

## AN ANALYSIS OF THE IMPACT OF DIGITIZATION AND ARTIFICIAL INTELLIGENCE ON SUSTAINABLE DEVELOPMENT AND AWARENESS IN A FEW TALUKAS IN THE SRIKAKULAM DISTRICT OF ANDHRA PRADESH

Dr. B.SIVA KUMAR  
DEPARTMENT OF M.B.A  
ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT(AITAM)  
TEKKALI-532201,  
SRIKAKULAM DISTRICT,  
ANDHRA PRADESH

### **Abstract**

Digitalization and artificial intelligence are revolutionizing the Indian economy by spurring economic growth and productivity. When AI is used properly, it will create new economic prospects that will boost productivity and have an impact on the long-term growth of the business sector. E-commerce companies frequently employ artificial intelligence to better understand and satisfy their customers. With millions of dollars in sales and a big consumer base, e-commerce has completely changed how businesses operate in India. Artificial intelligence is growing in popularity as information and communication technology progress. According to studies, artificial intelligence (AI) is expected to boost India's GDP by \$500 billion by 2025 and the world economy by \$15.7 trillion by 2030 as it becomes more widely deployed in a variety of sectors, including manufacturing, finance, and healthcare. The goal of this study paper is to determine how artificial intelligence (AI) and digitization contribute to economic growth and sustainable economic development. It also concentrates on determining the degree of awareness regarding the influence of AI in e-business. Both primary and secondary data served as the foundation for the study.

**Key words:** *Digitalization, Artificial intelligence, Economic growth, Sustainable development.*

### **Introduction**

India is one of the fastest-growing economies in the world; with an average of 5.5% gross domestic product growth over the years. Digitalization and artificial intelligence are the two important forces driving the economy and economic growth. Artificial Intelligence and digitalization is transforming Indian economy by igniting the productivity and economic growth. Artificial intelligence is widely used by e-commerce businesses to understand their clients better and fulfill their expectations. E-commerce has transformed the business operations in India, attracting a large number of customers and generating millions of dollars in sales. With the advancement of information and communication technologies, artificial intelligence is becoming more popular. Studies reveal that by 2025, AI is estimated to add up to 500 billion dollars to the India's gross domestic product and by 2030, \$ 15.7 trillion to the global economy as it is increasingly being used across industries - from banking and health care to farming and manufacturing.

Ridham Desai, Morgan Stanley's Chief Equity Strategist for India stated in an interview that India is set to surpass Japan and Germany to become the world's third-largest economy by 2027. Due to technological developments, Indian companies are able to outsource the services

like software development, customerservice on real time basis and 24x7 etc across the world.

Artificial Intelligence is a strongly emerging pillar of the socio-economic growth. Today, the world is running so fast, in the light of the technological advancements in Artificial Intelligence.

The Global economy has gone for a big change in its dynamics over the last two decades especially during post covid period. Studies also reveal that it has every potential to go for further change in the coming years between 2000 and 2020, India achieved a growth rate of 6.2 percent, while the World as a whole registered a growth rate of 3.3 percent. The overall growth of the Indian Economy has increasingly come from major three sectors such as service sector, Industry sector and agriculture sector. The major inventions in these three sectors contributed to the economic growth to a great extent. As per the news report, India will become the growth engine for the World in coming years and that country will have \$ 5 trillion tag soon.

### **Objectives of the study:**

This study's primary goal is to examine how digitalization and artificial intelligence contribute to a Nation's economic development. The particular goals of the research are

1. To determine the sectors that support sustainable development
2. To examine how digitization and artificial intelligence affect economic expansion.
3. To examine user perceptions of AI applications in e-commerce platforms and customer awareness of digitalization.

### **Scope of the Study**

Every economy relies on innovation to propel its expansion. Artificial intelligence, digitalization, digital payment methods, and other emerging digital technologies have an effect on both business and society. The economy is expanding together with technology thanks to the Industry 4.0 revolution. The digital revolution has emerged as a potent instrument for social change.

### **Research Methodology**

The study has used both primary and secondary data to analyze the objectives framed and to obtain the findings. A structured questionnaire is given to 300 respondents who were chosen from the taluks of Narasannapeta, Tekkali, and Palasa in the Srikakulam District using simple random sampling and persuasion. The purpose of the questionnaire is to find out how people feel about digitization and the role of artificial intelligence. Numerous journals, magazines, yearly reports, and papers were reviewed in order to obtain secondary data. Numerous e-journals and websites were also explored for additional information.

## Literature Review

A review of the available literature is conducted to identify the development made in the field.

**Richard Fedorko (2022)** in his research paper, “Artificial Intelligence in E-commerce” discussed the importance of artificial intelligence and its potential applications to e-commerce and economic growth stated that Many business scientists and professionals are now interested in the application of artificial intelligence in e-commerce due to the potential it has on business performance.

**Anli Suresh, N. Jannifer Rani (2020)** in their research paper, “ Consumer Perception towards Artificial Intelligence in E-Commerce With Reference to Chennai City, India” The study indicate that there is more room for AI technology to advance in different industries. Since AI has been developing, many new inventions in numerous fields are now possible. AI has the potential to spark a new revolution and pave the way for machine learning and new data sciences”.

**Halima Afroz Lari, Kuhu Vaishnava, Manu K S (2022)** in their research paper, “Artificial Intelligence in E- commerce: Applications, Implications and Challenges”. The study thoroughly examined all of the applications, significant businesses, difficulties, and potential uses of AI in the E-commerce sectors. Further the paper highlighted that, AI has a significant influence on e-commerce.

## Digital Revolution

India is playing a very important role in the latest technological advancement – Information and communication revolution. Globally, India has emerged as the largest payer in real time payment transaction, with a share of about 50 percent. To meet the emerging needs of 21<sup>st</sup> century, it is essential to develop critical thinking, problem solving and such other skills. Equipping the young minds with latest technology and skills will help them and develop within them an ability to handle the complexity of the Modern world.

## Role of digitalization in business and economic growth

Digitalization in banking transactions has empowered retail customers with greater control choice and convenience. It has increased the level of customer engagement, personalization and access to information. Retailers that efficiently leverage digital technologies to enhance customer experience are more likely to build customer loyalty. The confidence of people about digitalization values among individuals and can depend on fallers such as their familiarity with technology, past experience and the perceived benefit and risks associated with digitalization. Building confidence in digitalization requires addressing concerns around privacy, security and useably. Government organization and technology providers play a crucial role in promoting digital literacy; implement robot security measures and ensuring transparent and ethical practice. By addressing these concerns providing user friendly, interface and demonstration the benefit of digitalization confidence levels can be increased among individual and community. It’s important to note that confidence in digitalization is not universal and can vary among individual and communities. Understanding these variations and addressing concern can help

foster trust and encourage broader adoption of digital technologies for the benefit of individuals and society as a whole. Saima Khan, Dr. Shazia Khan, Mohsina Aftab (2015) in their study on Digitalization and its Impact on Economy stated that Digital conversion of print sources has improved speedily within the past few years leading to economic growth.

**Role of AI and customer satisfaction**

In 2018, a customer experience futurist named Blake Morgan, examined an aspect by which AI positively affects customer experience. She stated that many customers enjoy talking to a virtual assistant during or after their purchasing process. In addition, she said that the use of customer personalized service has provided effective, when customers are deciding what product to buy. This means, AI plays a vital role in the buying behavior as well as loyalty of a consumer, towards a brand. Effective utilization of AI could bring a tremendous change in the business sector. Since a long time ago, artificial intelligence has advanced significantly and this is already influencing the future of marketing.

**Impact of Digital Technology on Economy**

Emerging digital technologies such as artificial intelligence, 3D printings, 5G network, digital payment methods etc have an impact on society and business. Digitalization has led to the creation of new jobs and resulted in improvement of economic growth. In 2014 Digital economy was 4.5% of GDP. But in 2023 it is raised to 11%. In almost 10 years, it showed an increase of 144.44% and further studies estimate that by 2026 it will reach to 20%. India is growing with technology. Remarkable changes in the import-export of mobiles show the growth of digital economy in India. Earlier India used to import Mobile phones. But today country is able to produce to meet its internal needs and also exporting mobiles to the rest of the world. Giant companies are planning to start manufacturing units of i-phones in India. In addition, the e-payment systems have been adopted by petty shop owners and common man.

***Table showing the potential areas using AI and digitalisation and contributing to the growth of economy.***

Area	Benefits
Production	AI has the potential to boost output, boost productivity, and enhance production line safety. The ability of AI-powered robots to work constantly around the clock guarantees a steady flow of output. AI-powered robots could cut labor costs by up to 33%, decrease unscheduled downtime by 50%, decrease product faults by 50%, and boost factory productivity by 20%, according to Saxon reports.

Economics and Finance	A number of economic indicators, including as growth rates, interest rates, exchange rates, and inflation rates, are essential for managing monetary policy and maintaining economic stability in the fields of economics and finance. These economic indices can be accurately predicted thanks to AI systems. Additionally, AI technology can forecast price fluctuations for traders of assets like stocks and bonds, allowing them to trade at the best time. Without a human trader present, the AI system might even be permitted to carry out the trade automatically.
Transportation	Around the world, traffic control is still a major issue, especially in crowded, contemporary cities. The quickest feasible decongestion of cities is guaranteed by optimal traffic control. The efficiency of the supply chain and the flow of commodities between producers and consumers are directly impacted by this. Without necessarily interfering with corporate operations, AI systems analyze traffic patterns and forecast when cars should enter and exit cities. Early city decongestion also benefits the environment because less time spent stuck in traffic results in lower pollutants and emissions. Additionally, travelers can reduce their energy usage.
Business and Industry	AI algorithms are used in business to help with customer engagement management and target marketing. Understanding consumer behavior over time is crucial, especially in the marketing specialty. For example, every time a customer visits a website, AI algorithms collect information, evaluate it, and forecast when or which website the user is most likely to visit next. Both the buyer and the vendor benefit from this since the seller finds out exactly what the buyer wants. On the other hand, the buyer will have less need to switch between sellers once the seller understands their wants. Time and associated expenses are saved.
Entrepreneurship	One of the main factors propelling economic growth is innovation in the form of entrepreneurship. Today's youth are building thriving startups and an ecosystem that offers job generating opportunities. Digital fluency appears to be a potent instrument for social transformation.

Agriculture, Defense Service sector	These industries' digital transition is boosting economic expansion.
-------------------------------------	--

(Source:)

### Data analysis and interpretation

The importance of AI and its potential applications to e-commerce is a major area of economic growth. As per 2020 report, it is found that e-commerce contribution to GDP is reached 2.3%. Indian e-commerce is expected to grow at a compound annual growth rate of 27% by 2026, which is three times the growth of the retail Market. Customers are very much aware of the AI applications, but they are not aware that it is being used in e-commerce platform. Since AI is moving in an upward trend it has ways for many new inventions in many areas.

**Table:** Demonstrating an AI-powered feature that consumers are aware of when they shop online

Response	Total respondents (300)	Proportion
Item recommendation	88	29.34
Client Assistance	64	21.33
Anomaly detection	21	07.00
Warehouse management	10	03.33
Revenue optimization	36	12.00
Precision marketing	28	09.34
All of the above	35	11.66
None of the above	18	06.00

### Findings

The major research findings are;

AI can be used to increase customer satisfaction through the personalization of the experience. Personalization refers to the creation of consumer - tailored communications, based on socio-demographic patterns and previous purchase behavior. We found that machine learning algorithms can estimate consumer's price elasticity and adapt prices accordingly, which in turn would help in framing a good pricing strategy, based on consumer price sensitivity. This will gain competitive advantage to the business.

In the area of client assistance, the most used technology is AI chat bots. Through the natural language processing, chat bots can answer a number of different questions and provide immediate and accurate support 24/7 to consumers.

AI can support traditional market research methods through machine learning based analysis. Text mining is a powerful tool for delivering insights from online reviews, opinions and behavior in the form of text, image, audio or video. This will help in understanding the pulse of

customers in the light of frequently changing rhythms of customers buying behavior. Traditionally, it was difficult to do market survey manually through a heavy bulk of customer data. Now AI has reduced the manual work to zero, in the area of analysis and interpretation of customer data. This is the dynamic change created by AI.

Majority of consumers feel satisfied and are more comfortable while speaking to a chatbot to clear their queries. This has enhanced customer experience by providing personalized service. By leveraging on to internet based devices, companies may collect actual real-time, in-depth data about the consumer's usage of the product. Therefore, IOT enables a deeper consumer understanding, allowing companies to develop better products, and improve consumer values.

Majority of the respondents are users of E-commerce platform and they are not aware of all the AI features. Only 16.66% of the respondents are aware about all the AI features present in E-commerce platform and .04% of the respondents are not aware.

AI is estimated to add up to 500 billion dollars to the India's gross domestic product and by 2030, \$ 15.7 trillion to the global economy.

There is vast opportunity for technology enabled digital economy. The various dimensions of digital economy such as information technology, artificial intelligence, electronic computing etc are giving enormous opportunities for the youth and development of economy.

Artificial intelligence is considered to be, one of the strong drivers of productivity and economic growth. Proper implementation of AI will open new economic opportunities that would increase the productivity and in turn will influence on sustainable development of business sector.

### **Challenges for the future and suggestions**

Being the world's fastest-growing economy, India's main challenge is to guarantee the smooth distribution of that growth over income levels. Digital technology gives the highest potential for decreasing the gap between wealthy and poor customers. Building comprehensive digital economies needs the combined action of governments, industry, financiers, and civil society. What we see are the real changes that the digital revolution in India is holding on to the economic growth of the country.

### **Conclusion**

Utilizing the AI powered marketing and technologies will be one of the requirements to run a successful business in the upcoming days or years. Marketers should invest their time and money to test new techniques and make sure that, their marketing is prepared for ongoing success in both now and future, as AI is expected to continue in expand across all industries and market groups. .Major changes in the dynamics of Indian economy are boosting economic growth. The recent initiatives of Government of India

such as Make in India, Design India, Innovate India are not mere slogans. They have been implemented effectively for the growth of Indian economy through digitalisation. Due to technological advancement, youth of India found a key to unlock the immense potential that lies within India.

### **References**

1. Anil Suresh, N. J. (2020). "Consumer perception towards AI in E-commerce with reference to Chennai city". Journal of IT and Economic Development.
2. Halim Afroz Lari, K. V. (2022). "AI in E-commerce: Applications, implications and challenges". Asian Journal of Management. Vol.13, Issue 03.
3. Indian E-commerce Industry Analysis IBEF. (2020). IBEF. <https://www.ibef.org>
4. Michael DeBabrate (2023) "Digital Revolution-The dawn of India's age", Southern Economist, Vol.62.No.10.