International Journal of Core Engineering & Management
Volume-7, Issue-11, 2024 ISSN No: 2348-9510

DRIVING INNOVATION: THE IMPACT OF CROSS-INDUSTRY PARTNERSHIPS ON ADVANCEMENTS IN ARTIFICIAL INTELLIGENCE

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Abstract

Cross-Industry Partnerships (XIPs) are vital mechanisms for addressing complex societal challenges by leveraging diverse expertise from the public, private, and nonprofit sectors. The governance structure of Artificial Intelligence (AI) increasingly relies on these partnerships, especially in areas requiring collaborative innovation and societal impact. Artificial Intelligence (AI) is not only transforming individual industries but also fostering unique collaborations across sectors. These cross-industry partnerships, driven by AI, are unleashing new levels of innovation, solving complex challenges, and creating value that no single sector could achieve on its own. This paper explores the phases of XIPs, examining how cognitive, communicative, and institutional factors influence the formation, management, and value outcomes of these partnerships. Additionally, we focus on the challenges and opportunities presented by AI in these contexts, including how different organizational actors collaborate across sectors. By examining the critical success factors and various forms of partnerships, the study provides insight into the enabling conditions that contribute to effective collaboration in AI-driven XIPs. Furthermore, the mapping of inter-organizational collaboration in AI emphasizes how joint work can drive innovation and solve complex public issues in areas ranging from healthcare to smart cities.

Keywords: Partnership, cross-industry partnership, artificial intelligence, machine learning, driving innovation

I. INTRODUCTION

Systemic change is a hot topic in discussions about cross-sector partnerships for a couple of reasons: first, researchers and practitioners are interested in seeing how these types of collaborations can affect the social and environmental systems at a deeper level, and second, critics are worried about the possible negative effects of these kinds of changes [1]. For instance, previous studies have investigated how multi-sectoral efforts can improve the system-level management of environmental and social issues; however, critics have highlighted the corporatization of activism and social inequality as potential negative outcomes of such partnerships[2].

Cross-industry innovation (CII) has shown itself to be particularly relevant in a variety of contexts. First, businesses want to expand the functionality of their goods in highly developed markets. This necessitates searching outside of their industry for information and technology[3]. Secondly, CII is also common in the production of business models since iconic business models have emerged and the notion of modularity has been used. Thirdly, CII aids in preventing issues that plague highly specialized regions[4], which are very susceptible to crises and disruptions because they rely too

much on a single sector. In such circumstances, exploring technology and solutions in other sectors could be a useful method for the revitalization of areas. Similar to this, innovations in new industries might be sparked by the knowledge and technology created in a particular, highly specialized industry [5].

Big businesses are starting to realize that cross-sector cooperation may result in long-term advantages for competitiveness. However, as the study's authors note, not much research has been done on this kind of cooperation. Moreover, there is a dearth of information on the principles that show how to make them more beneficial [6][7]. A sizable number of individuals are involved in both sectors as stakeholders; enhancing collaboration between them will benefit local communities and business support organizations in addition to the entities' and employees' operations [8].

The motivations for forming partnerships are driven by the advantages of using AI. The capacity to predict and plan for service demand; efficiency in demand-side response automation; identifying high-risk populations and developing focused treatments; increased productivity, lower costs, and more effectiveness in the manufacturing process; promotion of goods and services to the appropriate audiences at the appropriate prices; and the provision of an improved, customized, and hassle-free experience for customers are just a few of these benefits [9]. This study goal to investigate and comprehend a ways in which artificial intelligence (AI) might be used by cross-industry partnerships (XIPs) to stimulate innovation, enhance productivity, and tackle intricate problems in diverse industries including healthcare, banking, and energy. The article intends to give insights into how AI might assist effective inter-industry collaborations, identify critical elements leading to their success, and assess their influence on social and economic developments by examining the cognitive, communicative, and collaborative components of XIPs. The goal of the project is to advance our understanding of how partnerships may strategically include AI to produce ground-breaking and long-lasting solutions. Some key contribution of this paper as:

- Highlights the role of cognitive and communicative approaches in successful cross-industry partnerships (XIPs). Explores AI's role in enhancing collaboration across sectors like healthcare and finance.
- Provides a framework for evaluating the effectiveness of cross-industry partnerships. Success Factors Framework: Develops a framework for identifying success factors and challenges in XIP management.
- Maps inter-organizational collaborations in AI across sectors, showing their impact on social innovation and public service.

1.1 Organization of the paper

The following paper organized as: Section II and III provide the overview of cross industry partnership with AI. Section VI discussed the Cross-Industry Partnership in Artificial Intelligence; Section V provides the mapping inter-organizational collaboration in artificial intelligence. Section VI provides the existing literature review on Impact of cross-industry partnerships on advancements in artificial intelligence. At last Section VII provide the conclusion of this paper.

II. OVERVIEW OF CROSS-INDUSTRY PARTNERSHIP

Scholarly and practical understanding of XIP failure may be limited if the cognitive perspective is ignored, whether it is directly informing or at the intersection with other viewpoints. Some XIPs

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that could lead to significant value creation never make it past the formation phase because their partners' "external cognition and communication approaches" are different when it comes to things like institutional context, opportunism, sharing resources, and social evaluations. In addition, seeing cognitive elements in isolation from other critical formation factors for XISPs may lead to a skewed and unbalanced view of these factors' impacts on XISP formation—that is, to a dominantly external and objective viewpoint that fails to take into account the internal and cognised perspective. The "non-flexibility in conflict resolution process" is a problem that may make the management phase difficult and lengthy because it disregards the importance of communication components—such as resources, legitimacy, logics, and trust—in the resolution of conflicts. The value outcomes phase concludes with inefficient value growth and distribution due to disrespect for a possibility of a communicative and collaborative approach to issues of resources, legitimacy, logics, and trust, as well as the 'communication relevance'[10]. Figure 1 is a schematic depicting the cross-sector collaborations [11]:

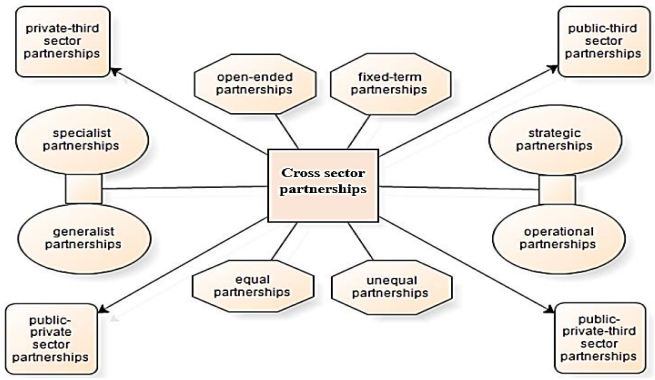

Fig. 1. Cross sector partnerships in diagrammatic form[11]:

Cross-sector relationships may take a number of forms. Generally, they include:

- Public-private collaborations, including the Private Finance Initiative.
- Pilot light, a nonprofit that matches skilled business executives' with FLOs in the UK, establishes private-third sector collaborations for mentoring and coaching.
- Public-third sector collaborations, like Sure Start/children's centers for early childhood and New Deal for Communities for redevelopment, are often area-based.
- Partnerships between private, governmental, and third sectors, including Local Strategic Partnerships. Specialist partnerships, such as Youth Offending Teams, aim to solve a specific problem, while generalist partnerships, such as Local Strategic Partnerships, aim to address a wide variety of concerns.
- Strategic partnerships, like Local Strategic Partnerships, prioritize and coordinate efforts, while operational partnerships, like children's centers, provide services.
- Open-ended partnerships may last indefinitely, whereas fixed-term partnerships are often focused on a single objective.
- Unequal partnerships differ from equal partnerships in that one person may function as the lead or control the purse strings, whereas equal partnerships provide all partners equitable access to authority and resources.

Although individuals from all areas and sectors will be involved in each of these partnerships, generalist partnerships—which include individuals from a broad variety of subjects and all

sectors—are likely to have the greatest degrees of complexity. g. Nonetheless, the majority of collaborations that third sector groups engage in are cross-sectoral.

2.1 Types of Cross-Industry Partners

There are types of cross-industry partners are as follows:

1. **Business-nonprofit partnership**

The first grouping addresses the topic of corporate-nonprofit collaborations and makes extensive use of institutional theory. The question of how such arrangements acquire legitimacy is central to this inquiry, which is in line with one of the original goals of institutional theory. Partnerships between for-profit and nonprofit organizations show external stakeholders that the former cares about social responsibility, which helps with the pursuit of external legitimacy. The fact that the participating organizations follow distinct institutional logics adds a layer of complication to partnerships between the for-profit and charity sectors. In cross-sector partnerships, institutional logics take shape and have an effect.

2. **Public–private partnerships**

The second cluster is similar to the first cluster in terms of certain institutional research, although it appears less often. One avenue of investigation follows a "leitmotif" of new institutionalism from its beginnings and looks at how the institutional setting affects PPPs. Example: Although PPPs aren't always successful, governments often use them to fund infrastructure. There is a tendency for policymakers to prioritize normative expectations above functional efficiency when it comes to PPPs, which might provide them political legitimacy. Institutional expectations, however, may fluctuate over a PPP's lifespan due to the transmission and carrying out of these expectations by a wide variety of external stakeholders, the exact compositions of whom are subject to change.

2.2 Impact Assessment Challenges in XIPs

Research collaboration and impact evaluation are two areas of study where discourses have developed separately and are essential to this topic. Though not much cross-fertilization, some contact has recently emerged. Though impact assessment scholars are demonstrating a greater interest in networks and intricate constellations of players, partnership researchers are undoubtedly growing more interested in impact evaluation. This section examines the methods and limitations of cross-fertilization by highlighting a variety of distinct advancements, shared difficulties, and potential strategies required for a successful synthesis of knowledge from both fields [12].

2.3 Benefits of Cross industry partnership

An efficient cross-sector collaboration yields advantages for the partner by:

- **Increased scale:** To reach more people and achieve more, effective partnerships use common resources. Also, by making contacts in unexplored markets, they may be useful to companies.
- **Replicability and sustainability:** The involvement of dedicated private sector partners may help donors turn their development investments into market-driven, scalable, long-term projects. If collaboration is successful, it may serve as a model for other locations and problems, and it can also inspire continuous and increased investment.
- **Improved effectiveness:** Shared experience and information may drive innovation and open up new possibilities and networks. Partnerships with trustworthy organiZations or agencies may also assist businesses in obtaining a social license to operate.

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- **Better efficiency:** Coordination reduces individual financial obligations while increasing alignment and speeding up accomplishment.
- **Systemic change:** Enhanced visibility, broader domains of influence, coordinated collaborative action, and co-investment improve our chances of achieving the UN Sustainable Development Goals and resolving the complex global challenges that impact communities and supply chains equally.

III. OVERVIEW OF AI IN CROSS-INDUSTRY

Part of the framework for governing the AI sector is this inter-industry cooperation. A definition of "artificial intelligence" is required prior to investigating the effects of AI on the corporate world [13]. The term "AI" is broad enough to include any kind of computer program that mimics human intellect in areas like planning, learning, and problem-solving. Using the word "artificial intelligence" to describe certain software is like using the word "vehicle" to describe a car: both are accurate, but the former doesn't do the subject's complexity credit [14]. To discover the most popular kind of AI in corporate settings, we need to do further research. Figure 2 shows the overview AI.

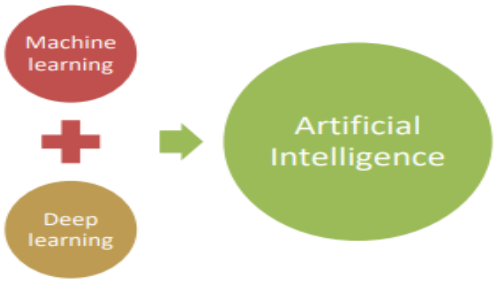

Fig. 2. Artificial Intelligence

1. Machine Learning

The field known as "Machine Learning" is devoted to creating models and methods that computers may use to learn from data and perform better on their own, without human intervention. With the use of ML algorithms, big datasets may be analyzed to find patterns, which can then be used to inform predictions or decisions [15]. The key concept in ML is the ability to learn and adapt from data, which enables the system to improve its performance over time.

2. Deep Learning

Deep learning-based automated driving technology is a popular research topic in artificial intelligence, which can benefit automatic driving control based on different methods [16]. For nonlinear reasoning, it employs neural networks. Detecting fraud requires deep learning. For this purpose, it analyses a number of factors. Multiple components must be identified, analyzed, and responded to simultaneously by self-driving cars. In order to better understand sensor data, such as object distance and speed, DL algorithms aid autonomous vehicles.

3. Applications of AI in industries

Figure 3 and Table 1 provide a summary of the primary AI applications in the sector. The path to incorporating AI is not easy, but it seems promising [17] [18]. Concerns that the industry is attempting to address include data privacy [19], navigating the complexities of potential biases in

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AI models, and meeting the growing need for a skilled workforce capable of using these emerging technologies[20][21].

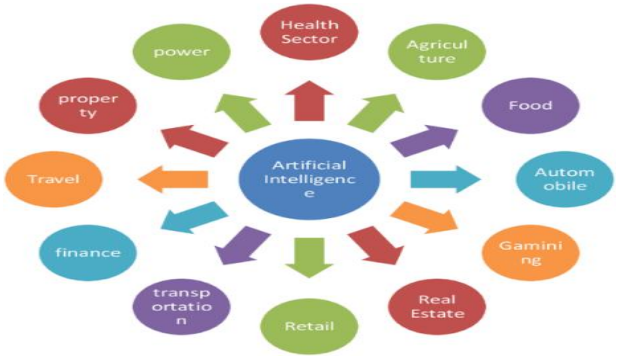

Fig. 3. Applications of AI in industries [22]

Table I. Ai in industry

Industry	Key AI application	Brief Description
Healthcare	Diagnosing diseases using medical imaging	Application of NN for the purpose of anomaly detection in medical image analysis
Finance	Fraud detection and risk assessment	ML algorithms may be used to determine creditworthiness and detect typical transactions.
Agriculture	Predictive analytics for crop yield	An AI program uses product recommendations and environmental data to forecast crop productivity.
Retail	Personalized customer experiences and recommendation	To provide individualized product recommendations and shopping experiences, algorithms evaluate consumer data.
Energy	Renewable energy forecasting	Solar and wind power are two examples of efficient renewable energy sources that can benefit from predictive models developed for use in estimating energy output.
Automotive	Autonomous vehicles	Without any human intervention, complex AI systems can read data from sensors, make decisions about navigation, and safely drive vehicles.

IV. CROSS-INDUSTRY PARTNERSHIP IN ARTIFICIAL INTELLIGENCE

Collaborating across industries to engage on a single project that unites public, non-profit, and for-profit companies may promote social innovation and address some of the world's most serious social issues. They are, nevertheless, acknowledged to be notoriously difficult to put into practice.
"The process by which organizations from two or more sectors connect or share information, resources, activities, and skills in order to work together to achieve a goal that would be impossible for them to do independently" is the definition of a cross-industry partnership. Members of the public, nonprofit, and commercial sectors often work together on these. Although acknowledged as challenging and often failed, these partnerships are seen as potential ways to develop new answers to complicated public challenges. In several cases, the Partnerships end up making things

worse, rather than better. Therefore, a large portion of the research on cross-industry partnerships has focused on this particular form of partnership and its potential for success [23].
As a result, certain cross-industry partnerships are able to form, progress, and effectively accomplish their shared goals. In this work, we want to understand what makes it possible for them to do so. Recognizing that various people have varied definitions of success in cross-sector partnerships is crucial to this endeavor.

4.1 Challenges and opportunities of cross- industries Partnership around artificial intelligence
Through a thorough study of the literature, we were able to assess the management practices that influence collaborative arrangements in various industries. A Google Scholar database electronic search was the search method used to locate relevant studies. For this study, we narrowed our publishing criteria to include only works published in the Journal of Public Administration and Theory, Public Administration Review, and Public Management Review—the three journals widely considered to be the best in the area. The search phrases that were used were: 'Partnership performance,' 'Partnership success,' 'network performance,' 'joint venture performance,' and 'joint venture success"[24].

1. **Challenges for successful Partnership**

The difficulties of collaborating across corporate, non-profit, and public sectors have not gotten nearly as much attention as the difficulties of collaborating between private sector businesses, which have been the focus of much study. To solve cross-sectoral cooperation issues founded in actors' perceptions of one other's interpersonal talents, scholars like have concentrated on building social capital. Dissimilarities in public and private sector risk management practices are another major obstacle to integrating different settings in cross-sectoral partnerships.

2. **Success factors of Partnership**

Studies on partnerships' effectiveness include

- **Facilitative leadership:** The traditional model of leadership, in which an individual uses his or her position of authority to force his or her beliefs on subordinates, is at odds with the concept of facilitative leadership.
- **Shared objectives:** Performance in the public sector has been shown to be favorably connected with the clarity of the organization's goals.
- **Communication:** A communication strategy's many impacts on partnership management were detailed in a recent research.
- **Socializing:** Partnership success depends on managers being open about the results of their efforts and creating incentives for important actors to collaborate.

V. IMPACT OF CROSS-INDUSTRY PARTNERSHIPS ON ADVANCEMENTS IN AI

Here's a provide the impact of cross-industry partnerships on advancements in Artificial Intelligence (AI), discussed in table II:

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Table II. Impact of XIPS on in artificial intelligence (ai)

Aspect	Description	Examples
Innovation Acceleration	Partnerships allow companies to share resources, knowledge, and expertise, speeding up innovation cycles.	Collaborations between tech firms and healthcare providers to develop AI diagnostic tools.
Diverse Data Sources	Cross-industry collaborations enable access to diverse datasets, enhancing AI model training.	Automotive and insurance sectors working together to improve predictive models for accident risks.
Resource Sharing	Companies can leverage each other's infrastructure and technology, reducing costs and risks.	Cloud providers partnering with retail companies to optimize supply chain management through AI.
Skill Enhancement	Partnerships foster skill transfer and workforce development, increasing AI expertise across industries.	Universities collaborating with tech companies to develop AI training programs.
Market Expansion	Cross-industry alliances can open up new markets and customer bases for AI applications.	Financial services and tech startups teaming up to offer AI-driven fin tech solutions.
Regulatory Compliance	Collaborations can facilitate compliance with industry regulations by sharing best practices.	Healthcare AI firms partnering with legal experts to ensure compliance with data privacy laws.
Risk Mitigation	Sharing risks associated with AI development and deployment, leading to more robust solutions.	Automotive companies collaborating on AI for autonomous driving to distribute safety risks.
Interdisciplinary Solutions	Combining expertise from different sectors leads to innovative solutions for complex problems.	Environmental firms and tech companies working together to create AI models for climate change predictions.
Customer-Centric Development	Partnerships allow for better understanding of customer needs, leading to more relevant AI products.	Retailers and consumer goods companies collaborating to use AI for personalized marketing.
Sustainability Efforts	Cross-industry partnerships can focus on creating sustainable AI solutions, addressing environmental concerns.	Energy companies partnering with AI firms to optimize renewable energy usage and efficiency.

VI. MAPPING INTER-ORGANIZATIONAL COLLABORATION IN ARTIFICIAL INTELLIGENCE

It is common for public, commercial, and non-profit entities to work together in various organizational structures to provide public services [25]. Both highly organized, like public-private partnerships, and less so, like policy networks, are possible in these types of connections. Their primary justification is that public services may be improved and cost-effectiveness boosted by combining the skills of all parties involved. The value of cross-sector cooperation has grown in recent years, especially in Europe. As shown in Table III, governments on several continents are collaborating with universities and other sectors via policy laboratory platforms to pool resources and expertise. These interdisciplinary research centre facilitate information sharing, allowing the government to advance solutions in fields as diverse as smart cities and predictive health that are grounded on data science and AI.

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Table III. Cross- Industries Partnership Around Artificial Intelligence Of Excellence

Centre	Participants	Participant Type	Aims	Core Areas of Application
Institute for Analytics and Data Science (IADS)	University of Essex, Essex County Council, Suffolk County Council, British Telecom, EPUT NHS, UNESCO	university; local government; NGO; organization; private utilities	to encourage the sharing of AI knowledge between academic institutions and the public, commercial, and nonprofit sectors; to develop innovative goods and services for organizations, people, and society at large;	international development, public policy, healthcare, social care, mental health, insurance, finance, telecoms, transport, media, policing and crime prevention
Singapore Data Science Consortium (SDSC)	National University of Singapore, Nanyang Technological University, Singapore Management University, Agency for Science, Technology and Research, National Research Foundation Prime Minister's Office, Defense Science & Technology Agency, Singapore Tourism Board, ST Electronics, GIC, Micron, Fuji Xerox, Surbana_Jurong, Certis Cisco, ASM Assembly Systems, Television Content Analytics TVCONAL	universities; national research agencies; private tech companies; local government	to promote partnerships in data science research and development among academic institutions, businesses, and the government	healthcare, customers and retail, manufacturing, transport
Beijing Institute of Big Data Research (BIBDR)	Peking University, Beijing University of Technology, Zhongguancun_Science_Park, Haidian District government under supervision of municipal government of Beijing	universities; district government	to provide a framework for the development of new enterprises in the big data field and a first-rate program to improve data science in China by combining public service, private sector innovation, and university research.	traffic, healthcare, finance
RMIT Data Analytics Lab	RMIT University Melbourne, NICTA (NSW government, Queensland government), Australian Research Council	universities; regional government; national research council	to establish itself as a centre for cutting-edge data analytics initiatives that would assist Australian businesses in competing globally.	Biomedical informatics for health decision-making, geospatial information search, integrated design infrastructure for Australian cities
Center for Data Science and Public Policy	University of Chicago Harris School of Public Policy, Computation Institute, Municipality of Rotterdam, Charlotte-Mecklenburg Police Department, Metropolitan Nashville Police Department, SanFrancisco Police Department, Los Angeles Sherriff's Department, Chicago Department of Public Health, Chicago	universities; local government; county research institute; government; public research; national	to educate current and future policymakers, develop methods and open-source tools to increase the influence of data science on public policy, and foster its further usage in this field.	citizen engagement, welfare, highway patrol, city infrastructure, urban planning

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	Department of Innovation and Technology, Environmental Protection Agency	government	Included in this endeavor are partnerships with governmental agencies, nonprofits, academic institutions, and foundations.	
Dalle Molle Institute for Artificial Intelligence (IDSIA)	Swiss Confederation Commission for Technology and Innovation, University of Lugano, University of Applied Sciences and Arts of Southern Switzerland, Imprecise Probability Group (IPG), Swiss National Science Foundation, Federal Department of Defense	universities; national government; national research institute; research network	to provide answers to many complicated issues by means of new algorithms, ML, DNN, theoretical discoveries, and imprecise probabilities while encouraging close collaboration with collaborators.	environmental risk analysis, military decision-making, metrology and climatology, bioinformatics
German Research Centre for Artificial Intelligence (DFKI)	University of Bremen,Deutsche Forschungsgemeinschaft,Deutschland Land der Ideen, BerlinBigDataCenter	universities; national government; research institute	to investigate the development, use, and evaluation of models for processing information that augment human and robotic agents in performing challenging, repetitive tasks on a human-scale.	outreach, emergency response and crisis management, multimedia opinion mining
Insight Centre for Data Analytics	Dublin City University, NUI Galway, University College Cork, University College Dublin, Cisco, Intel Corporation, Tyndall National Institute, HP, Central Statistics Office, Open Data Institute, Dublin City Council, Galway City Council, Department of Public Expenditure and Reform	universities; national government; councils; institute; research private sector	to use knowledge to inform choices in order to improve society by eliminating uncertainty in decision-making	services, smart enterprise, personalized public chronic disease management and rehabilitation, open government, urban life quality
Office of Open Data and Digital Transformation Philadelphia	University of the Arts Design for Social Impact Program, Division of Housing and Community Development, Department of Planning and Development, Penn Medicine's Center for Health Care Innovation	university; local government; state government	to ensure that every resident of Philadelphia has access to digital services that are courteous, easy to use, and effective in advancing their achievement and overall welfare.	Human catered service design, public open data, citizen engagement, housing accessibility, data sharing platforms, historic site vulnerability, public health

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VII. LITERATURE REVIEW

This section provides a literature review on impact of cross-industry partnerships on advancements in artificial intelligence summary shows in table IV.

This paper Usmani and Usmani, (2023) draws attention to current studies and practical uses of AI that show how it has changed fields like personalized medicine, illness prediction, medication development, and diagnostic imaging. It also discusses the ethical concerns and problems with incorporating AI into healthcare systems, and how important it is to have trustworthy, reliable, and easily interpretable AI models [26].

In this paper Preetha et al. (2023) Statistics processing, exploration, analysis, and record unit validation may be automated by AI-driven systems. Data scientists can now handle large amounts of information automatically, eliminating the need to manually sort through them. Data technological know-how jobs can be optimized by AI-driven systems that can recognize styles, uncover insights, and optimize algorithms. They could also automate and expand prescriptive and predictive analytics to speed up the process of evaluating changes' effects and finding quick wins. Recent advances in AI-driven structures have made it possible for agencies to use statistics-driven approaches and improved analytics [27].

This paper Grasman, Faulin and Lera-López, (2008) offers an overview of the standard PPP procedure and its potential applications in enhancing public sector technology management. Transportation projects, healthcare facilities, educational institutions, and other public works establishments may be funded via public-private partnerships (PPPs). The advantages of PPP also extend throughout engineering management. The most important thing is that PPPs may lead to better technical innovation, better risk reduction, and more efficient project management [28].

In this paper Limbach et al. (2013) we evaluate the potential benefits of utility and telecom businesses working together across industries to better provide information infrastructure by capitalizing on synergies. To achieve this goal, we use a mixed-methods strategy based on expert interviews with telecommunications company managers and grounded theory. They find and reward important concepts that help with infrastructure provisioning across industries based on coding methodologies [29].

This paper Wang, (2013) summarizes domestic and international references from the perspectives of four areas: Collaborative Innovation's impact, members, models, and motivation. In the conclusion, it proposes two research topics that will provide theoretical foundations, after providing an overall view on the Collaborative Innovation of Enterprise [30].

This paper Tsvirkun and Ereshko, (2019) theoretical frameworks are used to the public-private collaboration in the economy. The contemporary climate of the ICT economy places a premium on studies addressing decision-making issues related to the attraction of different algorithms and models for processing massive volumes of data. Typical investment projects span the whole economic spectrum and include a plethora of stakeholders, internal dynamics, and different types of player interaction in addition to a vast geographical scope [31].

This paper Jian, (2013) stresses the critical need for China to change its approach to economic growth immediately. It examines the drawbacks of the current economic development mode, including resource consumption, population bonus dependence, capital input dependence, reliance on international trade, processing trade percentage, and excessive reliance on capital input. The report highlights the need for a national development plan that prioritises innovation-driven development [32].

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Table IV. Literature Review Summary For Impact Of Cross-Industry Partnerships On Advancements In Artificial Intelligence

Reference	Focus on	Methodology	Key Findings	Limitations and Future Work
[26]	Impact of AI in healthcare (medical image analysis, disease prediction, drug discovery, personalized medicine)	Review of recent AI applications in healthcare Exploration of ethical and technical challenges.	AI improves accuracy and efficiency in healthcare applications Addresses ethical concerns like data privacy and need for interpretable AI models.	Lack of clarity on how to ensure full transparency in AI models Data privacy risks in sensitive health data.
[27]	Use of AI-driven systems for data management and analytics	Exploration of AI-driven automated systems for data exploration, analysis, and validation	AI can automate large-scale data management Enables faster identification of insights and optimization of algorithms.	Risks of over-reliance on automation Some complex data problems may require manual intervention.
[28]	Benefits of PPPs for managing technology and infrastructure projects in the public sector	General description of the PPP process in infrastructure projects (e.g., transportation, public works)	PPPs improve project management efficiency Mitigate risks and enhance innovation in public sector projects	Limited real-world case studies Lack of focus on potential challenges in PPP implementation.
[29]	Cross-industry synergies between utility and telecommunication companies	Joint case study using grounded theory approach Expert interviews with telecommunication executives	Synergies between industries improve information infrastructure provisioning Cross-industry cooperation enhances resource sharing	Narrow focus on utility and telecommunication industries May not apply to other industries
[30]	Collaborative innovation between enterprises	Summary of literature on motivation, members, models, and influence of collaboration Theoretical perspective	Identifies key factors driving collaboration between enterprises Proposes research questions on innovation models	Lacks practical examples Focus is mostly theoretical without concrete data or case studies
[31]	Decision-making in PPPs for large-scale investment projects in the digital economy	Theoretical framework of decision-making using data algorithms and models Focus on infrastructure investment projects	PPPs can support decision-making in large projects involving many participants Effective use of data algorithms improves decision outcomes	Theoretical analysis with no empirical data Focuses on large investment projects, limiting broader applicability
[32]	Urgency for transformation of China's economic development mode	Analytical study of China's current economic mode Examination of its disadvantages	Over-reliance on resource consumption and population growth hinders sustainable development Innovation-driven strategies can mitigate these issues	Focuses primarily on China's specific economic challenges Lacks detailed exploration of the proposed innovation strategies.

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VIII. CONCLUSION

Industries must collaborate if we are to address global crises, especially those involving AI, and promote social innovation. Such collaborations bring together resources, capabilities, and knowledge from different sectors, leading to increased impact and efficiency. Despite the promise, XIPs face significant challenges, especially concerning communication, risk management, and aligning different institutional logics. To ensure success, factors such as facilitative leadership, shared objectives, and effective communication are imperative. The study of AI in XIPs reveals that these partnerships hold great potential for systemic change, driving progress towards sustainable development goals through coordinated, scalable actions. However, achieving this success requires overcoming challenges related to different organizational practices and creating frameworks for impact assessment. Collaborative efforts like policy labs and data science consortia across various countries are already demonstrating the impact of AI-driven XIPs, highlighting their role in addressing complex challenges in healthcare, public policy, smart cities, and beyond. The findings underscore the need for well-designed management practices that support collaboration and innovation to ensure the long-term effectiveness of cross-industry partnerships in advancing AI and benefiting society at large.

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