

Digital world and Agriculture

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Introduction

The digital era has brought about significant changes in the way we communicate, access information, and perform tasks. Digital technology and digital communication and services have become an integral part of our lives, and have transformed the way we live and work. The rapid advancement of digital technology has created a more connected and efficient world, and has had a profound impact on a wide range of industries and areas of life.

What is Digital?

"Digital" refers to technology that uses discrete numbers or values to represent information or data. The term is commonly used to describe electronic devices, systems, and methods of computing that perform various tasks and operations by processing numerical data. Examples of digital technology include computers, laptops, smartphones, digital cameras, digital audio and video players, digital storage devices, and many other electronic devices and systems that use binary code (zeros and ones) to store and process information. Digital technology has revolutionized the way we communicate, access information, and perform many other tasks, making our lives more convenient and efficient.

Digital Technology:

Digital technology refers to electronic devices, systems, and methods of computing that perform various tasks and operations by processing numerical data. Examples of digital technology include computers, laptops, smartphones, digital cameras, digital audio and video players, digital storage devices, and many other electronic devices and systems. The use of digital technology has enabled the creation of a highly interconnected world, where people can communicate and access information from anywhere, at any time. Digital technology has also enabled the development of new and innovative applications, such as online shopping, social media, and cloud computing, which have transformed the way we live and work. One of the key features of digital technology is its ability to collect, store, and analyze large



amounts of data. This has given rise to big data analytics, which is the process of examining, cleaning, transforming, and modeling data to discover useful information, insights, and patterns. Big data analytics has become an important tool for businesses and organizations, as it helps them make more informed decisions and improve their operations.

Digital Communication and Services:

Digital communication and services are an integral part of the digital landscape. The growth of the internet and the rise of mobile devices have created new and innovative ways for people to communicate, share information, and access services. Digital communication and services include email, instant messaging, voice and video calls, social media, online shopping, and cloud computing. These services have made it easier and more convenient for people to connect, collaborate, and access information, regardless of their location or time of day. One of the key trends in digital communication and services is the rise of mobile devices, such as smartphones and tablets. These devices have become an essential part of our lives, and have created new and innovative ways for people to communicate and access information. The growth of mobile devices has also driven the development of mobile applications, or apps, which are small software programs designed to run on mobile devices. Apps have become an important part of the digital landscape, and have transformed the way we perform many tasks and access information.

Key Trends and Developments: The field of digital technology and digital communication and services is constantly evolving, and new trends and developments are emerging all the time. Some of the key trends and developments in this field include:

- 1. Artificial Intelligence (AI) and Machine Learning (ML):** AI and ML are transforming the way digital technology and services are designed and used. AI and ML are being used to automate tasks, improve service delivery, and create more personalized and relevant experiences for users. AI and ML technologies are being applied in a wide range of fields, such as healthcare, finance, and retail, among others.
- 2. The Internet of Things (IoT):** IoT is the network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, and sensors that enable these objects to connect and exchange data. IoT is driving the development of smart homes, connected cars, and wearable devices, among other things. The growth of IoT is expected to have a major impact on the digital landscape, as it creates new



opportunities for businesses and individuals to connect and interact with the world in new and innovative ways.

3. **5G Technology:** 5G technology is the next generation of mobile networks and is expected to have a major impact on the digital landscape. 5G will enable faster, more reliable, and more secure communications, and will support the growth of new and innovative applications, such as virtual and augmented reality.
4. **Cloud Computing:** Cloud computing is a model of delivering computing services over the internet, including storage, processing, and software. The growth of cloud computing is driving the development of new and innovative services, and is making it easier and more cost-effective for businesses and individuals to access and use technology.

Digitalisation in agriculture

The 21st century has brought about significant changes in various sectors, including agriculture. One of the most notable changes is the digitalization of agriculture. The use of technology and digital tools in agriculture has revolutionized the way farmers produce, manage and distribute their crops. The development of digital technologies and the increasing availability of data and information are presenting significant opportunities for growth and innovation in Indian agriculture. By leveraging these technologies, farmers and agribusinesses can access information and resources that can help them make better decisions, improve their yields, and increase their profitability.

To begin with, digitalization has made it possible for farmers to access real-time information on weather patterns, soil conditions, and crop health. This information enables farmers to make informed decisions on when to plant, irrigate, and harvest their crops. For example, farmers can now use precision agriculture techniques to monitor soil moisture levels and determine the best time to irrigate their crops. This not only ensures that the crops receive the right amount of water, but it also reduces water waste and saves farmers time and money.

Moreover, digitalization has made it possible for farmers to automate various farming processes, such as planting, harvesting, and fertilizing. This automation not only reduces the time and labor required for these tasks, but it also increases efficiency and productivity. For



instance, drones can be used to survey crops, assess their health, and even spray pesticides and fertilizers, saving farmers the time and effort of doing these tasks manually.

Additionally, digitalization has enabled the creation of smart agriculture systems, which collect data from various sources and use it to optimize farming processes. This technology can be used to monitor crop growth, detect and predict diseases and pests, and even predict future yields. By using this information, farmers can make informed decisions on how to manage their crops and increase their yields.

There are several advantages of digitalization in agriculture, including:

- ✚ **Increased efficiency:** Digital technology enables farmers to automate manual tasks, such as planting, harvesting, and monitoring crops, reducing the time and effort required to carry out these tasks.
- ✚ **Improved crop production:** Precision agriculture uses data and technology to optimize crop production and management, improving yields and reducing waste.
- ✚ **Better decision-making:** With access to real-time data, farmers can make more informed decisions about their crops and land, leading to improved results and profitability.
- ✚ **Enhanced sustainability:** Digital technology can help farmers to reduce their environmental impact by improving efficiency, reducing waste, and optimizing resource use.
- ✚ **Improved access to information:** Digital technology provides farmers with access to a wealth of information, including weather forecasts, market prices, and advice on best practices, enabling them to make better decisions and improve their operations.
- ✚ **Cost savings:** Automation and improved efficiency can lead to cost savings for farmers, reducing their operating expenses and increasing their profitability.
- ✚ **Increased competitiveness:** Digital technology can help farmers to compete in an increasingly competitive market by improving their efficiency, reducing their costs, and increasing their yields

Conclusion:

Finally, digitalization has also had a positive impact on food safety and traceability. Farmers can now use digital tools to track food from the farm to the grocery store, providing consumers with information about the origin and quality of their food. This helps to ensure



that the food we eat is safe and of high quality, and it also helps to build trust in the food system. Digitalization has brought about significant changes in the way farmers produce, manage, and distribute their crops. By providing access to real-time information, automating farming processes, and creating smart agriculture systems, digitalization has increased efficiency, productivity, and food safety in agriculture. As technology continues to evolve, it is likely that we will see even more advances in digital agriculture in the future.

