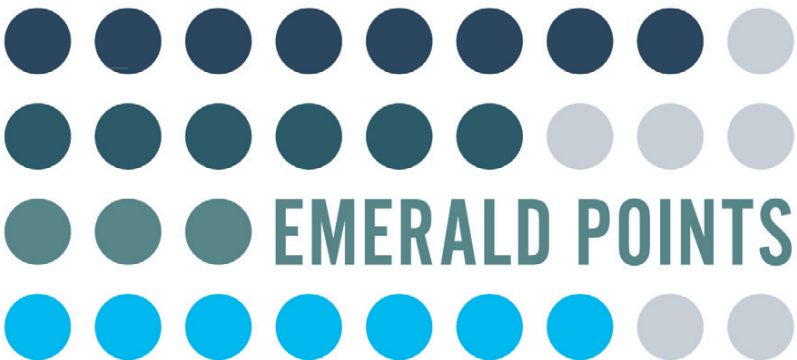


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AI, Innovation and the Digital Economy

Jon-Arild Johannessen



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AI, Innovation and the Digital
Economy

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INVESTOR IN PEOPLE

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MOVING TOWARDS THE INNOVATION ECONOMY

INTRODUCTION

The core ideas of this book are:

1. Communication and value creation processes in the innovation economy are driven by technological emergents.
2. In this book we investigate the four core processes that influence value creation in the innovation economy: new forms of leadership; brain science and leadership; new organizational models; and political leadership.
3. The unique characteristic of the innovation economy is the interaction between the market, innovations, government authorities and economic bubbles.

In this book, we investigate communication and value creation processes in the innovation economy. The purpose of the book is to gain knowledge about the key value creation processes in the innovation economy.

The innovation economy is characterized by some central drivers. One of these drivers is communication and innovation processes (Janeway, 2018). Once the innovation economy is established, the Fourth Industrial Revolution will be a reality (Johannessen, 2018a, 2018b). By this time, new forms of leadership will also have seen the light of day. These will be generated, amongst other things, by the link between leadership and brain science. Through their consequences, these forms of leadership will also influence political leadership. This development will promote completely new organizational models that will no longer be linked to the logic of industry and the industrial society. In the book, we examine these four value creation processes in order to answer the following question: **What are the key value creation processes in the innovation economy?** We recognize that there are several value creation processes in the innovation economy (Johannessen, 2018a, 2018b, 2019). In order to answer our general question, we have developed four sub-questions. These are as follows:

1. How will intelligent robots affect the role of leader?
2. How can we apply insights from brain science in order to promote effective leadership?
3. How will the advent of intelligent robots and intelligent informats affect the organization of businesses?
4. How can political leadership promote value creation processes in the innovation economy?

We have shown the links we have created between the four elements in Fig. 1.1. Fig. 1.1 also shows how the book is structured.

In the book, we attempt to maintain a balance between theory and practice. Too much theory can easily lead to a

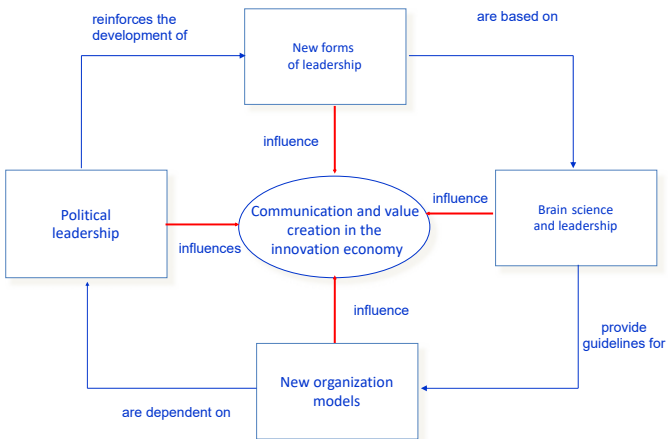


Fig. 1.1: Value Creation Processes in the Innovation Economy.

woolly academic discussion, but too much practice without theoretical underpinnings will lead to a kind of empirical terrorism, when the result will be a quest for the status quo.

Economic bubbles have played a key role in the development of capitalism, particularly in connection with new technologies. One can claim that innovations create progress and welfare, but this is only after these same innovations have created economic and social crises (Johannessen, 2017). Accordingly, innovation processes are key drivers in the innovation economy. If we look at innovation processes in the global economy, there is much to indicate that China, with its centrally controlled command economy, will be able to direct all its resources into becoming the world leader in artificial intelligence and intelligent robots (Geng & Ho Kang, 2018).

The point we are trying to make in the book is that the market and technological developments and technology are not driven by rational, logical decision-making, but occur in sudden leaps whenever emergents surface and change the

direction of both the market and technological developments.¹ It is emergents that are the true drivers of the innovation economy. What we have done here is to link emergents to the four drivers, as shown in Fig. 1.1.

Neither Darwin's 'survival of the fittest' – Adam Smith's belief that when we act in our own self-interest, society as a whole will benefit – nor Henry Ford's concept of the production-line are relevant at a time when emergents are the key underlying factor in value creation in the innovation economy. Accordingly, both private-sector businesses and the public administration must change their strategies and policies on innovation.

Value creation in the innovation economy lies at the point of intersection between economics and innovation. The factor which functions as the glue between these two elements is technology. Accordingly, in the future, investments will be targeted in all probability towards technological development, in general, and artificial intelligence and intelligent robots in particular. In this figure, the theoretical and practical emphasis is on the importance of innovation as a real driver in the innovation economy. The innovation economy and innovation processes function at their best when theory and practice are unified to achieve a utility value for individuals and society.

The innovation economy is not a status quo, or a status quo ante, economy. It is characterized by changes, but changes of a completely unique type, of the same fundamental nature as a tsunami or a shift in the Earth's tectonic plates. The unique characteristic of the innovation economy is interaction between the market, innovations, the authorities and economic bubbles. It is in this connection that we can say that

¹ See the chapter on concepts.

small innovations lead to small economic crises, while large innovations lead to large economic crises.

Jobs and functions will not necessarily be essential to the innovation economy. Rather the focus will shift to freelancers, project-based working, part-time working, app developers, the 'business of one', entrepreneurship etc. The advent of this kind of economy – where permanent employment, job security, paid holidays, stability etc. have disappeared – will affect interpersonal relationships. Intelligent robots and artificial intelligence will replace not only blue-collar workers, but also white-collar workers, knowledge workers and service workers. Growing pressure from shareholders for larger dividends will put wages under pressure, which in turn will result in a further acceleration of automation.

We have already experienced technological innovations taking over a large proportion of repetitive work tasks in both the production and service industries (Arnold & Bongiovi, 2013; Avent, 2016). What is happening now is a linking up of the free market with government policymakers who control technological development through research projects and the funding of projects they want to see realized (Janeway, 2018). The best example of this is China, where the authorities are permitting the operation of a free market, while at the same time they have set their course to become the world leaders within artificial intelligence and intelligent robots (Geng & Ho Kang, 2018).

The innovation economy has three characteristic features: complexity; turbulence and continual cascades of innovations. Anyone seeking stability and security in this economy will experience great frustration. In addition to this development, our brain has evolved to recognize and prepare for threats. A situation with continual threats will affect how we think and behave. Being in a constant state of preparedness will have a

negative effect on our brains. It is in this context, amongst others, that the chapter on brain science and leadership has something to offer both leaders and employees. It is possible that knowledge derived from brain science may lead to the development of new forms of leadership and new organizational models. This is the topic of Chapters 3–5. In the same way as [Janeway \(2018\)](#) is interested in the connection between innovations, the free market economy and state economic interventions, in Chapter 5 we consider the importance of political leadership for gathering resources to attain some simple and achievable goals.

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