Green Finance Challenges in the SME Sector: A Comparative Analysis of Entrepreneurs' and Employees' Perceptions

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Abstract:
Green finance can support small and medium enterprises that want to invest in cleaner technology or improve their environmental practices. Accessing it, however, may not be simple for a smaller business. This study examined whether SME entrepreneurs and employees in Rajasthan viewed the challenges of green finance differently. Data were collected from 174 respondents, comprising 42 entrepreneurs and 132 employees. Perceptions were measured through ten Likert-scale statements. Cronbach's alpha was 0.800, indicating acceptable reliability. Frequencies, percentages, descriptive statistics and an independent-samples t-test were used. Concerns were more noticeable in relation to institutional guidance, collateral and financing costs. Responses concerning awareness, reporting requirements and suitable financial products were more mixed. Entrepreneurs reported greater concern than employees, and the difference between the groups was statistically significant. The findings suggest that SMEs may benefit from clearer information, simpler procedures and financing arrangements suited to their actual capacity.

Keywords: Green Finance; Small and Medium Enterprises; Green Finance Challenges; Entrepreneurial Perception; Employee Perception.

WHY GREEN FINANCE CAN BE DIFFICULT FOR SMALLER BUSINESSES

Small and medium enterprises are increasingly expected to reduce waste, save energy and work in a more environmentally responsible manner. Making these changes usually involves some cost. A firm may need new machinery, better production methods or equipment that uses fewer resources. For a smaller business, paying for such improvements from its regular income is not always possible. Green finance is meant to provide support for this kind of investment.

Finding finance is only one part of the problem. The business must also understand the scheme, check whether it is eligible and prepare the required documents. Some applications ask for technical or environmental details that a small enterprise may not normally maintain. The owner then has to consider interest, processing charges, repayment and the likely return from the project. At this stage, even a business that is interested in making changes may decide not to proceed.

Collateral creates another difficulty. Many SMEs have limited property or assets, although their proposed project may still be workable. Technical knowledge can be equally important. An entrepreneur may recognise

the need to reduce energy use but may not know which equipment would be suitable or how long it would take to recover the investment. Clear advice is therefore needed before the application reaches a bank.

There is also a difference between making a financing decision and carrying out the change in the workplace. Entrepreneurs usually speak with lenders and deal with risk, documents and repayment conditions. Employees experience the decision differently. They may operate the new equipment or follow revised procedures, but they are not always involved when the investment is being planned. Their understanding of green finance may therefore remain limited.

Both viewpoints matter. An owner may approve a green project, but employees are often responsible for using it properly in everyday work. If they do not understand its purpose or the difficulties involved, implementation can become less effective. Much of the discussion on green finance concentrates on its benefits or availability. Less attention is given to whether entrepreneurs and employees recognise its challenges in the same way, particularly in Rajasthan. The present study examines whether these two groups differ in their perceptions of the challenges associated with green finance.

REVIEW OF LITERATURE

(Bhatnagar et al., 2025) examined the barriers and enabling conditions affecting green finance and green investment in India. Using expert responses and multi-criteria decision-making techniques, including the Analytical Hierarchy Process and TOPSIS, the researchers assessed 43 barriers and 32 enablers across six broad categories. Financial limitations and legal and regulatory difficulties emerged as the most serious concerns. Gaps in institutional coordination, market infrastructure, technical capability and awareness were also prominent. The findings are particularly relevant to SMEs because smaller businesses often lack the financial records, collateral and specialised knowledge required to satisfy green financing conditions.

(Iqbal et al., 2025) explored the factors that encourage or restrict sustainable business practices among SMEs. The researchers followed a qualitative approach and conducted semi-structured interviews to obtain detailed accounts of the difficulties experienced by small businesses. Limited finance, weak technical knowledge, inadequate institutional support and uncertainty about the commercial returns from sustainability-related investments were recurring concerns. The interviews also showed that employees and business owners do not necessarily understand sustainability requirements in the same way. This observation supports the need to examine whether entrepreneurs and employees perceive green finance challenges differently.

(Muchiri et al., 2025) carried out a systematic review of green banking practices, opportunities and challenges faced by financial institutions. The review brought together evidence from earlier studies and grouped the difficulties into regulatory, financial, organisational, technological and socio-cultural categories. High implementation costs, uncertain returns, limited technical expertise and a lack of uniform green finance standards were among the principal barriers. Since banks rely on information supplied by borrowers when appraising green projects, these institutional difficulties can translate into complicated documentation, verification requirements and restricted product availability for SMEs.

(Sharma et al., 2025) investigated green innovation and green premium practices among Indian SMEs through an exploratory qualitative case-study design. Three green ventures were studied using interviews, observations and supporting business documents. Although the selected enterprises managed to establish viable green products, their journeys were affected by limited financial resources, high initial expenditure, weak technical support, insufficient policy awareness and uncertainty regarding customers' willingness to pay higher prices. The research demonstrates that financing challenges are experienced not only during loan acquisition but also while estimating returns, meeting certification requirements and sustaining green operations.

(Appiah-Kubi et al., 2024) analysed the relationship between green financing and sustainability reporting among 352 SMEs in Ghana. Data were collected through a structured questionnaire and examined using

structural equation modelling. Green financing had a positive influence on sustainability reporting, while pro-environmental behaviour partially explained this relationship. Digitisation further strengthened the reporting process. At the same time, the research indicates that SMEs require adequate knowledge, digital capability and organisational resources to document their environmental activities properly. These requirements are directly related to the reporting and verification difficulties included in the present investigation.

(Basit et al., 2024) reviewed the enablers and barriers associated with sustainable business practices in SMEs. The literature was systematically organised to show how internal resource limitations interact with external institutional conditions. Financial shortages, high implementation costs, insufficient employee expertise, weak managerial awareness and inadequate government support appeared repeatedly across the reviewed evidence. Instead of operating separately, these barriers often reinforce one another. For example, limited awareness may prevent an enterprise from identifying a suitable financing product, while weak technical capability can make the application and environmental reporting process more difficult.

(Bhandari et al., 2024) studied the implementation of green finance practices among commercial banks in Nepal. A qualitative design was adopted, involving in-depth interviews with senior executives, risk managers and sustainability officers. Respondents pointed to unclear regulatory arrangements, limited green investment opportunities, perceived financial risk, inadequate professional knowledge and insufficient institutional leadership. The banking perspective presented in this research helps explain why SME borrowers may encounter restrictive eligibility conditions, lengthy documentation and limited guidance. It also suggests that some challenges attributed to entrepreneurs may arise from the limited readiness of financial institutions themselves.

(Kato et al., 2024) investigated how sustainable finance solutions influence the long-term sustainability of SMEs in East Africa. The research used a mixed-method approach, with panel information from 150 SMEs analysed through multiple regression. Better access to sustainable finance was associated with improvements in productivity, growth and resilience. However, many smaller businesses remained unable to make full use of these opportunities because of restricted financial access, insufficient government involvement and weaknesses in the supporting policy environment. The findings draw attention to the gap that may exist between the availability of sustainable finance in principle and its practical accessibility to ordinary SMEs.

(Kumar et al., 2022) focused on green finance barriers affecting textile and leather SMEs in Pakistan. Interviews were conducted with SME representatives and financial-sector stakeholders, allowing the researchers to consider the issue from both the borrower's and the lender's side. Eight major barriers were identified, including inadequate awareness, limited institutional capacity, insufficient technical expertise, financial risk and weaknesses in available financing mechanisms. The research showed that SMEs and financial institutions may hold different views about project feasibility and financing risk. This difference is closely connected with the present study's comparison of perceptions among people occupying different organisational roles.

(Sharma & Choubey, 2022) examined green banking initiatives in the Indian banking sector through a qualitative research design. Interviews and thematic analysis were used to understand how banks introduced green products and incorporated environmental considerations into their operations. The research reported uneven awareness, limited customer understanding, inadequate staff training and a need for clearer policy and managerial support. These findings suggest that access to green finance is influenced by the preparedness of both bank personnel and potential borrowers. For SMEs, limited guidance at the branch level may make product selection, application preparation and compliance more difficult.

(Purwandani & Michaud, 2021) examined the drivers and barriers affecting the adoption of green business practices by SMEs in Ohio, United States. Survey evidence showed that owners were generally influenced by expected cost savings, personal environmental concern and reputational benefits. Adoption was nevertheless constrained by upfront costs, limited time, inadequate information and uncertainty about business returns. The

research illustrates that even SMEs operating in a developed financial environment may hesitate when benefits are unclear or technical assistance is unavailable. Similar uncertainty may shape how entrepreneurs and employees judge the affordability and usefulness of green finance.

(Chien et al., 2021) assessed the barriers surrounding green finance and public spending for SMEs through an integrated multi-criteria decision framework. The analysis ranked financial investment requirements as a particularly influential obstacle and also highlighted deficiencies in technical capability, policy support and institutional arrangements. The study further proposed ways of reducing these difficulties through improved financing mechanisms and stronger public support. Its conclusions reinforce the view that green finance challenges extend beyond the interest charged on a loan; they also involve risk assessment, knowledge, institutional assistance and the capacity of SMEs to present environmentally credible projects.

Research Gap

Earlier studies show that SMEs face many difficulties when seeking green finance. Some entrepreneurs are not fully aware of the available schemes, while others struggle with high financing costs, collateral requirements and strict eligibility rules. The application process can also be difficult because it involves extensive documentation and environmental reporting. In many cases, SMEs do not receive enough technical advice or proper guidance from financial institutions. They may also hesitate to borrow because the financial returns from green projects are not always clear.

Most previous studies have considered the views of SME owners, managers or financial institutions separately. Employees, who often handle day-to-day operations, documentation and the implementation of green practices, have received much less attention. It is therefore unclear whether entrepreneurs and employees view these difficulties in the same way. This issue has also not been adequately studied in Rajasthan. The present study addresses this gap by comparing the perceptions of SME entrepreneurs and employees regarding the challenges associated with green finance.

RESEARCH METHODOLOGY

Research Objective

To examine whether SME entrepreneurs and employees differ significantly in their perceptions of the challenges associated with green finance.

Research Design

The study adopted a descriptive, cross-sectional and empirical research design to compare how SME entrepreneurs and employees in Rajasthan perceive the challenges associated with green finance. The descriptive component enabled the response patterns to be summarised, while the empirical component supported a statistical comparison between the two respondent groups. The cross-sectional design was suitable because data were collected from the respondents at a particular point in time.

Research Approach

A quantitative approach was followed because perceptions were measured through numerical Likert-scale scores. This approach allowed item-level and construct-level means to be calculated, the internal consistency of the instrument to be assessed, and the two respondent groups to be compared through an independent-samples t-test.

Population and Sample

The target population comprised SME entrepreneurs and employees in Rajasthan. The final sample included 174 respondents, comprising 42 SME entrepreneurs and 132 SME employees. Purposive sampling was used because the research objective required responses from these two specific categories.

Research Variables

Respondent category was treated as the independent grouping variable and consisted of SME entrepreneurs and SME employees. Perception of the challenges associated with green finance was the dependent variable. It represented the extent to which respondents recognised difficulties relating to awareness, eligibility requirements, documentation, financing cost, collateral, availability of suitable products, uncertainty of returns, technical knowledge, environmental reporting and institutional guidance.

An item-level mean was calculated for every statement by dividing the total score by the number of valid responses. A construct-level mean was then calculated separately for each case by adding the scores obtained across the ten statements and dividing the total by ten. Higher mean scores indicated a stronger perception of the challenges associated with green finance. The construct-level mean was used for the group-wise descriptive analysis and hypothesis test.

Instrument Development and Measurement

A structured questionnaire was developed to measure the Challenges Associated with Green Finance construct. The instrument contained ten statements aligned with the research objective and hypothesis. Responses were recorded on a five-point Likert scale ranging from 1 for Strongly Disagree to 5 for Strongly Agree. All statements were framed in the same direction; therefore, reverse coding was not required.

Data Collection Procedure

Primary data were collected from SME entrepreneurs and employees through a structured questionnaire administered in online and printed forms. Both modes were used to reach the two respondent groups through suitable channels. After collecting and checking the responses, 174 valid questionnaires were included in the analysis.

Reliability of the Instrument

Cronbach's alpha was used to assess the internal consistency of the ten statements measuring the Challenges Associated with Green Finance construct. The coefficient was 0.800, which exceeded the commonly accepted threshold of 0.70 and indicated acceptable internal consistency.

Table 1.1: Reliability of the Instrument

Construct	Number of statements	Cronbach's alpha
Challenges Associated with Green Finance	10	0.800

Statistical Tools and Techniques

Microsoft Excel and IBM SPSS Statistics were used to organise the dataset and conduct the analysis. Frequencies and percentages described the distribution of responses across the five Likert categories. Means and standard deviations were calculated for each statement and for the overall construct. Descriptive statistics were also prepared separately for SME entrepreneurs and SME employees.

Cronbach's alpha examined the internal consistency of the measurement instrument. An independent-samples t-test was applied to test whether the construct-level mean differed between the two respondent groups. Levene's test assessed the equality-of-variances assumption. The equal-variances result was interpreted when the probability value for Levene's test exceeded 0.05; otherwise, the unequal-variances or Welch result was considered. The null hypothesis was evaluated at the 5% level of significance.

LIKERT SCALE STATEMENT ANALYSIS

Table 1.2: Likert Scale Statement Analysis

S. No.	Likert Statement	SD	D	N	A	SA
1	Limited awareness of green finance options makes it difficult for SMEs to use them.	35 20.11%	43 24.71%	52 29.89%	30 17.24%	14 8.05%
2	Complex eligibility requirements discourage SMEs from applying for green finance.	19 10.92%	41 23.56%	47 27.01%	42 24.14%	25 14.37%
3	Extensive documentation creates difficulty for SMEs seeking green finance.	18 10.34%	39 22.41%	52 29.89%	45 25.86%	20 11.49%
4	The cost of obtaining green finance is a major concern for SMEs.	18 10.34%	29 16.67%	50 28.74%	37 21.26%	40 22.99%
5	Collateral requirements restrict SMEs' access to green finance.	12 6.90%	33 18.97%	50 28.74%	41 23.56%	38 21.84%
6	The limited availability of financial products designed for smaller businesses creates a challenge for SMEs.	29 16.67%	35 20.11%	46 26.44%	44 25.29%	20 11.49%
7	Uncertainty about the financial returns from green investments discourages SMEs from using green finance.	22 12.64%	39 22.41%	47 27.01%	37 21.26%	29 16.67%
8	A lack of technical knowledge makes it difficult for SMEs to plan suitable green projects.	17 9.77%	38 21.84%	53 30.46%	39 22.41%	27 15.52%
9	Environmental reporting and verification requirements create an additional burden for SMEs.	24 13.79%	50 28.74%	43 24.71%	32 18.39%	25 14.37%

S. No.	Likert Statement	SD	D	N	A	SA
10	Insufficient guidance from financial institutions makes it difficult for SMEs to access green finance.	17 9.77%	34 19.54%	41 23.56%	43 24.71%	39 22.41%

The Likert responses reflected mixed perceptions of the challenges associated with green finance. Comparatively stronger agreement was observed for insufficient institutional guidance, collateral requirements and financing costs. Opinions concerning awareness, environmental reporting and the availability of suitable financial products were more divided. The pattern indicates that respondents did not view every challenge with the same degree of concern.

HYPOTHESIS TESTING

H_{01}: There is no significant difference between SME entrepreneurs and employees in their perceptions of the challenges associated with green finance.

For testing H_{01}, respondent category, comprising SME entrepreneurs and SME employees, was used as the independent grouping variable, while the construct-level mean score for the challenges associated with green finance was used as the dependent variable. An independent-samples t-test was applied to examine whether SME entrepreneurs and employees differed significantly in their perceptions of the challenges associated with green finance.

Table 1.3: Descriptive Statistics

		n	Mean	Std. Deviation	Std. Error Mean
Challenges Mean Score	SME Entrepreneur	42	3.37	0.68	0.11
	SME Employee	132	2.99	0.73	0.06

SME entrepreneurs reported a higher perception score for green finance challenges (M = 3.37, SD = 0.68) than SME employees (M = 2.99, SD = 0.73).

Table 5.2: Levene's test

Test	F	df1	df2	p
Levene's Test (Mean)	0.16	1	172	.69

Levene's test was not statistically significant, F(1, 172) = 0.16, p = .690, indicating that the assumption of equal variances was satisfied. The equal-variances result was therefore interpreted.

Table 5.2: Independent-Samples t-Test

		t	df	p
Challenges Mean Score	Equal variances	3.02	172.00	.003
	Unequal variances	3.14	73.79	.002

The independent-samples t-test showed a statistically significant difference between the two groups, $t(172) = 3.02$, $p = .003$. The mean difference indicates that SME entrepreneurs perceived the challenges associated with green finance more strongly than employees.

SME entrepreneurs perceived the challenges associated with green finance more strongly than SME employees. This suggests that the two respondent categories differ in the extent to which they recognise difficulties connected with green finance.

Since the obtained p-value of .003 was below the 5% significance level, the null hypothesis was rejected. It was therefore concluded that SME entrepreneurs and employees differed significantly in their perceptions of the challenges associated with green finance.

SUGGESTIONS BASED ON FINDINGS

1. Green finance is still unfamiliar to many smaller businesses. Information about available schemes should therefore begin with the basics, including their purpose, benefits, eligibility conditions and difference from a regular business loan.
2. Before asking an SME to complete a lengthy application, banks could offer a brief eligibility check. This would save time for both the applicant and the financial institution.
3. A simple application guide would remove much of the confusion surrounding documentation. It may include a checklist, sample forms, commonly asked questions and contact details for further help.
4. Cost can discourage an otherwise interested business from taking the next step. Reasonable interest rates, lower processing charges and carefully designed repayment terms would make green investment more manageable.
5. Conventional collateral requirements may exclude enterprises that have workable projects but limited assets. In such cases, lenders could also consider cash flow, business performance, project feasibility or an available credit-guarantee arrangement.
6. Not every enterprise needs a large green loan. Smaller loan options and flexible repayment periods would be more suitable for businesses planning modest improvements, such as energy-efficient equipment or waste-reduction measures.
7. Investment decisions become easier when the likely financial outcome is clear. Each proposal could include a straightforward estimate of the initial cost, expected savings and approximate period required to recover the investment.
8. Technical support is equally important. An SME may understand the environmental issue but remain unsure about the right equipment, supplier or project design. Access to a qualified adviser would help turn an idea into a workable proposal.
9. Reporting requirements need not be unnecessarily complicated. Shorter formats, clear instructions and completed examples would help enterprises provide the required environmental information correctly.
10. Practical examples often communicate more effectively than general awareness lectures. Realistic cases from comparable businesses could demonstrate how green finance is obtained, used and repaid.
11. Employees should not learn about a green investment only after management has taken the decision. Early discussion can help them understand its purpose and their role in putting it into practice.
12. Entrepreneurs have direct experience of financing decisions and may notice difficulties that employees do not encounter. Banks and public agencies would benefit from listening to these experiences while reviewing their procedures.
13. SMEs frequently approach several offices before receiving a clear answer. A single helpdesk covering scheme selection, eligibility, documentation and technical guidance would make the process less tiring.
14. New schemes are better tested on a limited scale before wider implementation. Experiences reported by the first group of participating enterprises can reveal unclear conditions and procedural delays.

15. The nature of these challenges may change over time. Periodic discussions with entrepreneurs and employees would help financial institutions and SME associations identify what has improved and where further support is still needed.

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