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MAP MANAGEMENT WITH ARTIFICIAL INTELLIGENCE TO ENHANCE SOCIAL GOOD SUSTAINABILITY PRACTICES

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ABSTRACT

Purpose: Artificial intelligence (AI) has the potential to help tackle some of the world's most challenging social problems. Artificial Intelligence used in the right way can support tackling cases across all 17 of the sustainable development goals. Real-life examples of AI are already being applied in about one-third of these use cases, albeit in relatively small tests. They range from diagnosing cancer to helping blind people navigate their surroundings, identifying victims of online sexual exploitation, and aiding disaster-relief efforts. The study by Dan (2022) states that future works must unify the different dimensions of management that can sustain with Artificial Intelligence which supports the sustainability of social good.

Design/Methodology/Approach: This research has quantitative research with a survey performed targeting employees and collected 125 responses from Employees of the IT Industry by selecting them in a snowball sampling methodology.

Findings: From the interpretation, it was found a management-enhanced model under artificial intelligence is required to manage the sustainability of social good.

Originality: This paper presents original ideas on how enhanced management concepts can be connected with artificial intelligence to create a sustainable social good practice.
Social implications: Organizations as well as employees can be benefited from the improvisation of better management-infused social good practices and elevate the standards of social good and sustainability.

Keywords: Artificial Intelligence, Management Practice, Social Good, Sustainability, Sustainable Social Good Practice.

1.INTRODUCTION

As the world faces complex challenges related to social and environmental sustainability, the role of management practices becomes increasingly crucial. To effectively address these challenges and enhance social good sustainability practices, organizations are turning to a key tool: artificial intelligence (AI). By mapping management principles together with AI technology, businesses can harness its capabilities to drive sustainable outcomes, foster ethical decision-making, and create positive societal impact. This introduction explores how the integration of management practices and AI can be a transformative approach for enhancing social good sustainability practices. By leveraging AI's computational power, data analytics, and predictive capabilities, organizations can make more informed decisions, optimize resource allocation, and promote sustainable practices at a broader scale. Traditional management practices have relied on human judgment and experience, which can be limited in analyzing large volumes of data and identifying complex patterns. AI, on the other hand, can process vast amounts of data, detect correlations, and provide actionable insights in real-time.

This convergence of management principles with AI allows organizations to leverage data-driven approaches for sustainable decision-making, thereby enhancing social and environmental outcomes. AI can be employed across various domains to drive social good sustainability practices. For instance, in supply chain management, AI algorithms can optimize logistics, reduce waste, and minimize carbon emissions by dynamically adjusting transportation routes and inventory levels. In energy management, AI can help optimize energy consumption, forecast demand, and facilitate the integration of renewable energy sources into the grid. In addition, AI-powered analytics can enable organizations to identify and address social inequalities, enhance diversity and inclusion efforts, and promote ethical business practices. By integrating management principles with AI, organizations can also enhance their ability to predict and mitigate risks associated with sustainability. AI algorithms can analyze historical data, identify patterns, and forecast potential environmental, social, and governance (ESG) risks. This proactive approach allows organizations to develop preventive measures, implement sustainable practices, and avoid negative impacts on communities and the environment.

Furthermore, the combination of AI and management principles fosters transparency and accountability. AI-powered tools enable organizations to track and measure their sustainability performance, set targets, and monitor progress in real-time. This transparency helps build trust among stakeholders and facilitates better communication, collaboration, and partnerships for collective action toward sustainable development goals. However, it is essential to recognize the ethical implications and potential biases associated with AI. The integration of management principles with AI should be guided by principles of fairness, transparency, and responsible use of technology. Organizations must ensure that AI systems are designed with ethical considerations in mind, avoiding discriminatory practices, protecting privacy, and promoting equitable outcomes.

In conclusion, mapping management principles together with AI represents a key way to enhance social good sustainability practices. By leveraging AI's computational capabilities, organizations can make data-driven decisions, optimize resource allocation, and promote sustainable practices at a larger scale. The integration of AI with management practices allows businesses to address complex challenges, predict risks, and foster transparency and accountability. To achieve sustainable development goals and create a positive societal impact, organizations must embrace the potential of AI as a transformative tool in driving social good sustainability practices.

2. REVIEW OF LITERATURE

Choudhary, V., & Bali, R. K. (2020). Artificial Intelligence in Sustainable Supply Chain Management: A Literature Review and Future Research Directions. Journal of Cleaner Production, 269, 122318. This literature review explores the integration of artificial intelligence (AI) in sustainable supply chain management. The study highlights the potential of AI technologies, such as machine learning and optimization algorithms, in optimizing logistics, reducing waste, and improving sustainability performance. It emphasizes the need for further research on the ethical considerations and implementation challenges of AI in sustainable supply chain practices.

Stamelos, I., Zafeiropoulos, A., & Chatzimisios, P. (2020). Artificial Intelligence for Environmental Sustainability: A Systematic Literature Review. Sustainability, 12(11), 4580. This review examines the role of artificial intelligence in enhancing environmental sustainability. It discusses various applications of AI, including energy management, pollution monitoring, and natural resource conservation. The study identifies the potential benefits of AI in promoting sustainability practices and emphasizes the importance of ethical considerations and human-AI collaboration in achieving sustainable outcomes.

Frank, B., & Krishnan, R. (2020). Artificial Intelligence for Social Good: A Survey. ACM Computing Surveys, 53(6), 1-39. This comprehensive survey provides an overview of how artificial intelligence can contribute to social good initiatives. It explores various domains, such as healthcare, education, poverty alleviation, and sustainability, where AI technologies have the potential to address social challenges. The study emphasizes the need for responsible AI development and ethical considerations to ensure the positive impact of AI on social well-being.

Ding, L., Lu, C., Li, L., & He, Q. (2021). Artificial Intelligence Applications in Sustainable Development: A Review. Journal of Cleaner Production, 289, 125673. This review examines the application of artificial intelligence in promoting sustainable development. It discusses how AI technologies, such as data analytics, machine learning, and predictive modeling, can assist in decision-making, resource optimization, and environmental management. The study highlights the importance of AI ethics, explain ability, and transparency to ensure the responsible and sustainable use of AI technologies.

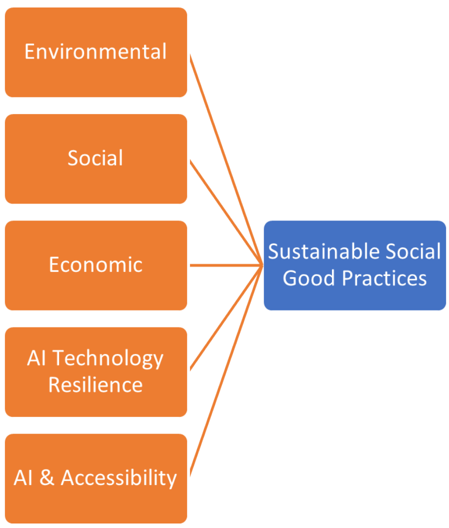
Su, X., & Zhang, W. (2020). Artificial Intelligence for Social Good: A Systematic Literature Review. IEEE Access, 8, 92469-92482. This systematic literature review focuses on the use of artificial intelligence for social good. It explores various applications of AI, including sustainability, poverty alleviation, healthcare, and education. The study discusses the potential benefits and challenges of AI in achieving social good outcomes and emphasizes the need for interdisciplinary collaboration and ethical considerations to maximize the positive impact of AI technologies.

In summary, the reviewed literature highlights the potential of integrating management principles with artificial intelligence (AI) to enhance social good sustainability practices. The studies discuss the application of AI in domains such as supply chain management, environmental sustainability, and social welfare. They emphasize the importance of ethical considerations, responsible AI development, and human-AI collaboration to ensure the positive impact of AI on social and environmental outcomes. Overall, the literature underscores the transformative role of AI in mapping management practices for sustainable development and emphasizes the need for further research and practical implementation in this area.

3. RESEARCH OBJECTIVE

- To identify the Social Good Sustainability Practices determinants.
- To analyze the relationship between independent variables
- To analyze the relationship between Environmental, Social, Economic, AI Technology Resilience, AI & Accessibility (Independent Variables) and Sustainable Social Good Practices (dependent variable)
- To offer an Artificial Intelligence-based model suggesting sustainable practices for social goods.

4. RESEARCH MODEL



5. RESEARCH METHODOLOGY

The persistence of this research is to study the rapport between Artificial Intelligence and its impact on Sustainable Social Good Practices of IT industry employees, in Kancheepuram District, Tamilnadu. The significant aim of this study is to contribute and analyze valuable insights into the field of IT and inform practical interventions in Kancheepuram District. It is Descriptive research with the use of Snowball Sampling, 125 samples. The primary data was gathered through a structured survey questionnaire and personal interviews. Based on the study problem, gap, and theoretical model, appropriate statistical tools and methodologies were applied. The research aims and hypotheses guided the findings, recommendations, and conclusion.

6. ANALYSIS & INTERPRETATION

Reliability:

The Cronbach's alpha value has improved after the pilot study, as seen in the table below. After making the required modifications in the items, the values of Cronbach's alpha with respect to each construct for the 50 respondents are more than 0.70, indicating that the contents that are used to assess the variables are dependable. This indicates that there is no need for further changes and therefore there is no initial response prejudice.

Table 1 - Cronbach's Alpha test for Reliability

Reliability		
S. No	**Variables**	**Reliability**
1	Environmental	0.829
2	Social	0.913
3	Economic	0.814
4	AI Technology Resilience	0.732
5	AI & Accessibility	0.715
6	Sustainable Social Good Practices	0.749

The reliability of each construct from the above table is Environmental (0.829), Social (0.913), Economic (0.814), AI Technology Resilience (0.732), AI & Accessibility (0.715), and Sustainable Social Good Practices (0.749).

Correlation:

Table 2 - Correlation:

		Environmental	Social	Economic	AI Technology Resilience	AI & Accessibility
Environmental	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	125				
Social	Pearson Correlation	.701**	1			
	Sig. (2-tailed)	0				
	N	125	125			
Economic	Pearson Correlation	.653**	.730**	1		
	Sig. (2-tailed)	0	0			
	N	125	125	125		
AI Technology Resilien	Pearson Correlation	.628**	.685**	.814**	1	
	Sig. (2-tailed)	0	0	0		
	N	125	125	125	125	
AI & Accessibility	Pearson Correlation	.728**	.711**	.716**	.772**	1
	Sig. (2-tailed)	0	0	0	0	
	N	125	125	125	125	125

****. Correlation is significant at the 0.01 level (2-tailed).**

From the above table 2, it is clear that the correlation is high between AI Technology Resilience and Economic which is 0.814.

Table 4 – ANOVA

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1551.588	6	258.598	57.674	.000[b]
	Residual	2748.558	119	4.484		
	Total	4300.147	125			

a. Dependent Variable: Sustainable Social Good Practices

b. Predictors: (Constant), Environmental, Social, Economic, AI Technology Resilience, AI & Accessibility

Table 5 – Coefficients

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-0.62	0.329		-1.884	0.06
	Environmental	0.041	0.017	0.131	2.402	0.017
	Social	0.034	0.023	0.093	1.994	0.036
	Economic	0.012	0.034	0.023	0.35	0.027
	AI Technology Resilience	0.052	0.033	0.101	1.963	0.049
	AI & Accessibility	0.05	0.024	0.118	2.072	0.039

a. Dependent Variable: Sustainable Social Good Practices

From the table 5, the coefficient table provide the necessary data to predict and also the significance is high to interpret the data to be statistically significant.

7. FINDINGS

The present study was carried out in seven stages. At the first stage, the personal profile of the employees (N = 125), their units were discussed. Based on the test of Reliability, the data came back significant and recommended for further analysis. The respondents were (N = 125) classified on the basis of their age, gender, education, functional area or department, designation, shift, working hours, total experience, respondent's experience in the current organization, and number of years working under the current profession.

I. The correlation of independent variables turned to be significant and it was high between AI Technology Resilience and Economic which is 0.814

II. The regression result turned to be significant

8. SUGGESTIONS

One key way to map management together with artificial intelligence (AI) to enhance social good sustainability practices is through the implementation of AI-powered data analytics and decision-making systems. Here's how organizations can utilize this approach:

I. Data-driven Sustainability Assessment: Implement AI algorithms to analyze large volumes of data related to social and environmental impacts.

II. By utilizing machine learning and data mining techniques, organization can identify trends, patterns, and correlations within the data to gain insights into their sustainability performance. This assessment can help identify areas of improvement, set targets, and monitor progress towards sustainability goals.

III. Predictive Modelling for Risk Assessment: Use AI predictive modelling techniques to assess potential risks and impacts on social and environmental sustainability. By analysing historical data and external factors, AI algorithms can provide organizations with insights into future risks, allowing for proactive planning and mitigation strategies. This approach helps organizations identify emerging sustainability risks and take preventive measures to avoid negative consequences

IV. Optimal Resource Allocation: Utilize AI-based optimization algorithms to allocate resources efficiently and sustainably. By considering various factors such as energy consumption, waste generation, and social impacts, AI can optimize decision-making processes related to resource allocation. This approach ensures that resources are used effectively, minimizing waste and maximizing social and environmental benefits.

V. Ethical Decision-Making Frameworks: Develop AI-powered decision-making frameworks that integrate ethical considerations. By embedding ethical principles into AI algorithms, organizations can ensure that decisions align with social good sustainability practices. This includes considerations such as fairness, transparency, and equity, which help prevent biased outcomes and promote responsible decision-making.

VI. Stakeholder Engagement and Collaboration: Utilize AI-based tools for stakeholder engagement and collaboration. AI-powered platforms can facilitate transparent and inclusive decision-making processes by collecting and analysing feedback from diverse stakeholders. This approach helps organizations consider multiple perspectives, address concerns, and build consensus around sustainability initiatives.

VII. Monitoring and Reporting Systems: Implement AI-enabled monitoring and reporting systems to track sustainability performance and communicate progress to stakeholders.

These systems can automate data collection, analyse performance metrics, and generate real-time reports, enabling organizations to demonstrate their commitment to social good sustainability practices. This transparency fosters accountability and builds trust with stakeholders.

VIII. Continuous Learning and Improvement: Leverage AI for continuous learning and improvement in sustainability practices. By analysing data and performance metrics, AI algorithms can provide feedback and insights for organizations to refine their strategies and optimize outcomes. This iterative approach ensures ongoing enhancement of social and environmental sustainability efforts.

It is important to note that while AI can provide valuable insights and decision-making support, human judgment and ethical considerations should always be involved in the decision-making process. Organizations should ensure that AI technologies are developed and used responsibly, addressing issues such as bias, privacy, and fairness. By mapping management principles together with AI in these ways, organizations can enhance their social good sustainability practices by leveraging the power of data analytics, predictive modeling, and optimized decision-making. This integration enables organizations to make informed, ethical, and impactful decisions that contribute to sustainable development and create positive social and environmental outcomes.

predictive modeling, and decision-making systems, organizations can make informed and impactful decisions that contribute to sustainable development and positive social and environmental outcomes. Through data-driven sustainability assessments, organizations can gain valuable insights into their sustainability performance, identify areas for improvement, and set targets for progress. The use of predictive modeling helps organizations proactively identify and address potential risks, allowing for effective risk mitigation strategies and the avoidance of negative social and environmental impacts. Optimal resource allocation facilitated by AI optimization algorithms enables organizations to use resources efficiently and sustainably, minimizing waste and maximizing social and environmental benefits. Embedding ethical considerations into AI-powered decision-making frameworks ensures that decisions align with social good sustainability practices, promoting fairness, transparency, and equity. Stakeholder engagement and collaboration are enhanced through AI-based tools, enabling organizations to collect and analyze feedback from diverse stakeholders.

9. CONCLUSION

In conclusion, the integration of management principles with artificial intelligence (AI) offers a key way to enhance social good sustainability practices within organizations. By leveraging AI-powered data analytics, This inclusive approach ensures that sustainability initiatives consider multiple perspectives and address concerns, fostering consensus and collective action. AI-enabled monitoring and reporting systems provide real-time tracking of sustainability performance and enable organizations to communicate progress transparently to stakeholders. This transparency fosters accountability and builds trust. Importantly, organizations should approach the integration of management principles with AI with responsible and ethical practices. Human judgment and ethical considerations should always be involved in decision-making processes, addressing issues such as bias, privacy, and fairness. By mapping management principles together with AI, organizations can unlock the potential of data-driven insights, optimized decision-making, and stakeholder engagement, resulting in enhanced social good sustainability practices. This integration empowers organizations to make evidence-based, ethical decisions, driving progress towards sustainable development goals and creating positive impacts on society and the environment.

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