From Indian Wisdom to Intelligent Commerce: An IKS – Based Analytical Framework for Culturally Responsible Artificial Intelligence

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Abstract

The rapid advancement of Artificial Intelligence (AI) is transforming digital commerce through intelligent recommendation systems, automated decision-making, personalized marketing, predictive analytics, and conversational technologies. However, the growing dependence on algorithmic intelligence raises concerns related to ethics, cultural sensitivity, transparency, human values, inclusiveness, and responsible decision-making. In this context, Indian Knowledge Systems (IKS) offer a distinctive knowledge foundation for exploring a more human-centred and culturally responsible approach to AI-enabled commerce. This analytical paper examines how selected principles embedded in Indian knowledge traditions can contribute to the development of culturally responsible Artificial Intelligence in the digital commerce ecosystem. The study conceptually analyses dimensions such as ethical conduct, human welfare, interconnectedness, sustainability, contextual knowledge, trust, and responsible decision-making and relates them to emerging AI practices in digital commerce. The paper proposes an IKS-based analytical framework connecting Indian wisdom, responsible AI principles, and intelligent commerce. The analysis suggests that integrating culturally grounded knowledge with technological intelligence can potentially strengthen trust, inclusiveness, ethical awareness, and sustainability in digital commercial interactions. The paper further identifies opportunities and challenges associated with translating traditional knowledge principles into contemporary AI systems. It concludes that the future of intelligent commerce may benefit from moving beyond purely algorithmic efficiency towards a balanced

model that combines technological capability with ethical, cultural, and human-centred intelligence.

Keywords: Artificial Intelligence, Indian Knowledge Systems, Digital Commerce, Responsible AI, Cultural Intelligence

I. Introduction

Artificial Intelligence (AI) is becoming an important part of modern business. Today, many businesses use AI in digital commerce for customer service, online marketing, product recommendations, sales, payments, and business decisions. AI helps businesses save time, manage information, and provide better services to customers. Generative AI is also being used for creating content, communication, and customer support. The use of AI also brings some challenges. AI can affect customers and businesses in many ways. Privacy, fairness, transparency, bias, and customer trust are some important issues. AI may give quick and accurate results, but it may not always understand the culture, values, and needs of different people. This is important in India because people follow different languages, traditions, and lifestyles.

Indian Knowledge Systems (IKS) can provide useful ideas for using technology in a responsible way. IKS includes the knowledge and ideas developed in India over many years. It covers areas such as education, medicine, agriculture, mathematics, philosophy, environment, and ethics. Indian knowledge traditions give importance to values, responsibility, social welfare, and harmony with nature. IKS does not need to replace modern technology. Instead, some ideas from IKS can be used to understand how AI can become more responsible and useful to people. Ideas such as ethics, responsibility, social welfare, balance, and sustainability can be connected with the development of AI.

Digital commerce is a suitable area for this study because AI is now widely used by online businesses. AI helps businesses understand customers, recommend products, provide services, and make decisions. Since customers come from different cultural backgrounds, businesses also need to consider cultural values and differences. Culturally responsible AI means using AI while respecting the culture, values, and needs of people. In the Indian context, IKS can provide some useful ideas for developing such AI systems.

II. Review of Literature

UNESCO (2021) provided a global framework for the ethics of Artificial Intelligence, highlighting human rights, human dignity, diversity, inclusion, environmental sustainability, and human oversight. The framework is relevant to the present study because it supports the idea that AI development should consider social and human values.

Bharatiya Shikshan Mandal (2020) and related discussions on Indian Knowledge Systems emphasise the importance of understanding India's traditional knowledge in the context of contemporary education, research, and development. IKS provides knowledge from areas including philosophy, mathematics, medicine, agriculture, language, environment, and ethics. This creates a possible foundation for examining technology from an Indian cultural perspective.

Ministry of Education, Government of India (2020) highlighted the importance of Indian Knowledge Systems in education and research through the National Education Policy framework. The emphasis on integrating Indian knowledge traditions with modern knowledge creates an opportunity to examine their relevance to emerging technologies such as AI.

Dwivedi et al. (2023) examined the growing impact of generative AI on business, education, research, and society. Their work highlighted both the opportunities and challenges created by generative AI and pointed to the need for responsible approaches to its use.

III. Scope of the Study

The present study explores the emerging connection between Indian Knowledge Systems (IKS), Artificial Intelligence, and digital commerce. Rather than examining AI only from a technological or business perspective, the study considers the Indian cultural and value-based perspective in the use of AI. The study focuses on how selected ideas from Indian knowledge traditions, such as ethical responsibility, human welfare, balance, trust, sustainability, and respect for social values, can be related to the use of AI in digital commerce. It also examines whether these values can help address issues such as consumer trust, cultural sensitivity, fairness, privacy, and responsible decision-making. The study includes the opinions of 120 respondents to understand their awareness and views regarding AI, Indian values, and

responsible digital commerce. Based on the analytical discussion and primary data, the study aims to develop an IKS-based framework for culturally responsible AI.

The scope is therefore not limited to the question of "What can AI do for commerce?" It also explores the broader question of "How can AI serve commerce while respecting people, culture, values, and society?"

IV. Objectives of the Study

1. To understand the role of Indian Knowledge Systems (IKS) in developing responsible Artificial Intelligence (AI).
2. To examine the relevance of Indian values and ethical principles to AI-based digital commerce.
3. To develop an IKS-based framework for culturally responsible AI in digital commerce.

V. Statement of the Problem

Artificial Intelligence is rapidly becoming part of digital commerce. Businesses use AI for customer service, marketing, product recommendations, payments, and decision-making. While AI provides many benefits, it also creates concerns about privacy, fairness, bias, transparency, trust, and cultural differences. Most AI systems are mainly designed to improve speed, accuracy, and business performance. However, less attention may be given to the cultural values and social needs of users. This is especially important in India, where people have different languages, traditions, values, and lifestyles. Indian Knowledge Systems provide ideas related to ethics, responsibility, social welfare, balance, and harmony. However, there is a need to examine how these ideas can be connected with modern AI and digital commerce. Therefore, the main problem of this study is to understand how Indian Knowledge Systems can contribute to developing culturally responsible AI for digital commerce. The study attempts to connect Indian values with responsible AI practices and propose a simple framework that can support more ethical, inclusive, trustworthy, and human-centred digital commerce.

VI. Research Methodology

Research Design

The study follows a descriptive and analytical research design. It examines the views of respondents about Artificial Intelligence (AI), Indian Knowledge Systems (IKS), and culturally responsible digital commerce.

Sampling Method

A convenience sampling method was used to select the respondents based on their availability and willingness to participate in the study.

Data Collection

Primary data for the study was collected from 120 respondents using a structured questionnaire. Secondary information was collected from books, research papers, journals, reports, and reliable websites related to Artificial Intelligence, Indian Knowledge Systems, responsible AI, and digital commerce.

The collected responses were organised and analysed using suitable statistical methods such as percentage analysis, mean, and standard deviation**.**

VII. Limitations of the Study

- The sample is limited to 120 respondents.
- Convenience sampling may not represent the views of the entire population.
- The study mainly depends on the opinions given by respondents.
- The level of awareness about IKS and AI may differ among respondents.
- The findings may therefore not be generalised to all digital commerce users.

VIII. Analysis and Interpretation

Table – 1: Demographic Profile of Respondents (N = 120)

Variable	Category	Respondents	Percentage
Gender	Male	62	51.67%
	Female	58	48.33%
Age	Below 20	28	23.33%
	21–30	54	45.00%
	31–40	22	18.33%
	41–50	10	8.33%
	Above 50	6	5.00%

Education	Higher Secondary	15	12.50%
	Undergraduate	40	33.33%
	Postgraduate	48	40.00%
	Research/Doctoral	12	10.00%
	Other	5	4.17%
Occupation	Student	40	33.33%
	Teacher/Academic	25	20.83%
	Business	20	16.67%
	Employee	25	20.83%
	Self-employed	7	5.83%
	Other	3	2.50%
Digital Commerce Use	Daily	48	40.00%
	Frequently	35	29.17%
	Sometimes	25	20.83%
	Rarely	8	6.67%
	Never	4	3.33%

Source: Primary Data

The table 1 shows that the respondents are fairly balanced by gender. Most respondents are aged 21–30 years and have undergraduate or postgraduate education. Students form the largest occupational group. A majority of respondents use digital commerce either daily or frequently.

Table – 2: AI and Digital Commerce

S. No.	Statement	Mean	SD	Interpretation
1	AI makes online shopping easier.	3.62	1.10	Agree
2	AI helps businesses understand customers.	3.41	1.18	Agree

3	AI improves online customer service.	3.31	1.22	Neutral
4	AI helps businesses make faster decisions.	3.48	1.17	Agree
5	Too much AI may reduce human interaction.	4.02	1.01	Agree

Source: Primary Data

The results show that respondents generally agree that AI is useful in digital commerce. However, they are also concerned that excessive use of AI may reduce human interaction.

Table – 3: IKS and Artificial Intelligence

S. No.	Statement	Mean	SD	Interpretation
6	IKS can provide useful ideas for modern technology.	2.86	1.19	Neutral
7	Indian values can support responsible AI.	2.94	1.22	Neutral
8	IKS gives importance to ethical use of knowledge.	3.21	1.15	Neutral
9	IKS can support human-centred technology.	2.69	1.26	Neutral
10	IKS should be studied along with modern technology.	2.61	1.29	Neutral

Source: Primary Data

Respondents have a mostly neutral opinion about the relationship between IKS and AI. This suggests that many respondents may not have sufficient knowledge about how IKS can be connected with modern technology.

Table – 4: Culture, Ethics and Trust

S. No.	Statement	Mean	SD	Interpretation
11	AI should respect Indian culture.	3.38	1.18	Neutral
12	AI should respect India's different languages and traditions.	3.57	1.12	Agree
13	AI should protect customer privacy.	4.08	1.00	Agree
14	AI decisions should be fair.	3.96	1.04	Agree

15	Businesses should be responsible for AI decisions.	3.89	1.06	Agree
16	Human supervision is necessary when AI makes important decisions.	3.94	1.02	Agree
17	Transparency can increase trust in AI.	3.76	1.08	Agree

Source: Primary Data

Respondents give greater importance to ethics and trust. Privacy, fairness, responsibility, human supervision and transparency receive positive responses. However, the response regarding Indian culture is more neutral.

Table – 5: IKS and Future Digital Commerce

S. No.	Statement	Mean	SD	Interpretation
18	IKS can support responsible digital commerce.	2.73	1.25	Neutral
19	IKS can help balance technology and human values.	2.74	1.23	Neutral
20	IKS can make AI-based digital commerce more human-centred.	2.67	1.27	Neutral

Source: Primary Data

The results show that respondents are uncertain about the practical contribution of IKS to digital commerce. The findings suggest that more awareness and practical examples are needed to explain the connection between IKS and AI-based commerce.

IX. Findings

- Most respondents are aged **21–30 years (45.00%)**, followed by postgraduate respondents (**40.00%**) and students (**33.33%**); **69.17%** use digital commerce daily or frequently.
- Respondents agree that AI is useful in digital commerce, with the highest mean score of **4.02** for the concern that excessive AI may reduce human interaction.
- Respondents show a neutral opinion about IKS and AI, with mean scores ranging from **2.61 to 3.21**, indicating limited awareness of their connection.

- Respondents give strong importance to ethics and trust, with mean scores ranging from **3.38 to 4.08**; customer privacy received the highest score (**4.08**).
- Respondents are neutral about the role of IKS in digital commerce, with mean scores ranging from **2.67 to 2.74**, indicating a need for greater awareness.

X. Suggestions

- Create IKS awareness: Conduct workshops and seminars on the connection between IKS and AI.
- Promote ethical AI: Businesses should use AI with fairness, privacy, transparency and responsibility.
- Maintain human interaction: AI should support human interaction rather than completely replace it.
- Respect Indian culture: AI systems should consider Indian languages, traditions and cultural values.
- Ensure human supervision: Important AI decisions should be reviewed by humans.
- Protect customer privacy: Businesses should ensure proper protection of customer data.
- Improve IKS education: educational institutions should include IKS concepts in technology and commerce education.
- Develop practical applications: More practical examples should be developed to connect IKS with AI-based digital commerce.
- Increase transparency: Businesses should clearly explain the use of AI to customers.
- Encourage further research: More studies should examine the practical role of IKS in responsible AI and digital commerce.

XI. Conclusion

Artificial Intelligence is playing an important role in digital commerce by improving online shopping, customer service and business decision-making. The study shows that respondents recognise the benefits of AI but also give importance to privacy, fairness, transparency, human supervision and cultural values. However, respondents have limited awareness of the connection between Indian Knowledge Systems and AI. Therefore, IKS can provide useful ethical and human-centred values for developing responsible AI. Integrating technology with Indian values can help create digital commerce that is more responsible, trustworthy, inclusive and human-centred.

References

UNESCO. (2022). Artificial intelligence and education: Guidance for policy-makers. UNESCO.

Government of India, Ministry of Education. (2023). Indian Knowledge Systems Division. Ministry of Education, Government of India.

Bharatiya Shikshan Mandal. (2020). Indian Knowledge Systems: An overview of Indian intellectual traditions.

Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. Nature Machine Intelligence, 1, 389–399.

Mittelstadt, B. D. (2019). Principles alone cannot guarantee ethical AI. Nature Machine Intelligence, 1, 501–507.



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