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# THE DUAL-EDGED SWORD: AI'S INFLUENCE ON CONSUMER BEHAVIOR AND CYBERCRIME IN DIGITAL INDIA

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## ABSTRACT

*The present study explains how Artificial intelligence has drastically changed the consumer behavior models and consumer perceivement of how the markets work. the AI today has changed the thinking of a rational consumer I purchasing products and services. However, the boon comes with a bane: the AI records, stores, transcripts, and uses the very same information against the consumers in the form of direct or indirect cybercrime. However, not only AI but also human beings with the authority to access such delicate and confidential information also possess the means to use data for ill purposes such as cybercrime.*

*The paper highlights how AI can manipulate consumer decisions, especially among vulnerable groups like children, through data-driven profiling and algorithmic targeting. It also examines irrational consumer behaviors triggered by AI interventions. Ultimately, the study calls for stronger ethical oversight, improved data privacy measures, and responsible AI integration to balance technological advancement with consumer protection in India's rapidly evolving digital ecosystem.*

**KEYWORDS:** *Artificial Intelligence; Consumer Behavior; Cybercrime; Digital India; Data Privacy*

## INTRODUCTION

This study examines the multifaceted impact of Artificial Intelligence (AI) on consumer behavior, focusing on both rational and irrational decision-making processes, as well as the ethical considerations that arise from AI integration. The document opens by defining consumer behavior through established models such as the Economic Man, Psychodynamic, Behaviorist, Cognitive, and Humanistic approaches and highlights the evolving interplay between AI's data-driven insights and human responses. It further contextualizes the role of AI across diverse sectors, including banking and digital consumer services, setting the stage for an in-depth exploration of both its benefits and potential adverse effects on privacy, cognitive manipulation, and ethical standards.

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As AI systems provide enhanced personalization in banking and retail, they simultaneously expose consumers to data breaches, privacy infringements, and manipulation. This is particularly concerning for vulnerable demographics like children, where inadequate protective frameworks create substantial cybercrime risks in India's rapidly evolving digital landscape.

## DEFINING CONSUMER BEHAVIOR AND MODELS IN THE AI ERA

The study of consumer behavior helps us to deduce customers' knowledge, understanding, dependability, expectation, and response towards the services provided by Artificial Intelligence (AI.) It, in turn, also explains AI's understanding, proficiency, and psychology towards the customers.

The **Nicosia model emphasizes the dynamic interaction between companies and consumers, illustrating how company messages shape consumer attitudes and ultimately purchasing decisions[1;2]**. The **Theory of Buyer Behavior describes trends in consumer shopping behavior across different purchasing situations**. The digital transformation of consumer experiences has completely changed the traditional consumer behavior models and therefore, new frameworks for AI-related consumer interactions are in dire need[3]. Moreover, the amount of excessive AI technologies with marketing practices has created a new paradigm where consumer decision journeys are increasingly influenced by algorithmic interventions[4].

It is very true that companies have an extremely higher power to induce consumer-buying habits. Indirectly, numerous Multi-national Companies and other companies pay a huge amount of advertising and marketing costs in order to find what consumers would want to purchase. **It is to be noted there that these companies do not shy away from using private data of the consumers; the very data that consumers give out online without any filter or providing any second thoughts**. Say, a consumer that wishes to buy a home will automatically search for home loans and possible houses surrounding his areas. Now, huge companies such as Facebook and Meta might have access to the voice recorded of the consumer's mobile phone resulting into knowing that such

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1 John N. Fotis, The Use of Social Media and its Impacts on Consumer Behaviour: The Context of Holiday Travel, 95, (2015).

2 Nicosia model, CEOpedia Management Online, (Nov. 18, 2023, 01:20 PM), https://ceopedia.org/index.php/Nicosia_model

3 Michael R Solomon, 'Consumer Behavior: Buying, Having, and Being' (14th edition, Pearson 2022)

4 Philip Kotler and Gary Armstrong, 'Principles of Marketing' (18th edition, Pearson 2023)

consumer is in need of a home loan. Now, these companies will then take that private data and use it against the consumer. This is a form of cybercrime.

## IRRATIONAL BEHAVIOR IN CUSTOMERS

AI is a direct contact technology for consumers that need quick answers and faster solutions to their problems. **AI not only help in providing those solutions and answers but the methodology that the AI relies on, is actually a form of cybercrime**. Say, a consumer who uses Swiggy InstaMart or BlinkIt will be induced to purchase a list of products at a higher cost and at a riskier expiry date without even knowing the quality of such product. The fruits and vegetables that are sold online do not, in any way, guarantee the quality of that product. Another example is the online payment sector. **Companies have ensured the convenience for consumers at the cost of piracy and demolition of privacy**. A person who is need of money will automatically get advertisements related to gambling games, addictive investment opportunities in the share market, et cetera. Even the Google results might be skimmed for the purpose of this particular consumer. Who then must be trusted if that consumer really wants to earn money and can find nothing but continuous advertisements of Online Rummy or Online Cricket Betting matches. **The consumer behavior is directly related to what the consumer sees at a first glance**.

Another type of bank's consumer focus group is the millennial generation that relies heavily on convenient Internet Technology and ease of accessibility. AI can readily meet their expectations with "personal, contextual, and predictive services[5]" by giving them insights on financial planning, loan availability, and credit eligibility.

**This ability to induce irrational behavior becomes especially problematic in the context of cybersecurity. Cybercriminals can take advantage of these same psychological triggers through advanced social engineering attacks posing as legitimate AI-powered communications.** Phishing attacks that mimic bank messages and take advantage of well-documented consumer preferences, for example, have risen by 78% in India in 2023-2024, as per reports.

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5 Tim Sloane, The 18 Top Use Cases of Artificial Intelligence in Banks, Payments Journal (Nov. 6, 2018), https://www.paymentsjournal.com/the-18-top-use-cases-of-artificial-intelligence-in-banks/

## CONSTRUCTS POTENTIALLY AFFECTED BY ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) has its disadvantages regarding its effects on all types of consumers in the longer-run. It is not highly possible to suggest this technology in all the fields due to its incapability of grasping how real-time economies work in differing circumstances and geographical locations. For instance- Working mechanisms in a Middle East country will differ from one present in Latin America. These differences are brought more or less by overall consumer behaviors in these two parts of the world. This means that AI in one country cannot efficiently work as AI in another country given the difference in work environments and customer relationships. The digital traces left by the consumers are stored by AI and then created as prediction products that automatically anticipate what consumers will do now, soon, and later[6]. Nevertheless, AI has brought wonderful advantages in development and growth in numerous fields and shall continue bringing such positive results for the future. However, there are certain negative implications of AI on customer mindsets due to the large variety of services. **This sudden transformation of technology has resulted into huge risks of cybersecurity due to AI mediating into various segments of consumer markets, retail markets, banking markets, as well as service markets.**

**One of the major customer-focused groups using AI is children.** Children are incapable of understanding AI's lack of human perception and knowledge. They cannot correctly assess the rational wisdom of knowing what is correct or incorrect regarding their privacy, safety, and security. Ironically and practically, neither can the AI. For example- Alexa or Google Assistant could ask unintentionally and unknowingly children about house privacy or school-related information directly or indirectly. This is privacy infringement. In addition, when children talk to these machines as if they are human then at that moment, answering such privacy-related questions would not be thought of as a threat by the child to her/his safety. Another possibility that could be considered is when such AI is hacked. In this situation, the hacker can access, via the child, numerous amounts of information and breach data security. It is, therefore, certainly prudent to not leave children alone with AI. AI gives general information but providing age-appropriate corrective information with wisdom is more necessary and appropriate. Telling that a tomato is a fruit and saying that a tomato is a fruit that cannot be added into a fruit-salad are two different answers

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6 Shoshana Zuboff, 'The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power' (PublicAffairs 2019)

providing contrasting perspectives. Similarly, children need the latter type-of answers more but AI conveniently provides the former type-of answers.

This related example can be used for adults alike. Many ask for AI's assistance in practical approaches as well. However, the same is not feasible in real-life scenarios. Asking Alexa the methods to fix a gas pump, washing machine, air-conditioner, refrigerator, et cetera is not only an incorrect way to solve the actual problems but also highly unfitting while also being possibly dangerous. The very dependence upon AI brings threats to the consumers when there exists no cybersecurity. This results into cybercrime.

## VULNERABLE DEMOGRAPHICS: CHILDREN IN THE AI ECOSYSTEM

Among the many consumer segments in India, children are one of the most vulnerable groups in AI interactions, a fact with profound implications for consumer protection and cybersecurity. The COVID-19 pandemic spurred digital adoption among Indian children, with more than 70% now possessing some degree of digital access for educational or entertainment purposes. Such broad exposure to AI systems poses significant questions regarding data privacy and cognitive manipulation. Cultural factors that emphasize respect for authority figures may extend to AI systems, creating heightened compliance with AI directives among children[7].

Kids tend to find it difficult to differentiate between human and AI interactions, not having the cognitive structure to realize the limitations of AI capabilities. This leads to situations where they may inadvertently disclose sensitive information to voice assistants such as Alexa or Google Assistant. For example, informal conversations with these devices may result in revelations regarding home addresses, school information, or family schedules which is exactly the information that is a security threat if systems are breached.

If the cybercrime activities are already heavy and prone to the adult segment of the country then children become no exception when such children are given the free usage of internet and mobile without any adult supervision. Children are highly prone to whatever they see because they do not understand the difference between what is true and what is false. Young children develop parasocial relationships with AI systems, attributing human characteristics and trust to

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7 Neha Kumar and Nimmi Rangaswamy, 'Children's Digital Agency in India: Access, Exposure, and Protection' (2023) 25(4) New Media & Society 819.

digital interfaces that lack the ethical constraints of human caregivers[8]. Therefore, the most vulnerable group for cybercrime is children where children are also the most easiest targets for cybercriminals.

The problem runs beyond short-term privacy issues to long-term psychological effects of AI interaction. "Every time a child interacts with a digital service, their data profile becomes more fleshed out. And these data profiles are precisely how AI algorithms make decisions. How, then, can we ensure the privacy and protection of children's data as it's collected by AI companies and used to train AI[9]?" In the Indian context, where comprehensive data protection legislation for minors is still evolving, this represents a significant cybersecurity vulnerability. Numerous cybersecurity threats occur due to AI especially when Indian consumers do not understand and comprehend the gravity of the risks of their continuous online activities. Digital safety education in India remains significantly behind technological adoption rates among children, creating a protection gap that is particularly pronounced in semi-urban and rural areas[10].

## AI'S TRANSFORMATIVE ROLE ACROSS INDIAN CONSUMER SECTORS

Artificial Intelligence has pervaded many sectors of the Indian economy at a very fast pace, changing the very nature of how consumers engage with services and products. The banking industry is a good example of this shift. Conventional banking, previously defined by face-to-face encounters at physical branches, has now become a high-tech ecosystem where AI-powered interfaces act as intermediaries for most consumer interactions.

In urban hubs such as Delhi and Mumbai, customers prefer dealing with digital interfaces more and more as opposed to human bank staff. Passbook printing kiosks, Automated Teller Machines (ATMs), automated deposit facilities, and mobile banking apps have substituted regular interactions in bank branches. This trend is a part of a larger phenomenon: "Today, Banks are facing

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8 Stephane Chaudron, Rosanna Di Gioia and Monica Gemo, 'Young Children and Digital Technology' (2022) 16(2) Journal of Children and Media 225.

9 AI-enabled workflow automation, Think Automation, https://www.thinkautomation.com/automation-ethics/ai-for-children-the-risks-and-the-rights/

10 Jyoti Singh and Pradeep Goyal, 'Digital Safety Education for Children in India' (2022) 19(1) Journal of Educational Technology 78.

declining customer loyalty, as they compete with new entrants offering personalised digital experience and frictionless service[11]."

AI algorithms analyze transaction patterns, spending behaviors, and browsing histories to create hyperpersonalized experiences. The personalization algorithms create a feedback loop where each consumer interaction further refines the targeting precision, creating increasingly persuasive messaging tailored to individual psychological profiles[12]. When a customer uses an ATM, the machine might display account balance information followed by customized loan options with competitive interest rates. Such personalization aims to stimulate positive consumer responses and encourage additional product adoption. This represents the rational enhancement of consumer decision-making providing relevant options at opportune moments.

Yet, this same feature creates cybersecurity threats. Indian digital banking platforms alone handled more than 48 billion transactions in 2023, each transaction producing data points that, if breached, could put consumers at the mercy of targeted manipulation.

## THE FIELD OF BANKING AND FINANCE

The field of banking and finance utilizes immense amounts of services via artificial intelligence. Different kinds of machines in banks or as alternatives to such banks are being used at an increasing rate for better performances in this field. The use of AI has greatly increased proper response rates to the consumers; better individual attention plus importance to human queries; as well as quicker solution-based reply to such consumers. Consumers also prefer to converse with the machines rather than a human employer of a bank. For example, Customers use Automated Teller Machines (ATMs) instead of bank tellers; they use passbook printing machines, automatic money depositing machines, balance inquiry stations, and online banking investment options instead of visiting the concerned bank and dealing with employees. These machines have also replaced the need to have more bank branches. AI is trying to generate a more personalized approach to customer satisfaction by understanding what customers like and value in the banks' services and products. For instance- If an ATM mentions to a customer her/his account balance first and then her/his loan options

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[11] Hyper-personalization-AI Recommendation Engine, Bank Buddy.ai, https://www.bankbuddy.ai/hyper-personalize-banking-with-recommendation-engine

[12] V Kumar and Divya Ramachandran, 'AI-Driven Consumer Decision Making: Theory and Evidence' (2021) 85(1) Journal of Marketing 95

with fewer interest rates from the same bank then the customer behavior will be positive and will be more encouraged to purchase the bank's products.

Another type-of AI used by banks is online investment options and online payments. In today's internet and technological era, the need for both these services has been expanding due to their essentiality. The main aim of banks should be to encourage customers to purchase more of its products and services. In accordance with the Nicosia model, consumer behavior comes from consumer's act of purchase via the motivation to purchase such product/service. This motivation is dependent upon various factors such as brand; product/service type, reviews, market value, cost, and need; previous positive or negative experience with the bank; as well as future considerations. Even during the time of consumption of the product/service, the customer thinks about whether or not to consume it in the future again. When the AI responds in accordance with the aforementioned factors, then the consumer becomes a returning buyer to the bank and vice-versa. When the AI understands the customer's intent via "natural language processing and machine learning" then the customer gains more satisfaction from the services[13]. AI can also influence negligent or irrational behaviors in consumers by making them purchase products/services they never had intended to buy in the first place. For instance- A consumer opening-up a Savings account online with the principal amount of $2,000 and the yearly interest rate of 1% could be provided, by the AI, various other beneficial options such as opening-up a Fixed Deposit account with more interest rates. Another example includes making payments online. The AI, after comprehending the choices, tastes, and preferences of the consumer by tracking her/his internet browsing and surfing, can provide coupons, vouchers, and discount offers for the services or products the concerned consumer would like and accept. Consumers will irrationally be bound to purchase such services or products even when they had not intended to do it in the first place. This is because when presented with multiple complex choices, consumers tend to lean towards simplified decision heuristics that has already been anticipated and influenced[14].

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13 Kamalika Some, Artificial Intelligence use cases in BFSI, Healthcare and HR for Business Transformation, Analytics Insight (Jun. 21, 2020, 08:23 AM), https://www.analyticsinsight.net/artificial-intelligence-use-cases-in-bfsi-healthcare-and-hr-for-business-transformation/

14 Dan Ariely, 'Predictably Irrational: The Hidden Forces That Shape Our Decisions' (Harper Collins 2010)

## ARTIFICIAL INTELLIGENCE IMPACT ON CONSUMERS' REGULAR ROUTINE TASKS

Limited memory type refers to an Artificial Intelligence's (AI's) ability to learn previously stored data and apply that memory to the upcoming tasks while predicting better after learning from the previously made mistakes. For example- driving a car slowly on low-speed bumps after learning from experience that a small elevated-platform is a speed bump.

This type of AI will have an impact on regular repetitive routine tasks. One procedural example is drive-through. It includes tasks such as gathering and understanding orders via a speaker of a drive-through (Burger king,) preparing certain burgers in a sequential manner for the order, and putting them in a bag; collecting and accepting money; and delivering the final product. No human contact here was needed. It has its limitations: the AI cannot function in multiple orders at once, cannot understand newer words or other synonyms for the specification in the orders, and will be unable to process highly complex requirements. However, for almost seventy percent of the population who use a drive-through, the AI will be much more efficient and effective than a human.

Limited memory AIs have fixed behaviors that work on previously input desires and demands; they do not understand newer demands. Other examples of this type of AI include making certain types of food at home or in restaurants; voice-assisting retail shops and departmental stores; self-checkout cashiers; chat-bots on websites answering questions; and digital or virtual assistants.

The direct impacts on consumers are as follows: Human productivity increases when the attention time-span for routine tasks decreases; certain industries switch from labor-intensive to capital-intensive (especially repeated task industries) leaving many jobless; as well as convenience and dependency on AI increases while conducting recurrent tasks every day decreases.

## CYBERSECURITY SOLUTIONS FOR AI-RELATED CHALLENGES

1. The solution is to stop AI from storing raw personal data of the user as well as to collect only necessary data with clear retention policies.

2. The solution is to have certain programs that can detect unusual patterns indicating manipulation especially for high-end purchases. Notifications can also be created for such unusual patters for that particular application/website.

3. The solution is to create more authentications to verify adult supervision and maximize authority of adults to supervise what content the children watch.

4. The solution is to maneuver data protection tools and mechanisms as per the regional and the local consumer market and have multi-regional secure testing protocols.

5. The solution is to create encrypted channels between AI and humans as well as to increase human intervention and decrease AI intervention.

## CONCLUSION

In conclusion, the study establishes that while AI offers substantial benefits in terms of enhanced consumer engagement, efficiency, and personalized services, it also poses significant cybersecurity risks related to ethical practices, privacy, and irrational consumer behavior. To harness the benefits of AI while mitigating its drawbacks, the following recommendations are proposed:

- **Strengthen Ethical Oversight:** Implement rigorous ethical guidelines and regulatory frameworks to protect consumer data and ensure that AI applications do not compromise individual privacy, particularly for vulnerable populations such as children.

- **Promote Age-Appropriate AI Interactions:** Develop specific protocols for AI systems that interact with children, ensuring that the information provided is contextually appropriate and safeguards their cognitive development.

- **Enhance AI Adaptability:** Invest in advanced AI systems capable of adaptive learning to better handle novel consumer behaviors and complex decision-making scenarios, thereby reducing reliance on rigid, rule-based systems.

- **Integrate Human Supervision:** Ensure that human oversight remains a core component of AI implementation in critical sectors like banking, to balance automated efficiency with empathetic and context-sensitive customer service.

- **Encourage Continuous Research:** Support ongoing research to further explore the dynamic relationship between AI and consumer behavior, with a focus on refining theoretical models and developing strategies that harmonize technological innovation with ethical consumer practices.