


Chapter 1

The Impact of Accelerated Digital Transformation on Educational Institutions

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ABSTRACT

This study aims to analyze the impact of accelerated digital transformation on educational institutions. The research combines bibliometric literature review, preferred reporting items for systematic and meta-analyses (PRISMA), and empirical approach to collect extensive sample data GII (global innovation index) of 50 countries' technology intensity input-output. Furthermore, the research uses multiple linear regression analysis to test the proposed hypotheses. Digital transformation impacts positively on educational institutions. However, each technological input pillar behaves differently. This study derives managerial strategies and policies from an educational institution.

INTRODUCTION

This research aims to analyse and describe the impact of accelerated digital transformation on educational institution. According to Pedro, & Dores (2021), several revolutions have happened in the past. The Information Technology (IT) Industry is multiplying and transforming the educational standards of tomorrow. First Industrial Revolution (1.0, 1700) drove steam engines' discovery to optimise the industry's production process. The Second Industrial Revolution (2.0, 1800) was the precursor of electricity for mass production. Third Industrial Revolution (3.0, 1900) was the hallmark of the use of Information and Communication Technology (ICT), the internet, and electronic elements that automated production processes; Fourth Revolution - better known as 4.0 (intelligence – digital enterprise transformation) -

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is Technologies and Speed's junction. IT industry has already gained much traction at the global level shifting towards the fourth industrial revolution (4.0) by adhering to cutting-edge technologies through digital enterprise transformation. The Fourth Industrial Revolution (4.0) on digitising all its processes allows the interaction between physical and digital systems, thereby achieving real-time information for making timely decisions (Riola et al. 2020). The Fourth Industrial Revolution involves several changes in the workforce's key features. The fourth revolution catalyses welfare, socio-economic changes, cross-sector boundaries (e.g., water service, health, business), and new business models that will influence the job marketing knowledge. Such progress will impact the academic sector as new forms of research based on massive amounts of data will be possible, and the industrial technology sector will request new research needs (Garrido-Baserba et. al., 2020).

With the Fourth Industrial Revolution, the management and strategies of an educational institution are disruptive, at a time when the world manages the pandemic crisis of COVID-19, with no time for the preparation of these educational institutions to absorb the impact of the accelerated digital transformation on knowledge.

Digital technologies have dramatically changed teaching methodologies, and, as a consequence, there is an urgent need to redefine the impact of digital transformation on educational institution. An educational institution is experiencing significant transformations in management and its strategies to absorb digital transformation's inevitable acceleration. The management and strategies for digital enterprise transformation need to plan and produce disruptive innovations for traditional business management tools and pose a challenge for integrating the marketing knowledge of companies' management processes and strategies (Pedro, & Dores, 2021). Based on theory and conceptual model, bibliometric and PRISMA approach, the study developed panel data, grouped on the Global Innovation Index, encompassing 50 countries during 2019, and analysed it through a series of multiple regression techniques.

The conceptual model assumes institutions, human capital, research, infrastructure, market sophistication and business sophistication. Furthermore, it assumes knowledge and technology as the output.

Through data analysis, model creation, multiple linear regressions and empirical analysis, this study has two objectives:

1. Analyse the Impact of accelerated digital transformation on educational institution
2. Investigate the impact of each technological input on knowledge and technology.

Such instruments provide educational institution policymakers with a panoply of relevant information on managerial strategies and practices that need to be adapted to meet the marketing knowledge challenges.

The digital transformation framework's management and strategies rely on the distinction between technological inputs and outputs to measure the absorption of technological intensity and deriving policies from marketing knowledge. Thus, "inputs" are the national economy elements that allow innovatively business activities and "outputs" the results of innovative activities in the economy, which results in marketing knowledge.

The indicators aggregate in a total of 21 sub-pillars, which, in turn, are aggregated in seven pillars. Five of them are input pillars, consisting of Institutions, Human Capital and Research, Infrastructure, Market Sophistication and Business Sophistication. Simultaneously, two are outputs pillars, that is, referring to knowledge and technology outputs and creative outputs. The inputs and outputs pillars aggregated to form the input and output sub-indices (Figure 7).

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