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# Impact of Innovation and Technology on Eco System for Inclusive Growth: Special Reference to Digital Marketing and Secured Iot

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***Abstract***

This essay will show how IOT supports digital marketing and administers a beneficial, safe system for buyers and sellers. In addition to facilitating data transmission, IOT devices also assist in gathering and building a secure consumer database, which is crucial in the current digital era. Data is king, as you have certainly heard.

Digital marketers can gain better marketing insights and develop more precise digital marketing plans with the aid of the customer-secured database. This method is specifically fetched with the intention of enabling users to use the database in a secure manner.

We will determine the growth percentage of sellers with the assistance of the chosen company and their IOT installation technology. These gadgets gather information from their surroundings and share it with other gadgets through the internet using sensors and actuators.

Electronic device sensors are collecting data, transferring it to the internet, and exchanging it with one another. The synchronization and dependency ratio of the IOT and digital marketing samples will be shown in selected graph representations using the T-Test in order to determine the actual statistical result.

***Keywords:*** *IOT Device, M2M, Consumer Data, Digital Marketing*

## 1. Introduction

As we may state that equality in all areas, i.e. equality in health, education, food security, environment quality, and social protection, inclusive growth entails equal chances for economic participants. According to the World Poverty Clock, India currently has 1.3 billion people, of which 5% are considered to be living in extreme poverty. According to UNDP data from 2018, India has made impressive strides in eliminating multidimensional poverty, despite the fact that 364 million Indians still experience poverty in all areas, including those related to health, nutrition, education, and sanitation. Regional disparities are mostly caused by inadequate social and economic infrastructure in rural areas, including poor access to banking, education, and health services. In the four poorest states, namely Bihar, Jharkhand, Uttar Pradesh, and Madhya Pradesh, dwell more than half of the Multidimensional Poor. Jharkhand decreased its rank in multidimensional poverty in each of these states. Our current growth rate is exceptional. India is renowned for its creative high-tech goods and services, but the country hasn't been able to fully realize its innovation potential. Despite having a sizable, energetic youthful population, we cannot achieve inclusive growth without investing in their abilities and providing them with a higher level of education. On the one hand, social development happens when new

technologies are applied to better the social and cultural conditions of the rural poor, while on the other hand, inclusive growth is further constrained by a lack of qualified laborers and basic facilities like power and roads. On the other side, technological development may contribute to the further division of the labor force into low- and high-skilled workers, which would exacerbate inequality and impede inclusive growth. More difficult than any other goal on the route to economic progress is achieving inclusive growth.

Despite the significant obstacles it currently faces, it is anticipated that the increasingly globalised globe would experience substantial economic development over the coming years. Conquering the connected problems of environmental deterioration, socio-digital inclusion, and inclusive growth is necessary for progress. First, the globe must confront the difficulties brought on by the expanding environmental concerns [1,2]. By 2050, there will be 9.3 billion people on the planet, up from 7 billion in 2012, according to projections [3]. Only in Sub-Saharan Africa is population growth approaching 50% [4]. Countries will compete for food, water; jobs, natural resources, and shelter as their populations grow, causing environmental harm in the process [5]. The demand for items that require more resources, such meat and vegetable oils, will increase, necessitating extensive environmental protection measures. Unchecked population expansion will also raise emissions of carbon dioxide and other hazardous gases from industry, which would worsen the environment by reducing the ozone layer [6–8]. All people, plants, and animals are negatively impacted by these dangerous gases in the environment as a result of increased industrialization, urbanization, and population [9,10]. Global carbon dioxide emissions are currently rising quickly, posing a serious threat to all life forms.

Second, it is estimated that the world's poorest 870 million people are still undernourished as of right now, and there is no question that the issue will only get worse in the years to come [11]. Food riots that broke out in over twenty nations in 2008 provided proof that many millions of people already exist on the edge of poverty [12]. The availability of food must grow by 64% globally by 2050 in order to feed everyone due to the extreme poverty that exists now [13]. Agriculture will be severely impacted by these environmental catastrophes, decreasing food supply and driving up food prices, due to the expanding population and shifting environmental dynamics. Around the world, approximately two billion people are employed in agriculture, which contributes to just fewer than 3% of the global GDP. One of the biggest consumers of water and a significant contributor to greenhouse gas emissions is agriculture. If employment possibilities are not created at a rate that keeps up with the population expansion, inclusive growth will never be achieved. As a result, poverty will rise sharply and income disparities will expand. Third, unchecked emissions brought on by the severe effects of environmental degradation would significantly accelerate the rate of global warming, especially over the coming years [14–18]. Economic expansion will inevitably cause significant environmental harm, and this degradation will raise substantial health issues, which will limit any realistic idea of inclusive economic progress. People's lifespan will shorten as a result of environmental degradation, and they won't be able to advance economically. Do carbon dioxide emissions discourage inclusive growth, particularly in lower income groups? is the first question we pose in this study. The second issue we want to look into is how carbon dioxide emissions impact the expansion of social and digital inclusion among various regional groupings. Based on the amount of data that could be acquired for this study, we employed a world panel dataset made up of nations from various continents to address these questions.

## 2. Literature Review

Economics and environmental science define the negative effects that can jeopardise a country's ability to attain inclusive growth when considering the future of inclusive growth in various worldwide locations. It is commonly believed that processes in the agricultural, industrial, and energy sectors have a significant impact on economic growth and the activities that are associated to it. The last of these three is possibly the most important and is covered in this paper. Without addressing the global climate issues brought on by decades, if not centuries, of industrialization, especially in the years following World War II, it is impossible to achieve sustainable inclusive growth. We generalize the typical features of the atmosphere in various parts of the world while referring to climatic variations, which may fluctuate depending on diurnal occurrences. An accumulative indicator of environmental degradation is a more accurate picture of the changing climatic conditions.

However, no reliable data sites have access to data on all variables at the worldwide level. When it comes to data accessibility, carbon dioxide emissions are the main variable for which data are easily accessible. Emissions of carbon dioxide have the biggest impact on global climate. Given what has transpired over the past century, many climatologists and economists believe it is prudent to take this fact into account on a worldwide scale. Fossil fuel burning is primarily to blame for carbon dioxide emissions. The residence time of these emissions in the air, when compared to the existence of industrial carbon dioxide in the air, appears to be sufficient once they are a part of the atmosphere surrounding us. According to predictions made by scientists, rising carbon dioxide emissions would cause a nearly three-degree Celsius increase in global temperature over the next few decades. However, if nothing is done to address the conditions, they are expected to worsen over the following several years, which will have a significant impact on the forecast change.

## 3. Research Methodology

Only secondary data were used to conduct the study. The information is gathered from newspapers, magazines, journals, the internet, reference books, etc. The collected data are collated and examined in order to conduct the study..

### 3.1 Technology In Msmes And Inclusive Growth

The MSME sector is tremendously important to the Indian economy. This industry employs 59.7 million people in India and is the greatest employer in the world. It is true that India's SMEs are unable to utilize their full potential due to outdated technology, yet globalization has forced MSMEs to adopt novel practices and outfit themselves with cutting-edge technology. The use of modern technologies increases SMEs' productivity. This industry makes significant contributions to rural industrialization and job creation for rural poor, ensuring an increase in their level of living. Technology is essential to SMEs' success. for MSMEs to receive technical upgrades so they can improve their capabilities Ten cutting-edge programmer have been introduced by the Ministry of MSMEs as part of the National Manufacturing Competitiveness Program. The MSMEs' process, design, technology, and market access are all being improved by this programmer. The many entities within the Ministry of MSMEs give vendors the chance to showcase their goods in exhibitions. Additionally, National Small Industries Corporation (NSIC) has introduced a B2B web platform to offer marketing services.

### 3.2 Information Technology And Inclusive Growth

Politically, socially, and economically, inclusive growth is essential. Information technology would be essential in the actions needed to ensure this progress. Today, information technology has become one of the main forces behind economic expansion. The sustainable growth of the rural economy can benefit greatly from digitization. The development of web-based technology in Northeast India, where there are many tribal people, has helped Community Information Services (CIS) improve the socioeconomic and health status of locals there as well as assist the Indian government in bridging the digital divide between rural and urban populations. ICT has the potential to significantly increase productivity in the service and agricultural sectors while also facilitating rural residents' access to some basic services. Mobile banking is one example of how information and communication technology applications may promote inclusiveness and progress. Although the ICT sector primarily offers employment prospects to the skilled elite, it also has greater potential for innovation that will help the middle class and lower middle class. The best illustration of a technology whose declining cost makes it affordable for Indians from all socioeconomic groups is mobile. Millions of people's lives would alter if real-time sharing was possible on less expensive access devices like phones and PCs. Fortunately, increased user numbers are a result of investments in telecom infrastructure. Joint ventures between banks and telecommunication companies may be able to profitably benefit millions of people through inclusive banking and supply chain benefits.

### 3.3 Challenges In Achieving Inclusive Growth

India is a country with huge socioeconomic differences despite being a 62-year-old democracy with over a billion residents; therefore the growth is far from inclusive. The government introduces a number of programmed to help the socially vulnerable population, but due to widespread administration corruption, proper

implementation of these initiatives is a significant difficulty. Agriculture is where the idea of equitable growth first emerges. Due to their limited landholdings and challenges obtaining economies of scale, loans, and becoming market-oriented from a subsistence level, small and marginal farmers are actually the least benefited. Deforestation for technological advancement is also a difficult problem since rural impoverished people, especially women, depend on nature for their daily needs, and cutting down trees causes low productivity and little rain. Large farmers that own a lot of land benefit most from government initiatives. 25% of Indian adults in rural areas are illiterate. Rural areas currently have few rural applications for new technologies. Many farmers are still ignorant of these advancements because they lack basic literacy and computer skills. A relatively small group of people who are active participants in the global knowledge economy have benefited from technological advancement. Distances, roads, illiteracy, and poverty are barriers to offering affordable financial services in rural locations. Lack of access to banking services, healthcare, education, and cell phone connectivity are just a few of the problems that contribute to more people moving from rural to urban locations.

**4. Results And Discussion**

India has a significant wealth and poverty gap as well as a rural-urban divide. India is making significant investments in online education. According to a consultant called Technopak, the Indian market for digital learning would almost treble in size between 2016 and 2020, rising from $2 billion to $5.7 billion. The biggest gender gaps are found in banking, the workplace, and online access. At 2014, a government poll revealed that only 9% of women were proficient in emailing and internet browsing. Many businesses are taking steps for gender inclusion to address this problem, including Google's parent company Alphabet and the Norwegian IT company Telenor ASA. In order to teach women how to use smart phones, tablets, and the internet, Alphabet has hired 9000 female tech trainers who travel through rural India on bicycles. Numerous rural residents' lives have been enhanced nationwide by the government's outstanding Digital India initiative. The goal of the Digital India programmers was to close the wealth divide. Additionally, this programmers aims to offer fixed-line broadband, mobile connectivity, or Wi-Fi hotspots to every resident. Another move in that direction is the 11th e-Governance National Summit, which has the subject "Inclusive Growth through Digital Empowerment." In order to achieve inclusive growth, International Finance Corporation concentrates on various key areas in India. A business offering technology services, Financial Information Network & Operations Private Ltd (FINO), which IFC invested in, will allow India to offer banking and financial services in rural areas. Additionally, it gives India the chance to close the gap between huge financial services and the large underserved population. IFC and FINO play a significant role in the adoption of IT technology in India's underserved markets and offer training in regional dialects, both of which unquestionably contribute to improving banking services for those individuals and regions that lack access to financial services. By providing primary healthcare, banking, and education to the rural people, the Common Service Centers leverage technology to close the gap between rural and urban India. India would be able to attain inclusive growth with better planning and careful use of technology.

**5. Suggestions**

1. The availability of IT applications in rural areas needs to be improved.
2. Technology should be developed to enable the creation of occupations that will enhance the quality of life for individuals living in rural areas.
3. Education in remote areas needs to receive more funding.
4. Effective monitoring of the implementation of programmes to eradicate poverty in rural regions is required.
5. Make computer education more accessible to people in rural areas
6. It is necessary to inform and persuade village representatives of the advantages of the technological transformation.
7. More rural infrastructure spending is necessary to ensure equitable growth.

## 6. Conclusion

The vast majority of people in India live in rural areas. For technological development to succeed, we cannot ignore the rural population. Greater than just economic growth is the concept of inclusive growth. In order to achieve inclusive growth, technology advancement must reach rural areas and the most vulnerable groups in society. Numerous noteworthy actions in the agriculture sector were performed to support the rural economy. The Ministry of MSME sector is making a variety of efforts for technical advancement, which also increases the income of the rural underprivileged that are connected to these sectors. Through digitization and increased accessibility for individuals who were out of the grasp of technical growth, the ICT sector is likewise doing wonders. The advancement of technology also gives women several opportunities to raise their socioeconomic status. India remains far from attaining the goal of fully inclusive growth, notwithstanding several efforts made in that direction. To promote equitable growth, better planning and careful use of technology are required.

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