



The Conceptual Underpinnings Of Digital Transformation

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The Fourth Industrial Revolution and the Knowledge Economy

Throughout history knowledge has always been at the centre of economic growth. It is innovation and the ability to create new knowledge, which can be embodied in products, processes and organisations that fuels development. The Concise Oxford Dictionary describes knowledge as “the sum of what is known” while the creation of knowledge itself is described as the process of adding value to previous knowledge through innovation and invention. Schumpeter’s as far back as 1931 described “new combinations of knowledge” as the essence of innovation and entrepreneurship and is one of the earliest acknowledgements of the importance of knowledge in the economy.

Professor Klaus Schwab Founder of the World Economic Forum argues that mankind is poised on the brink of technological revolution which has been termed the fourth industrial revolution. It will alter the way we interact with each other across all aspects of our lives. While the first industrial revolution was heavily reliant on information, and on the application and development of knowledge, research and development characterised the second industrial revolution. Additionally the second also used electric power to create mass production, and the third used electronics and information technology to automate production. The Fourth Industrial Revolution fuses technologies and blurs the lines between the physical and the digital. Many labels have been used to define this fundamental shift including Castells concept of the network society and Tapscott’s networked intelligence which are increasingly dependent on the Internet and emerging digital platforms.

The increasing reliance on knowledge or networked economy is according to Castell’s (a) informational because the ability for organisations and countries to effectively compete is fundamentally dependent on their capacity to create, maintain, process, and apply information, (b) global because the production, consumption and circulation of goods and services are a global effort, and (c) networked because production and competition occurs in a “global network of interaction between business networks.”

The emergence paradigm demands that organisations display a degree of flexibility not before seen or even required. It also requires a workforce skilled in the use of emerging technologies and systems of innovation that must be embedded in the DNA of organisations.

Digital Transformation and Digital Business Transformation

While there is no universal definition ‘digital transformation’ it is still a useful conceptual umbrella under which a variety of organisational functions and processes can be grouped. With respect to business digital transformation refers to the skills and acumen required to fully leverage the opportunities presented by rapidly emerging and digital technologies. MIT Sloan identifies three fundamental of digital transformation namely transforming the customer experience, transforming operational processes and transforming business models. It demands the embedding of digital technologies into all areas of a business. It is also to a large extent an issue of cultural change that must create an enabling environment in which innovation can thrive, which often means embracing risk and the possibility of failure to a greater degree than previously. Many commentators relate business digital transformation to improved performance and an improved customer experience, business models, leadership, and innovation. There are a number of reasons that a business may undergo digital transformation, but by far, the most likely reason is that they have to. It’s a survival issue for many. Examples abound of companies who were once deemed to be invincible, succumbing to the lack of innovation and eventually meeting an untimely demise. Notable examples are Kodak and BlackBerry. Authors Ismail, Malone and van Geest coined the term Exponential Organizations to describe companies that are structured in such a way that allows them to realize the full potential of the digitized business economy. Examples also exist of companies who have been able to embrace the digital world most notably Uber, AirBnB, RelayRides and TaskRabbit.

Digital Transformation and the Public Sphere

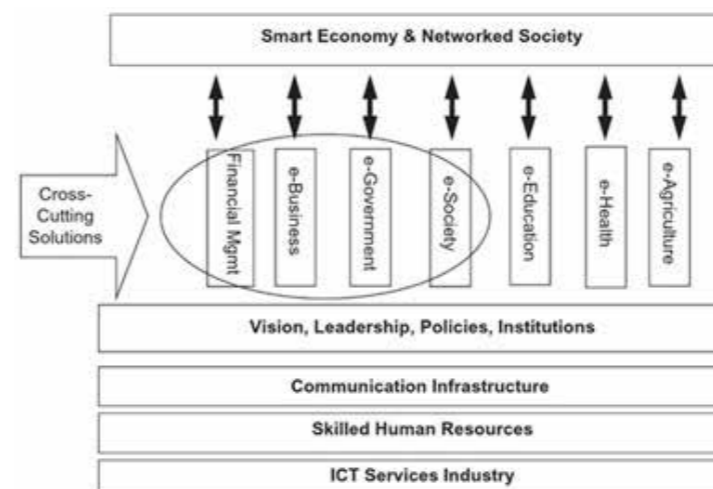
It would be remiss not to explore digital transformation with respect to the public sphere. The concept of the public sphere is largely associated with the work of Jurgen Habermas who describes it as the space that shapes and holds public opinion and where “access is guaranteed to all citizens”. The public sphere thus describes a space that intercedes between the issues that are of concern to the general population and the

domain of government and corporate influence. All citizens must be granted an equal opportunity to make contributions and where participation and communication must be free from external and internal coercion. A functioning public sphere, which entails a collection of communication spaces that promotes debate and the circulation of ideas, has always had a relationship and dependence on the mass media included the mass, and more recently, newer emerging technologies are conspicuous. The effect of this has been the transformation of the public sphere into technology-enabled spaces, where the discourse has no geographic boundaries or any constraints of time and political interests.

A Digital Transformation Architecture

Various models have been proposed to define the concept of digital transformation. Theoretical models like the one proposed by Hanna attempts to encapsulates all of the aspects that underpin digital transformation (See Figure 1).

Figure 1: Digital transformation architecture



Other proprietary models include Accenture’s Digital Operating Model which identifies seven enablers for digital transformation which includes concepts like ‘digital intelligence’.

Conclusion

The role of government is to create an enabling environment across all sectors e.g. health and commerce. This is achieved by policy frameworks, from which emerges legislation and regulation. The same is true for digital transformation. A World Bank report argues that digital revolution needs offline help to realise its potential that include implementing policies that provide an enabling environment for inter alia infrastructure development and the creation of services. Whatever the path that countries and organisations choose towards digital transformation, what is clear is that this is journey that must be embraced sooner rather than later.