Information Technology for The Next Future World: Adoption of It for Social and Economic Growth: Part II

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Abstract— Information technology (IT) will be the next decade's game changer, seeing the world increasingly interconnected. Applying inclusive and ethical IT principles wisely may help us shape a future where we are not merely technologically advanced but also inclusive, sustainable and empowering human values. Nonetheless, there are challenges in adopting this type of employment, such as job insecurity, reliable income, and health coverage, made possible through specific policy interventions and social protection networks. This study evaluates the adoption of information technology by conducting a survey and analyzing the results using SmartPLS software. According to the output result, IT influences GDP the most. Other factors are also greatly influenced by the adoption of IT in terms of social and economic growth. The study and analysis indicated that, for social as well as economic growth, IT plays a vital role not only in increasing the GDP of a country but also in improving the quality of individuals' lifestyles. Finally, this research will help to understand the current state and mentality of individuals adopting IT for the future.

Index Terms— Information technology. Social growth, Economic growth, Survey, SmartPLS.

I. INTRODUCTION

In recent decades, the globe has seen significant transformations due to the fast and widespread use of information and communication technology (ICT) across countries, industries, and organizations [1]. While the profound influence of ICT on communication, work, and leisure activities is evident, establishing a quantifiable connection between ICT and social and economic performance has proven challenging. The digital era is characterized by high complexity and requires us to be active and involved in using ICT to make a difference and to deal with what is in line with the future [2].

The main target of the study is to detail the ability of information technology to change and dictate the future of human lifestyle and world architecture socially and economically [3]. The paper will appraise the effects of IT in the labor market, envisioning a future in and out of IT incorporation and the benefits and challenges.

The first part of our study contains a systematic literature review and an in-depth discussion about the implications, impacts, and barriers of IT for the future [4]. In this second part, we will conduct a real-time survey, analyze the data using SmartPLS software, and further conclude that information technology is beneficial for social and economic growth.

II. LITERATURE REVIEW

Information technology (IT) has molded the life of humanity both directly and indirectly from the past to the present. Hence, it plays a crucial role in setting a trajectory for the future. It is less about bass likes here but instead centered on historical and modern times context, showing how it shapes the work market, workforce, and the future [5].

The development of information technology is also running the inequality race because it can either result in exclusion and absence of access to information and opportunities or closure of the gaps and equal opportunity [6]. Although it has enabled people to get information quickly and upgrade their education, it still tends to widen the digital gap, which means the gap in access to technology and digital skills will only be kept, and social and cultural disparities will be perpetuated [7]. IT has made the knowledge and education accessible to all people through the restrictions of their online courses and tutorials from

all over the internet [8, 9]. People can learn on their own, by taking online courses and educational sites. Digital technologies can change learning into change, bringing together distance learning, collaborating remotely, and lifelong learning [10]. Digital discoveries, including e-books, online journals and websites, are benefiting from this in that they have made knowledge more accessible and affordable while bridging geographical barriers and, thus, can reach wider groups of people throughout the world. The resulting global community is a result of the availability of knowledge [11]. If there are disparities in access to technology and digital infrastructure, it is worth noting that this occurs more often in marginalized and underserved communities [12].
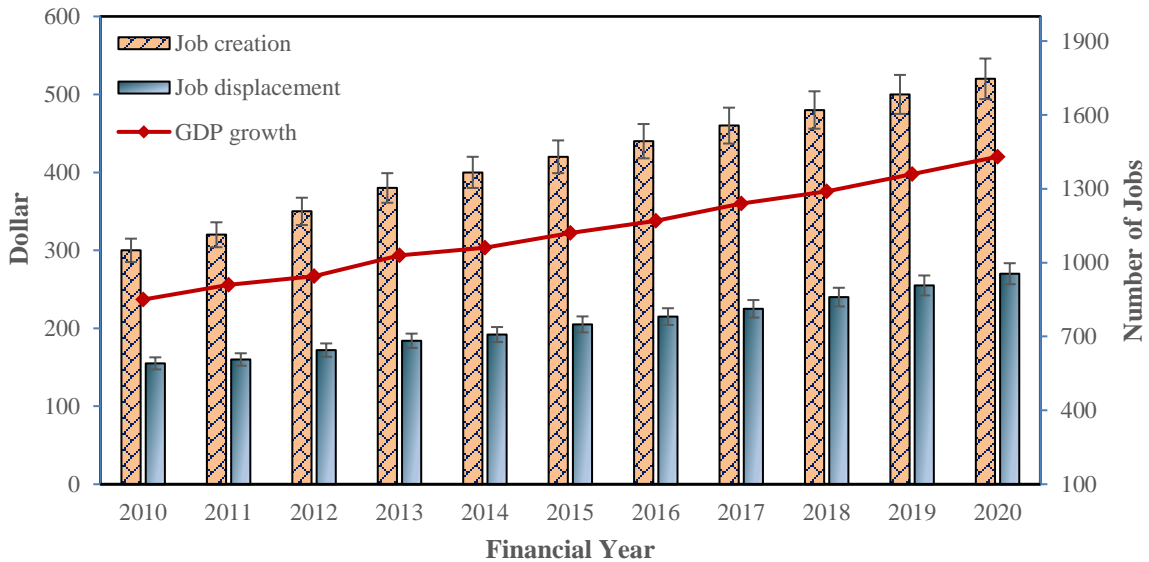

Fig. 1. GDP and job statistics

III. METHODOLOGY

A. Model development

In this study, partial least square (PLS) was used to analyze the adoption of IT. We used the PLS to examine our suggested conceptual model with the help of the SmartPLS tool (version 3.3.3). This allowed us to evaluate our research hypotheses and determine the factors that were influenced by the adoption of information technology [13].

Nevertheless, the PLS was used to confirm variables that significantly impact IT adoption in the construction of the modern world. In order to investigate the elements that impact the study, the research model for the proposed study has been constructed, as shown in Fig. 2.
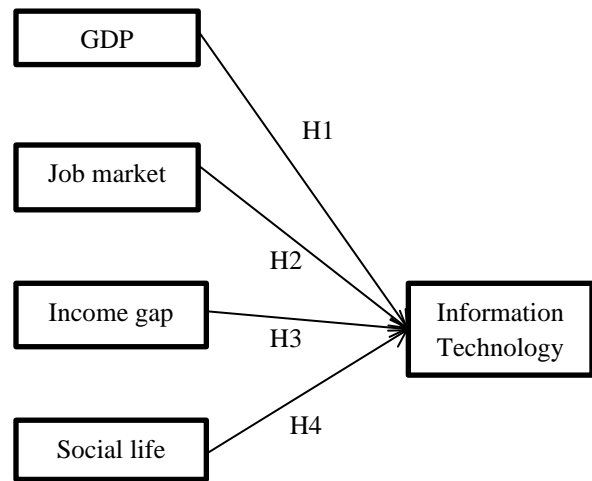

Fig. 2. Research model.

B. Data collection and survey

An evaluation was conducted using SPSS to assess missing data, common method variation, and outliers. Common procedure variance did not pose any concern. Conversely, data was collected by means of online forms that required complete submission by the

user. Consequently, the absence of data did not pose any difficulties. According to several writers, the impact of outliers was mitigated by keeping a minimal disparity between the original mean and the 5% trimmed mean [14]. Table 1 presents the overall details of the survey data that was gathered using an online form.

Table 1. Respondent's characteristics

Factors	Frequency (%)
Gender	
Male	54.60
Female	45.40
Age	
≤ 25	30.05
26-40	63.37
≥ 41	6.58
Education	
University	80.12
College	7.13
Higher degree	13.75
Occupation	
Professionals	8.15
University students	75.55
Researchers	16.30

IV. HYPOTHESIS DEVELOPMENT

A. Contribution to GDP
Information technology (IT) has emerged as a significant driver of economic growth, contributing substantially to the Gross Domestic Product (GDP) of nations worldwide. Its impact on GDP stems from various factors, including increased productivity, efficiency gains, innovation, and the creation of new industries [15]. One fundamental way IT contributes to GDP is through productivity enhancement.

IT tools and systems streamline business processes, automate repetitive tasks, and facilitate communication and collaboration, boosting overall productivity in both the public and private sectors. For example, businesses leverage IT solutions such as enterprise resource planning (ERP) systems, customer relationship management (CRM) software, and supply chain management platforms to optimize operations and reduce costs. This increased efficiency translates into higher output per worker, ultimately contributing to GDP growth. Thus, we develop hypothesis as:
H1: IT contributes to the increase in GDP.

B. Job displacement and creation of more jobs
The economic impact of information technology on employment is multifaceted, encompassing both job creation and displacement. These jobs heavily depend on the technical skills and abilities of the medium specialized, which makes employment rise in the IT sector and many more [16]. Besides, IT helps advance entrepreneurship and spawn new business models with subsequent job creation in the digital economy. Although the vast utilization of IT positively affects the economy and employment, it also contributes to job displacement in areas where certain functions can be substituted by machines or other means.

The advancement in automation technologies, including robotics, artificial intelligence, and machine learning, has radically changed the labor market by replacing humans in data entry, assembly-line work, customer service, and administrative functions.
H2: IT influences the creation of more jobs.

C. Income inequality
"Digital divide" disparities in internet access, digital literacy, and access to electronic devices and associated resources will be widened, negatively affecting income inequality development [17]. In conjunction with this, one should also consider that the wealth created by technological progress is captured by those endowed with specialized skills or capital, thereby narrowing in on the wealthy.

Top-level information technology experts get their compensation and job security increased, while low-skilled workers in industries resistant to automation suffer from unemployment and lower wages. Low-income workers are polarized within the labor market, which, in turn, exacerbates the gap between high-income and low-income individuals. An inclusive strategy that burrows into the underlying causes of economic inequality ensures that every member of society has access to technology and related skills and distributes the benefits of these improvements, which is an essential prerequisite in bridging the digital inequality gap.

H3: IT influence in the creation of income inequality.

D. Social interaction and connectivity

Social technology plays the social influences, and this role is about finding social interaction. Digital channels are valuable tools because they offer an opportunity to reach beyond geographical barriers and communicate at a pace of instant reactions in real time. Several social media networks, especially Facebook and Instagram, have established themselves as fundamental parts of modern life, where people interact, keep in touch with their friends and relatives, share experiences and views, and participate as members of an online community that holds open discussions and debates [18]. These platforms have created a global virtual community platform where people can gather based on shared interests, beliefs and identity. This has also served as a means of connecting and finding support by sharing resources, collaborating, and advocating for the community.

Furthermore, social networks have developed communication technology to connect people from different parts of the world in ways that were thought impossible a few decades ago and ensure more active interaction with a diverse range of individuals.

H4: IT increases social interaction and connectivity.

V. RESULTS AND DISCUSSION

A. Results of discriminant validity

Table 2 showed the result of discriminant validity in a heat map outlook. As can be seen, the correlation indicates that IT has the strongest relationship with the GDP of any country. From an economic perspective, IT enhances productivity by streamlining processes, improving efficiency, and enabling automation. Companies across industries use IT to optimize operations, reduce costs, and increase output, contributing to GDP growth.

However, other factors are also validated by our analysis and indicate a significant correlation between IT and them.

Table 2. Discriminant Validity

Variables	IT	GDP	CJ	CII	SIC
IT	0.964				
GDP	0.72	0.905			
CJ	0.356	0.15	0.904		
CII	0.652	0.274	0.04	0.897	
SIC	0.142	0.253	0.832	0.052	0.944

B. Evaluation of hypothesis results

Table 3 displays the results of four hypotheses. The results are mainly evaluated by the mean and standard deviation of the sample, T statistics, and finally, P values. As it is seen, significant remarks imply that the relationship is strong, and thus, the hypothesis we developed is valid. From the test data, the social interaction to IT relation has the largest sample size among the other hypotheses. On the other hand, H1 and H4 showed the lowest P values.

Table 3. Hypothesis results

Hypotheses	Relationships	Original Sample (O)	Sample Mean (M)	Standard Deviation (σ)	T Statistics	P Values	Remarks
H1	ICT → GDP	0.259	0.262	0.065	3.983	0.001	Significant
H2	ICT → CJ	0.124	0.125	0.063	1.973	0.049	Significant
H3	ICT → CII	0.126	0.125	0.056	2.239	0.026	Significant
H4	ICT → SIC	0.515	0.513	0.063	8.153	0.001	Significant

Fig. 3 displays the results of the structural model analysis. As the pie chart shows, according to P value, GDP is the factor most influenced by IT. Following that, IT adoption highly influences the income inequality of any particular region. However, the impact of IT adoption is significant for all four factors.
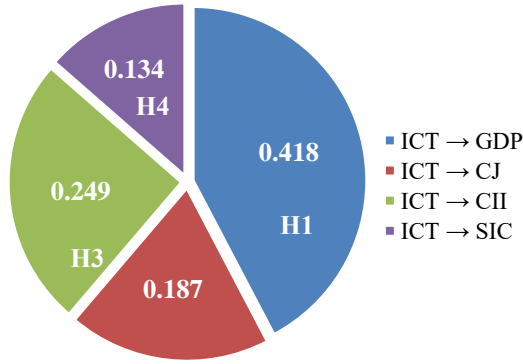
Fig. 3. Outcome of analysis in terms of P values.

CONCLUSION

The technological change in the world's future is essential. We should devote our resources to improving research and education and formulating policies that guarantee that individuals or communities who use innovation will use it ethically. By applying information technology while addressing the issues surrounding it, we can realize a future where humanity uses technology not only as an additional tool but also as an essential guarantee of its well-being.

From this study, we can conclude that adopting IT can be a great option for increasing the GDP of any country and also for creating more jobs and social interactions. However, there are also some minor negative impacts, such as job displacement issues and income inequality. Apart from some negative impacts, the implications of IT in all fields will open the door to social and economic growth.

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