INTRODUCTION: TECHNOLOGICAL DEVELOPMENTS AND THE REVOLUTION OF NETWORKING

The recent developments in information communication technologies (ICTs) and the emergence of the Internet, in particular, as a mainstream communications and transaction media has changed the way that governments, organisations, and citizens interact and operate. These developments have changed the best operational and strategic practices for organisations on a global level and altered the competitiveness of enterprises and regions around the world.

The Internet enables the instant distribution of media-rich information worldwide and revolutionises the interactivity between computer users and information/service providers. The Internet therefore provides a window to the external world and facilitates the interactivity of organisations globally. Internal systems or “Intranets” have also been developed as “closed,” “secured,” “controlled,” or “fire-walled” networks within organisations or individual departments. Intranets allow authorised personnel to access information, knowledge, and mechanisms across the enterprise to perform their tasks efficiently. Intranets enable organisations to improve their internal management at all levels by sharing media-rich data and processes, using Internet interfaces. Increasingly enterprises realise the need to formulate close partnerships with their partners and other members of the value chain for the production of goods and services. As a result, they developed “extranets,” which use the same principles as well as computer equipment and networks to allow access to preselected sections of an organisation data, knowledge base, and mechanisms. User-friendly and multimedia interfaces mean that users require limited training for using the systems. Extranets can enhance the interactivity and transparency between organisations and their trusted partners, by linking and sharing data and processes through low-cost and user-friendly interfaces (Laudon & Laudon, 2004).

The digital revolution that was introduced by the Internet, intranet, and extranets provide
unprecedented and unforeseen opportunities for productivity improvements, interactive management, and dynamic marketing. As a result, organisations and governments are now able to:

- accelerate knowledge and information distribution;
- apply knowledge management at the widest possible coverage;
- increase their efficiency and productivity;
- improve and shorten the decision-making process;
- enhance their communication and coordination efficiency;
- reduce their transportation, postage, and communication costs; and
- support their interactivity with all stakeholders.

To the degree that a company operates within a system of competition and dynamic developments, gaining and sustaining competitive advantage depends on understanding not only a firm’s value chain but also how the firm fits in the overall value system (Porter, 1989; Porter & Millar, 1985). Porter (1985, 2001) suggests that ICTs reshape not only products, but more importantly, the nature of the competition. Entire industries are affected if ICTs have a significant role in determining relative cost position or differentiation. To gain competitive advantage over its rivals, an organisation must either perform the activities involved in adding value to a product or service at a lower cost or perform them in a way that leads to differentiation and a premium pricing (more value). Hence, ICTs change the entire economic system dramatically and organisations and governments need to constantly update their business models and enhance their competitiveness through new technological tools.

The vast majority of Northern and Western governments and organisations have already developed comprehensive representations online and have also established platforms for their internal management and collaboration with partners. Southern and Eastern societies, organisations, and governments still suffer from the digital divide, although in many places there is evidence of “frog leaping.” India and China are some examples where technology is both driving and fuelling economic development.

The proliferation of broadband connections and also the availability of wireless networks through WiFi, UMTS, and Bluetooth technologies gradually propel the adoption of ambient intelligence, where technology will be forced in the background and its functionality will prevail all organisational functions and human interactions. Ambient intelligence is defined by the Information Society Technology Advisory Group (ISTAG) (2003) as “a set of properties of an environment that we are in the process of creating.” This represents a new paradigm for how people can work and live together. According to the ISTAG vision statement, humans, in an ambient intelligent environment, will be surrounded by intelligent interfaces supported by computing and networking technology that is embedded in everyday objects, such as furniture, clothes, vehicles, roads, and smart materials—even particles of decorative substances like paint. Humans will live in an ambient intelligence space in which there will be seamless interoperation between different environments—home, vehicle, public space, work, leisure space, tourism destination, and so forth. This implies a seamless environment of computing, advanced networking technology, and specific interfaces, which should be aware of the specific characteristics of human presence and personalities; adapt to the needs of users; be capable of responding intelligently to spoken or gestured indications of desire; and even result in systems that are capable of engaging in intelligent dialogue (Buhalis & O’Connor, 2005).
Related Content

Effectiveness of E-government in Delivering Services
[www.igi-global.com/chapter/effectiveness-government-delivering-services/42550?camid=4v1a](www.igi-global.com/chapter/effectiveness-government-delivering-services/42550?camid=4v1a)

Digital Public Sphere: Rhetoric or Reality
[www.igi-global.com/chapter/digital-public-sphere/18881?camid=4v1a](www.igi-global.com/chapter/digital-public-sphere/18881?camid=4v1a)

Using Evaluation to Support Organizational Learning in E-Government System: A Case of Malaysia Government
[www.igi-global.com/article/using-evaluation-support-organizational-learning/76928?camid=4v1a](www.igi-global.com/article/using-evaluation-support-organizational-learning/76928?camid=4v1a)

Measuring E-Government in Italy
[www.igi-global.com/chapter/measuring-government-italy/9898?camid=4v1a](www.igi-global.com/chapter/measuring-government-italy/9898?camid=4v1a)