GEOGRAPHICAL ANALYSIS

Status of Indian Society Amidst Global Vision of Society 5.0: Our Journey Towards

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Abstract

The world is on the threshold of a technological transformation that will drastically affect the way we live, act, and interact with one another. The extent, scope, and complexity of the change will be unprecedented in human history. Society 5.0 is a far-reaching concept, as it predicts a complete change in our way of life. People, objects, and systems are all linked in the launch of Society 5.0. Sustainability in all industries, as well as Green Energy, Climate Control, and Social Innovation are critical. Social Innovation bridges geographic, age, gender, and language divides. It demonstrates the ability to tackle a wide range of problems in industries such as mobility, healthcare, agriculture, food, disaster management, energy, and many more. Hitachi is prepared to work with the government to develop a robust framework for a smooth transition to Society 5.0. An estimated 500 million people rely on agriculture for a living in India. Falling harvest sizes as a result of climate change are a serious socio-economic issue. Hitachi is contributing to India's path to Society 5.0 by providing comprehensive IT x OT solutions.

Introduction

According to Japanese government literature on society 5.0, it should be able to "balance economic advancement with the resolution of social problems by providing goods and services that granularly address manifold latent needs." Today, the world is on the threshold of a technological transformation that will drastically affect the way we live, act, and interact with one another, and the extent, scope, and complexity of the change will be unprecedented in human history. However, the greatest inventions in history began with the first industrial revolution, which was pushed forward by the use of water and steam to power mechanical processes. Industrial production has grown at an extraordinary rate since the introduction of electricity, resulting in the second industrial revolution. The biggest of the improvements would be unlikely without electric power, as most contemporary advances in society are only presumable with electric power. "A human - centered civilization that achieves a balance of economic progress and social problem resolution through a system that tightly connects the internet and physical space." The transition to Society 5.0 is compared to the "Fourth Industrial Revolution" in that both terms relate to the current fundamental movement in our economic environment toward a new paradigm. Society 5.0, on the other hand, is a more far-reaching concept, as it predicts a complete change in our way of life.

The Revolution: Society 4 0

The adoption and proliferation of computing power utilised for automation in production and information technology ushered in the third industrial revolution, which saw a move from mechanical and analogue electronic technology to digital technology. Today, the Fourth Industrial Revolution is based on the third digital revolution, which is being shaped by a confluence of technologies that are blurring the boundaries between the physical, digital, and biological realms. Because of the speed, scope, and severity of this change, we must reconsider how countries should develop, how businesses should create value, and even what it means to be social. Everyone benefits from harnessing technologies to create an inclusive, citizen-centered future, including leaders, lawmakers, and people from all income levels and nations.

Industry 4.0 is a term that refers to the digital revolution is transforming economies, allowing for more inexpensive digital breakthroughs, products, and services to improve people's lives all around the world. Taking advantage of rapid breakthroughs in IoT and AI technology, billions of people are connected via handheld devices that have unrivalled processing power, storage capacity, and access to vast knowledge, revolutionising companies around the world.

Remodelling machines gain the ability to interact and share important data with minimal human interaction thanks to a combination of the Industrial Internet of Things (IIoT) and operational technology. Every day, new breakthroughs in disciplines like artificial intelligence, robots, the internet of things, autonomous cars, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing expand the possibilities. Computational design, additive manufacturing, materials engineering, and synthetic biology are all being combined with biological science to orchestrate a symbiosis between microorganisms, human bodies, commodities, and even our houses.

Society 5 0 is the next step in the evolution of society

An overabundance of data to store, the identification of relevant and real data to analyse and the limited scope of action due to physical ability and a lack of laws and policies are putting a strain on the nations' current industrial, economic, and social infrastructure preventing them from taking adequate measures to resolve any critical issues in a timely manner. Globalization and life expectancy are increasing, as are economies' progress, international competition, and social and regional inequities. Sustainability in all industries, as well as Green Energy, Climate Control, and Social Innovation are critical.

The incredible potential of the Industry 4.0 Revolution is paving the way for nations to embrace Civilization 5.0, a future reality that will serve as a stepping stone to a thriving data-synchronized, super-smart human-centered society. Social Innovation combines emerging technologies such as IoT, AI, Robotics, Big Data, and Advanced Analytics to create a wealthy, forward-thinking society that balances economic progress with the resolution of social issues.

People, objects, and systems are all linked in the launch of Society 5.0, which integrates cyberspace and physical space.

Big Data is examined by AI capabilities to integrate back into the physical space with new values for individuals, industries, and businesses through various forms and media in order to achieve both economic development and solutions to social problems at the same time.

In Society 5.0, the new value created through Social Innovation bridges geographic, age, gender, and language divides, allowing for the customization of products and services to meet a wide range of individual demands. It demonstrates the ability to tackle a wide range of problems in industries such as mobility, healthcare, agriculture, food, manufacturing, disaster management, energy and many more.

A "sustainable society" in which everyone may enjoy a safe and joyful life is fully integrated into the Society 5.0 idea. Hitachi is prepared to work with the government to achieve this reality by developing a robust framework for a smooth transition to Society 5.0 and assisting in the resolution of various social challenges through new-age digital technologies, thanks to its robust and comprehensive portfolio, diversity of digital solutions, and integrated approach. Hitachi's collaborative co-creation with the government in Railways, Finance, Agriculture, Urban Development, and e-Government, as a key partner in the government's "Digital India" project, is driving India to become a nation that is able to fulfil the expectations of society 5.0 in the future.

For example, as a result of climate change, India has had erratic monsoon cycles in recent years, making it difficult for farmers to decide when and what crop to sow. Because a substantial portion of India's farming community is made up of marginal farmers, the country faces a formidable subsistence struggle. Harvest failures might have a significant influence on their financial well-being. In India, where an estimated 500 million people rely on agriculture for a living, falling harvest sizes as a result of climate change are a serious socio-economic issue.

Through AI analysis of big data, which includes various types of information such as meteorological data, crop-growth data, market conditions, and food trends and demands, the Society 5.0 conceptual approach can help create new value in the realm of agriculture. Farmers can develop a smart farming plan by automating farm activities, collecting crop data automatically, improving water management based on weather prediction and river data, and sharing know-how, among other things. Farmers can make constant adjustments based on fresh value forecasts in order to achieve long-term

outcomes and provide a consistent supply to consumers.

As a result, the cumulative effect of adopting such new digital technologies aids industries, corporations, and governments in meeting the nation's initiatives, particularly in the areas of reducing carbon footprint, establishing a sustainable society, optimising resource optimization, and improving citizen quality of life. By contributing to India's path to Society 5.0, Hitachi is in a position to efficiently supply extensive and comprehensive IT x OT solutions that may help the government realise its vision of a better human life and create prudent solutions for India's future in the present.

Smart services, he claims, aim to improve the quality of people's lives rather than just the power of technology, and that the "service" aspect is still in need of improvement. Some researchers are focusing on what is known as "service science" or "service management." Engineering, where service always entails either human-human or human-nonhuman interaction, such as robotics, Human operators are used in almost all engineering systems. In that sense, human-machine interaction or human-environment interaction is becoming more prevalent in the world of smart services.

The World Economic Forum (WEF), sometimes known as the Davos Conference, is an annual gathering of business leaders from around the world. The GAC for Software and Society is a non-profit organisation that promotes the use of software in society. Ten percent of individuals will wear connected apparel by 2025, according to the organization. Thanks to the Internet, 90 percent of human beings will be able to access free memory thanks to the Internet via the cloud with indefinite capacity and 1-terabyte sensors as the standard for connection to the internet and the internet of things. He then spoke to a colorful image for the participants that depicted the situation. technological advancements such as self-driving automobiles, 3-D printing, and big cities.

More jobs are needed

Machines will not be able to replace humans. Data analytics, intelligence, and other developing technologies will enable a myriad of options in medical care, agricultural production and distribution to end hunger, and autonomous transportation (including unmanned drone technology) for logistics. Thanks to sensors, robots, and automated systems, infrastructure will be able to foresee requirements, mitigate dangers, and increase efficiency. Energy needs will be met by environmentally friendly technology. And job opportunities in these fields will increase dramatically.

Increased access to technology

The fundamental strategy must be accessible. Deliver digital technology on a micro-scale across locations to improve daily life and activities. Connecting, collaborating, transacting, and sharing information should all be simple. With easier and more reliable data ecosystems, you can provide value across all industries. Ascertain that data is collected, analyzed, and transformed into cutting-edge intelligence in real-time. In other words, create a future in which people and technology work together to meet infrastructure, economic, and social demands.

Improve your ability to learn new things.

Create incentives for employees to invest in their skills in their own time. Recognize prior learning (RPL) and apprenticeship interventions to provide employers with the relevant employment-generating knowledge that allows a large number of unemployed people to find jobs. More than 120 million Indian women who have completed secondary school do not work. With only 33% of the workforce having completed secondary school, take advantage of this foundation to improve future abilities. Encourage more women to work by providing incentives for them to do so.

Entrepreneurship is given top priority

Adapt the agenda to increase the size, profitability, and employment potential of tech-driven entrepreneurial activities beyond incubation initiatives. Accelerate the startups' transformation into a unicorn. Encourage mass entrepreneurship, in which millions of small enterprises use local workers, use local materials, and cater to local needs. It will result in an inverted employment funnel, with mass employment coming first, followed by a drive to learn and upskill.

Over the last decade, governments in a number of nations have focused on transforming a number of towns and cities into smart cities, with the goal of improving governance and facilities.

Towards an India 5 0 Society…

Each smart city project has covered domains such as water supply, traffic systems, crime detection, hospitals, power supply, and so on, allowing local governments to manage and deliver services more efficiently due to the ability to monitor data from interconnected systems on a regular basis and make timely course corrections. Several smart cities in India, for example, rose to the occasion during the COVID era by providing inhabitants with real-time medical care alternatives by combining data and systems from hospitals, morgues, and academic institutions.

Most smart cities in India are now supported by governments and corporations in order to address social issues and provide a standard set of services. Society 5.0 is a mechanism for making smart cities more people-centered and citizen-led. This would imply that data from many sources would be made available in the public domain, allowing citizens to

be served depending on their specific requirements. Society 5.0 aspires to build a human-centered society that strikes a balance between economic progress and the settlement of social issues through a system that tightly connects the internet and physical space. On the one hand, the method proposed by Japan is based on advanced technologies created by "monozukuri" (Japan's competence in the manufacturing of goods) being used for the public good.

Unlike smart cities, which have a limited scope and are currently geared to providing better governance, Society 5.0 aspires to make people's lives more comfortable and sustainable by expanding the scope to include every resident. Digital architecture facilitates the bringing together of information on a horizontal dimension covering various sectors such as agriculture, energy, transportation, health infrastructure, and so on, and a vertical dimension covering individual attributes such as medical history, education background, consumption patterns, and so on, allowing for the interaction of physical and cyberspace.

It's worth considering the city of Barcelona as a model of a European smart city. By putting sensors around traffic intersections to monitor air and noise pollution and relaying the data directly to inhabitants via apps, the city has been able to improve its notorious noise pollution and traffic fumes. This has resulted in not just a perceptible shift in the city but also economic progress.

It's critical to put in place widely agreed-upon standards like ISO in order to advance towards Society 5.0. It's also important to strike a balance between societal and individual requirements, which necessitates evaluating priorities on a regular basis. Policymakers and technology suppliers are in high demand.

Agriculture 5.0: Opportunities and Challenges of Technology Adoption

Agricultural technologies have long been promoted by governments and development organizations as effective ways to increase farm productivity and reduce poverty. However, the adoption of many seemingly beneficial technologies remains low. Empirical adoption studies attempt to identify the motivation for adoption based on differences in characteristics between adopters and non-adopters. This study investigates variables that regularly explain adoption across technologies and contexts using a meta-analysis of 367 regression models from the published literature. We find that, on average, farmer education, household size, land size, access to credit, land tenure, access to extension services, and organisation membership positively correlate with the adoption of many agricultural technologies. Technologies in the categories of improved varieties and chemical inputs are adopted more readily on larger farms, which casts doubt on the scale-neutrality of these technologies. Agricultural credit can pos-

itively influence adoption, but researchers should measure whether farmers are credit constrained, rather than simply whether or not they have access to credit. While extension services may substitute for education in the case of improved varieties, the two variables appear to be complementary for natural resource management technologies. Land tenure can encourage adoption of natural resource management techniques, and we find it to be most influential in the adoption of technologies with long planning horizons, such as erosion control methods. Unsurprisingly, although some patterns are identified when results are averaged, most adoption determinants vary widely by technology, cultural context, and geography. Based on these observations, we provide some recommendations for adoption by researchers and policymakers, but, given the variability of the results, conclude that efforts to promote agricultural technologies in the developing world must be adapted to suit local agricultural and cultural contexts.

The government of India has launched a digital agriculture mission for the years 2021–2025, with projects based on new technologies such as artificial intelligence, blockchain, remote sensing, GIS technology, drones, robots, and so on. Agriculture today employs advanced technologies such as robotics, temperature and moisture sensors, aerial photographs, and GPS technology on a regular basis. Businesses can be more profitable, productive, safer, and environmentally friendly thanks to modern technology, precision agriculture, and robotic systems. Fertilizers, insecticides, seed technology, and other aspects of agriculture are all affected by technology. Pest resistance and greater crop yields have been achieved thanks to biotechnology and genetic engineering. Tilling, harvesting, and physical work have all become more efficient as a result of mechanization. Most of the problems that farmers confront can be solved with technology.

Summary

Society 5.0 is the next step in the evolution of society. Sustainability in all industries, as well as Green Energy, Climate Control, and Social Innovation are critical. The value created by social innovation spans geographic, age, gender, and linguistic divides. The government's "Digital India" project. By contributing to India's path to Society 5.0, a position to efficiently supply IT and OT solutions that may help the government realize its vision of a better human life. The World Economic Forum (WEF) is an annual gathering of business leaders from around the world. Some researchers are focusing on what is known as "service science" or "service management." Human-machine interaction or human-environment interaction is becoming more prevalent in the world of smart services. The adoption of many seemingly beneficial agricultural technologies remains low. We find that education, household size, land size, access to credit, and land tenure are important factors in adoption.

Land tenure is most influential in the adoption of natural resource management techniques such as erosion control. The government of India has launched a digital agriculture mission for the years 2021–2025. Agriculture today employs advanced technologies such as robotics, temperature and moisture sensors, aerial photographs, and GPS technology. Efforts to promote agricultural technologies in the developing world must be adapted to suit local agricultural and cultural contexts. [1–6]

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