

E-EDUNOMICS –LIBERTIES IN DEMOCRATIZING THE DIGITAL EDUCATION REVOLUTION

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ABSTRACT

Customers, workers, and employers are all seeing their relationships recast by digital platforms. As a result, adapting to technology rather than simply embracing it has various advantages. Education and competition policies will also have to be changed. Future generations should be provided with the skills they will need to succeed in the developing economy through schools and colleges, while technological democratisation looms, a third wave of democracy is on the horizon. The importance of the Internet in promoting more public activism and government openness has been recognised. We propose the "E-edunomics Triangle" to demonstrate that, while the Internet has democratising impacts, it cannot offer democracy at all levels of society unless technologies are purposefully created for the intricacies of democracy, notably with the involvement of higher educational institutions, governments, and industry in initiating change through technical literacy.

KEYWORDS: Fourth Industrial Revolution (IVIR); Industry 4.0; Tertiary Level Education; Labour Force; Government; Edification and Academic Attainment; E-edunomics Triangle

INTRODUCTION

Because of the disruptive impact of technological breakthroughs, industries are undergoing severe changes; nevertheless, there is limited research about the acceptability and implications of the fourth industrial revolution (IVIR) in the knowledge economy (Oke and Fernandes, 2020; Collins; Halverson, 2018; Kreijns, Van Acker, Vermeulen, Van Buuren, 2013). Educational establishments will be able to assist mitigate a transition to a new reality through democratization of the digital economy to ensure fair and equitable circulation not among the elites, but the masses. Clearly, there are links between education, industry, innovation and economic activities, however, no study thus far has indicated a framework to understand such a link. While the goal of this paper is to provide an outline of important themes in science and technology, very little evidence points towards a framework to understand such a phenomenon. Currently, there are more broadband subscribers than there are people. On the other side, it has made the world more volatile, and uncertain. Although it has the potential to democratise society by allowing us to contact and connect, it also has the ability to consolidate great power.

EMPOWERING DIGITALISATION

The only predictor of economic advancement, according to Schumpeter, is innovation or technological advancement. The increasing process, on the other hand, will come to a standstill if the level of technology remains constant. As a result, technological progress is what propels the economy forward. In developed countries, inventions and innovations have played a vital role in accelerating economic growth. In truth, technology may be a boon or a bane. Various technical advancements have an important role in the growth of developing countries. According to Kindleberger, technical advancements are responsible for a large portion of this improved productivity. After accounting for labour force and capital stock growth, Robert Solow estimated that technical development accounted for nearly 2/3 of the expansion of the US economy. The impact of technological development on manufacturing functions can be seen using the diagrams below.

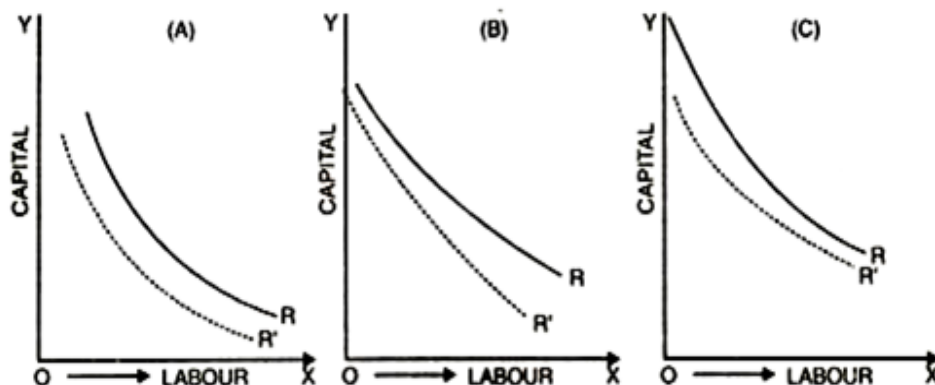


Figure 1

R' is an isoquant of the production function before technical change in Figure 1, and R reflects the same amounts output after the innovation in Figure 1. In terms of labour and capital, the invention remains unaffected. After technological improvement, the new production function R shows that the same output may be generated with less labour and capital. The second graph demonstrates that innovation saves labour, while R' demonstrates that the same output can be generated with less inputs, but labour saves more than capital. The third figure depicts how the innovation saves capital, and R' depicts how the same output may be produced with less inputs following the transformation.

The prevailing consensus is that technological progress is more significant than capital formation. However, capital formation alone can only bring about limited economic development, and progress will halt if there is no technological advance. A country cannot continue to rely on technological imports. A country that invests more in science and technology will expand faster than one that accumulates more cash but invests less in technological advancement. Higher education is valued differently in different countries. Much of this may be deduced from the demand and supply characteristics that are unique to each country. Nonetheless, the OECD's average skill premium is the wages of those with a university degree relative to a high school education is low.

THE DIGITAL ECONOMY

Future generation need to grow in an increasingly complicated environment, we must create jobs rather than seek them out, and we must collaborate rather than compete. This will necessitate creativity, empathy, perseverance, and entrepreneurship. In terms of education, the digital economy is redefining what is required. While access and quality will continue to be challenges in the digital economy, the technology revolution is creating new opportunities in both areas. Not only in terms of how information and learning is supplied, but also in terms of what is learnt, education in the digital economy will change in terms of funding structures, duration, and technology. These are exciting times for change, but to guarantee that the end outcome is constructive, all stakeholders must pursue the influence on society in a more determined and intentional manner around education. The consequences of failing to do so look to be catastrophic.

More professions have become obsolete as a result of technological advancements throughout the last century. Because of modern technologies, an artisan's work might be broken down into smaller jobs and executed by unskilled labourers using machines. Luddites were those who rejected these labour-saving technology. The World Economic Forum continues to advocate Klaus Schwab's The Fourth Industrial Revolution (IVIR) (2017), which claims that the most significant change for supporting learning and talent development, there will be more strategic partnership between industry, government, and educational institutions in the future of education. Social worry about the future can be fuelled by economic instability and uncertainty, with political consequences.

Job automation anxieties are similar to those expressed by John Maynard Keynes in 1930, who was concerned about rising technical unemployment. Humanity will eventually be adapted to using digital power and hence the digital revolution in the digital economy.

DRIVERS OF CHANGE

Technology is the key driver of the global economy and has virtually revolutionized every industry, however its visibility in traditional economic metrics are not clearly articulated. The impact of technology literacy unmask the high-powered tools that run today's world and is very significant, infusing even the measurement of the market economy. As significant backdrop for any country and educational institution, it is critical to emphasise governance frameworks, economic stability, and technological advancement adoption. As a result, we provide the E-edunomics triangle, a new model that illustrates these key integrations. To succeed in the digital economy, you'll need a combination of cognitive and technological abilities. Industry will value an employees for their creativity and intuition and they will be prized for their ability to innovate, communicate and collaborate in global teams. We present the E-edunomics triangle (Fig. 2) which shows how this causal path can be realised and it is precisely these concerns that may have the greatest impact on the digital economic revolution in the long run.

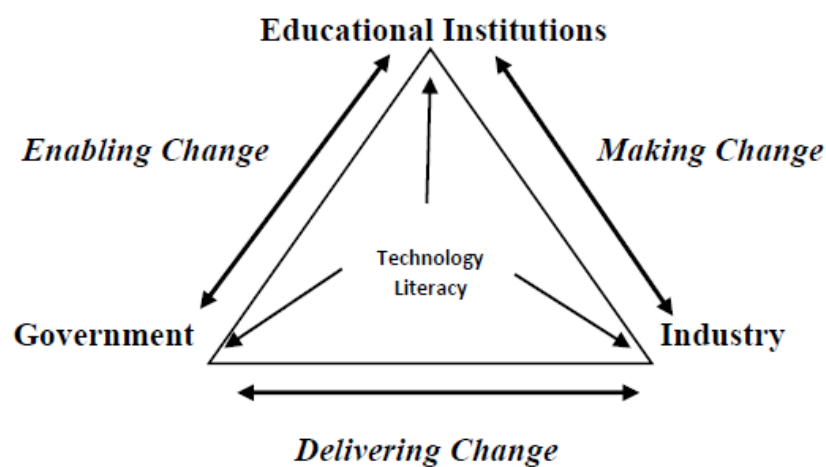


Figure 2: The Edunomics Triangle
Source: Paraman and Anamalah (2021)

Hora (2019) advocates for business and the education sector to share responsibility for training students to work in the digital economy. If this happens, it will be a fantastic change for education in the digital economy of the future. Industry will have to contribute to the cost of reskilling and educating the global labour pool in new ways. The goal of incorporating technology into the future of education is to ensure that students are prepared to cope in a world where technology is able to expand the boundaries of where learning can take place. For instance, students able to work on projects in virtual contexts with other students from around the world at any given time. Technological advances enabled interconnectedness of information.

CONTINUOUS INNOVATIVE LEARNING

The need to foster the capacity and motivation for lifelong learning is the most obvious conclusion of a world that demands learners to constantly adapt and evolve. We were taught that we needed to learn in order to do our jobs; now, learning is the job, and the post-industrial period will necessitate coaching, mentoring, teaching, and reviewing. People must be in charge of their own educational destiny, not just learn new things, but also unlearn old ones as part of lifelong learning as the world evolves.

Basic education is one of the most amazing developments in human society, allowing us to maximise our species' potential and provide more egalitarian access to opportunities around the world. Because it is oriented to maintain the status quo of the day, the traditional dominating paradigm of education in established and increasingly emerging countries focuses on a reductive and restrictive approach to gaining knowledge, enforcing mental conformity, and often dulling curiosity. For many students, school was more akin to a jail, where they were taught how to think, behave, and function inside a rigid, bell-ringing system designed to prepare young minds for the future.

THE SKILL PREMIUM

The wage differential between skilled and unskilled workers is commonly referred to as the skill premium. There is a need to move away from certification systems focused on qualifications and toward systems based on knowledge and abilities. Technological development has reduced demand for blue-collar manufacturing and white-collar office, clerical, and administrative support, necessitating workers to not only learn new things on a continuous basis, but also to unfreeze and refreeze information as the world changes.

Training and learning opportunities, which comprise knowledge and skills, are becoming increasingly vital as the digital revolution diversifies, and businesses are increasingly testing knowledge and skills rather than relying on paper qualifications. We can comprehend the skill premium by looking at the wage determination process in the labour market through the prism of demand and supply. The demand for talents changes as an economy develops and new technologies arise. Meanwhile, both the costs and benefits of education are likely to influence an individual's human capital investment on the supply side. New technology has the potential to reduce demand for low-skilled labour that can be mechanised or performed by technology, as well as skilled labour whose abilities have become obsolete. Although technological advancement has the potential to displace workers, it also has the potential to raise real wages as the cost of commodities falls.

THE DIGITAL REVOLUTION

This methodical transformation necessitates not only the creation of new knowledge, but also the application of that knowledge in the real world via the use of digital technology. Increasingly, colleges and universities are recognising the advantages of online educational programmes to generate other revenue streams and to provide students more flexibility to work at their own speed. When combined with the other basic components of new pedagogies in the formal learning process, online learning resources become tools that promote more inclusive, socially-engaged learning, rather than just isolated learning by highly motivated students.

Remote proctoring helps everyone develop their lifelong learning by giving legitimacy to online learning. According to a Pew Research Group survey, 87 percent of workers say that getting training and developing new skills throughout their careers is critical in order to stay up with changes in the workplace. Initiatives to enhance academic integrity must consequently be prominent in higher education institutions in order to produce future community leaders. One thing is certain: whether we realise it or not, the IVIR is influencing how we live, learn, and work. With this in mind, monitoring systems for online education will be critical for both the education and government sectors. This is the mission's essence: to respond to and adapt to the 4th Industrial Revolution with products that broaden educational engagement and teaching.

EXODUS OF CAPITAL

Within the next ten years, the middle class will make up the majority of the world's population, a trend mostly driven by China and India, which will account for 90% of new middle-class entries.

This will not only enhance the need for greater education to reach a larger number of people, but it will also raise the bar for education as more demanding customers have higher expectations. Economic disparities can lead to disparities in opportunity, which can lead to disparities in well-being, as well as political and social dissatisfaction. We are also seeing a lot more people on the move; Asia has replaced Europe as the most popular destination, with about 2 million migrants arriving each year. Figure 3 highlights the sizes of the global middle class against the percentage of the population.

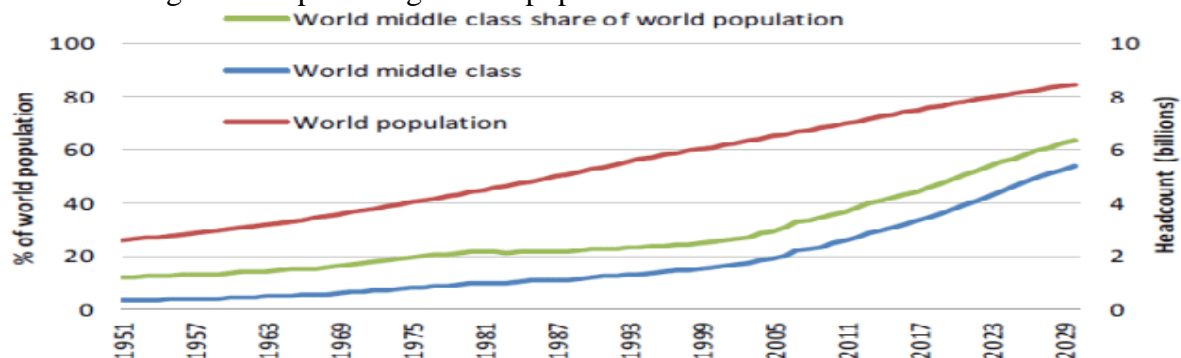


Figure 3: Global middle class

The problem for education is that things that are simple to teach and test are equally simple to digitise, automate, and outsource. Digitalisation and globalisation have been freeing and exhilarating for individuals with the necessary information and abilities; nevertheless, for others who are ill-prepared, they can entail fragile and unstable work, as well as a life without prospects.

This migration brings more diversity to schools, allowing teachers to impart society's values to kids from varied social and cultural backgrounds. Furthermore, technology and artificial intelligence are simply incredible speed and accuracy amplifiers and accelerators. When artificial intelligence is in the hands of people, it will magnify good ideas and good practises in the same way that it will magnify terrible ideas and poor practises. Digitalization has the potential to enhance human capabilities, but it can also have the opposite effect and put individuals in danger. The challenge is that developing such cognitive, social, and emotional capacities needs a whole different method to teaching and learning, as well as a whole different approach to evaluation that goes beyond simply delivering and absorbing prefabricated knowledge. Teaching has evolved into a profession for the most advanced knowledge workers, who have complete control over their professional practise and function with a high level of professional autonomy while working in a collaborative environment.

The Digital Economic Revolution: Democratizing It

Education must adapt to technological changes. Students will require skills for future job and labour markets, as well as the capacity to handle the gig economy's rising ambiguity and potential precariousness. What impact will artificial intelligence have on this in the next years? Today, we must think far more carefully about how human talents might complement computer artificial intelligence, resulting in first-class humans rather than second-class robots. Throughout history, education has triumphed over technology, but there is no assurance that this will continue in the future. It's all about combining artificial technology in the future where human cognition, social, and emotional abilities and values are combined with computer capabilities and values.

It's also worthwhile to consider certain bigger patterns. In today's digital age, it's never been easier to express oneself and connect with fellow citizens. Yet, in our communities, key democratic decision-making procedures are dwindling. Even if the digital world has given individuals more ways to express themselves, this is no assurance that they will be able to acquire credible and balanced information, or that they would be prepared to listen to and compromise with others. In a digital society, how can citizens distinguish between fact and fiction? What civic virtues are required in modern democracies? New types of collaboration are also emerging at the same time, cities are increasingly working together to solve problems, the growth of city networks is impressive.

Governments can play a critical role in facilitating innovative practises by creating a favourable policy climate. It also needs to identify key change agents and develop more efficient methods for scaling and sharing breakthroughs. The difficulties appear enormous, but many school systems are now well on their way to developing new solutions, both individually and collectively. This is necessary for the development of a future generation of learners, and the objective is not to make the impossible feasible, but to make the possible achievable.

Governments, publishers, education professionals, technology suppliers, and telecom network operators must all use digital platforms as a solution if future education is to be a prevalent and consequential trend. This includes the creation of a cloud-based, online learning and broadcasting platform, as well as the upgrading of educational infrastructure. Beyond the traditional government-funded projects, educational innovation requires attention. The business sector's interest in and investment in education solutions and innovation has expanded dramatically in the last decade. While most previous projects have been limited in scope and isolated the future education should pave for much larger-scale, cross-industry coalitions to be formed around a common educational goal.

CONCLUSION

This study used a qualitative interpretative methodology to explore and investigate the role of electronic liberties in democratising the digital economic revolution, as well as key stakeholders' perspectives on the education sector's readiness for 4IR. While the study demonstrates the importance of 4IR to the education sector, particularly in terms of artificial intelligence and data analytics, it also emphasises the sector's ability

to contribute to IVIR advancement through teaching and research. The findings, however, reveal that the worldwide education industry is unprepared to capitalise on and embrace the potential of IVIR in enhancing teaching and learning. Nonetheless, many institutions are adopting computers to enhance teaching and learning; however, we discovered that IVIR goes beyond computer use and has the potential to disrupt how we teach, learn, and engage.

While our research has revealed current attitudes of IVIR in the educational sector, its introduction and acceptability have raised more doubts about its use, particularly in terms of becoming a normative instrument. Nonetheless, this exploratory study adds to our understanding of key education stakeholders' perspectives on IVIR and how the sector can lead the transformation. Whether we are ready or not, the 'revolution' will have an impact on us as a whole. Our relationship with devices will evolve as we become more reliant on linked devices, whether wearable or smart. As a result, it will be our imagination, awareness, decision-making and our sense of responsibility that will enable us to harness digitalisation to shape the world for the better.

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