

Effects of AI Application on the Demand of Human Resources in Trade and Services

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Article Info	ABSTRACT
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1. Introduction

In recent 10 years, the development of artificial intelligence (AI) has been incredible, with its widespread influence reshaping trade and services across the globe. In the trade and services sector, a critical component of the economy, AI's impact has been particularly transformative, altering business models and decision-making processes. AI has revolutionized various aspects of the trade and services, from automating routine tasks to enhancing complex data analysis, fundamentally changing how financial institutions operate and deliver services. In the Indian context, the impact of AI can already be seen in a wide range of organizations and industries. Businesses are using AI to improve operations across all industries, including the financial industry, retail, and manufacturing. Indian banks are using AI, for instance, to strengthen fraud detection systems and improve customer service, delivering a more secure and seamless experience. Similar to this, Indian retailers are using AI to improve supply chains, personalize recommendations, and ensure maximum efficiency. AI is being used by Indian manufacturers to raise quality control standards and promote cost effectiveness, demonstrating the many benefits that AI can provide.

A PwC analysis found that by 2035, AI may add 9 million new employment to India. This enormous potential for job creation demonstrates the important role artificial intelligence (AI) can play in meeting employment needs and promoting economic growth in the nation. Aiming to raise AI spending to 1% of GDP by 2030, the Indian government has set lofty goals to support this. The third-largest start-up environment in the world, where several start-ups are leading the way in cutting-edge AI-powered solutions, serves as further proof of India's strong commitment to investing in AI. The Indian economy is rapidly and significantly changing due to artificial intelligence (AI), which is also revolutionizing traditional management techniques. The enormous potential is shown by projections from the McKinsey Global Institute, which predict that AI will have a startling \$15.7 trillion economic impact on India by 2035. Additionally, the rapidly growing AI industry is expected to be a job-creating engine. The industry association NASSCOM projects that by 2025, India will have added almost 400,000 new jobs, demonstrating the radical changes that AI has already made to the world of work. The National Strategy on Artificial Intelligence and the AI for India project are only two of the major initiatives the Indian government has launched in support of this ambition, reflecting the nation's dedication to advancing the field. Despite the myriad advantages of AI, worries about potential negative effects loom large. Concerns like job loss and the rise of moral conundrums demand considerable thought and proactive policy formulation. Maintaining a balance that maximizes AI's positive effects while reducing its hazards remains essential for long-term growth and development.

Although India will benefit from artificial intelligence, the demand for human resources will be affected both directly and indirectly. The actual result can include employment opportunities for AI to be employed in trade and services. The indirect result is that AI can have

the mental impact of the pressure of new technology on human resources, and the work they need to cooperate with it. In the respective research essays, an attempt has been made to discuss the artificial intelligence application and effects on the demand of human resources in trade and services.

2. Objectives

- 1) Studies of artificial intelligence in the demand of human resources in trade and services.
- 2) Checking the effects of artificial intelligence in the demand for human resources in trade and services.
- 3) Study the effects of artificial intelligence on the demand of human resources in the field of trade and services.

3. Hypothesis:

- 1) Artificial intelligence is being done in many places in the trade and services.
- 2) The demand for artificial intelligence in the field of trade and service has increased.

4. Research Methodology:

The present research work is based on secondary data. The whole is selected for the research work the data of this study is secondary data which have been collected from different sources such as Newspaper Articles, Research papers, govt. official websites, journals. Moreover, administration reports will be used.

Keyword: AI (artificial intelligence), PwC (*Price waterhouse Coopers*), UK (United Kingdom), US (United States) Aon (leading global provider of risk management services, insurance and reinsurance brokerage, and human resource consulting and outsourcing.), HR (human resources)

5. Global cases on the use of artificial intelligence technologies in delivering public service:

The speed at which governments across the globe are exploring AI technologies to improve service delivery not only expresses the breadth of AI applications but also provides insight into the possible depth of its ability to exponentially disrupt the nature of public service delivery. Artificial intelligence technologies have the potential to impact virtually all industries in various sectors, blur geographical boundaries and enable new business models and services with intelligent automation capabilities. Despite the existing infrastructural limitations and regulatory considerations, governments such as the United Kingdom (UK), the United States (US), Estonia and Rwanda are using AI technologies to deliver public service.

A report from the UK Committee on Standards in Public Life (2020:15) showed that the UK government is using AI technologies in the healthcare sector, judiciary, police departments, transportation departments and the home office. According to the report, the local government of the Hampshire County Council is using 'smart devices like Amazon Echo in the homes of adults receiving social care in order to bridge the gap between visits from professional cares'. The South Wales Police Department uses AI-powered video surveillance systems for real-time monitoring of large events such as sports events and public protests and responds accordingly. The Black pool

Council uses AI technology to detect road damage using satellite images.

The government of the US is actively implementing AI technologies in its military structures for intelligence gathering, threat detection and battlefield planning. Artificial intelligence technologies are used in US healthcare to collect and analyses patient data from multiple sources to enable physicians to monitor patient health. Federal police departments use AI-powered video surveillance systems for facial recognition, video analytics and predictive policing in law enforcement to identify suspects and analyze crime patterns. The US Internal Revenue Service uses AI-powered bots to assist taxpayers behind on tax payments by setting up for them a payment plan. The US National Oceanic and Atmospheric Administration deploys AI technologies to analyze large amounts of data collected from satellites and sensors to provide accurate weather forecasts and monitor environmental conditions.

Through e-government initiatives, the Estonian government has integrated AI technologies to enable seamless interoperability. Its e-residency and AI-powered data identity systems can perform identity verification, fraud prevention and related cyber security programs. Estonian police use AI algorithms to analyze crime data, identify patterns and predict potential criminal activities (Fagan 2023:4). The city of Viimsi uses AI technologies to monitor and analyze real-time wind, tides, wave information and timely weather reports to the public. The International Telecommunication Union reported that the Estonian government is using AI technologies to identify sentiments from emergency calls on traffic accidents and to make quicker decisions (International Telecommunication Union 2020). The Information System Authority of Estonia deployed Bürokratt, an AI-powered virtual voice assistant that provides personalized assistance and support to citizens.

The government of Rwanda partnered with Babyl Health Rwanda to extend telemedicine, in particular, the AI-powered Symptom Checker, to analyses the patient's symptoms and provide clear, accurate information on the potential causes and possible next steps. The Rwandan government has integrated the use of AI-powered chat bots and virtual assistants to provide information and services to citizens.

6. The importance, benefits and use of AI in modern Trade and Services

The importance of AI in modern time's Trade and Services It cannot be overstated.

It enables companies to:

- **Automate routine tasks:** Freeing up human resources for focus on more strategic activities.
- **Enhance decision-making:** Providing data-driven insights and predictive analytics to inform business strategies.
- **Improve customer experience:** Offering personalized service and faster response times.
- **Increase efficiency:** simplifying processes and reducing operational costs.

Benefits of AI by Trade and Services function

Below is a table that outlines the key Trade and Services functions and how AI contributes to each:

business function	AI Contribution
Marketing	Customer segmentation, personalized campaigns, market trend forecasting
Sale	Sales forecasting, lead scoring, CRM automation
Operation	Supply chain Management, Predictive maintenance, Inventory management

Percentage of companies using AI for various business functions

To illustrate AI adoption, consider the following statistics:

business function	Percentage of companies using AI
Marketing	65%
Sale	55%
Operation	70%

Benefits experienced by companies AI provides many benefits, such as:

- **Cost savings:** Automation of repetitive tasks reduces labor costs.
- **Increased productivity:** AI systems work 24/7 without fatigue.
- **Enhanced decision-making:** AI analyzes large datasets to provide actionable insights.
- **Competitive advantage:** Early adopters of AI can outperform competitors through increased efficiency and innovation.

Table: AI

benefits by industry and company size

Industry	Small to Medium Enterprises (SMEs)	Big events
Technology	Faster development cycle, improved product quality	Advanced analytics, enhanced Cyber security
Health care	Improved patient diagnosis, operational efficiency	AI-powered research, at scale Data management
Product	Predictive maintenance, optimized supply chain	Automation of production lines, quality control
Retail	Personalized customer service, inventory management	Market trends, predictive analytics for supply chain optimization

AI is undeniably shaping the Trade and Services landscape. Companies across various industries are using it power to enhance growth, innovation and efficiency. Like AI technology As it continues to evolve, its impact on business will only grow, making it an indispensable tool for

future success.

A) AI in marketing

Increasing customer segmentation

The most significant benefit of AI in marketing is its ability to enhance customer segmentation. Traditional methods of segmentation rely on broad categories and static data, but AI goes a step further by analyzing real-time data and identifying micro-customer segments.

Benefits of AI-driven customer segmentation

Personalization: Tailor marketing messages to specific customer groups.

Increased Engagement: Higher engagement rates due to more relevant content.

Optimize marketing spend: Focus resources on the most profitable segments.

Predictive analysis for market trends

Predictive analytics, powered by AI, allows businesses to anticipate market trends and adapt their strategies accordingly. This proactive approach helps companies stay ahead of the competition and meet customer demands more effectively.

Applications of predictive analytics

Trend Analysis: Identifies emerging trends in the market.

Demand Forecasting: Forecasts product demand to optimize inventory.

Consumer Behavior Forecasting: Predicting future consumer actions and preferences.

Future trends in AI marketing

Looking ahead, AI's role in marketing is expected to expand with advances in technology. Emerging trends include the use of AI for real-time marketing, hyper-personalization, and the integration of AI. Augmented reality (AR) and virtual reality (VR) for immersive customer experiences. AI is revolutionizing marketing by enabling businesses to understand and engage with their customers on a deeper level. From enhancing customer segmentation to creating personalized campaigns and predicting market trends, AI offers powerful tools that drive marketing success. As AI technology evolves, its impact on marketing strategies will only grow, making it an essential component of modern business.

B) AI in sales

Sales forecasting and lead scoring

AI significantly improves sales forecasting and lead scoring by analyzing large amounts of data to identify patterns and predict future sales trends. Traditional methods often rely on historical data and manual processes, which can be inaccurate and time-consuming. AI, however, uses real-time data and advanced algorithms to provide more accurate and actionable insights.

Benefits of AI-powered sales forecasting

Accuracy: Reduces errors in sales forecasting.

Efficiency: Automates data analysis, saving time.

Proactivity: Identifies potential sales opportunities and risks early.

Future trends in AI for sales

The future of AI in sales looks promising, with advancements such as more sophisticated AI assistants, deeper integration of AI with other business tools, and the use of AI for more personalized customer interactions. As AI technology evolves, its ability to enhance the sales process will only increase, bringing even greater value to businesses. AI is transforming sales by providing powerful tools for forecasting, automation, and customer relationship management. By leveraging AI, sales teams can work more efficiently, engage customers more effectively, and ultimately drive better sales results. As AI technology advances, its role in sales will become increasingly indispensable.

C) AI in operations**Streamlining supply chain management**

AI has revolutionized supply chain management by introducing unprecedented levels of efficiency and accuracy. Traditional supply chains often suffer from inefficiencies due to manual processes and limited data analysis capabilities. AI, on the other hand, uses advanced algorithms and real-time data to optimize every aspect of the supply chain.

Benefits of AI in Supply Chain Management

Improved forecasting: AI predicts demand more accurately, helping to optimize inventory levels.

Enhanced Visibility: Provides real-time insight into supply chain operations from production to distribution.

Rate Reduction: Identifies inefficiencies and suggests cost-saving solutions.

Benefits of AI-enhanced inventory management

Optimal stock levels: Prevents both overstocking and stock outs.

Improved order fulfillment: Ensures the right products are available at the right time.

Rate reduction: Reduces transportation costs and reduces waste.

Future Trends in AI for Operations

Future AI in operation with advances such as AI-driven decision-making tools, more sophisticated autonomous systems, and deeper integration of AI across all operational aspects, the outlook looks promising. Emerging trends include the use of AI for real-time supply chain adjustments, advanced Robotics Enhanced AI analytics for warehouse automation and operational decision making. AI is transforming operational processes by providing powerful tools for supply chain management, predictive maintenance, and inventory management. By leveraging AI, companies can achieve higher efficiencies, reduce costs, and improve overall operational performance. As AI technology evolves, its impact on operations will only increase, making it a critical component of business success.

D) AI in Financial services

The financial services sector is an early adopter of AI, leveraging its capabilities to enhance customer service, detect fraud, and streamline operations. The ROI on AI investments in

this sector is particularly high due to significant cost savings and efficiency improvements.

Key areas of AI impact in financial services

Fraud Detection: AI algorithms analyze transaction patterns to detect and prevent fraudulent activity.

Customer Service: Chat bots and virtual assistants provide 24/7 customer support, reducing the need for human intervention.

Risk Management: AI models Predicting and mitigating financial risks, enhancing decision-making.

E) AI in Health care

AI is transforming healthcare by improving diagnostics, personalizing treatment plans, and enhancing patient care. ROI in healthcare is driven by the ability to provide better outcomes for patients while reducing costs.

Key areas of AI impact in healthcare

Diagnosis: AI analyzes medical images and patient data to diagnose diseases more accurately.

Personalized Treatment: AI helps create personalized treatment plans based on individual patient data.

Operational efficiency: AI streamlines administrative tasks, allowing healthcare providers to focus more on patient care.

F) AI in Product

In manufacturing, AI drives ROI through enhanced manufacturing processes, predictive maintenance, and supply chain optimization. AI's automation and data analytics capabilities lead to significant cost savings and productivity improvements.

Key areas of AI impact in manufacturing

Production Optimization: AI optimizes production schedules and processes, increasing efficiency.

Predictive Maintenance: AI predicts equipment failures, reducing downtime and maintenance costs.

Quality Control: AI systems inspect products for defects, ensuring high quality standards.

G) AI in Retail

Retailers are using AI to enhance the customer experience, optimize inventory management, and improve sales forecasting. ROI in retail comes from increased sales, improved customer loyalty, and reduced operating costs.

Key areas of AI impact in retail

Customer Experience: Provides a personalized shopping experience through AI recommendations and chat bots.

Inventory Management: AI optimizes inventory levels, reducing overstock and stock outs.

Sales Forecasting: AI predicts sales trends, helping retailers plan better.

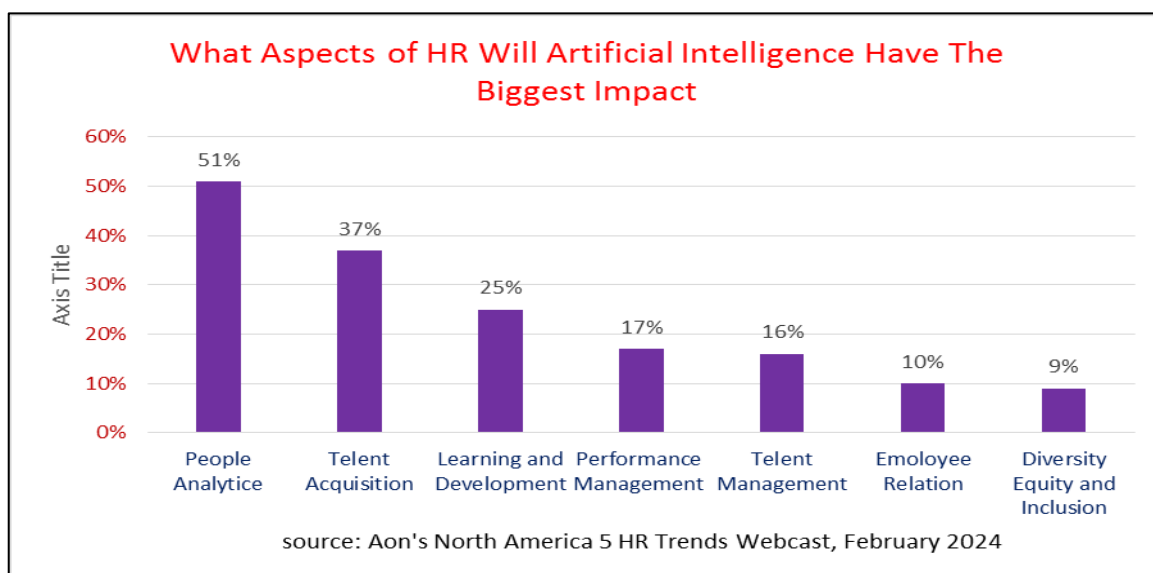
H) AI in Education

AI has the potential to personalize learning, raise educational standards, and increase accessibility. AI is being utilized, for instance, in India to create personalized learning plans for students and to give instructors feedback in real time.

The Indian government is making efforts to encourage the use of AI to its maximum extent. The government has started a variety of programs to encourage AI research and development and to provide workers with AI training. For instance, the government has established the AI for India Programme, which offers financial support for AI research initiatives. The NITI Aayog AI for All Programme, which seeks to train 1 million people in AI capabilities by 2025, has also been launched by the government.

7. AI impact on human resources work in trade and services

A survey of the US trade and services industry shows that in some select industries nearly 400 HR professionals said the areas of people analytics, talent recruitment, and learning and development would benefit the most from AI. People analytics is a discipline that can be leveraged in nearly all types of HR functions, such as identifying characteristics of the employee population, hiring strategy and pay and promotion trends. "As with all new and rapidly changing technologies, it is natural for people to take a 'wait-and-see' approach," said Lambros Lambrou, Aon's CEO of Human Capital. "But when it comes to AI, human resources teams have a significant opportunity to lead the way. It's important not to miss the moment. By understanding how AI effects the workforce, HR can better prepare everyone for changes to come. "Important not to miss the moment. By understanding how AI effects the workforce, HR can better prepare everyone for changes to come."

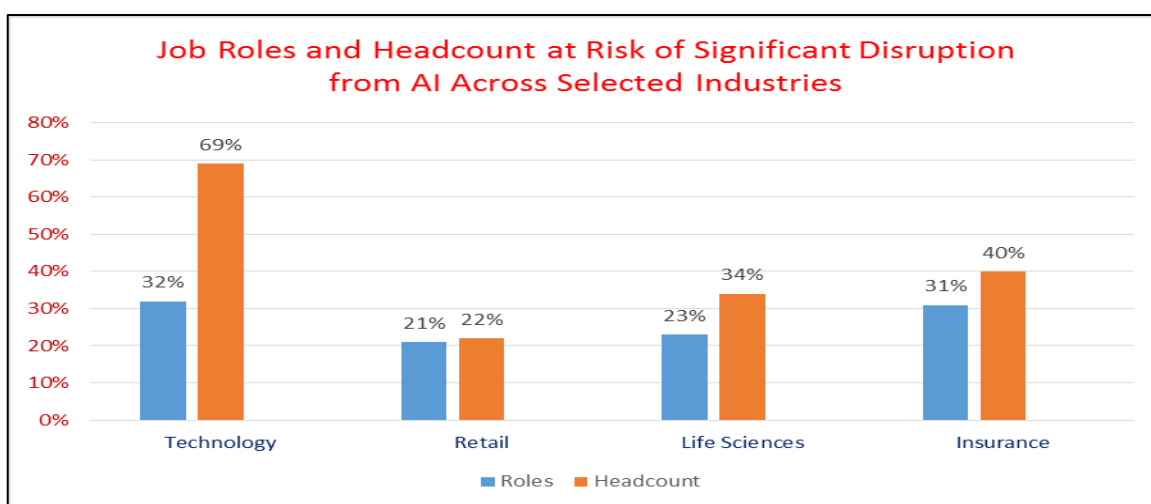


The figure above shows how AI is influenced by different aspects of human resources. Therefore, it also proves that the impact demand of human resources can certainly be impacted.

Economists have been making predictions that new technologies would replace laborers since the Industrial Revolution. These predictions tend to overstate the degree to which workers

would be replaced entirely, and undervalue the notion that workers would adapt, reskill and use the increased productivity afforded by automation to increase overall output. Thus, talent professionals should be looking toward preparing for the use of AI through the lens of reskilling and upskilling, as well as planning for the creation of new jobs to help manage AI successfully.

A survey of the US trade and services industry shows that in some select industries, AI is at risk of significant disruption of job roles and headcount.



Source: Aon research of Radford McLagan compensation Database.

In the technology industry, found 32 percent of job roles and 69 percent of headcount are at risk of significant disruption from AI. The level of disruption can vary greatly by industry. By contrast, our analysis of life sciences firms found 23 percent of job roles and 34 percent of headcount are at risk of significant disruption from AI. While different industries will experience different levels of disruption, there is a constant across industries: HR professionals will need to lead the charge to both use the technology responsibly and prepare the workforce for its adoption. When analyzed the HR function across industries, found that 24 percent of roles and 58 percent of headcount will be disrupted. A comprehensive strategy starts with workforce planning, including determining which jobs the organization needs and the effect on overall job architecture. While it's interesting to know the projected overall disruption that AI will create in a given industry, it is more useful for HR and business leaders to understand the types of jobs that will be disrupted.

United States most developed and higher capital of the in this country AI is most commonly used in trade and services. If there is an impact on the demand of human resources and its function due to AI. In a country with huge human resources like India, it should be noted that the demand for human resources in trade and services can be impact.

8. Conclusion:

1) Artificial intelligence has started to be used in many countries government of the country is also using it. Therefore, the government is also allowing the use of AI for its different Works. In

India too, the government is doing the work of collecting and analysis with the help of AI. Therefore, it appears to have an impact on the demand for human resources.

2) AI is being used in many trade and services in the country, such as in various fields in marketing, sales, goods supply and chain management, financial services, health services, production, retail and education etc. The work that was being carried out through human resources is being completed by AI as it is effects human resources. Therefore, the demand for AI in trade and services is increasing. The results are appearing. Also, the trend of increasing the day is seen.

3) The use of AI is affecting the development of skills under people's analysis, talent editing, education and development, performance management, talent management, staff relationships and diversity equality and inclusion due to the of AI. Therefore, AI's assistance is significant when working in trade and services. Therefore, the demand for AI in management is increasing to reduce the stress on human resources. So the demand for human resources is declining.

4) AI usage is seen in trade and services because in a country like the United States, the influence of AI in technology, retail, biology and insurance is seen in the fields of technology, entertainment, retail and insurance in India for consumer information collection and analysis. So AI appears to have influenced the demand for human resources.

The demand for AI in trade and services is expected to increase significantly in the coming years. Businesses for strategic decisions, operational efficiency and customer participation will depend on more AI. Demand for AI in the fields of education and legal services and agriculture can be widely increased. The influence of AI is seen in most trade and services as a support or alternative to human resources to achieve spending saving, increased productivity, enhanced decision capacity and competitive benefits in places like marketing sales, operations, technology health care, education, education. Therefore, unemployment can increase jobs in trade and service. The future of AI is unobtrusive and complicated, as the AI is evolving, and the implementation of AI is inevitable and it is only a matter of time. Human resources components in trade and service are also adopting AI fast to eliminate the worldly work and provide efficient services to the shareholders. Therefore, the influence of AI is definitely on the demand of human resources. Therefore, it is necessary to accept the influence and recover trade and services.

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