

# Chapter 1.5

## Smart Organizations in the Digital Age

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### ABSTRACT

*The chapter aims to present and explain the concept of the smart organization. This concept arose from the need for organizations to respond dynamically to the changing landscape of a digital economy. A smart organization is understood to be both internetworked and knowledge-driven, and therefore able to adapt to new organizational challenges rapidly. It is sufficiently agile to respond to opportunities of the digital age. The three networking dimensions of smart organizations, ICT-enabled virtuality, organizational teaming, and knowledge hyperlinking, are elaborated. This networking capability allows smart organizations to cope with complexity and with rapidly changing economic environments. The paper also shows how managing the smart organization requires a more “fuzzy” approach to managing smart resources: people, information, knowledge, and creativity. Research is also presented, mainly from the European perspective. It has been key to creating the conditions for organizations to become smart.*

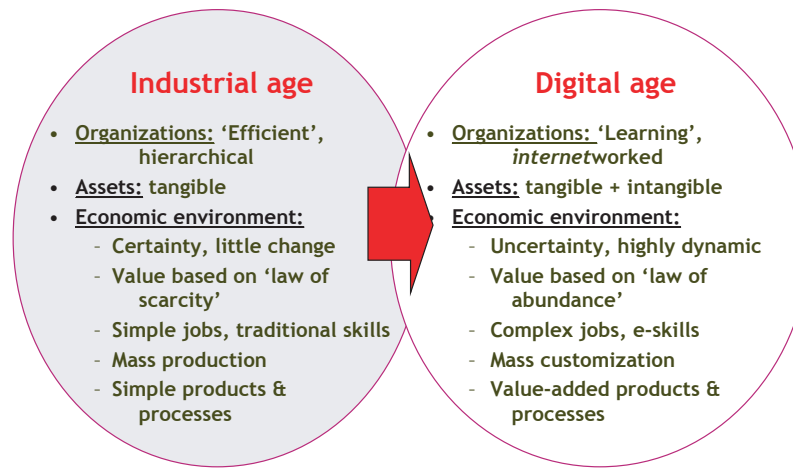
### CHARACTERISTICS OF THE DIGITAL AGE

Over the last decades, information and communication technologies (ICT) have been the enabling factor in organizational change and innovation, and there is now evidence of their impact on industrial value chains. Organizations today strive to become agile and to operate profitably in an increasingly competitive environment of continuously and unpredictably changing markets.

The digital age is different from the industrial age in various ways (Figure 1). For example, today ICT represent a substantial—and increasing—part of the added value of products and services. ICT-intensive sectors include manufacturing, automotive, aerospace, pharmaceuticals, medical equipment, and agro-food, as well as financial services, media, and retail. In the automotive sector, for instance, an estimated 70% of innovations that happened over the last 20 years were related to ICT.

According to recent studies, more than half of the productivity gains in developed economies

Figure 1. Industrial vs. digital age characteristics



can be attributed to ICT (OECD, 2003; O'Mahony & van Ark, 2003). The gains stem both from the production of innovative, high-value goods and services based on ICT, as well as from improvements in business processes through a wider diffusion, adoption and use of ICT across the economy. Their impact on the economy and on society at large has led to remarkable changes.

### A "Hyperlinked" Economy

The increased networking in a global economy is due to the pervasiveness of ICT and the Internet. Since business success depends on the ability to innovate, and since innovation comes from a clash of ideas, networks provide a natural environment for this. The Internet not only facilitates a hyperlinking of documents, but also a hyperlinking of people and of organizations (Levine, Locke, Searls, & Weinberger, 2000). The internetworked economy (Ticoll, Lowy, & Kalacota, 1998) is about the right set of connections between people and organizations in whatever role they may be in. In relationships that are fostered via networks, roles become blurred: The seller becomes the "buyer" of valuable feedback on his product.

Smart business organizations today see customers, suppliers, regulators, and even competitors as stakeholders who can make valuable contributions to their success.

### "Value" Redefined

Individuals and organizations today understand value as something different from value in its traditional sense—that is, not only attributable to something that is unique or scarce. Value in a networked economy grows with the number of intermediation opportunities (e.g., relationships). Network theory predicts an exponential growth of interactions with a growing number of involved members ("nodes"). The more nodes there are in a network community, the more each node becomes an intermediary to all others (Kelly, 1999).

Another reason for the new perception of value is the fact that economic value is no longer derived from tangible assets alone—for example, from investments in labor, plants, and machinery. "Smart" resources—such as information, content, software, knowledge, brands, and innovation capability—contribute increasingly to value creation in today's economy.

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