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E-commerce Opportunities for Tribal Handicrafts and Agro-products

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Abstract:

India is a country of great cultural heritage and India's cultural diversity provides plenty of remarkable art and craft products. Handicraft industry uses conventional manual methods instead of advanced technology for making various items. It is an unorganized, decentralized, labour intensive cottage industry. Though the handicraft industry employs millions of artisans, It is still miniscule with respect to the global industry. This scenario is changing with the advent of E-commerce initiatives at government as well as at private or individual level. In this paper, an attempt has been made to highlight the role of E-commerce in the development of rural artisans in India by illustrating some efforts of Government and Non-Government agencies, Groups and Individuals in uplifting the socio-economic standard of the rural artisans through E-commerce. Strengths, Weaknesses, Opportunities and Threats/Challenges faced or to be faced by rural handicraft artisans adopting E-commerce have also been analyzed in this paper.

Keywords: Handicrafts, E-Commerce, Rural Development

Introduction:

E-commerce is breaking down barriers and has quickly infiltrated even the most traditional industries, such as agriculture. The rapid changes in the digital tech sphere have made it possible for Agritech brands to introduce innovative changes in the agricultural value chain. The evolution of digital technology now represents a new way for farmers to sell their products to a diverse range of buyers such as agribusinesses, merchants, restaurants, and consumers. The rapid adoption of agritech is evident from the fact that over 1000 agro-based businesses operate in India alone. Cutting-edge agritech solutions are enabling farmers and agriculture-related service providers to break free from centuries-old, outdated agricultural practices and join the main-stream multichannel markets. Agri ecommerce has not only given the farmers access to better tools to improve their harvest but also improves farmers' access to new markets and boosts value chain transparency. It allows farmers to avoid many intermediaries, resulting in higher income, less waste, and the ability to deliver fresher produce to buyers.

Digital Agriculture Initiatives in India

The Digital Agriculture Mission 2021–2025 was launched in September 2021 by Narendra Singh Tomar, Union Minister of Agriculture and Farmers Welfare. Five Memorandum of Understandings (MoUs) were signed to advance digital agriculture through pilot projects with Cisco, Ninjacart, Jio Platforms Limited, ITC Limited, and National Commodity and Derivatives Exchange (NCDEX) e-markets Limited (NeML). The Digital Agriculture Mission 2021–2025 aims to encourage and speed up projects based on cutting-edge technologies, including AI, blockchain, remote sensing, robots, and drones.

Over 1,000 agri-tech start-ups are based in India, and various venture capital funds, loan

funds, and angel investors have long supported the sector. These start-ups have innovative ideas that assist farmers in improving farming techniques and produce.

To provide farmers with real-time data and the necessary advice, NITI Aayog has teamed up with International Business Machines (IBM) to create a crop production forecast model supported by AI. It aids in enhancing crop output, soil quality, agricultural input control, and early disease outbreak warning.

In August 2019, Cisco created an Agricultural Digital Infrastructure (ADI) solution to improve farming and knowledge exchange. This played an essential role in the data pool that the Department of Agriculture developed under the National Agri Stack.

The Jio Agri (Jio Krishi) platform was introduced in February 2020, and it digitalized the agricultural ecosystem along the entire value chain to empower farmers. The platform's primary function leverages data from standalone applications to offer counsel. Its advanced features use data from various sources, input it into AI algorithms, and then deliver precise, individualized advice.

India is gradually embracing climate-smart farming methods, which will assist in altering the country's ecology and cutting greenhouse gas emissions from agricultural activities. For instance, the farmers in Gujarat's Dhundi village have begun employing solar electricity and other sustainable energy sources for irrigation.

Microsoft and the Indian government have teamed up to support India's small-holder farmers by running a pilot programme called 'Unified Farmer Services Interface'. The alliance aims to boost farmers' incomes through improved price management and increased agricultural yield using AI sensors. The collaboration would accelerate the use of AI in farming.

Six institutions are a part of the government's Sensor-based Smart Agriculture (SENSAGRI) programme. Drones would be utilised in this concept to scout over land areas efficiently, acquire priceless information, and instantly communicate the data to farmers.

India is also helping the farmers by providing agricultural loans that will help increase natural farming practices and significantly modernise agriculture, emphasising agri-waste management. In addition, 11 crore farmers have received $ 26.4 Bn through the Pradhan Mantri (PM) Kisan Samman Nidhi initiative. Additionally, the market for organic products has grown to $ 1.5 Bn. The government is also encouraging AI to revolutionise agricultural and farming trends and giving financial support to agri-tech firms. India is continually working to develop and implement regulations that would improve the sustainability of its agricultural industry. Partnerships between corporations and the government can aid in developing a smart agriculture industry, given India's dynamic corporate structure.

The Digital in Agriculture Today One of the key elements that define ‘digital’ in agriculture is the use of technology. More commonly referred to as agriculture technology, or agritech, it encompasses the application of modern technologies in conjunction with the internet to reconstruct the practice of agriculture globally. Being digital has given large and medium organizations the power to unearth and analyze unprecedented volumes of agri big data, which has further enabled various stakeholders to create more value in the processes they oversee.

Farm-level data derived from a combination of sources, including mobile-based agriculture apps, sensors, drones, farm implements and machinery, robotic devices, and other IoT devices, makes it possible for producers to capture vital farm data round the clock. This

data, when processed with satellite and weather-based information, allows crop producers to monitor the growth of crops in real-time, assess the performance of the farm plots, and estimate the output for each farm plot with a fair amount of accuracy.

Precision agriculture presents diverse opportunities for the use of artificial intelligence to optimize farm processes. It allows producers to translate raw agri data into actionable insights that help improve the quality and quantity of the harvest. AI is also empowering producers to choose the best crops and crop varieties for their region, and leverage farm automation to minimize the use of resources.

The digitalization of the entire process, from production and harvest to warehousing and distribution, is strengthening communications between the various stakeholders in the agri-ecosystem. Digitalization has also enhanced visibility along the supply chain for the different actors, making the process more transparent and highly efficient.

As announced in the Budget Speech 2023-24, "to improve socio-economic conditions of the Particularly Vulnerable Tribal Groups (PVTGs), Pradhan Mantri PVTG of Development Mission will be launched. This will saturate PVTG households and habitations with basic facilities such as safe housing, clean drinking water and sanitation, improved access to education, health and nutrition, road and telecom connectivity, and sustainable livelihood opportunities.

E-Commerce Agro Base Industries In Maharashtra:

In recent years e-commerce is gaining immense importance in agricultural sector in India. In Maharashtra 4 Agricultural universities and 76 agricultural colleges had led foundation in agricultural sector growth. Collaboration with different foreign country like Israel to facilitate contemporary methods of crop production for additional crop production set technological advancement in Maharashtra. Proliferation of internet technology and its availability has increased and easier access to Maharashtra Farmers. The study examined the response of U-Link Agritech Pvt. Ltd. working in the Pune District. The focus of study was to find response of farmers towards "direct-to-farmer" technology platform. This has been done by knowing farmers awareness level, attitude towards exiting e-commerce technology acceptance level. The study was conducted in Pune District. This study has contributions and managerial implications to the information system knowledge base as well as agricultural sector in India. The rate at which technology innovations like the internet information is adopted by consumers constitutes an important part of the technology change or integration The exploratory research design have been used for collecting secondary data like company sale order records ,books other record on the internet etc. while descriptive research have been used for collecting primary data.

Opportunities:

One of these opportunities is the emergence of enterprises based on traditional knowledge, such as eco-tourism, sustainable agriculture, and the manufacture of cultural arts and crafts. Other tribal opportunities include herbal products, agriculture, handicrafts, tourism, and non-timber forest products (Pravesh, 2016). Entrepreneurs are adopting diverse entrepreneurship in which skill, community network, information, globalization, and digital access determine the business setup E-commerce breaks down geographical barriers, allowing tribal communities to sell to national and global markets. By selling online, artisans receive higher prices and better margins for their

products. Digital platforms like "Tribes India" help build a brand identity for authentic tribal products, enhancing their value. High demand for unique, handmade, and eco-friendly products in countries like the US, Britain, and Germany offers significant export potential.

Reference:

1. https://scientificresearchjournal.com/wp-content/uploads/2024/09/home-science-11-401-409.pdf
2. https://ijrpr.com/uploads/V4ISSUE5/IJRPR12917.pdf
3. https://adiprasaran.tribal.gov.in/pm-janman01/man.aspx