

TECHNOLOGICAL ADVANCEMENT AND ECONOMIC GROWTH FOR THE BUSINESS SECTOR

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Abstract: In a globalizing world economy, the cause for inequalities in economic development and inter-country income inequality is explained by technology differences across countries. The purpose of science and technology is to make it possible for businesses and individuals to use technologies more efficiently, which results in lower costs and increased productivity gains. The application of innovative technologies paves the way to produce new, lower-cost goods and for the accumulation of capital, as well as for the improvement of individual countries' international competitiveness and the improvement of the quality of scientific research institutions, while also contributing to the cultural and political development of societies. The quality of growth rates is just as essential as the size of those rates. If one wants to have a better knowledge of whether growth has an impact on people's lives or not, one can pose the following questions: Does the process of growth include people and involve them in it? Is it true that everyone benefits from the opportunities created by growth? Do modern technology or increased trade volumes broaden the range of options available to people Is it planned to raise the standard of living for future generations Or, rather, is it only the current generation that is taken into consideration? Are markets accessible and open to everybody and everyone who wants to participate.

Keywords: *Technological Advancement, Economic Growth of the Business, Technological Development.*

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I. INTRODUCTION

From the beginning of human history, technology has progressed and has unceasingly continued to evolve. During the twenty-first century, technology has evolved into a complex structure that contains vast amounts of data. When compared to prior eras, technical advancements have accelerated at an incredible rate in the last one hundred years. Applied science, particularly for industrial or commercial purposes, includes the use of scientific methods and materials to achieve a commercial or industrial goal, as well as the introduction of "innovations" into manufacturing machines, manufacturing methods, and products to increase the production volume or efficiency, all of which result in competitive advantages and profit increases. As a result, technical transformation is critical to economic growth since the proper or incorrect application of technology advancements can have significant-good or negative consequences for a certain organization, industry, or nation. Therefore, it has been assumed that technical growth and information technology is an external element with a public character, as opposed to a factor within the organization. Technology allows for the manufacturing of specialized items with fewer inputs than previously possible. Furthermore, technology is not complicated, and it can be simply comprehended, sold, and acquired. Consequently, its transfer from one firm to another does not necessitate a significant amount of time and expense, and there are no difficulties associated with its transfer from one country to another (Elster, 1983). Economic growth at the macroeconomic level, as well as earnings and market shares of businesses at the microeconomic level, are both influenced by technological advancement to varying degrees. When a society can produce technological advancements and incorporate them into its social and cultural lives, social progress takes place. In fact, it appears that the economy has been guiding technical advancements, as innovations brought to the world by technological advancements are intimately associated with economic linkages and follow the economic relationships. Nations that are capable of properly disseminating technology and knowledge to all sectors of society have the potential to develop new fields of employment in their respective countries. These new regions, on the other hand, necessitate the hiring of qualified labor. Consequently, appropriate adjustments to education policies should be implemented to assure the development of human resources with the requisite credentials to support economic growth.

II. ECONOMIC EXPANSION AND DEFINITION

Economic growth is described as an increase in the number of tools and products that will be utilized to address the needs of people in any country or region, regardless of their location. An economic growth rate can be determined by asking whether there has been a real increase (excluding price increases) in (Gross Domestic Product) from one year to the next. is defined as the market equivalent of all measurable values produced by a single economy and is used to calculate the rate of economic growth. The accumulation of capital, technological advancements, and an expansion in the population and labor force are the three most important indices of economic growth. Capital accumulation is regarded as the fundamental driving force behind economic progress. The existence of sufficient investments is the most critical requirement that must be addressed to ensure development can take place. Furthermore, the realization of an investment is dependent on the rise in savings that will be generated by the income. Technological advancements, the second indication of economic growth, can be defined as the

entire system of knowledge, organization, and procedures required in the manufacturing processes. Technology makes it feasible to produce more outputs from the same number of inputs in any manufacturing process while maintaining the same number of inputs. This will almost certainly result in savings in both labor and capital. The final indicator is a growth in the number of people in the population and labor force. A significant driver of economic growth will be produced because of the increase in population, which will be accompanied by an increase in the labor force.

III. ECONOMIC GROWTH THEORIES

The source of economic growth, on the other hand, has shifted over history. The expansion and strengthening of the state's coffers were seen to be the foundations of mercantilism, and the requirement that export volume exceeds import value was regarded as a general norm for economic development. The physiocracy was implemented. The concept of maintaining the natural order is a popular one. Agriculture, as the foundation of the economy, is the only means of achieving long-term growth. This way of thinking acknowledges the necessity of industry but does not place any emphasis on the role of commerce. The classical growth theory was established by A. Smith, R. Malthus, and D. Ricardo between the end of the 18th century and the beginning of the 19th century. This theory is based on the idea that the degree of income per person has a direct relationship with population growth. When most of the population worked in animal breeding and agriculture in the 1770s, classical growth theory was the prevalent theory. The working circumstances of those involved in animal breeding and agriculture were difficult, and their income levels were insufficient to support them. With the advancement of technology, agricultural output has steadily improved throughout time. As a result of the improvement in productivity, production increased as well, and agricultural laborers began to migrate to the cities in large numbers. People who moved to cities saw an increase in their earnings, and it appeared that their wealth had increased. Classical economists, on the other hand, believe that increased wealth levels will not be lasting for the public. Early in the twentieth century, birth rates in Western countries began to decline, and the population began to grow more slowly. Families had fewer children for a variety of reasons, including increased career opportunities and wage levels for women because of lower population growth rates, as well as higher expenditures associated with raising a child. This resulted in a decrease in the number of births. Classical economics predicted that the inverse relationship between growth rates of real income and populations would produce a result that did not occur, but instead produced a result that did not occur. According to the growth principle of neo-classical theory, technical revolution creates a rise in the per capita income, which in turn encourages savings and investment, ultimately leading to an increase in real GDP. If the pace of technological revolution slows, the pace of economic growth will slow as well (Muayad, A. 2021). As the first economist to assert that technical development will have a positive impact on economic growth, Joseph Schumpeter is widely regarded as a pioneer. This is what Schumpeter's conceptual framework entails: "an evolutionary process developing with the creative destruction of weakened sectors and including the development of novel technology and new industries in the economy" (Schumpeter's conceptual framework) (Ahmed, M. Y., & Younis, H. 2021). Technological advancements, which are characterized as economic growth and structural changes, are closely associated with this process. Schumpeter's

method is quite like the neoclassical approach in that technology is an external idea, and the enterprises purchase appropriate technologies for them by keeping track of technical changes. Consequently, Schumpeter broadened the scope of the technological novelty concept, defining it as a concept that encompasses not only the application of new technology in a production process but also other processes such as the production of new goods, the establishment of new markets, the formation of new market organizations, and the discovery of new sources for raw materials. It is important to note that all factors affecting technology, including product characteristics, manufacturing process organization and capacity of production units, market size of the targeted market, type and quantity of energy consumed, size and nature of the business volume generated, supplementary inputs, requirements for semi-finished goods, and the development level of infrastructure facilities, have an impact on which country the technology is developed. Consequently, it is impossible for technology to be unbiased or neutral in relation to social and economic circumstances. Stewart (1978) defined formalized adverbial adverb because of technology transfer from industrialized countries to developing countries, inefficient production and a disparity in the distribution of income in these countries are experienced. Techniques that demand a lot of capital and are purchased at a high price from industrialized countries produce unemployment on the one hand and necessitate the acquisition of expertise that is not generally available within the technical competence of that country on the other. Consequently, the transfer of capital-intensive technology based on the consumption habits of Western countries presents difficulties in the developing world (Schumacher, 1975).

The goal of modern societies is to ensure economic and social progress to raise the overall level of wealth in society. To achieve this goal, the volume of commodities and services generated in the society must be increased. The amount of production elements and the rise in efficiency, on the other hand, are dependent on technical advancements. Bocutolu (at all, 2000) states that the rise in production that occurs within a given time symbolizes the expansion of the economy in that period. Economic growth considers the numerical differences in a country's economy, but it does not consider those variations that cannot be quantified numerically in the economy, social structures, corporate structures, and other structural elements of a country. When it comes to goods and services, the source of the rise in production capacity (Bocutolu, at all, 2003) can be attributed to an increase in the number of people working in the industry. Underdeveloped or developing countries must make every effort to improve their scientific and technological capabilities so that they can build their own technologies that are appropriate for their respective social and economic environments (Younus, A. M. 2021). To achieve this goal, these countries must implement an effective scientific and technological policy, and they must make social, economic, and cultural independence and self-sufficiency their top priorities as part of that strategy (Herrara, 1977). It is widely acknowledged that technological revolution is one of the most important causes of significant increases in production volume and income, and that it is a prerequisite for establishing international competitiveness in each industry. Specifically, in its book titled "Competitive Superiority of Nations." According to M. Porter, "competitive capacity" can be defined as the ability to enhance production while simultaneously improving the standard of living and the wealth of the community. As a result, Porter points out that the competition race is entirely between innovative firms, and that gaining the ability to develop technological novelties in these firms results in both an increase in productivity and the ability

to gain competitive advantages in international markets. In this regard, Porter emphasizes the importance of having the ability to create technological novelties in these firms (Porter, 1991) It is not only a means of increasing the riches and prosperity of nations, but it also provides the people with the power to do things that they have not been able to achieve in the past because of technological advancements. Consequently, novelty impacts whether a person's overall life quality will evolve in a positive or bad manner (Freeman and Soete, 2003). According to the facts, the negative consequences of technological transformation and industrialization – such as rapid consumption of natural resources, pollution of the natural environment, and disruption of ecological balances – are severely limiting the opportunities and resources available to future generations, as well as their sources. The rapid use of resources raises the possibility of large-scale disputes and conflicts between states in the foreseeable future. Even at this point, the cost of replacing the fast-depleting resources will be prohibitively expensive, and that economic issues will be passed on to future generations as a result. It was concluded in the report titled *The Limits of Growth*, which was issued in 1972 by a group of experts known as the Roman Club and made a major impact on people all over the world, that there are five global trends that are extremely concerning. These include growing rates of industrialization, population growth at an alarming rate, widespread malnutrition and famine, rapid exploitation of nonrenewable resources, and environmental damage. The purpose of this research is to uncover the probable repercussions of these five trends, which are intertwined and affect one another in the next century (Meadows et al., 1972). According to the researchers in the second report by the Roman Club, titled *Mankind at the Turning Point*, technological optimism is the most popular and dangerous attitude because technology can only alleviate the symptoms of a problem and cannot address the underlying causes of the problem. While seeking refuge in technology, the Roman Club believes that doing so causes us to ignore "the problem of growth in a limited system," which is the most important problem, and that doing so prevents us from taking the necessary measures to find a solution. The Roman Club summarizes its attitude as "opposition against ignorant development, rather than ignorant opposition to development" (Pastel, 1975).

The researchers point out in the final report of the Roman Club, titled *The First Global Revolution*, that technical advances may provide us with the power to address our issues to the extent that we are willing to exercise political will (Muayad, A. Y., & Younis, H. (2021). They also warn us about the threat of global warming, the "dangerous character of the global food safety issue," and the emergence of new problems between the rich and the poorer countries (King & Schneider, 1991). If we want to discover an answer to the question of how to generate political will, we must first recognize that a given problem will almost always have several technological answers rather than one, and that each solution will have both weak and strong elements. Even though people living in industrialized countries account for only 20 percent of the world's population, they utilise 80 percent of the natural resources that are consumed around the world (Lowe, 1998). When we look at the countries of the world, we can observe that economic inequalities between them result in significant differences in the overall quality of life for people. In contrast to certain countries, which are regularly improving the life quality of their citizens with the assistance of new technologies, other countries are much behind in this regard.

IV. CONCLUSION

Nowadays, scientific, and technical advancements serve as the driving force behind scientific and economic policies designed to promote economic growth and development in a sustainable manner. Economic progress is facilitated by technological advancement. However, it also has the potential to increase social wealth on the one hand by raising income levels and expanding wealth, while also causing some societal difficulties on the other. The advancement of technology has made significant contributions to the advancement of economic, social, and cultural life. According to the findings of a survey performed in the United States, people are working harder than in the past; values such as diligence and self-discipline are more highly regarded; entrepreneurship has increased, and people have expanded their technological capabilities for their new occupations (Eraydhn, 2001). While these are all beneficial advances, the swings and uncertainties that have been introduced into business life because of technology advancement have resulted in uncertainty in the employment circumstances of the employees. On the one hand, technological development has destroyed jobs and work areas, resulting in a negative impact on employment; on the other hand, it has generated new job opportunities and taught new means of performing the same jobs, resulting in a positive influence on employment. This situation had detrimental ramifications for underdeveloped countries, who face significant challenges in the production of technological innovations. To maintain their economic advantage, traditional industrial centers of the past are finding it difficult to compete against global cities that have begun to emerge as new supervisory centers of importance. Technological development has had a good impact on the economy since it has enhanced communication, made it easier and faster to access new markets, expanded the number of marketing channels, and resulted in firm mergers. E-commerce, or commerce conducted through the Internet, has altered the nature of the business world. The use of e-commerce enabled manufacturers and consumers to connect with one another on international markets and conduct business transactions. Technological advancements encourage international competition among states.

Technology confers economic and military superiority on other countries in the eyes of the countries that produce the technology. As a result, countries with superior technology may be able to apply pressure on their counterparts. Economic uncertainty and problems in projecting the future are caused by the rapidity with which technological advancement is progressing. Increased exposure of countries to global volatility, a harsh competitive climate, and a lack of adequate security are all factors contributing to economic negativity. Global economies are becoming increasingly vulnerable to financial crises as their mutual dependence on one another grows (Mandel, 1998). The financial markets are one of the places in which we may see the effects of technological growth in action firsthand. Many banks and intermediary institutions have adapted their systems to keep up with technology advancements and have begun to offer on-line banking services to its customers. Because information can be exchanged and shared, branch-free banking activities are able to provide financial services around the world on a 7-day, 24-hour basis.

A word must be said on the necessity of education at this moment in time. Education has the potential to make a significant difference. contributing to this continuing process by retraining the workforce and assisting individuals and society in adapting to the changing environment In

order to reap the most possible benefits (growth) from technological advancements, governments should encourage and disseminate information about the positive features of this process while reducing its negative consequences.

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