

Chapter 2

Digital Economy, Business Models, and Cloud Computing

Abbas Strømme-Bakhtiar
Nord University, Norway

ABSTRACT

From the invention of writing to the steam engine and to computers, human history has been one of technological inventions and change. In our relatively recent past we have witnessed several technological revolutions which rapidly replaced one set of technologies by another, and in the process created what Schumpeter called the creative destruction. Today, we are witnessing a technological revolution that is changing the way we live, work, and communicate. We call this the digital revolution which brings with it new technologies, methods, and business models. This chapter discusses the digital revolution and the platform business model. This business model is used by many “sharing economy” businesses such as Airbnb and Uber. The success of this business model is dependent on the rapid expansion of its user-base. This business model requires infrastructure and applications that can cope with this rapid expansion. Cloud computing has been providing these services.

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1. INTRODUCTION

Currently, there is considerable discussion in the media, academia, and the official circles about the effects of the latest technological/industrial revolution on how we live, work and communicate. Disintermediation, Digitization, Molecularization, and Prosumption, are just a few themes that explain the processes among many that are changing our world in most profound ways. These changes are occurring so rapidly that lawmakers are unable to address the regulatory implications in a timely manner; consequently, creating large grey areas in statutory laws, which are taken advantage of by innovators and speculators alike. These legal voids have enabled the creation of virtual monopolies and oligopolies on the global scale. Now, a few companies generate more revenue than many countries.

Like the other technological revolutions of the past centuries, this new revolution, named the 'digital revolution', has brought with it a host of new technologies. Technologies such as Cloud Computing, Advanced Mobile Communications, Smart Grids, Internet of Things, 3D printing, Advanced Artificial Neural Networks, Artificial Intelligence, Genetic Technologies, Quantum Computing and a host of other technological advances have given rise to a new economy that is tentatively named the 'digital economy'.

This new economy is changing the old post industrial economy into something unique, with promises of almost science fiction like products and services, such as autonomous vehicles, real time voice translation, genome editing, and many other wonderful products and services that are surpassed by those dreamt up at the turn of the century.

The digital economy is a knowledge economy. It is digitized and networked. It is being disaggregated and replaced by active molecules and clusters of individuals and entities that connect and disconnect at will. Virtualization is exceedingly common, resulting in a shift from analog to digital. People and things, and our relationships with them are changing. The virtual world is highly transactional, without any intermediation. The new economy is global, and consumers demand immediacy irrespective of time and distance.

All these changes have created new opportunities that innovators have turned into new business models such as platform-based Airbnb, Uber, skill share and the like (prosumption). Digitization is reducing marginal costs and, in the process, creating new markets for the unmet needs. Taking advantage of this, Netflix and its analogs are changing the face of movie making and distribution. Companies, using knowledge, digitization, and network technologies, have created augmented automation (augmented automation portal + smart glasses + remote support) to unite experts from various fields such as machine and plant manufacturers with the

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