Research report for HRC Integration of Affordable Technology to Improve Education in the Developing World

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Introduction

Technology is a vital part of driving our economic, social, political and education reforms. In the developing world we experience technology on a daily basis and it is a massive part in aiding our education. Quality of education is a vast developmental factor for any economy; it helps shape the workforce of the future generation and allows for growth in all sectors. However, being deprived of this luxury can have detrimental effects on a country's development and thus without sufficient technology integrated into their education system may prevent developing countries from being able to strive in the global economy.

Key terms

- Integration the action or process of combining two or more things in an effective way¹
- Developing world/country countries with low or medium human development index (HDI), low living standards, low per capita income, widespread poverty, and have underdeveloped industry and outdated infrastructure and are facing long periods of recession²
- Economic development an increase in a country's wealth and standard of living. It is usually measured by an increase in the gross domestic product (GDP) or other measure of aggregate income. ³
- LDC: least developed countries
- **EIB:** European Investment Bank
- UNDP: United Nations Development Programme
- **Globalisation:** the ever increasing integration of the world's local, regional and national economies into a single international market.

General Overview

The industrial revolution started in the 18th century and has since paved the way for modern technology, and therefore, resulted in today's digital society. Unfortunately, the digital transformation has been made evident in developed countries, while technology in developing countries can still be inaccessible or lagging behind. However, with developed countries' help, we can bridge the digital gap and integrate technology to improve in the least developed nations

Arguably education can be one of the largest factors that contributes to the standard of an economy. An economy must invest into its human capital in order to achieve substantial economic development. Education enriches people's understanding of themselves and the world. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. Furthermore technology and education go hand in hand. Technology provides students with easy-to-access information, accelerated learning, and fun opportunities to practice what they learn. It enables students to explore new subjects and deepen their understanding of difficult concepts. Through the use of technology inside and outside the classroom, students can gain 21st-century technical skills necessary for future occupations. In addition, technology gives students immediate access to an abundance of guality information which leads to learning at a much quicker rate than before. Although the benefits of technology and education are clear, not all countries have access nor the funding to such technology. For example some countries do not have the infrastructure or the telecommunications to implement technological appliances such as the internet. With a lack of these resources technology can be very limited within a developing country.

The scarcity of technology can be shown in African LDC's where In 2013, only 7 scientific and technical journal articles were published for every 1 million people in African LDCs. compared to, member countries of the Organisation for Economic Co-operation and Development, about 1,100 scientific and technical journal articles were published for every 1 million people.⁴ When it comes to technological advancement and its effective use, the LDCs are at the lower end of the ladder. According to the World Intellectual Property Organization (WIPO)'s Global Innovation Index 2021, which monitors the state of technological advancement in 132 countries, 21 out of the 32 countries in the bottom quartile are LDCs. Of the 22 LDCs ranked altogether, only one (Tanzania) is in the second quartile.⁵ In addition the number of people using the Internet exceeded half of the world's population in 2018, with 80 percent of

Europeans having access compared to less than 25 per cent in Sub-Saharan Africa. Almost half the world's population remains offline and excluded from the benefits of digitalization.⁶

In low- and middle-income countries 'learning poverty' stands at 53%, while for the poorest countries, this is 80% on average. With the spread of the Coronavirus disease (COVID-19), 180+ countries mandated temporary school closures, leaving ~1.6 billion children and youth out of school at its height and affecting approximately 85% of children world-wide. While most countries are working towards reopening schools, there are still intermittent closures and use of hybrid learning. ⁷

Countries and Parties involved

Globally among school- age children from the richest households, 58% have internet connection at home, whereas only 16% from the poorest households. Across the world this lack of access to the internet exists as well, where 1 in 20 school age children from low-income countries have internet at home. ⁸

Some of the least connected countries involve; East Asia, Eastern Europe and Central Asia, Latin America and the Caribbean. As seen on the graph below all these parties have school age children who are unconnected at home, and globally only 67% of school- age children are unconnected at home. This expresses the need for the increased integration of technology to improve education in the developing world.

Latin America and the Caribbean	49% - 74 million
Eastern Europe and Central Asia	42% - 36 million
East Asia and the Pacific	32% - 183 million

Since 1982, the EIB has been providing finance to telecommunication investments in support of productive sectors of the economies in the Mediterranean area.

Furthermore in Latin America, most of the countries involved have already restructured their telecommunications systems and developed infrastructures with the active participation of the European Union. The main objective is improving the physical infrastructure which remains a

critical problem in most of these countries, particularly in less favoured areas such as rural ones, where market forces alone may not ensure full coverage.

The South Pacific provides a good example of regional cooperation. The Community and other partners like UNDP, Australia, New Zealand,, and the United Kingdom, contributed to modernise and upgrade equipment to international standards, and to provide the majority of the population with easier access to technology. ⁹

Possible solutions

One of the main solutions to infuse technology into Third World countries is globalisation. Existing technologies developed by other nations can be used; the Third World countries just need to learn how to integrate and operate them. Consequently with all integrated technological advantages, Third World countries will have the opportunity to develop and share the same conditions as the Western World.

One of the most common challenges that Third World Countries face when integrating technology is the lack of infrastructure that might interfere with technology. It is crucial prior to infusing technology into Third World Countries to develop a sustainable infrastructure plan that could support advanced technologies.

It would be extremely valuable if all education systems in Third World Countries at least at the bare minimum have an online connection to the rest of the world such as a website or a social media account. These online connections could bridge them to the world and could make them more approachable.

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