Chapter I

Why the Digital Era?

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ABSTRACT

While there are many useful ways of describing and discussing the Digital Era, explanations of its existence are lacking. The Digital Era is characterized by technology which increases the speed and breadth of knowledge turnover within the economy and society. Evolutionary theory, as an explanation of the system we live in, states that sustainability relies on knowledge turnover. In parts of the system which are relatively stable, knowledge turnover is low, and new variation, when produced, is rarely retained. In other, less stable parts of the system, faster knowledge turnover is advantageous as new knowledge is produced more frequently allowing for adaptation to the changing surrounding environment. Mixing and matching rates of knowledge turnover makes for a dynamic but ever-lasting world. The Digital Era can be seen as the development of an evolutionary system in which knowledge turnover is not only very high, but also increasingly out of the control of humans, making it a time in which our lives become more difficult to manage. For example, in the second generation Internet, 'the semantic web', functionality, which understands meaning, replaces the search function of unknowingly matching words, which often have multiple meanings. In time, within this version of the Internet, software agents will exchange knowledge without human intervention. Equally, our understanding of the knowledge embedded within the human genome about how we relate to the world, generated in association with technology and freely available on the Internet, raises questions about our assumptions of control. Do we know enough about our future to change our genome? Can we control such changes and their diffusion? The social and economic implications of the Digital Era are huge and will increase as technological functionality becomes more knowledge-based, our everyday lives and understanding of ourselves become more linked to it, and it takes on a 'life' of its own. Understanding the Digital Era in terms of evolution will help ensure we build sustainable socio-economic relationships both with technology and with the advanced knowledge that technology helps us create.

WHY THE QUESTION?

The Digital Era is characterized by intense socio-economic transformation on a scale similar to that of the Industrial Revolution (Drucker, 2002). Everyday life involves socio-economic interactivity which is more varied than before, causing faster turnover of socio-economic knowledge. The knowledge base of the Digital Era is more abstract and theoretical than in the past (Tsoukas, 2003), but is often also more trivial (e.g., the increase in 'reality TV') and more fickle (e.g., the dot.com boom and bust). The era is ever more associated with information and communication technology (ICT), the functionality of which is increasingly able to mobilize knowledge, at faster speeds, and in ways that can be addictive (e.g., chat rooms) or out of control (e.g., computer viruses), as well as productive (e.g., across distances). Innovative and analytical knowledge workers, as well as celebrities, move the Digital Era forward faster in time. Knowledge workers have access to, and also interact with, more and more knowledge. Everyday people become celebrities through communication technology such as the Internet and photo messaging, as well as traditional media.

The Digital Era has transformed the way many of us live and work by creating a society and economy that is ever more attuned to knowledge, whether that knowledge is content-laden and therefore scientifically factual, or instead is content-free and therefore reliant on emotions, or indeed any combination in between. The structure of the era means people, especially those in developed countries, increasingly belong to social and economic communities, geographic or virtual, which are both more dynamic and complex than in the past. Over time, the Digital Era will have the same effect on all members of society and all economies. Already countries such as India, China, and the Philippines compete very successfully for 'knowledge work'. India, for example, increasingly competes at an economic level, not on the basis of cost, but on the basis of innovation; on the social front, mobile phones are more popular than land-lines.

The need for this book lies in the quandary of how to manage these trends, or alternatively, how to manage as these trends unfold. The combination of very complex, impossible-to-control social networks; a rapidly changing, increasingly global, but also unpredictable knowledge-base; an ICT that moves knowledge faster yet operates differently in different cultures and contexts; and an ever heavier reliance on expensive and scarce knowledge workers whose productivity is difficult to measure and improve, make management more of a challenge than in the past. On the one hand there seems more to control but, on the other hand, control seems harder to come by. The remaining chapters of this book delve deeply into these socio-economic and organizational phenomena, which make up the Digital Era, in terms of the practice of management.

In particular, despite the detail the other chapters in this book provide, an overarching question remains—"Why the Digital Era?" Or, put in other words, why are these trends continuing and why do they produce these, rather than any other socio-economic transformations? Why is socio-knowledge turnover speeding up, often aided by ICT? Why is the Digital Era characterized by very content-based knowledge in some circumstances, and very trivial, fickle, or emotional and hence content-free knowledge in others? Why are organizations seen as competing in an ever more knowledge-based system in which the pace of change is rising? Why do we feel we are losing control?

This chapter provides an *explanation*, rather than purely a description, of the Digital Era based on evolutionary theory, specifically the branch of evolution called

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