

Chapter 4

The Role of Information Technologies to Adapt to a Global Pandemic: Digitalization Disruption in the New Renaissance

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ABSTRACT

The outbreak of the COVID-19 pandemic has exacerbated the rise of AI, robots, and algorithms in the economy, which is expected to completely disrupt employment patterns. With the advancement of technologies, employment patterns will shift to a polarization between AI's rationality and humanness. Robots and social machines have already replaced people in a variety of jobs. Almost all traditional professions are prospected to be infused with or influenced by AI, algorithms, and robotics in the future. AI and robots offer the luxuries of affordability and democratization of access to services, as they will be—in the long run—commercially more affordable and readily available to serve all humanity. Also, the longevity potential of machines outperforms any human ever having lived. These new technologies also come with the price of overpopulation problems and the potential for misuse and violent action. Just like many other technologies, robots could be misused. This chapter discusses the current trend of digital disruption and its wider societal implications.

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INTRODUCTION

The introduction of Artificial Intelligence (AI) in our contemporary society imposes historically unique challenges for humankind. The emerging autonomy of AI holds unique potentials of eternal life of robots, AI and algorithms alongside unprecedented economic superiority, data storage and computational advantages. Yet to this day, it remains unclear what impact AI taking over the workforce will have on economic growth. The introduction of AI lacks a theoretical background for standard neoclassical and heterodox economics growth theories with particular attention to the Cambridge Capital Controversy's argument to divide capital components into fluid, hence more flexible (e.g., petty cash, checking account), and more clay, hence more inflexible (e.g., factories and untransferable means of production), components (Puaschunder, 2016).

The contemporary trend of slowbalisation, as the slowing down of conventional globalization of goods, services and Foreign Direct Investments (FDI) flows, and halted globalization due to COVID-19 lead to continuous data transfer rising. These market trends of conventional globalization slowing and prospering AI-related industries are proposed as first market disruption in the wake of the large-scale entrance of AI into our contemporary economy.

In previous work, Puaschunder (2020a) proposed growth in the artificial age to be measured based on two AI entrance proxies of Global Connectivity Index and The State of the Mobile Internet Connectivity 2018 Index. Digitalization was found to be highly significantly positively correlated with the total inflow of migrants and FDI inflow – serving as evidence that the still globalizing rising industries in the age of slowbalisation are connected to AI (Puaschunder, 2020a). Both indices are positively correlated with GDP output in cross-sectional studies over the world (Puaschunder, 2020a). In order to clarify if the found effect is a sign of industrialization, time series of worldwide data reveal that internet connectivity around the world is associated with lower economic growth from around 2000 on until 2017 (Puaschunder, 2020a). A regression plotting Internet Connectivity and GDP per capita as independent variables to explain the dependent variable GDP growth outlines that the effect for AI is a significant determinant of negative GDP growth prospects for the years from 2000 until 2017 (Puaschunder, 2020a). A panel regression plotting GDP per capita and internet connectivity from the year 2000 to explain economic growth consolidates the finding that AI-internet connectivity is a significant determinant of negative growth over time for 161 countries of the world (Puaschunder, 2020a). Internet connectivity is associated with economic growth decline whereas GDP per capita has no significant relation with GDP growth (Puaschunder, 2020a). To cross-validate both findings hold for two different global connectivity measurements (Puaschunder, 2020a). Puaschunder (2020a) put forward a theoretical argument of

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