizing the enablers for SDG Leadership among SMEs, a self-structured interaction matrix was developed to comprehend the contextual relations between each pair of barrier (Kumar et al., 2016; Rana et al., 2019). Four symbols are utilized (for making Table 2 for demonstrating the direction of interaction amid the two enablers in the SDG Leadership in SMEs in the South Asiannations perspective (say, i and j) as follows: symbol V—factor i influences factor j; symbol A—factor j influences factor i; symbol X—factor i and j influence each other, and symbol O—factor i and j are unrelated. Through the respondent interaction and using the above four notations, self-structured interaction matrix for the enablers in the SDG Leadership among SMEs in the South Asian nations (Table 2) was made.



Table 2. SELF-STRUCTURED INTERACTION MATRIX (SSIM)												
SN	Enablers	E11	E10	E9	E8	E7	E6	E5	E4	E3	E2	E1
E1	Shared Vision	X	V	V	V	V	V	V	V	V	V	
E2		V	V	O	O	O	O	V	V	V		
E3	Co-creation	V	V	V	V	V	V	V	V			
E4		V	V	V	V	V	V	V	V			
E5	Empowering People	V	V	A	V	V	O					
E6	Eco-centric values	V	V	O	O	V						
E7	Creativity & Innovation	V	V	A	O							
E8	Bonding and Trust	O	V	V								
E9	Knowledge-sharing	V	V									
E10	Strategic Adaptation	V										
E11	Progressive Culture											

Source: Author Creation.

#### 4.2. Development of Initial Reachability Matrix (IRM)

The next step of Interpretive Structural Modeling is to design Initial Reachability Matrix. The Self-Structured Interaction Matrix shown above (Table 2) was further converted into Initial Reachability Matrix. In order to make Initial Reachability Matrix (Table 3) we used binary numbers (0 and 1) which replace the various symbols (V, A, X, O) in the self-structured interaction matrix. The basis of this replacement is given below:

- when there is symbol “V” in SSIM, “1” was used in the (i, j) entry and “0” was used in the (j, i) entry
- when there is symbol “A” in SSIM, “0” was used in the (i, j) entry and “1” was used in the (j, i) entry
- when there is symbol “X” in SSIM, “1” was used in both the (i, j) and the (j, i) entry
- when there is symbol “O” in SSIM, “0” was used in both the (i, j) and the (j, i) entry

**Table 3. Initial Reachability Matrix (IRM)**

SN	Enablers	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11
E1	Shared Vision	1	1	1	1	1	1	1	1	1	1	1
E2	Long-term Perspective	0	1	1	1	1	0	0	0	0	1	1
E3	Co-creation	0	0	1	1	1	1	1	1	1	1	1
E4	Shared Responsibility	0	0	0	1	1	1	1	1	1	1	1
E5	Empowering People	0	0	0	0	1	0	1	1	0	1	1
E6	Eco-centric values	0	0	0	0	0	1	1	0	0	1	1
E7	Creativity & Innovation	0	0	0	0	0	0	1	0	0	1	1
E8	Bonding and Trust	0	0	0	0	0	0	0	1	1	1	0
E9	Knowledge-sharing	0	0	0	0	1	0	1	0	1	1	1
E10	Strategic Adaptation	0	0	0	0	0	0	0	0	0	1	0
E11	Progressive Culture	1	0	0	0	0	0	0	0	0	0	1

Source: Author Creation.

#### 4.3. Development of Final Reachability Matrix (FRM)

After making the initial reachability matrix the transitivity relations among the chosen enablers in the SDG Leadership among SMEs in the South Asian nations was measured and using that final reachability matrix (Table 4) was created. All the places where we found transitive relationship between two variable we replaced the value 0 with  $1 \times$ . We were able to identify twenty-four such incidents where transitive relationship existed between the two variables.

**Table 4. Final Reachability Matrix (FRM)**

SN	Enablers	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11
E1	Shared Vision	1	1	1	1	1	1	1	1	1	1	1
E2	Long-term Perspective	1*	1	1	1	1	1*	1*	1*	1*	1	1
E3	Co-creation	1*	0	1	1	1	1	1	1	1	1	1
E4	Shared Responsibility	1*	0	0	1	1	1	1	1	1	1	1
E5	Empowering People	1*	0	0	0	1	0	1	1	1*	1	1
E6	Eco-centric values	1*	0	0	0	0	1	1	0	0	1	1
E7	Creativity & Innovation	1*	0	0	0	0	0	1	0	0	1	1
E8	Bonding and Trust	0	0	0	0	1*	0	1*	1	1	1	1*
E9	Knowledge-sharing	0	0	0	0	1	0	1	1*	1	1	1
E10	Strategic Adaptation	0	0	0	0	0	0	0	0	0	1	0
E11	Progressive Culture	1	1*	1*	1*	1*	1*	1*	1*	1*	1*	1

Source: Author Creation.

Table 5. Iterations for partitioning of the levels					
Code	Barriers	Reachability Set (RS)	Antecedent Set (AS)	Intersection Set RS ∩ AS	Level
E10	Strategic Adaptation	10	1,2,3,4,5,6,7,8,9,10,11	10	Level 1
E7	Creativity & Innovation	1,7,11	1,2,3,4,5,6,7,8,9,11	1,7,11	Level 2
E5	Empowering People	5,8,9	2,3,4,5,8,9	5,8,9	Level 3
E6	Eco-centric values	6	2,3,4,6	6	Level 3
E8	Bonding and Trust	5,8,9	2,3,4,5,8,9	5,8,9	Level 3
E9	Knowledge-sharing	5,8,9	2,3,4,5,8,9	5,8,9	Level 3
E1	Shared Vision	2,3,4	2,3,4	2,3,4	Level 4
E2	Long-term Perspective	2,3,4	2	2	Level 4
E3	Co-creation	3,4	2,3	3	Level 4
E4	Shared Responsibility	4	2,3,4	4	Level 4
E11	Progressive Culture	2,3,4	2,3,4	2,3,4	Level 4

Source: Author Creation.

#### 4.4. Partitioning of levels

Using the Final Reachability Matrix (Table 4) reachability set and antecedent set is created so that the intersection can be found and level can be assigned. Four iterations were performed in order to assign levels to all the studied variable. The iterations have been shown in annexures with the name Iteration 1, Iteration 2, Iteration 3 and Iteration 4). Based on these iterations a summary table was created (Table 5) which is given below.

In total four iterations were conducted to do the partitioning of levels. We used final reachability matrix to find the importance levels which was further used to develop the hierarchical structure of the enablers in SDG leadership among SMEs in South Asian Nations. To make various levels, we created the reachability set, antecedent set and intersection set. Reachability set composed of the barriers itself and the other barriers influenced by it. Antecedent set composed of barriers itself and other barriers that affect it. The common factors among the reachability set and the antecedent set was put in the intersection set. The level was assigned based on the common factor in the reachability and the antecedent set. For example, ‘Strategic Adaptation’ was assigned level 1, “Creativity & Innovation” was assigned level 2, “Empowering People”, “Eco-centric values”, ‘Bonding and Trust’ and “Knowledge-sharing” were assigned level 3, and “Long-term Perspective”, “Co-creation”, “Shared Responsibility” and, “Progressive Culture” were assigned level 4 (Table 5).

#### 4.5. Development of ISM model

The next step was to create an Interpretive Structural Modeling (ISM) model. We used Table 6 showing levels assigned to barriers to develop the Interpretive Structural Modeling (ISM) based model (Figure 1).

**Table 6. Levels assigned to barriers**

Iteration Number	Level	Barriers in Adoption of Fintech
1st	1	Strategic Adaptation (E10)
2nd	2	Creativity & Innovation (E7)
3rd	3	Empowering People ((E5)
		Eco-centric values (E6)
		Bonding and Trust (E8)
		Knowledge-sharing (E9)
4th	4	Shared Vision (E1)
		Long-term Perspective (E2)
		Co-creation (E3)
		Shared Responsibility (E4)
		Progressive Culture (E11)

Source: Author Creation.

The ISM Model (Figure 2) demonstrates that Strategic Adaptation (E10) was the topmost enabler found its place at Level 1. Creativity & Innovation (E7) was at level 2 and forming the base for E10 the enabler at level 1. Enablers Empowering People ((E5), Eco-centric values (E6), Bonding and Trust (E8) and Knowledge-sharing (E9) found place at level 3 and became the foundation of Creativity & Innovation (E7) was at level 2. Enablers Shared Vision (E1), Long-term Perspective (E2), Co-creation (E3), Shared Responsibility (E4) and Progressive Culture (E11) found their place at level 4 and became the base for enabler at level 3.

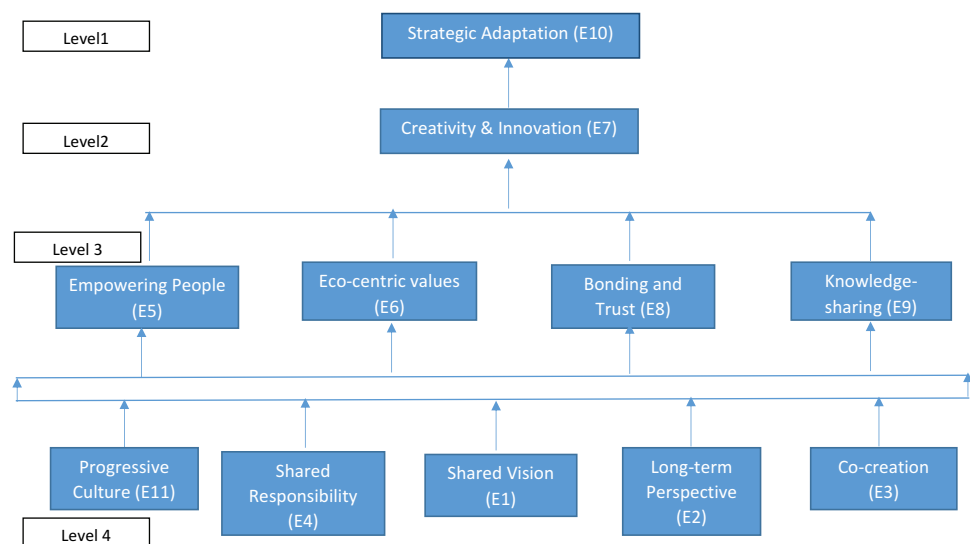
## 5. Discussion

The ISM Model (Figure 2) demonstrates that Strategic Adaptation (E10) was the topmost enabler found its place at Level 1. This was in consensus with the finding of Linnenluecke et al. (2012) and Kolk and Pinkse (2008), who found that strategic adaptation was positively related to the environmental and social performance of firms. Creativity & Innovation (E7) was at level 2. This finding was in agreement with (McAdam et al., 2010; Robertson & Carleton, 2018) (Bos-Brouwers, 2009; Heikkurinen et al., 2019), who stated that improved productivity, competitiveness, and sustainable growth, helped SMEs to achieve SDGs.

Enablers Empowering People (E5), Eco-centric values (E6), Bonding and Trust (E8) and Knowledge-sharing (E9) found place at level 3.

**Figure 2. ISM model for framework of SDG leadership among SME in South Asian nations.**

Source: Author Creation.



Our findings were in agreement with (Kantabutra, 2020; Vásquez et al., 2019); and (Yukl et al., 2019) who stated that ethical and eco-centric values create positive organizational impacts on integrity, and loyalty and promote equitable and virtuous practices; Ismail et al. (2022), who emphasized the need for empowering employees and providing them with the necessary resources and support can significantly contribute to SDG attainments (Fry & Egel, 2021; Tolstykh et al., 2021); and (Burlea-Schiopoiu & Mihai, 2019), who proved that bonding and trust among stakeholders is necessary for sustainable practices to emerge and (Armani et al., 2020; Klewitz & Hansen, 2014; Tajasom et al., 2015) who demonstrated that knowledge sharing facilitates the identification of sustainable business opportunities and promotes collaboration, which leads to the development of innovative solutions to environmental and social challenges.

Our analysis demonstrated that Shared Vision (E1), Long-term Perspective (E2), Co-creation (E3), Shared Responsibility (E4) and Progressive Culture (E11) formed the foundation of the ISM model. These findings harmonize with earlier research which stated that effective leaders are those who create shared vision for future achievements (Bell & Kozlowski, 2002); long-term orientation was crucial for sustainable growth and development of an organization (Minkov & Hofstede, 2011); need to build shared responsibility (Murshed et al., 2023); Collins & Porras's (1996) who stressed the need for "built-to-last" through progressive culture and human capital is essential for co-creation (Chijioke & Amadi, 2019).

While the study by Iqbal and Piwowar-Sulej (2023) focused only on two factors such as employees' organizational citizenship behavior and green organizational climate which are influenced by

sustainable leadership; Thananusak and Suriyankietkaew (2023) studied sustainability drives in community-based tourism-based social enterprises; the study by Piwowar-Sulej et al. (2023) was limited to fostering green behavior through green HRM in energy sector and Winit et al. (2023), talked about global knowledge base on sustainability and brand and touched aspects such as customer attitudes and behavior, tourism marketing, societal marketing etc. our study is much more comprehensive in nature and it highlights the relevance of eleven different aspects such as strategic adaptation, creativity and innovation, empowerment, eco-centric values, knowledge sharing bonding and trust, progressive culture shared responsibility, shared vision, long-term perspective, and co-creation, on SDG Leadership among SME. Neither was our study limited specific sector and nor does it only focus on single functional domain, it is rather more wide-ranging and inclusive.

The current study clearly highlights that shared vision, shared responsibility, longer term perspective, co-creation, and progressive culture are the foundation stones for the attainment of SDG Leadership among SMEs in South Asian nations. It is necessary that the SME Leadership creates deep bond and trust, enable knowledge sharing among all, empowering people so that they can perform to the best of their abilities and propagate eco-centric values, which will eventually result in creativity and innovations which will facilitate strategic adaption. SDG Leadership among SMEs in South Asian nations can help businesses and societies in adopting common goals, encouraging shared responsibilities towards the progress and development of people, planet and profits which will eventually lead to economic and social resilience and wellbeing.

### **5.1. Implications, limitations, and future scope of research**

This study clearly highlights the measures that need to be adopted by the business owners/entrepreneurs big or small in order to foster sustainable business practices. It is necessary that right from the strategy formulation, to growth and development of the businesses it is necessary that the promoter as well as senior management develops a shared vision, decisions are taken on long-term perspective, and there is enabling environment, shared responsibility and co-creation by all. It is worth noting that sustainable development is not the sole responsibility of the governments and the big corporations rather as seventy to eight percentage of businesses across countries are being done by micro small and medium enterprises sustainable development can only be attained when these businesses adopt SDG leadership. As SMEs are engaged not only in trading rather than in manufacturing activities it is all the more important that they too adopt sustainable strategic goals, promote eco-centric values and consistently engage in creativity and innovation. As these businesses employ a huge proportion of people in different economies they can empower people and develop and foster shared vision, and shared responsibility among all their stakeholders which communities. Then only there will be knowledge—sharing among individuals and groups, everyone will feel empowered and a strong bond and trust will be build amongst all. This will also promote eco-centric values, creativity and innovation and promote adoption of sustainability strategies among SME. Together this can promote promotion and growth of people and prosperity and would conservation of planet for our future generations. The policy makers and the regulators of SME sector should design policies and regulations that encourage the SMEs in adopting sustainable practices. They should provide handholding support to the SME so that they can transit from conventional business processes to sustainable businesses processes.

These studies suggest that a multi-faceted tactic is boost the enablers to SDG leadership so that the SME in South Asian countries can contribute towards sustainable development. The findings of these studies provide insights to develop policies and programs that can be used to develop SDG leadership among SME in the region. This study is limited to a few South Asian countries, while a wider study can be conducted across East Asian nations and other continents as well. That would help in capturing a wider perspective regarding SDG leadership among SMEs.

A comparative study among Asia nations and African nations can also be taken up. In this study the respondents belong to majorly the metropolitan cities of the studied countries, while to get even

deeper insights the SMEs working in non-metro cities could also be contacted and interviewed. This study used only Interpretive Structural modelling approach in the current study, future studies can be taken up where scholars can combine this technique with some of the statistical techniques to get a better understanding. Research tools such as fuzzy MICMAC and Dematel could also be used in similar studies in future. The results and recommendations for countries in East Asia, Africa, Europe and Latin America might differ from the results and outcomes of this study. Scholar can also try to conduct a qualitative as well as quantitative analysis in future research. Efforts can also be made to do a similar comparative analysis among the emerging market economies and the developed economies in order to capture the perspectives in two diverse contexts.

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## Annexures

### Iteration 1

SN	Enablers	Reachability Set	Antecedent Set	Intersection set	Level
E1	Shared Vision	1,2,3,4,5,6,7,8,9,10,11	1,2,3,4,5,6,7,11		
E2	Long-term Perspective	1,2,3,4,5,6,7,8,9,10,11	1,2,11		
E3	Co-creation	1,3,4,5,6,7,8,9,10,11	1,2,3,11		
E4	Shared Responsibility	1,4,5,6,7,8,9,10,11	1,2,3,4,11		
E5	Empowering People	1,5,7,8,9,10,11	1,2,3,4,5,8,9,11		
E6	Eco-centric values	1,6,7,10,11	1,2,3,4,6,11		
E7	Creativity & Innovation	1,7,10,11	1,2,3,4,5,6,7,8,9,11		
E8	Bonding and Trust	5,7,8,9,10,11	1,2,3,4,5,8,9,11		
E9	Knowledge-sharing	5,7,8,9,10,11	1,2,3,4,5, 8,9,11		
E10	Strategic Adaptation	10	1,2,3,4,5,6,7,8,9,10,11	10	1
E11	Progressive Culture	1,2,3,4,5,6,7,8,9,10,11	1,2,3,4,5,6,7,8,9,11		

### Iteration 2

SN	Enablers	Reachability Set	Antecedent Set	Intersection Set	Level
E1	Shared Vision	1,2,3,4,5,6,7,8,9,11	1,2,3,4,5,6,7,11		
E2	Long-term Perspective	1,2,3,4,5,6,7,8,9,11	1,2,11		
E3	Co-creation	1,3,4,5,6,7,8,9,11	1,2,3,11		
E4	Shared Responsibility	1,4,5,6,7,8,9,11	1,2,3,4,11		
E5	Empowering People	1,5,7,8,9,11	1,2,3,4,5,8,9,11		
E6	Eco-centric values	1,6,7,11	1,2,3,4,6,11		
E7	Creativity & Innovation	1,7,11	1,2,3,4,5,6,7,8,9,11	1,7,11	2
E8	Bonding and Trust	5,7,8,9,11	1,2,3,4,5,8,9,11		
E9	Knowledge-sharing	5,7,8,9,11	1,2,3,4,5, 8,9,11		
E11	Progressive Culture	1,2,3,4,5,6,7,8,9,11	1,2,3,4,5,6,7,8,9,11		

### Iteration 3

SN	Enablers	Reachability Set	Antecedent Set	Intersection Set	Level
E1	Shared Vision	2,3,4,5,6,8,9	2,3,4,5,6		
E2	Long-term Perspective	2,3,4,5,6,8,9	2		
E3	Co-creation	3,4,5,6,8,9	2,3		
E4	Shared Responsibility	4,5,6,8,9	2,3,4		
E5	Empowering People	5,8,9	2,3,4,5,8,9	5,8,9	3
E6	Eco-centric values	6	2,3,4,6	6	3
E8	Bonding and Trust	5,8,9	2,3,4,5,8,9	5,8,9	3
E9	Knowledge-sharing	5,8,9	2,3,4,5, 8,9	5,8,9	3
E11	Progressive Culture	2,3,4,5,6,8,9	2,3,4,5,6, 8,9		

### Iteration 4

SN	Enablers	Reachability Set	Antecedent set	Intersection set	Level
E1	Shared Vision	2,3,4	2,3,4	2,3,4	4
E2	Long-term Perspective	2,3,4	2	2	4
E3	Co-creation	3,4	2,3	3	4
E4	Shared Responsibility	4	2,3,4	4	4
E11	Progressive Culture	2,3,4	2,3,4	2,3,4	4