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Role of Disruptive Technology in Efficiency of 21st Century Organisation

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Abstract

Disruptive technology is playing a bigger and bigger part in how effectively 21st-century enterprises operate in India. The country is undergoing a digital revolution as a result of the rapid use of new technologies including artificial intelligence (AI), cloud computing, and the Internet of Things (IoT). Traditional industries including banking, healthcare, and agriculture are being significantly transformed by disruptive technologies. With the government's goal for a cashless economy and the launch of UPI, digital payments have become widely used in India (Unified Payments Interface). For both enterprises and people, this has increased the efficiency and convenience of financial transactions. Telemedicine has become a revolutionary technology in the healthcare industry, enabling doctors to conduct distant consultations and enhancing access to healthcare for people living in rural locations. In a similar vein, precision agriculture has increased crop yields and decreased waste thanks to IoT sensors and data analytics. Organizations that use these technologies are expected to gain a competitive advantage, boost operational effectiveness, and provide better customer service as India continues to embrace disruptive technology.

Keywords: Disruptive Technology, Digital Revolution, Cashless Economy, Internet of Things, Customer Service, Artificial Intelligence

Introduction

Disruptive technology has a significant impact on how effective Indian organisations are in the twenty-first century. Both people and corporations can gain from using FinTech because it can increase financial transaction efficiency and cost effectiveness. It means that banking institutions in India may be able to expand access to credit, promote financial inclusion, and reduce the amount of unbanked people if they use FinTech. the potential to make financial transactions more cost-effective and efficient. For businesses in the financial industry, this might result in considerable improvements to overall performance. But, it's crucial for businesses to be proactive in implementing these new technologies and changing their operating procedures to take advantage of these chances. If you don't, you risk losing market share to emerging, more nimble competitors and forcing out established businesses (Anshari et al. 2019).

The capacity of agricultural research and innovation to alter the food system in underdeveloped areas. It mentions how development may increase crop yields, lower waste, and encourage sustainability. The efficiency and production of agriculture in India may be greatly increased through the adoption of disruptive technologies like biotechnology, data analytics, and precision agriculture. Using precision agriculture to maximize crop yields is one instance of how disruptive technology is being used in Indian agriculture. In order to offer real-time data on soil moisture, nutrient levels, and crop health, precision agriculture uses sensors, drones, and data analytics. Precision farming, for example, is a disruptive technology that has the potential to greatly increase output and efficiency (Reardeon 2019).

Drones' ability to advance social justice, particularly in the fields of environmental monitoring, public health, and disaster relief. In addition to increasing the effectiveness of humanitarian efforts and potentially saving lives, it mentions how drones have the ability to offer crucial support in hard-to-reach regions of the nation. It also emphasizes the part social change and the government play in regulating drone use and making sure it is done responsibly and in the public's best interest. In India, the usage of drones during the floods is one instance.Drones were utilised by the Indian Navy to survey flood damage and transport deliver good to affected areas. A real-time picture of the reality on the ground was made possible by the use of drones, which also allowed aid workers to reach remote and inaccessible locations. In India, using drones to monitor the environment, public health, and disaster relief activities has the potential

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to transform these fields. To use them responsibly and in the public's best interest, however, their usage must be strictly monitored (Choi 2014).

Literature Review

An industry-disrupting technology trend called the Internet of Things (IoT) has the potential to affect many different sectors. According to Lee (2017), the IoT has the promise of enabling organisations to gather and analyse enormous amounts of data in real-time, resulting in better decision-making and enhanced productivity. The use of IoT technology by Indian enterprises operating in the twenty-first century could result in major increases in efficiency as well as new potential for companies to develop cutting-edge goods and services that address the needs of the connected customer. The adoption of IoT technology, however, also brings with it difficulties, such as the necessity for managing and securing vast amounts of data as well as the requirement for staff training on new technologies.

Disruptive innovation has altered the landscape of the industry, as evidenced by Airbnb's ascent to become a key player in the tourism lodging market. According to Guttentag (2015), the introduction of Airbnb has put the conventional hotel business under pressure by giving guests a different platform to find individualized and reasonably priced lodging options. In reaction to the market disruption, major hotel chains are under pressure to innovate and adapt to the shifting conditions in the industry. The lesson to be gained in the context of 21st-century Indian enterprises is the significance of agility and adaptation in the face of disruptive innovation. Application of Artificial Intelligence is contributing significantly (Mittal et al., 2023).

Impact of gig economy platforms on organizations and temporary workers in India, Ghose et al. 2019. They revealed that these platforms can lessen uncertainty for both sides, resulting in better matches, higher productivity, and happier employees. Platforms for the gig economy increase efficiency by cutting the time and expenses associated with conventional hiring procedures by linking temporary employees with suitable employment opportunities and allowing them to work remotely. In order to improve organizational learning in the Indian IT sector, Jain and Nair (2018) looked at the possibilities of disruptive technologies like artificial intelligence and machine learning. They discovered that these technologies can facilitate better knowledge management and sharing, which can result in greater judgement, process improvement, and creativity.

In India, the effects of supply chain management using blockchain technology were researched by Singh and Gupta in 2021. Blockchain can shorten supply chain management's time and cost requirements while enhancing traceability, accountability, and quality control by enabling real-time tracking of commodities and automating record-keeping. Moreover, blockchain can strengthen supply chain participants' trust in one another, reducing fraud and encouraging innovation.

Kumar et al. 2019 looked into how 5G technology might boost manufacturing operations in India. They discovered that 5G can enable in-process monitoring and control of manufacturing processes, enhancing flexibility, productivity, and quality control. Additionally, it emphasizes how critical it is for India's manufacturing sector to thrive and be sustainable to accept disruptive technologies. The competition between Amazon, Google, and Apple for the connected home is a shining example of disruptive innovation in the tech industry. According to Lal et al. (2018), the introduction of smart speaker and other connected gadgets has fundamentally changed how individuals interact with their homes. Because to this disruption, businesses now have more opportunity to offer cutting-edge goods and services that meet the expectations of connected consumers. In the context of Indian businesses operating in the twenty-first century, the adoption of smart home technology may result in greater efficiency and comfort for homeowners as well as new business prospects for firms that can innovate and adjust to the shifting market dynamics.

Digital twins' influence on Indian industrial operations was evaluated by Jha and Mishra in 2022. They revealed that using digital twins to model and optimize complicated industrial processes can help firms become more effective, innovative, and high-quality. It has significant effects on how effectively Indian organizations operate in the twenty-first century. By providing real-time data and insights into the performance of their assets and processes, the use of digital twins can help businesses increase their operational efficiency.According to Gynnild (2014), drone technology has made it possible for journalists to gather interesting and distinctive footage that would not have been achievable using more conventional techniques. An example of a disruptive invention that has the potential to completely alter how

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news is reported and received is the deployment of drones in this situation. The implementation of drone technology in India's 21st-century businesses might boost productivity and cut costs in a variety of sectors, including journalism, agriculture, and logistics.

Objective of the Study

- To explore the role of Disruptive Technology in Efficiency of 21st Century Organisation

Methodology

The present study is based on a survey conducted with a structured questionnaire. In the analysis, there were 230 participants who took part. To identify the results, statistical techniques such as mean and t-test were employed. The research employed a convenience sampling method, where participants were selected based on their availability and accessibility.

Table 1 Role of Disruptive Technology in Efficiency of 21st Century Organisation

Serial No.	Statement of Survey	Mean Value	t-Value	Sig.
1.	Disruptive technology has transformed the way businesses operate, from increasing productivity to enhancing customer experience.	4.45	12.228	0.000
2.	Disruptive technologies have facilitated remote work and collaboration.	4.33	10.048	0.000
3.	Disruptive technologies include Artificial Intelligence (AI), Robotic Process Automation (RPA), and Machine Learning (ML).	4.23	8.618	0.000
4.	Disruptive technologies like Big Data, Data Analytics, and Internet of Things (IoT) have helped organizations to collect, analyze, and interpret large amounts of data.	4.19	6.958	0.000
5.	Disruptive technologies have also made it possible for organizations to operate more flexibly.	4.18	7.196	0.000
6.	Disruptive technology is a key driver of efficiency and innovation in 21st century organizations.	4.40	10.741	0.000
7.	Chatbots and virtual assistants has slightly resulted in higher customer satisfaction levels.	3.96	5.704	0.000
8.	Disruptive technology has given rise to new business models that are more agile and customer-centric.	4.38	12.068	0.000
9.	Cloud computing may enable businesses to be more agile, responsive, and adaptable.	3.69	2.480	0.007
10.	Disruptive technology has helped businesses to save time, reduce travel expenses, and increase productivity.	4.24	9.719	0.000

Table and Figure 1 display the Mean values for statement for the studying “Role of Disruptive Technology in Efficiency of 21st Century Organisation”, looking at the mean scores, the highest mean score is gained by the statement “Disruptive technology has transformed the way businesses operate, from increasing productivity to enhancing

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customer experience", the mean score of 4.45," next statement is "disruptive technology is a key driver of efficiency and innovation in 21st century organizations" has the mean score of 4.40. Disruptive technologies are also found to be responsible solving business problems as shown in statement "Disruptive technology has given rise to new business models that are more agile and customer-centric" having the mean value of 4.38. Another advantage of Disruptive technology is, "Disruptive technologies have facilitated remote work and collaboration" for which the mean score is 4.33, statement "Disruptive technology has helped businesses to save time, reduce travel expenses, and increase productivity" shows the mean value of 4.24, mean value of 4.23 is scored by statement "Disruptive technologies includes Artificial Intelligence (AI), Robotic Process Automation (RPA), and Machine Learning (ML)". "Disruptive technologies like Big Data, Data Analytics, and Internet of Things (IoT) have helped organizations to collect, analyze, and interpret large amounts of data" mean score is 4.19. The statement "Disruptive technologies have also made it possible for organizations to operate more flexibly" shows the mean value of 4.18. The last two statements are in lowest range, "Chatbots and virtual assistants has slightly resulted in higher customer satisfaction levels" mean value of 3.96, statement "Cloud computing may enable businesses to be more agile, responsive, and adaptable" has the mean value of 3.69. T-value of every statement in context of the role of disruptive technology in efficiency of 21st century organisation is significant, because t-value statements are found to be significance & positive value also less than 0.05.

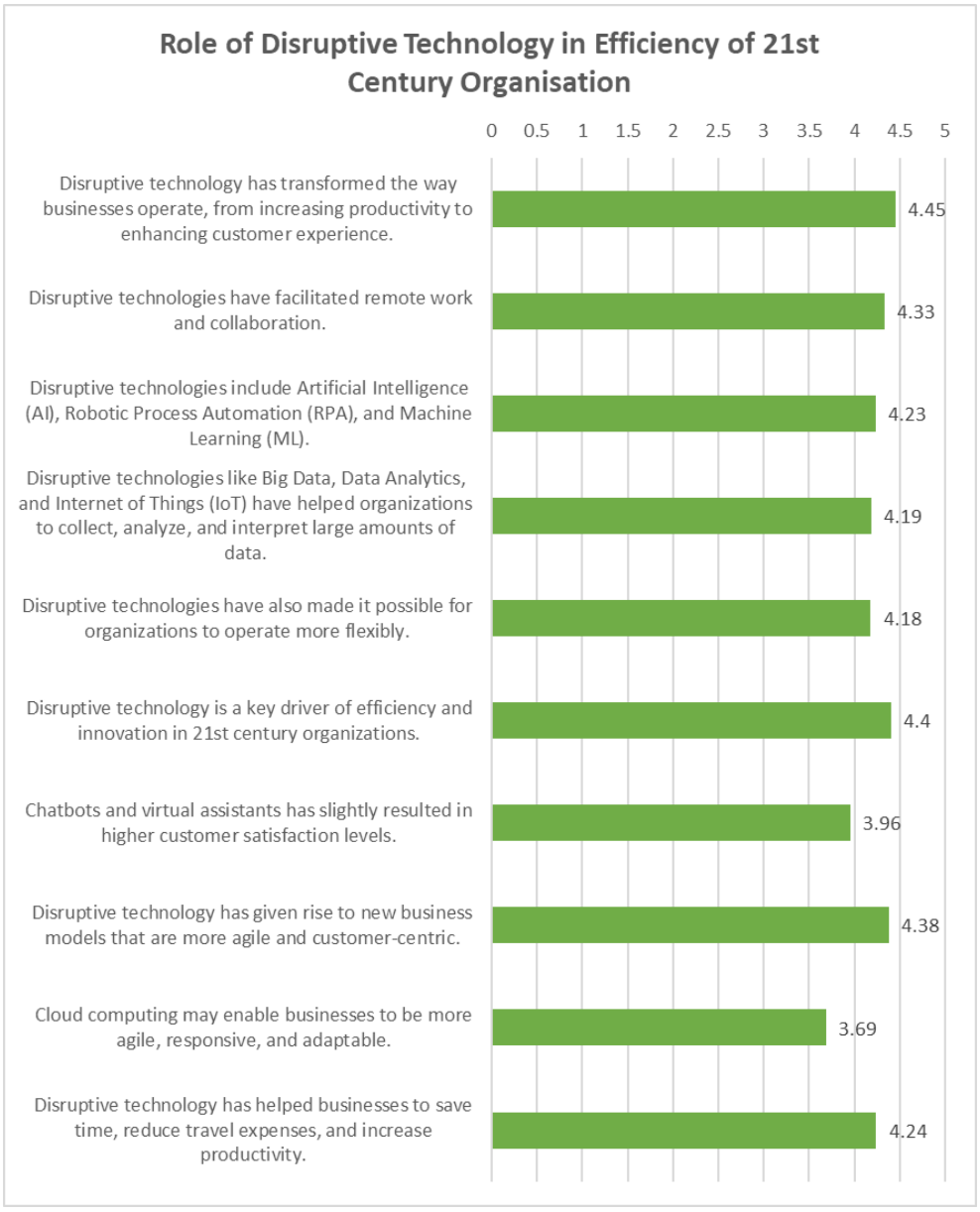

Figure 1 Role of Disruptive Technology in Efficiency of 21st Century Organisation

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Conclusion

In conclusion, disruptive technologies have significantly affected how effectively businesses operate both in India and around the world. Businesses have been forced to innovate and adapt because of the quick development of technology. the effects of different disruptive technologies—including blockchain, digital twins, 5G technology, and artificial intelligence—on the operational effectiveness of Indian enterprises. Organizations have been able to streamline their processes, lower expenses, and increase productivity thanks to the use of disruptive technology. Employers now have access to more effective and efficient staff training because to the usage of digital technologies in organizational learning. In Indian enterprises, the use of blockchain technology has enhanced supply chain management. It has also been investigated how 5 G technology might boost manufacturing productivity in India. The effect of artificial intelligence on company productivity has also been empirically investigated. Disruptive technologies are undoubtedly a major factor in the 21st century's increased organizational effectiveness. It has become crucial for survival in the fiercely competitive marketplace to be able to quickly adapt to technological changes and use them to your advantage. Businesses with a competitive advantage in the future will be those who can successfully integrate and employ these technologies. As a result, it is crucial for companies in India and around the world to adopt disruptive technologies and capitalize on their potential.

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