Digital Revolution And Its Impact On Society:

Dr.Biswamohan Dash

Asso.Professor, RCM, Bhubaneswar.

Nirmal kumar Routra,
Asst.prof,Srusti Academy of management,Bhubaneswar.

Abstract:

Digital transformation is generating a fierce debate among policy-makers, economists and industry leaders about its societal impact. As digitalization disrupts society ever more profoundly, concern is growing about how it is affecting issues such as jobs, wages, inequality, health, resource efficiency and security. In recent years, digitization, the mass adoption of connected digital services by consumers, enterprises, and governments, has emerged as a major driver and enabler of socioeconomic benefits. Indeed, despite unfavorable global economic conditions, digitization can play a key role in assisting policymakers to spur economic growth and employment. However, according to management consulting firm Booz & Company's econometric analysis, its impact on countries and sectors strongly varies. Across developed economies, digitization improves productivity and has a measurable effect on growth; yet, it can lead to job losses. By contrast, emerging markets tend to gain more from digitization's effect on employment than from its influence on growth. To better channel the outcome of digitization, policymakers need to plan for how they digitize specific sectors and encourage the development of capabilities and economic enablers to help achieve maximum impact.

Key words: digitalization, resource efficiency, economic enablers and productivity

I. INTRODUCTION

Introduction:

Throughout the world, information and communication technologies (ICT) continue to proliferate at incredible speed; their effects, however, are uneven across countries and sectors. "Access to these services is no longer the primary issue facing policymakers," said Bahjat El-Darwiche, a Partner with Booz & Company. "The critical question is how policymakers maximize their adoption, utilization, and impact. Policymakers need to actively build digital markets."

The Industry Digitization Index: In 2012, Booz & Company set out to quantify the impact of digitization by creating an index that scores digitization by country. The analysis measures the level of digitization and its actual impact on economic and social factors. The research also further highlights the fact that countries that have increased their digitization level have realized gains in their economies, their societies, and the functioning of their public sectors. The more advanced a country becomes in terms of digitization, the greater the benefits. The ability of digitization to boost output and employment has measurable effects globally, by country, and by sector.

The most advanced economies in North America and Western Europe accounted for approximately 29 percent of the output gain, but just 6 percent of the employment impact. Emerging economies, on the other hand, accounted for 71 percent of the gain in gross domestic product (GDP) and 94 percent of the global employment impact.

Impact of digitization on GDP Per Capita: Booz & Company's analysis reveals that an increase of 10 percent in a country's digitization score fuels a 0.75 percent growth in its GDP per capita.

In 2011, East Asia, Western Europe, and Latin America received the greatest total GDP per capita impact from digitization, surpassing North America. The impact of digitization improvements in East Asia and Latin America was higher than that in North America and Western Europe, even though these regions have lower GDP impact coefficients. This is because the economies in East Asia and Latin America are still at the transitional stage and were able to achieve the biggest digitization leaps. Eastern Europe and Africa benefited the least from their digitization gains in terms of their impact on GDP.

Impact on Unemployment: Digitization creates jobs, with a 10 point increase in the digitization score leading to a 1.02 percent drop in the unemployment rate.

According to Booz & Company's study, in 2011, digitization had the greatest employment effect in constrained and emerging digitized economies. East Asia, South Asia, and Latin America received the most employment growth of all regions, with more than 4 million jobs created as a result of these regions' digitization improvements.

Conversely, digitization provided little employment growth in North America and Western Europe. "These advanced-stage economies realize fewer employment benefits because, as their digitization increases, their productivity improves; some jobs get replaced by technology; and lower-value-added, labor-intensive tasks go overseas to emerging markets where labor is cheaper," explained Milind Singh, a Principal with Booz & Company.

By contrast, digitization has more significant employment effects in emerging markets for three main reasons. First, the digitization gain in some emerging regions is higher than it is in the advanced. Second, some of these regions have large populations, which means that a marginal improvement in the unemployment rate leads to a significant number of jobs. Finally, offshoring grows in tandem with digitization. As companies in digitally advanced countries improve their productivity thanks to digitization, they transfer jobs to digitally emerging countries.

Digitization's Sectoral Impact

To understand the marked differences in impact that digitization has in terms of productivity and job creation across emerging and developed economies, we first need to understand how digitization affects the functioning of any enterprise. A typical company's functions can be broken down into four areas:

- Business: Digitization is fundamentally reshaping business models. It is lowering barriers to entry and expanding market reach for enterprises.
- Go-to-market: Digitization is changing how companies build brands and products, communicate, and provide services to their customers. Companies are increasingly relying on social media to build brands. More and more, subscribers are forming their purchase opinions online.
- Production: Digitization is also changing the way companies manage their production assets. It has enabled companies to move labor-intensive tasks to emerging economies while competing to develop the best design and user interface.
- Operations: Finally, digitization has had the greatest impact on the way companies organize and operate to generate competitive advantage. Digitization has created more global entities, seamlessly in touch across continents, and has redefined the concept of office space.

The type and extent of the impact that digitization has on a sector of the economy is determined mainly by the interaction of the four impacts outlined above.

Five Key Economic Activities: To better understand these dynamics, Booz & Company examined five key economic activities in developed markets that would yield conclusions that can guide policy responses. These five areas were identified by initially dividing the overall economy into three major sectors: primary, secondary, and tertiary. The primary sector relates to agriculture, farming, and mining. The second sector encompasses manufacturing. And, the tertiary sector provides services to consumers and businesses.

The study focused on subsectors in the secondary and tertiary sectors, where activities affected by digitization tend to cluster. "We also looked at the impact on the overall services sector and we examined these subsectors in six advanced-digitization countries – Australia, Germany, Norway, Sweden, the United Kingdom, and the United States," said El-Darwiche. "Our econometric analysis used three industry metrics: output, productivity, and employment. The study thus allows an understanding of how the positive national effect of digitization plays out differently in economic subsectors."

The analysis showed that there is a clear relationship between productivity gains and job losses, as seen by the results for financial services and manufacturing. By contrast, other subsectors increased employment and output, although their productivity grew at a slower pace.

As digitization increases, financial services gain the most in terms of output and productivity. Increased digitization, however, cut jobs in financial services and manufacturing because productivity gains surpassed output gains. In parallel, digitization created jobs in services subsectors, with particularly notable gains in the hospitality and retail subsectors.

The effect on retail – rising employment with some output and productivity growth – demonstrates that a proper measurement of digitization is superior to anecdotal evidence. A superficial look indicates that small retailers are closing because of online shopping. Instead, advancing digitization in retail actually creates new markets and new employment opportunities. The extent of productivity gains experienced by the subsectors is also highly correlated to the extent of digitization seen in these sectors.

Policy Implications

Policymakers should shape the impact of digitization by becoming digital market makers. They will need to do more than set policy and regulations. Instead, they will have to encourage digital activities that benefit companies and society. "Policymakers have focused until now on improving the reach and affordability of ICT services," added Singh. "Though important, policymakers in the future also need to become digital market makers – creators of a digital economy that provides its citizens, enterprises, and economic sectors with the competitive advantage essential to thrive in a global market."

Becoming a digital market maker requires policymakers to undertake three activities: designing sector digitization plans, building capabilities, and jump-starting and monitoring the wider digitization ecosystem.

In designing sector digitization plans, policymakers should seek to develop competitive advantage and generate jobs in sectors that are already critical to the national economy. Policymakers have to comprehend the trade-offs that occur between productivity increases and employment, and take steps to mitigate any potential loss of jobs.

Policymakers should then foster the development of capabilities and enablers necessary to achieve these digitization plans. Governments should decide whether they want to be developers, financiers, or facilitators of digital capabilities, a choice that they can only make if they understand the ICT ecosystem's multiple layers.

Finally, policymakers should work with industry, consumers, and government agencies to jump-start and continuously monitor an inclusive digitization ecosystem that will encourage the uptake of digital applications in these sectors and keep them competitive. In particular, they will need to find a consistent way to measure digitization and its impact, so that they can be accountable for their policies, can refine them, and demonstrate the benefits of digitization to other stakeholders.

10 most significant trends triggered by this digital revolution:

1. Digitalisation of the economy is not a new phenomenon, but it has reached a new tipping point. The marriage between Big Data and robotisation heralds a new economy and hence a new world of work.

2. There are two principal new features of this phenomenon: one is the evolution of the platform-based economy, founded on new economic models with a 'winner takes all' philosophy, and the other is the development of peer-to-peer exchanges. Along with the proliferation of digitalised goods and services, together these features create a radical innovation in the labour market.

3. Digitalised information as a strategic economic resource is also not a new phenomenon. It can in fact be traced back to the ideas of the networked society and knowledge-based economy popular in the 1990s.

4. The Fourth Industrial Revolution is what we call the digital revolution today. It consists of developments in information technologies combined with robotisation, automation of tasks, the internet of things, 3D printing, driverless cars, and—in the field of defence and the fight against terrorism—drones, cyber-weapons, surveillance, etc. The first industrial revolution was that of the steam engine, the second that of electrification and mass production, and the third that of the computer.

5. The Fourth Industrial Revolution could create new types of jobs, new sectors, new products and new services (data analysts, data miners, data architects, and software and application developers).

6. It could also precipitate fundamental changes in working practices. There could be new forms of worker/machine interaction and new types of jobs—for instance in relation to the so-called 'uberisation'—which result in new risks (work intensification, health and safety, increasingly porous private/working life boundary, training mismatches, discrimination, etc.) and effects at the managerial level, such as the new digital management.

7. Digitalisation also means job destruction: jobs that will be at risk over the next 10–20 years due to computerisation, automation and robotisation are increasing. While there is no consensus on exactly how many jobs will be lost, it is clear that the number will be very high.

8. In Europe, averages of 54% of jobs are at risk, according to different studies. The peripheral countries in Europe seem to be the most affected by the job destruction caused by the computerisation of employment. Likewise, countries with developed broadband infrastructures and workers' e-skills, as well as widespread use of the internet and digital public services, are likely to be less threatened by digitalisation than countries with a less developed digital infrastructure.

9. Shifts in existing jobs towards their digitalised counterparts will occur in the workplace. This is particularly the case with the development of digital platforms and crowdworking, where workers from countries with high levels of social protection are brought into competition with those from countries with low levels of protection and from developing countries. The relocation of services facilitated by certain platforms of the 'sharing economy' is also applicable to high-skilled jobs, such as accounting, finance, etc.

10. The digital economy is likely to create an increasingly polarised society characterised by gaping inequality between the few 'winner-takes-all superstars' and the masses of 'losers', as well as by a hollowing out of the middle classes, with the disappearance of large numbers of medium-skilled jobs and the proliferation of a new class of 'digital galley slaves' who perform the tasks of data sorting/ entry/ filtering/ filing, cleaning up forums, monitoring images, etc. It is to avoid a situation in which the industrial revolution of the 21st century plunges the world back into social conditions reminiscent of the 18th century that labour organisations in many European countries are calling for a new social charter to regulate the digital economy.

Conclusion: To conclude, creating digital markets and boosting digitization can yield significant economic benefits and lead to substantial social benefits for societies and communities. Digitization has the potential to boost productivity, create new jobs, and enhance the quality of life for society at large. For example, if emerging markets could double the Digitization Index score for their poorest citizens over the next 10 years, the result would be a global US$4.4 trillion gain in nominal GDP, an extra US$930 billion in the cumulative household income for the poorest, and 64 million new jobs for today's socially and economically most marginal groups. If policymakers want to capture these rich returns, then they need to adequately build their digital markets – the markets where the bulk of the world's information and goods will be bought and sold in the upcoming decade of digitization.

References:

www.strategyand.pwc.com/me/home/press_media/management_consulting_press_releases/details/52364755
http://reports.weforum.org/digital-transformation/understanding-the-impact-of-digitalization-on-society/
https://medium.com/@ETUI_org/10-things-you-should-know-about-digitalisation-and-its-impact-on-labour-markets-1f863c3c4ead