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Understanding the adoption index of green investment practices among emerging market firms in Himachal Pradesh: A empirical analysis

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Abstract
This study investigates the adoption of green practices among enterprises in Himachal Pradesh, India, with a focus on environmental sustainability. Utilizing data from 300 industrial units, the research sheds light on patterns of green technology adoption, identifies areas of progress, and highlights challenges hindering widespread adoption. The findings reveal a commendable level of adoption of certain green practices, such as recycling, material reuse, and the incorporation of biomass and biofuels, indicating a growing awareness of environmental stewardship among businesses. However, a significant proportion of enterprises are categorized as low adopters, suggesting the need for targeted interventions to overcome barriers like awareness, technical proficiency, and regulatory constraints. The study also acknowledges its limitations, including geographic constraints and reliance on self-reported data, and offers implications for future research, such as longitudinal studies and exploration of nascent green technologies. Recommendations for policymakers, practitioners, and researchers are provided to foster green technology adoption and promote environmental sustainability. Overall, this research underscores the importance of collaborative efforts to address environmental challenges and pave the way for a sustainable future.

Keywords: Suggesting, environmental, researchers, practitioners

Introduction
The traditional or conventional operation system of the enterprises have resulted in the severe pollution, raises serious challenges for human health and environment. With the intense increase in the pollution, environmental problems have triggered. Consequently, how to reduce pollution that are caused by business activities of the enterprises have become highly important for the society where we live in. In the protection of environment and society, enterprises play a major role. While, behind accelerating pace and success of the world economy there is an unavoidable adverse effect of a decrease in an environmental quality in line with the rapid growth of the industries, carbon retention and other greenhouse gas which gradually increase overtime. To overcome the challenges, the intergovernmental panel on climate change has formed an institution, as a result of collaboration between the united nations and the world metrological organization is devoted to dealing with the problems that are associated with climate change (UNCC, 2022).

Due to damaging effect on the environment, people from diverse professions, such as scientist, politicians and business leaders have become concerned about the worsening gradual condition of the environment. The notion of a green economy, as outlined by the United Nations Environment Programme (UNEP) in 2011, revolves around enhancing human well-being and social equity while concomitantly mitigating environmental risks and ecological scarcities (United Nations 2011) [21]. This concept gained momentum with the inception of the Green Economy Initiative by UNEP in 2008, marking the commencement of concerted efforts to redefine economic paradigms towards sustainability (United Nations 2011) [21].

Central to this initiative is the transition from conventional economic models to ones underpinned by regulatory frameworks and robust financial incentives that promote green investments, innovation, sustainable consumption patterns, and knowledge dissemination among businesses (Ryszawska 2015) [22].

The allure of the green economy lies in its promise of reconciling economic prosperity with environmental stewardship, thereby offering a holistic solution to contemporary challenges.

Governments and businesses alike have embraced the concept as a means to address pressing economic and environmental concerns simultaneously. Strategies associated with the green economy are often viewed as pathways to sustainable development, echoing similar sentiments expressed in concepts such as 'sustainable development' (Loiseau *et al*. 2016) [23].

The transition towards a green economy has become both a need and a reality in the most parts of the world. This implies accelerated diffusion of manifold green technologies, which in turn continuous economic growth and expansion across the globe has led to concerns about the depletion of natural resources, air pollution, and broader climate change challenges moreover several research scholars have contrarily indicated that global economies cannot be sustained if the current rate of natural resource consumption continuous, as climate change also inhibits positive economic growth (Abidoye and Odusola, 2015) [10] and (Lal *et al*., 2011) [11]. The long term concern of public for the sustainable economic development with the increase in awareness of environmental issues (Elliot 2005, Severo *et al*., 2021) [8, 9].

Since the start of the twenty-first century, the development and spread of information technology (IT) have fundamentally altered every facet of human existence. It has improved the processes for developing, producing, and delivering goods and services (Guo *et al*., 2020; Hilkenmeier *et al*., 2021) [12, 13]. Innovation in the production and delivery process has been made possible by the recent surge in the use of precision machinery and innovative digital manufacturing technologies (Guo *et al*., 2022) [14]. These new technologies have shortened development and marketing times, improved quality and value, and enabled green production (Forcadell *et al*., 2021; Han & Chen, 2021) [15, 16]. Green manufacturing completely acknowledges the impact on the environment and maximizes the use of resources during production.

Systematic, eco-prevention-focused, economically compliant, and more successful are the key characteristics of green technology (Jansson, 2011) [17]. Over the past ten years, the manufacturing sector has paid close attention to sustainable development (SD) as a result of growing public awareness of green technology and their perceived benefits for society (Shahzad *et al*., 2020a) [19].

Need of the Study

Environmental Degradation: The traditional operational systems of enterprises have led to severe pollution, posing significant challenges to human health and the environment. The study aims to address these challenges by examining the adoption of green practices, which are crucial for mitigating environmental degradation.

Global Environmental Concerns: With the increasing awareness of environmental issues on a global scale, there is a growing consensus among various stakeholders, including scientists, politicians, and business leaders, about the need to adopt sustainable practices. This study contributes to the understanding of how businesses in Himachal Pradesh, India, are responding to these concerns.

International Initiatives: International initiatives such as the United Nations Environment Programme's (UNEP) Green Economy Initiative have highlighted the importance of transitioning towards sustainable economic models. The study aligns with these initiatives by assessing the adoption of green practices among enterprises, thereby contributing to the broader goals of sustainability.

Local Context: Himachal Pradesh, with its diverse industrial landscape, provides a unique context for studying green technology adoption. By focusing on this region, the study can identify region-specific challenges and opportunities, which can inform targeted interventions and policy recommendations.

Sustainable Development Goals (SDGs): The study directly relates to several SDGs, including Goal 7 (Affordable and Clean Energy), Goal 9 (Industry, Innovation, and Infrastructure), Goal 11 (Sustainable Cities and Communities), Goal 12 (Responsible Consumption and Production), and Goal 13 (Climate Action) (Mishra *et al*., 2023). By promoting green investment practices, the study contributes to achieving these SDGs at both local and global levels.

The research paper implements a structured format, commencing with an introduction delineating the significance of green technologies and justifying the purpose of the study. Part 2 entails an extensive literature review, laying the groundwork for the research. The subsequent section delves into the methodology, elucidating the research design and data collection methodologies. Following this, the results and discussions are systematically presented, culminating in the formulation of conclusions derived from the findings.

Review of Literature

Tseng *et al*. (2013) [25] evaluated green innovation practices with a particular focus on process, management, product, and technology innovation. The main objective of the study was to improve the performance of green innovation practices under uncertainty. The objectives of the study were fulfilled with the development of a quantitative evaluation of green innovation with the help of fuzzy set theory and analytical network process (ANP) entropy weights. The findings of the study disclosed that managerial innovation in order to develop green innovation comes from interaction and understanding the relationship of top management to lower management levels. This study also demonstrated that enterprises implement green management practices not only for developing green products and design measures, but also for reducing hazardous waste, emissions, and environmental protection. Furthermore, the author also found that increased global competition pressures were forcing firms to continuously develop and innovate to enhance their green product competitiveness, such as product design and quality, technological service, and reliability. Authors viewed that business can strengthen its competitiveness by integrating green innovations for developing and commercializing green products, as well as facilitate the creation and dissemination of technology innovations within its organization. This study recommended that organizations can invest consciously and systematically in managerial innovation and product life cycle assessment.

Soni *et al*. (2014) [26] focuses on green initiatives under corporate social responsibility with reference to Maharatana Companies of India. The study was conducted with the aim to identify various initiatives taken by different corporates in India. The study found that corporates were involved in a wide range of CSR initiatives, including income generation activities for livelihood, waste management, biogas plants, natural resource management and development, infrastructure

facilities, solid waste management systems, clean development mechanisms, and effluent reduction. The author suggested that there is a need to conduct more exploratory research to promote environment friendly initiatives and government have to come forward to take steps to motivate corporates for such environment friendly investments.

Dhanda and Gupta (2015) [27] shed light on go green mantra in India. The study was conducted with the aim to understand the concept of social responsibility. The author also tried to investigate various green initiatives taken by corporates under corporate social responsibility. It was found that most of the firm shifted traditional marketing towards green marketing. The study highlighted that along with green marketing, firms also focused on green products, green labeling, green packaging and green logos. Author determined that most of the companies were making people aware of environment friendly green products. The author suggested that authorities and media have to keep check on green behavior of corporates. Study also recommended some of the green practices like reduction of paper use, energy conservation and green promotional strategies.

Bhupendra and Sangla (2015) [28] assessed the drivers for the successful implementation of pollution prevention and clean strategy with the specification of innovative capability. The author pointed out that various industries are responsible for the deteriorating environment hence industries should take initiatives to protect the environment from pollution and carbon emissions. The study found that innovative capability of the organization played important role in preventing pollution and reduction of carbon emissions. Findings of the study also highlighted that voluntary participation and team building help the companies to assess its operation on natural environment. Author also put forth that risk perception on environment regulatory drives and integration of pollution prevention ideas abide corporates for doing green investments. It was further revealed in the study that green teams in any organization, intelligence generation in market factors and size of firm showed an impact on implementation of pollution control and clean technology strategies. Author suggested that green teams of the organization should be recognized and rewarded by the superiors for their outstanding environmental achievements which will make them more innovative towards green innovations. Recommendations of the study also proposed that researchers have to conduct industry specific studies for better understanding of the green investments.

Trivedi and Sharma (2017) [29] investigated the impact of green production and green technology on sustainability with reference to companies in India. The study discovered that green production and green technology aid in resource conservation, pollution control, and energy savings. The study also put forth that companies like Tech Mahindra and Tata consultancy invested in green building, solar plants and food waste compositing units. Author indicated that large scale industries have invested in low GHG emitted technologies, biodiversity protection projects, sustainable use of resources, eco parks and water management technologies. The author suggested that companies have to combine green manufacturing technology, production management and engineering science which leads to environmental sustainability conducted a study with the objective to identify how green investment practices contribute to economic sustainability, social sustainability and environmental sustainability in pursuit of generating green economy. The study found that with the help of investments in renewable energy projects, water waste management projects, clean environment energy solutions and solar plants. Further findings disclosed that India has achieved environmental sustainability goals. Results of the study also shown that many corporates have invested in biodiversity protection, recycling of waste products and green infrastructure development. Author recommended that Indian entities have to participate in green bond issuance in foreign currencies. It was also suggested that government should provide specific subsidies for green projects to various corporates.

Research Methodology

Design of study

The methodology section of this study describes the data, sample and methods used in the present study which includes data searching process, data collection and evaluation of results. The data was collected purposively from the industrial unit of Himachal Pradesh. Regional data of 300 industries were used as proxies for the regions. The discussion and conclusions section encapsulates the significant findings of the study, providing a comprehensive analysis of their implications, limitations, and future directions. Through a detailed examination of the research results, this section sheds light on the key insights gleaned from the empirical assessment of waste management technology adoption in Himachal Pradesh.

Sampling Procedure

The sampling procedure for the study involved a purposive selection of enterprises in Himachal Pradesh, with a focus on Solan district due to its significant concentration of large-scale firms. Out of the 138 large-scale enterprises in the region, 107 were situated in Solan district, making it an ideal target for the study. This approach was chosen to ensure that the sample captured the aggregate potential of large enterprises to contribute substantial funds towards green investments, aligning with the study's focus on environmental sustainability. By targeting Solan district, where the majority of large-scale enterprises were located, the study aimed to obtain representative insights into the green investment practices of such firms.

Sample Size

To determine the sample size, the formula was utilized, which is widely recognized for estimating sample size based on finite populations. With a total of 7,020 enterprises in Solan district, the formula calculated an appropriate sample size of 365. This sample size was then distributed proportionally among the three types of enterprises (small, medium, and large-scale) based on their representation in the population. This approach ensured that the sample adequately represented the diversity of enterprises in the district, allowing for meaningful analysis of green investment practices across different scales.

Collection of Data

Data collection took place from 2022 to 2023 and involved both primary and secondary sources. Primary data was collected through well-designed questionnaires administered to selected enterprises. The questionnaires were structured to gather information on various aspects, including the socio-economic profile of respondents, enterprise size, green investment practices, awareness and perception of green initiatives, adoption of green practices, factors influencing green investment decisions, and constraints faced by

businesses in implementing green initiatives. Secondary data was gathered from reputable sources such as scholarly journals indexed in Scopus, Web of Science, and Elsevier, as well as government publications including reports from the Department of Industries Shimla, MSME institute Chambaghat and Solan, MSME Baddi, and census data. This secondary data served to complement and validate the findings from primary data collection, providing additional context and insights into the green investment landscape in Himachal Pradesh.

Data Analysis

Among the total sample of the enterprises, 15 green technologies were identified in the study area to study the green investments done by corporates. To know the extent of adoption of green technologies an attempt was made as detailed below. The information pertaining to adoption of green technologies were recorded on a three-point continuum namely high extent of adoption, low extent of adoption and no adoption with score 2,1 and 0. For the calculation of adoption index low extent of adoption should be considered as no adoption Further adoption index developed by Singh and Singh (1981) was used to quantify the adoption behavior of the respondents it is given below:

$$AI = \left[\frac{E}{P}\right] * 100$$

Where, AI is adoption index

E is extent of adoption of a given practice

P is potentiality of adoption of a practice

Results and Discussion

1. Key operations of the enterprises

Key operations of the company are important factors in adoption of green investment practices. The companies are divided on the basis of operations *viz*., manufacturing, fast-moving consumer goods and, pharmaceuticals and chemicals. Detailed information on key operations of the enterprises has been given below in the Table 1. Data also reported that total 38.9 per cent of the enterprises involved in manufacturing, followed by chemicals that comprises of 24.1 per cent of total enterprises, fast-moving consumer goods (21.6%) and only 15.3 per cent are pharmaceuticals. It was depicted in the table that total 5 industries were large scale out of which 40 per cent were manufacturer and 20 per cent each were belongs to fast-moving consumer goods, pharmaceuticals and chemical enterprises. The scenario of medium scale enterprises disclosed that out of total medium scale industries i.e. 11, 54.5 per cent were manufacturer, 36.4 per cent were pharmaceuticals followed by 9.1 per cent, those were fast-moving consumer goods and none of the enterprises were chemicals. Table further highlighted that total of 349 enterprises belongs to the small and micro scale category of enterprises out of which 38.4% were manufacturing, followed by chemicals (24.9%), 22.1 per cent were fast-moving consumer goods and only (14.6%) were pharmaceuticals.

Table 1: Key operations of the enterprises

Key operations of the enterprises	Type of enterprise			Total
	Large scale	Medium scale	Small and micro scale	
Manufacturing	2	6	134	142
	(40.0)	(54.5)	(38.4)	(38.9)
Fast-moving consumer goods	1	1	77	79
	(20.0)	(9.1)	(22.1)	(21.6)
Pharmaceuticals	1	4	51	56
	(20.0)	(36.4)	(14.6)	(15.3)
Chemicals	1	0	87	88
	(20.0)	(0.0)	(24.9)	(24.1)
Total	5	11	349	365
	(100)	(100)	(100)	(100)

Note: Figures in parentheses represent per cent to the total

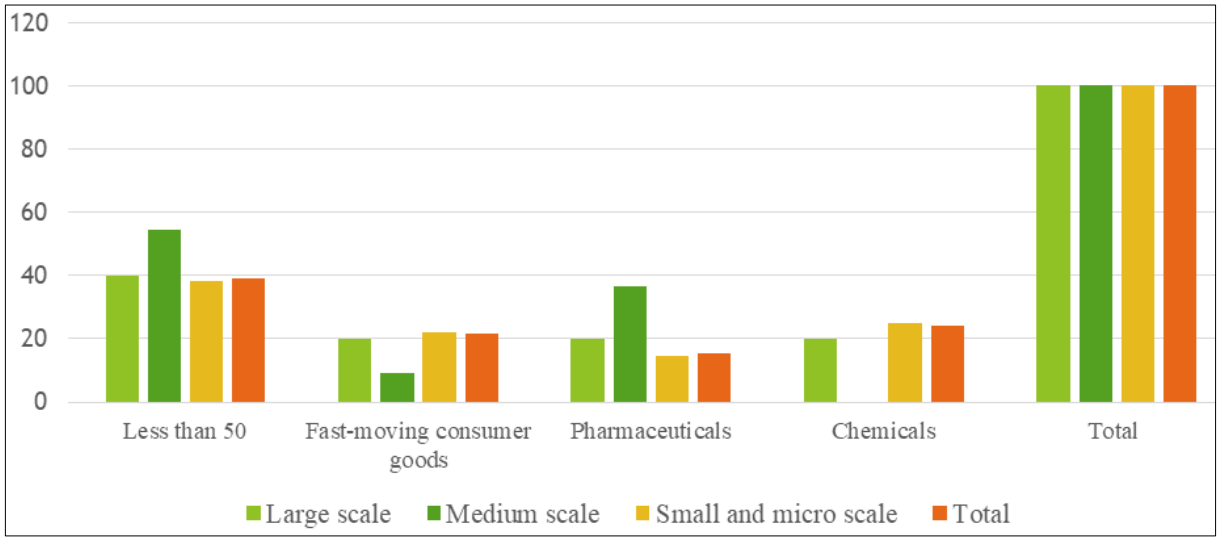

Fig 1: Key operations of the enterprises

2. Enterprise's adoption level for various green practices

The data regarding the level of adoption of various green practices were analysed. Adoption level of each enterprise was calculated on the basis of maximum score obtained. The enterprises were classified into three categories *viz*, low adoption (mean- SD), medium adoption (mean ± SD) and high adoption (mean + SD) where (M= 64.27, SD=9.11).

To ascertain the practice wise adoption of the enterprises about various green practices, 15 green practices were selected on the basis of extensive literature review. The practice wise total weighted score, standardised mean value were assigned to each green practice. Then with the help of adoption index per cent formula the values have been calculated. The perusal of data in table 4.4 16 showed the adoption index value with ranks provided to various green practices. Reuse of material got first rank with 69.3 per cent followed by recycling with second rank. While adoption of bio mass was ranked third. This was followed by green packaging material (fourth rank), bio-fuels (fifth rank), waste management (Sixth rank), water conservation (seventh rank) and green parks (eighth rank) respectively.

Further other green practices adopted by enterprises in descending order were green energy (ninth rank) and green infrastructure (tenth rank). Findings of the table further highlighted that reduction of CO_2 ranked as eleventh, followed by use of natural ingredients i.e. ranked as twelfth, wind and solar plant (thirteen rank), vehicle ranked as fourteenth and fin-technology ranked as fifteenth.

Table 2: Enterprise's adoption level for various green practices

Green Practices	High Extent of Adoption (3)		Low Extent of Adoption (2)		No Adoption (1)		Total weighted score	Weighted mean score	Adoption level	Rank
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage				
Reuse	253	69.32	104	28.49	8	2.19	975	2.67	69.3	I
Recycling	252	69.04	102	27.95	11	3.01	971	2.66	69	II
Water conversation	99	27.12	188	51.51	78	21.37	751	2.06	27.1	VII
Fin-tech	7	1.92	52	14.25	306	83.84	431	1.18	1.9	XV
Waste management	101	27.67	188	51.51	76	20.82	755	2.07	27.7	VI
Green Parks	65	17.81	162	44.38	138	37.81	657	1.8	17.8	VIII
E-vehicle	54	14.79	107	29.32	204	55.89	580	1.59	14.8	XIV
Green infrastructure	63	17.26	149	40.82	153	41.92	640	1.75	17.3	X
Wind and solar plants	55	15.07	99	27.12	211	57.81	574	1.57	15.1	XIII
Natural ingredients	74	20.27	74	20.27	217	59.45	587	1.61	20.3	XII
Reduce CO_2 emissions	79	21.64	69	18.9	217	59.45	592	1.62	21.6	XI
Green energy	100	27.4	91	24.93	174	47.67	656	1.8	27.4	IX
Green packaging	169	46.3	72	19.73	124	33.97	775	2.12	46.3	IV
Bio fuels	163	44.66	78	21.37	124	33.97	769	2.11	44.7	V
Bio-mass	217	59.45	41	11.23	107	29.32	840	2.3	59.5	III

***Source*:** Field Survey 2022-2023

It can be concluded from the table that adoption of recycling, moreover results provided by Depken and Zeman (2018) [3] have also concentrated on the fact that recycling and waste reduction were the most widely employed green practices. Further table also depicts that reuse of materials, green packaging materials and bio fuels were highly adopted by the enterprises. The analysis of the adoption level of various green practices among enterprises provides valuable insights into their sustainability efforts and priorities. The classification of enterprises into low, medium, and high adoption categories based on their mean scores and standard deviations allows for a nuanced understanding of their commitment to environmental practices. Upon examining the data presented in Table () it becomes evident that certain green practices stand out as being more widely adopted than others. Reuse of material emerges as the most highly adopted practice, garnering the highest adoption index value and securing the first rank. This finding aligns with previous research by Depken and Zeman (2018) [3], which also highlighted recycling and waste reduction as prevalent green practices within enterprises. Following closely behind in the adoption index rankings is recycling, underscoring its importance in corporate sustainability initiatives. The third-ranked practice, adoption of bio mass, indicates a growing recognition of alternative energy sources among enterprises. Similarly, the high adoption of green packaging materials and biofuels reflects a concerted effort by businesses to minimize their environmental footprint. Moreover, the data reveals a notable focus on waste management and water conservation, highlighting enterprises' recognition of the importance of resource efficiency and conservation in their operations. The inclusion of green parks in the adoption index rankings suggests a commitment to sustainable land use and biodiversity conservation among certain enterprises.

However, it is crucial to note the relatively lower adoption levels of practices such as green energy and green infrastructure, indicating potential areas for improvement in enterprise sustainability strategies. Similarly, the lower adoption ranks of CO_2 reduction and the use of natural ingredients suggest that some businesses may need to prioritize these practices to enhance their environmental performance further. Furthermore, the findings emphasize the importance of renewable energy sources, as evidenced by the relatively low adoption ranks of wind and solar plants compared to other green practices. This underscores the need for greater investment and implementation of renewable energy technologies to mitigate climate change and reduce reliance on fossil fuels.

While certain practices, such as recycling and waste reduction, are widely adopted, there remain opportunities for enterprises to enhance their environmental performance by focusing on areas such as renewable energy adoption and carbon footprint reduction. This discussion provides valuable insights for policymakers, practitioners, and researchers seeking to promote sustainable business practices and address environmental challenges effectively.

1. Distribution of the enterprises based on adoption for green practices

The data regarding the level of adoption of the green practices were analysed. Adoption level of each technology was calculated on the basis of maximum score obtained by enterprises. Enterprises were classified into three categories *viz*, low adoption (Mean – SD), medium scale (Mean ± SD) and high adoption (Mean +SD). The data presented in the table 4.25 and figure 4.25 revealed that 39 per cent of the enterprises were low adopters, whereas 32 per cent were high adopters and 29 per cent were medium adopter for adoption of green practices or green technology. The findings of the table concluded that majority of respondents were low adopters of the green practices this might be due to the fact that enterprises had lack of awareness of green technology, lack of technical knowledge, cost implication (Jayant and Azhar, 2014) [20], lack of sustainability standards and regulatory factors.

Table 3: Distribution of the enterprises based on adoption for green practices

Sr. No.	Adoption categories	Score range	Frequency	Percentage
1.	Low (Mean-SD)	Below 9.2	144	39
2.	Medium (Mean ± SD)	Between 9.2 to 54.2	105	29
3.	High (Mean + SD)	Above 54.2	116	32
Mean = 31.8 SD= 22.4				

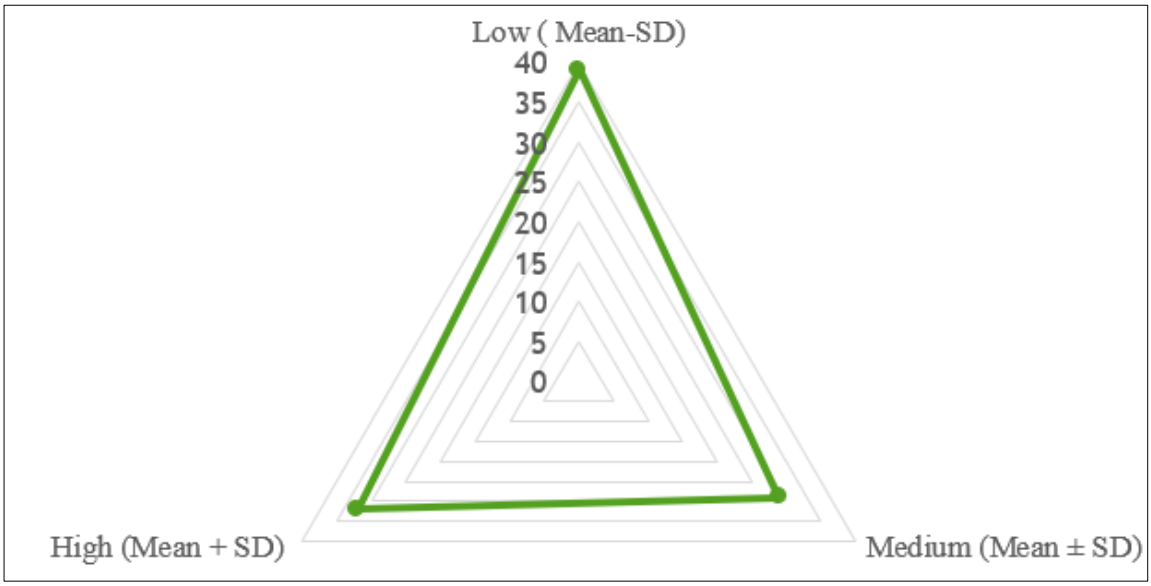

Fig 1: Distribution of the enterprises based on extent adoption of green practices

Conclusion

The study offers a comprehensive exploration into the adoption of green practices among enterprises in Himachal Pradesh, yielding valuable insights into their commitment to environmental sustainability. Through meticulous analysis of data collected from 300 industrial units, discernible trends in green technology adoption have been elucidated, concurrently identifying areas necessitating enhancement. One salient finding of this study is the pervasive adoption of certain green practices, notably recycling, material reuse, and the incorporation of biomass and biofuels. These endeavors manifest a burgeoning cognizance among enterprises of the imperative to curtail environmental impact and foster sustainability. The commendable levels of adoption underscore substantive strides made by businesses in Himachal Pradesh towards environmental stewardship. However, notwithstanding the progress in green technology uptake, a discernible proportion of enterprises are categorized as low adopters. This underscores the exigency for targeted interventions to surmount barriers such as paucity of awareness, technical proficiency, and regulatory encumbrances. Policymakers are thus impelled to forge an enabling milieu conducive to heightened green technology adoption and cultivation of a culture of environmental stewardship among businesses.

Limitation of the study

Notwithstanding the insights gleaned, this study is not bereft of limitations. Firstly, its focus on a delimited geographical area may constrain the generalizability of findings to broader contexts. Additionally, reliance on self-reported data from enterprises may engender biases and inaccuracies, warranting cautious interpretation of results. Moreover, the study's cross-sectional design, while informative, proffers merely a snapshot of green technology adoption at a singular juncture. A longitudinal approach would facilitate a more nuanced understanding of adoption dynamics and factors engendering temporal flux. Furthermore, reliance on secondary data sources, while pragmatic, introduces potential biases and inaccuracies. Future research could ameliorate this by embracing a multimodal data acquisition strategy

encompassing primary data collection and triangulation of sources.

Research implications

The findings of this study furnish implications for future research on green technology adoption and environmental sustainability. Firstly, the significance of contextual factors, including geographical idiosyncrasies and regulatory exigencies, merits heightened consideration in future investigations. Such endeavors would unravel nuanced adoption patterns and furnish insights into contextual determinants of adoption. Secondly, longitudinal research is advocated to elucidate adoption trends over time and gauge the efficacy of interventions aimed at fostering green technology uptake. Such longitudinal studies would illuminate temporal dynamics and efficacy of policy prescriptions and industry initiatives. Lastly, avenues for further research into nascent green practices and technologies warrant exploration. By identifying adoption impediments and devising remedies, researchers can catalyze policy development and industry practices towards an accelerated transition to a sustainable paradigm.

Future suggestions

In light of the foregoing, several recommendations can be proffered for policymakers, practitioners, and researchers to propel green technology adoption and environmental sustainability in Himachal Pradesh and beyond. Primarily, policymakers are enjoined to prioritize awareness campaigns and institute incentives for green technology adoption. Financial inducements, tax incentives, and subsidies for investments in renewable energy and waste reduction technologies would engender a favorable milieu for adoption. Secondarily, practitioners can champion green technology adoption by investing in research and development, disseminating best practices, and fostering collaborative ventures with governmental agencies and industry counterparts. Lastly, researchers are encouraged to delve into the drivers and impediments to green technology adoption, assess the efficacy of policy interventions, and delineate emergent trends and technologies poised to reshape industrial practices. In essence, this study underscores the imperative of concerted action and collaboration among stakeholders to confront environmental challenges and catalyze sustainable development. By coalescing efforts, policymakers, practitioners, and researchers can effectuate transformative change and engender a sustainable future for posterity.

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