F.NO./COE/Ph.D./57I/2024

Supervisor's Name: Prof. Abid Haleem

Name of the Department: Department of Mechanical Engineering

Name of the Topic: Understanding Critical Factors for Adoption of Eco-innovation

Findings:

Keywords: Eco-innovation, Manufacturing, Sustainable Development, Drivers, Barriers

The present study significantly advances the eco-innovation literature by identifying and prioritizing critical factors that enhance the integration of eco-innovation within the Indian manufacturing sector, which represents a substantial portion of the nation's economic output. Through a systematic review of existing literature and expert opinions, this study offers valuable data that can be adapted to other research endeavours focusing on specific sectors, sizes, or geographic locations. A total of 27 drivers and 30 barriers have been identified through rigorous review of literature and expert opinion. 'R&D effort' and 'Lack of new technologies and material' were ranked as the best driver and worst barrier respectively.

The identification and ranking of the critical factors are expected to provide better knowledge to decision makers and facilitate eco-innovation adoption and diffusion. Additionally, the study provides insights into measuring eco-innovation performance both at the sector and national levels, suggesting that similar methodologies can be applied at the firm level to further enrich this field of study. Encouraging eco-innovation in manufacturing is crucial for shaping policies that drive economic development at various levels. The findings can assist organizations in pinpointing gaps and improving the flow of information and resources necessary for better aligning eco-innovation.