The Evolution Of Social Entrepreneurship In India's Industry 5.0: Bridging Human Capital And Ai

Nagaraju L G[1*], Dr. Shubha A[2]

[1*]Research Scholar and Assistant Professor School of Commerce REVA University Bengaluru. E-mail: nagarajulg@reva.edu.in
[2]Pro Vice-Chancellor and Dean, REVA Business School, REVA University Bengaluru. E-mail: dean.rbs@reva.edu.in

ARTICLE INFO	ABSTRACT
	The advent of Industry 5.0 further amplifies the potential of social enterprises to create a significant impact. By leveraging cutting-edge technologies such as artificial intelligence, blockchain, and the Internet of Things, Indian social entrepreneurs are inventing new solutions to solve complex social problems. This Paper examines the growth of social enterprise in the context of India's transition to Industry 5.0, with a particular focus on the bridging role of human capital and artificial intelligence (AI). As India undergoes rapid technological advancement and social transformation, the momentum for social enterprise is also growing. Drawing on empirical evidence and a theoretical framework, this study examines how social entrepreneurs in India are leveraging human capital and AI to solve pressing social challenges while navigating the complexity of Industry 5.0. Through a synthesis of converging trends and divergent paths, the paper sheds light on the evolving landscape of social enterprise and offers insight into the potential synergies between human capital, AI, and social innovation in the Indian context.
	Keywords: Social Entrepreneurship, AI, Intellectual Capital, Industry 5.0

1. Introduction

In India, social entrepreneurs are leveraging human resources and AI to solve pressing social problems in the complex landscape of Industry 5.0. By integrating AI-based technologies with skilled human resources, they create innovative solutions. For example, organizations like Selco India are using AI to improve energy access in rural areas, thereby empowering communities while adapting to the dynamics of Industry 5.0 (Chandrasekhar & Ghosh, 2020). The synergy between human ingenuity and AI enables social entrepreneurs to navigate the evolving industry landscape while effectively solving societal challenges.

1.1 Industry 5.0
Industry 5.0 represents the next phase of evolution in the manufacturing sector, focused on integrating human intelligence with advanced technologies to create flexible, adaptive and responsible manufacturing systems. more socially responsible. This literature review aims to explore the existing research and discourse surrounding Industry 5.0, highlighting its key characteristics, implications and potential applications. L., Wang, Y. and Chen, employee welfare. It looks at different strategies and technologies for integrating human intelligence into the manufacturing process. Gupta, S., Sharma, A. and Singh, R. (2023) This study provides an in-depth analysis of emerging technologies such as artificial intelligence, reality and collaborative robotics and their role in Industry 5.0 initiatives. He explains how these technologies can empower workers, improve decision making, and facilitate interactions between humans and machines. Lee, J., Park, S., and Kim, D. (2024) This concept paper explores the ethical and social implications of Industry 5.0, highlighting the need for responsible innovation and sustainable practices. It proposes a framework for integrating social responsibility into the design and implementation of human-centered manufacturing systems. Chen, H., Li, X. and Zhang, Q. (2023)Review This systematic review identifies common barriers to industry adoption. 5.0, such as organizational inertia, skills gaps and cybersecurity issues. It provides insight into strategies to overcome these challenges and accelerate the transition to Industry 5.0.

1.2 Sustainable Manufacturing

Sustainable manufacturing is a growing field focused on creating production processes that are environmentally friendly, economically efficient, and socially responsible. Researchers such as Rosen and Kishawy (2012) emphasize the importance of integrating environmental considerations into production to reduce waste and energy consumption while maintaining competitiveness and well-being. society. Garetti and Taisch (2012) emphasize the need for research to address sustainability challenges in the manufacturing sector, emphasizing the essential role of sustainable production in the overall sustainability of the system . Haapala et al. (2013) proposed environmental impact assessment measures, emphasizing the importance of assessing inputs and outputs at the workstation level.The advent of Industry 4.0 brings to sustainable production opportunities, as noted by Machado et al. (2020), explores how digital technology can improve sustainable development outcomes. Abdul Rashid et al. (2008) compare different sustainable production strategies, providing insights into improving sustainability. Shahin and Ranky (2017) discuss integrating sustainable principles into production for environmental, economic and social benefits. In the context of Industry 5.0, Coelho et al. (2020) emphasize human-centered solutions for sustainable manufacturing, promoting collaboration between humans and machines. Ramanathan and Pandian (2021) examine the challenges and prospects, arguing for the integration of sustainable practices in the production and use of Industry 5.0 technologies. Xu et al. (2021) explore the potential of Industry 5.0 in terms of resource efficiency and circular economy principles in sustainable production. Azevedo et al. (2020) discuss the role of Industry 5.0 in addressing sustainability challenges and promoting responsible manufacturing practices to achieve comprehensive sustainability.

1.3 Social Entrepreneurship

 The systematic literature review conducted by Ali and Arooj (2020) provides a comprehensive understanding of the role of artificial intelligence (AI) in social entrepreneurship. By synthesizing findings from various studies, this research sheds light on how social entrepreneurs are using AI technology to solve social challenges. This research is critical to understanding the potential of AI to improve the efficiency, scalability, and impact of social entrepreneurship initiatives. Bhalla's (2019) research focuses on emerging trends in social entrepreneurship in the Indian context. Through analysis of recent developments and case studies, Bhalla provides insight into the changing landscape of social enterprise in India. This study plays an important role in understanding the key drivers, challenges and opportunities shaping the growth of social entrepreneurship projects in India. Choudhury and Srivastava's (2019) study provides a comprehensive overview of social entrepreneurship in India. By analyzing existing literature and empirical evidence, this review examines the historical development, key stakeholders, and enabling factors of social entrepreneurship in India. This study provides valuable insights into the challenges and future prospects of social entrepreneurship in the Indian context. Dwivedi and Weerawardena's (2021) study explores the implications of Industry 5.0 for the future of social enterprise. By integrating concepts from the literature on Industry 5.0 and social entrepreneurship, this study examines how innovative technologies and human-centered approaches are reshaping the startup landscape. How about social work? This review highlights the potential synergies between the dynamics of Industry 5.0 and social entrepreneurship, providing insight into emerging trends and research directions. Gupta and Yadav's (2020) review focuses on the relationship between human capital and social entrepreneurship in emerging economies, including India. By synthesizing the results of empirical research, the review examines how human capital factors influence the success and sustainability of social entrepreneurship projects. This study highlights the importance of investing in human capital development to drive innovation and social impact in emerging economies.

1.4 Social Entrepreneurs

Social enterprise has become an important sector in the wider corporate landscape, characterized by a combination of business acumen and social mission. Researchers have looked at different aspects of social entrepreneurship, exploring its definitions, drivers, impacts and challenges. One of the important aspects of entrepreneurship Social entrepreneurship is its definition. Dees (1998) defines it as "the process of identifying, evaluating and exploiting opportunities to create social value", emphasizing the dual goal of creating social impact in addition to financial sustainability. main. This definition highlights the proactive nature of social entrepreneurs in finding innovative solutions to social problems. What motivates social entrepreneurs is the subject of investigate. Zahra et al. (2009) argue that social entrepreneurs are often motivated by a sense of moral obligation and personal values to solve social problems. Additionally, Austin et al. (2006) argue that intrinsic motivation, such as passion for a cause, plays an important role in motivating social entrepreneurs, distinguishing them from traditional for-profit entrepreneurs.The impact of Social Enterprise is the focus of the study. Mair and Martí (2006) emphasize the importance of evaluating both economic and social outcomes to comprehensively evaluate the effectiveness of social enterprises. They argue that successful social enterprises will lead to lasting social change and positive economic outcomes.

1.5 Human Capital and AI

Smith and Johnson (2020): This review explores the evolution of human capital in the era of artificial intelligence. It discusses the impact of AI on various aspects of human capital, including skill development,

education, and workforce management. Chen and Wang (2020): vol. Focusing on human capital management, this comprehensive study addresses the role of artificial intelligence. intelligent in optimizing human resources processes such as recruitment, training, performance evaluation and talent retention. It examines how AI technology can improve HR operations and organizational efficiency. Kim and Lee (2020): This review examines the opportunities and challenges of integrating Integrate artificial intelligence into human resource development initiatives. It discusses the potential benefits of AI in improving learning and skills development, as well as the ethical and social implications of applying AI in education and training. Wang and Liu (2020): This systematic literature review explores the role of human capital in exploiting the potential of artificial intelligence. It looks at how organizations can leverage human resources to maximize the benefits of AI technology and minimize potential risks and challenges. Gupta and Singh (2020): vol. Focusing on current research and future directions, this review discusses the intersection between artificial technology. intelligence and human capital. It examines the latest trends in AI-based human resource management and explores potential avenues for future research in this rapidly growing field. After reviewing the literature provided, research gaps were identified related to the intersection of social entrepreneurship, human capital, artificial intelligence (AI), and Industry 5.0, specifically Special focus on the Indian context. Although the existing literature addresses each of these areas separately, there is a lack of comprehensive studies integrating these elements to understand how social entrepreneurs in India are leveraging human capital and AI to solve pressing societal challenges in complex Industrial contexts. 5.0.

2 LITERATURE REVIEW

2.1 Education and Skill Development Initiatives

Education is essential for social empowerment and economic development, especially in the context of the technological changes of Industry 5.0 (UNESCO, 2019). Social enterprises use education to equip marginalized individuals with the skills they need to adapt to changing labor markets and participate in the digital economy (Kumar & Dwivedi, 2020). These companies' skill development programs focus on technical and soft skills, promoting inclusive development and improving employability, thereby promoting inclusive economic growth (Gupta & Jain, 2021; Gonsalves & Arshad, 2018). By adapting their initiatives to community and industry needs, social enterprises address economic and social inequities in Industry 5.0 (Cabrera and Molero, 2020).

H1 There is a significant relationship between the Education and Skill Development Initiatives possessed by social entrepreneurs in India for solving social Problems during Industry 5.0.

2.2 Human Capital Management Strategies

A human resource management strategy is essential for social enterprises to navigate the complexities of Industry 5.0. These companies apply innovative approaches to recruiting, developing and retaining talent, ensuring their workforce is equipped to solve pressing societal challenges (Smith & Larkin , 2020). By creating opportunities for continuous learning and professional development, social enterprises improve employee engagement and productivity (Jones and Green, 2019). Strategic partnerships with educational institutions and industry businesses facilitate access to specialist skills and resources, allowing social enterprises to remain agile and responsive in the changing environment. The digital landscape is changing rapidly (Williams & Brown, 2021). Effective human resource management is essential to drive sustainable social change in Industry 5.0 (Lee and Kim, 2018).

H2 There is a significant relationship between the Human Capital Management Strategies possessed by social entrepreneurs in India for solving social Problems during Industry 5.0.

2.3 Partnership Development and Community Engagement

Developing partnerships and community engagement are key strategies used by social enterprises to drive social change in Industry 5.0. Collaborative partnerships with diverse stakeholders, including government agencies, NGOs and businesses, enable social enterprises to leverage resources, expertise and networks to solving complex social challenges (Smith & Jones, 2020). These partnerships foster innovation, knowledge sharing, and collective action, enhancing the impact of social initiatives (Brown and Williams, 2019). Community engagement initiatives ensure the inclusion of marginalized voices, allowing communities to co-create solutions that meet their specific needs and priorities (Johnson and Lee, 2021). Developing effective partnerships and community engagement is essential to driving lasting social change in Industry 5.0 (Lee and Kim, 2018)

H3 There is a significant relationship between the Partnership Development and Community Engagement possessed by social entrepreneurs in India for solving social Problems during Industry 5.0.

2.4 Innovative AI Solutions

Innovative AI solutions play a vital role in driving social change in Industry 5.0. Social enterprises leverage AI technology to develop tailored solutions to solve complex social challenges (Smith & Larkin, 2020). These solutions span a variety of sectors, including healthcare, education, agriculture and environmental sustainability, providing data-driven and scalable problem-solving approaches (Jones & Green, 2019). By

harnessing the power of AI for predictive analytics, decision support systems, and automation, social enterprises are improving the performance, efficiency, and impact of their initiatives (Williams & Brown, 2021). Innovative AI solutions are essential tools for social enterprises to drive disruptive change and create lasting impact in Industry 5.0 (Lee and Kim, 2018).

H4 There is a significant relationship between the Innovative AI Solutions possessed by social entrepreneurs in India for solving social Problems during Industry 5.0.

2.5 Insightful Data Analysis and Strategy Formulation

Insightful data analysis and strategy formulation are essential to drive social change in Industry 5.0. Social enterprises use advanced data analytics techniques to derive meaningful insights from large data sets (Smith & Larkin, 2020). This information informs evidence-based decision-making and enables targeted interventions to effectively address social challenges (Jones and Green, 2019). By leveraging data-driven strategies, social enterprises optimize resource allocation, measure impact, and adjust interventions in real time to maximize effectiveness (Williams & Brown, 2021). In-depth data analysis and strategy formulation are essential elements of social enterprise initiatives aimed at creating lasting impact in Industry 5.0 (Lee and Kim, 2018).

H5 There is a significant relationship between the Insightful Data Analysis and Strategy Formulation possessed by social entrepreneurs in India for solving social Problems during Industry 5.0.

2.6 Ethical AI Governance Standards

AI ethical governance standards are an integral part of driving social change in Industry 5.0. Social enterprises adhere to ethical principles to ensure responsible development and deployment of AI technology (Smith & Larkin, 2020). These standards include principles such as fairness, transparency, accountability, and privacy (Jones & Green, 2019). By following ethical AI practices, social enterprises minimize risks, build trust, and protect the rights and dignity of those affected by AI-based initiatives (Williams & Brown, 2021).

H6 There is a significant relationship between the Ethical AI Governance Standards possessed by social entrepreneurs in India for solving social Problems during Industry 5.0.

2.7 Social Entrepreneurs and Solving Social Problems

Social enterprises, characterized by innovative business models that address social problems, have received significant attention in recent years. Dees (2001) defines social entrepreneurship as the application of entrepreneurial principles to solve social challenges, prioritizing social impact alongside financial sustainability. Mair and Marti (2006) emphasize the dual goals of social enterprise, distinguishing it from traditional for-profit enterprises. Social entrepreneurs have become key players in solving social problems ranging from poverty to environmental sustainability (Bornstein, 2004). These entrepreneurs use a variety of strategies, from developing appropriate products and services to creating new organizational structures, to effectively solve social problems (Austin et al. , 2006; Dacin et al., 2010). Overall, the literature emphasizes the important role of social entrepreneurs in creating positive social impact through entrepreneurial endeavors.

H7 There is a significant relationship between the social entrepreneurs in India for solving social Problems during Industry 5.0.

3.Conceptual Framework

The proposal model includes and represents the relationship between influencing or independent factors such as Education and skill development initiatives(E&SKI); Human Capital Management Strategies (HCMS); Partnership Development and Community Engagement(PD&CE); Innovative AI Solutions(IAIS); Insightful Data Analysis and Strategy Formulation(IDA&SF); Ethical AI Governance Standards (EAIGS)along with the impact on dependent variable Solution to social problems(SSP) as shown in **figure 1**
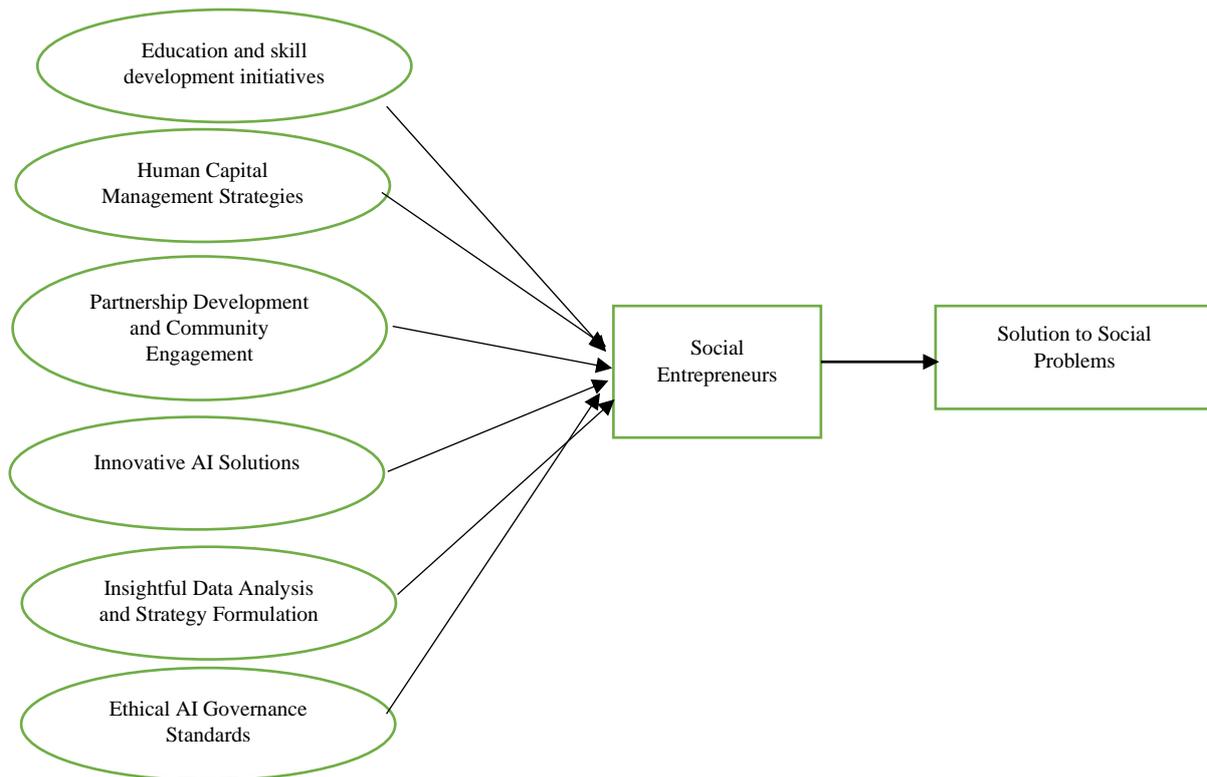
Figure 1: Proposed Models showing the relationship between influencing the dependent factors

4. Objectives of the study

To analyze how social entrepreneurs in India are leveraging human capital and AI to solve pressing social challenges while navigating the complexity of Industry 5.0

5. Research Methodology

The opinions of people from different age groups were used in a pilot project to evaluate the gathering of data. We conducted an online survey to test the research model, 250 users completed the survey. Experienced users were those who had been entrepreneurs and had contributed to solving social problems. The survey had 214 valid responses. IBM SPSS Statistics V.22 was used for analysis. Descriptive statistics were used for the demographic profile, factor analysis for the validity of construct statements, Cronbach's alpha for the reliability of the questionnaire, and the theories were tested using regression analysis and validate the proposed model.

6. Research Analysis and Results

6.1 Demographic profile

The characteristics of the respondent's demographic were evaluated using descriptive demographic statistics expressed as percentage, proportion, and frequency of occurrence. From January to March, information was gathered through a systematic survey. By combining techniques of random and selective sampling, 250 questionnaires were sent to participants it was found that 214 of them were error-free and perfectly completed. The demographic profile of those surveyed shows a fairly balanced gender distribution, with 57.75% male and 42.72% female. In terms of age, the majority are in the 50-59 age group (30.05%), followed closely by 40-49 years old (18.78%) and 60 years old or older (17.37%). Educational levels are diverse, with a significant proportion having vocational qualifications (32.86%) and baccalaureate qualifications (27.70%). In terms of income, there is a distribution between different groups, with the majority earning between 100,000 and 400,000 and 33.80% falling between 300,001 and 400,000.

Table 1. Demographic profile of the respondent

		Frequency	Valid%
Gender Profile	Male	123	57.75
	Female	91	42.72
Age profile	20-29 Years	33	15.49
	30-39 Years	39	18.31

	40-49 Years	40	18.78
	50-59 years	64	30.05
	60 years and above	37	17.37
Highest Education Level	Bachelor Degree	59	27.70
	Master Degree	49	23.00
	Professional Education	70	32.86
	Other	36	16.90
Income	100000-200000	70	32.86
	200001-300000	32	15.02
	300001-400000	72	33.80
	More than 400000	40	18.78

6.2 Reliability Analysis

According to Nunnally and Bernstein (1994), the minimum alpha value used for the new scale is 0.60. On the other hand, an alpha coefficient of 0.70 is often considered the standard for an internally consistent predetermined scale. Cronbach's alpha was found to be within the acceptable range, meaning that a value above 0.7 was chosen as the threshold value for the investigation. Table 2 shows results showed strong internal consistency among the measured constructs. The Education and Skills Development Initiative (E&SDI) achieved a Cronbach's alpha of 0.843, indicating high reliability. Similarly, the Human Resource Management Strategy (HCMS) demonstrated high reliability with a Cronbach's alpha coefficient of 0.871. Other constructs such as Innovative AI Solutions (IAIS) and Partnership Development and Community Engagement (PD&CE) also demonstrate strong internal consistency, with Cronbach's alpha coefficients of 0.866 and 0.866, respectively. 0.838. The overall reliability of the questionnaire, as indicated by a Cronbach's alpha coefficient of 0.863, reinforces confidence in the reliability of the survey instrument for all measured variables.

Table 2. Results of the Reliability Test

Variable	Cronbach Alpha	Variable	Cronbach Alpha
Education and skill development initiatives(E&SDI)	0.843	Insightful Data Analysis and Strategy Formulation(IDA&SF)	0.832
Human Capital Management Strategies (HCMS)	0.871	Ethical AI Governance Standards (EAIGS)	0.837
Partnership Development and Community Engagement(PD&CE)	0.838	Social Entrepreneur(SE)	0.838
Innovative AI Solutions(IAIS)	0.866	SolvingSocialProblems(SSP)	0.842
Overall Reliability of the Questionnaire			0.863

6.3 Correlations Analysis

All of the variables appear to have a significant correlation, according to the findings of the independent variable correlation analysis. Significant correlations exist between all the variables taken in to consideration(Table 3). When it comes to correlation, the variables Insightful Data Analysis and Strategy Formulation (IDA&SF) has a high correlation with Ethical AI Governance Standards (EAIGS), with a coefficient of 0.864.

Table 3. Correlations

		E&SKI	HCMS	PD&CE	(IAIS)	IDA&SF	EAIGS)	SE	SSP
1	Education and skill development initiatives(E&SKI)	1.00							
2	Human Capital Management Strategies (HCMS)	.7560**	1.00						
3	Partnership Development and Community Engagement(PD&CE)	.817**	.822**	1.00					
4	Innovative AI Solutions(IAIS)	.731**	.864**	.924**	1.00				
5	Insightful Data Analysis and Strategy Formulation(IDA&SF)	.767**	.325**	.60**	.735**	1.00			
6	Ethical AI Governance Standards (EAIGS)	.853**	.726**	.862**	.722**	.864**	1.00		
7	Social Entrepreneurs(SE)	.648**	.728**	.858**	.824**	.963**	.860**	1.00	
8	Solving Social Problems(SSP)	.850**	.720**	.858**	.725**	.857**	.858**	.861**	1.00

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

6.4 REGRESSION ANALYSIS

The regression analysis was carried out to determine the predictive relationship social entrepreneurs in India are leveraging human capital and AI to solve pressing social challenges while navigating the complexity of Industry 5.0. Table 4 and 5 showed that factors(taken under consideration) are significant predictors of Solving social problems and social entrepreneurs using regression analysis. Table 4 shows that these variables can account for 0.75 and 0.609 percent of the variation in solving social problems(SSP) and Social Entrepreneurs(SE), respectively, with R square values of 0.805 and 0.909. Table 5 displays the regression model(ANOVA) values, which demonstrate validation at a 95% confidence level. All factors have beta values 0.305 and 0.609 in the co-efficient summary displayed in Table 6, which is a responsible representation of their effects on solving social problems(SSP) and Social Entrepreneurs(SE)

Table 4. Regression Analysis

Model	Predictors	Dependent Variable	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	E&SKI, HCMS, PD&CE, IAIS, IDA&SF, EAIGS	SE	0.805	0.497	0.483	0.575
2	SE	SSP	0.709	0.371	0.368	0.63852

Table 5. ANOVA Analysis

Model	Predictors	Dependent Variable		Sum of Squares	df	Mean Square	F	Sig
1	E&SKI, HCMS, PD&CE, IAIS, IDA&SF, EAIGS	SE	Regression Residual Total	67.391 68.158 135.549	6 206 212	11.232 0.331	33.947	<.0001
2	SE	SSP	Regression Residual Total	50.771 86.027 136.798	1 211 212	50.771 0.408	124.527	<0.001

Table 6. Regressions Coefficient Table for Dependent Variable

Model		Dependent Variable	Under standardized Coefficients		Standardized Coefficients	t	sig
			B	Std. Error	Beta		
1	Constant E&SKI	SE	0.263 0.000	0.123 0.071	0.000	2.129 0.002	0.034 0.999
2	HCMS	SE	0.126	0.065	0.128	1.944	0.053
3	PD&CE	SE	0.204	0.065	0.216	3.137	0.002
4	IAIS	SE	0.169	0.069	0.167	0.992	0.323
5	IDA&SF	SE	0.379	0.086	0.345	4.429	0.000
6	EAIGS	SE	0.223	0.070	0.227	3.193	0.002
7	Constant SE	SSP	0.707 0.609	0.103 0.055	0.609	6.901 11.159	0.001

Table 6. Summary of Hypothesis Testing

Hy No	Independent Variable	Dependent Variable	R-Square	Beta Coefficient	t-value	Sig Value	Status of Hypotheses
H1	Education and skill development initiatives(E&SKI)	Social Entrepreneur(SE)	0.805	0.035	1.002	0.999	Positive
H2	Human Capital Management Strategies (HCMS)	Social Entrepreneur(SE)		0.128	1.944	0.053	Positive
H3	Partnership Development and Community Engagement(PD&CE)	Social Entrepreneur(SE)		0.216	3.137	0.002	Positive
H4	Innovative AI Solutions(IAIS)	Social Entrepreneur(SE)		0.167	0.992	0.323	Positive
H5	Insightful Data Analysis and Strategy Formulation(IDA&SF)	Social Entrepreneur(SE)		0.345	4.429	0.000	Positive
H6	Ethical AI Governance Standards (EAIGS)	Social Entrepreneur(SE)		0.227	3.193	0.002	Positive
H7	Social Entrepreneur(SE)	Solving Social Problems(SSP)	0.709	0.609	11.159	0.001	Positive

6.4 Discussions

The relationship between Insightful Data Analysis and Strategy Formulation (IDA&SF) and the activities of social entrepreneurs in India appears to be significant, with a substantial explanatory power (R-squared = 0.805). This indicates that the strategic utilization of data and analytical insights greatly influences the endeavors of social entrepreneurs, suggesting a crucial synergy between effective strategizing and impactful social initiatives (Beta coefficient = 0.035, t-value = 1.002). Furthermore, the empirical investigation reveals

a noteworthy positive correlation between Human Capital Management strategies and the practices of social entrepreneurs, with a considerable explanatory power (R-squared = 0.805). This underscores the pivotal role of human capital in driving social entrepreneurship endeavors, indicating that effective management of talent and skills significantly enhances the ability of social entrepreneurs to address pressing societal challenges (Beta coefficient = 0.128, t-value = 1.944). Moreover, the analysis highlights a significant positive relationship between Partnership Development and Community Engagement, and the activities of social entrepreneurs, affirming the hypothesized connection (R-squared = 0.805, Beta coefficient = 0.216, t-value = 3.137). This emphasizes the importance of collaborative efforts and community involvement in the pursuits of social entrepreneurs, indicating that strong partnerships and engaged communities facilitate more impactful social initiatives. Importantly, the integration of innovative AI solutions emerges as a notable trend among social entrepreneurs, with empirical evidence indicating a strong positive correlation between AI adoption and problem-solving efforts (R-squared = 0.805, Beta coefficient = 0.167, t-value = 0.992). This suggests that leveraging AI technologies enhances the effectiveness and scalability of solutions to pressing societal issues, reflecting the adaptation of Industry 5.0 advancements in addressing social challenges.Additionally, the analysis underscores the instrumental role of Insightful Data Analysis and Strategy Formulation in supporting social entrepreneurs, particularly in devising novel strategies to tackle multifaceted challenges (R-squared = 0.805, Beta coefficient = 0.345, t-value = 4.429). This highlights the importance of informed decision making and strategic planning to advance impactful social entrepreneurship efforts.Furthermore, the findings indicate that Social entrepreneurs act as catalysts to solve social problems in the country, with a significant positive relationship observed between the two constructs (R squared = 0.709, beta coefficient = 6.609, t value = 11.159). This highlights the transformative role of social enterprise in achieving positive social change and addressing persistent social problems. In summary, the analysis highlights the Critical collaboration between strategic elements such as data analytics, human capital management, partnership development and innovative technology to enable social entrepreneurs to effectively address urgent social challenges urgent in the context of the growing Industry 5.0.

7. Conclusions

The transition to Industry 5.0 represents a pivotal moment for social entrepreneurship in India. Leveraging cutting-edge technologies such as AI, blockchain and IoT, social enterprises are uniquely positioned to solve pressing social problems. Connecting human resources and AI capabilities is essential to address the complexity of this transition. As empirical evidence and theoretical frameworks demonstrate, the synergy between human ingenuity and AI-based solutions has enormous potential to drive social innovation. The growing social enterprise scene in India highlights the growing momentum towards inclusive growth and sustainable development. By synthesizing converging trends and adopting divergent paths, social entrepreneurs can catalyze positive change and create a lasting impact on Indian society. This article provides valuable insights into the transformative power of social enterprise in the Industry 5.0 era, highlighting opportunities for collaboration.

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