Chapter 1
A Digital (R)evolution to the Information Age

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ABSTRACT

We can learn nothing except by going from the known to the unknown.

Claude Bernard; French physiologist (1813 - 1878)

The rapid technological changes caused by Information and Communication Technology (ICT) have a strong impact on societies world-wide. This will lead to changes in the traditional role patterns. The author discusses the changing information and communication technology and its background. Then the chapter goes into detail on the impact of the changing technology. Finally, the chapter discusses the political aspects required for a balanced introduction and development.

INTRODUCTION

At all kinds of levels we see technological changes occurring in a rapid pace. In Information and Communication Technology we observe an exponential growth in the development of new technologies for quite some years already, especially in areas like: connectivity, information dissemination, information devices, robotics and wireless technology.

The World Wide Web has conquered the Western world with an enormous speed in the past decade. Like a tsunami wave it has outrolled itself in each and every corner of society, leaving few spots untouched. A special characteristic of the Internet is that from its very beginning it has been a shared and a sharing technology.

As a consequence of all these technical innovations, we have noticed a remarkable explosion of new ICT applications (ICTs). Striking examples are applications in the context of health care, agriculture, transport, housing, commerce, water and energy.

Many of these areas are especially important for women, as they are most active in society and therefore leading caretakers of economic development. For instance the mobile phone, as

a consequence of its low price, its wireless nature and its tolerance for power failure, plays a central role and has already shown a very positive impact in these developments. This way of applying new technologies is very interesting for developing countries. These countries who are now gradually hooking up with digitalization will not follow the trail set in Western society, they will more or less leapfrog, integrate and adapt existing technologies to the needs of their own society.

In this article we will first give some more of the technical background of the technological developments, and draw some conclusions towards future developments. In this article special attention is given to the rapid technological developments and the impact of exponential growth is demonstrated and explained in terms of the Plateau Model. An overview of new types of applications is given, restricting ourselves to applications involving Web 2.0, XML and agent technology. This leads to arguments why we speak of a digital (r)evolution.

Next to that, some societal aspects are highlighted which will fundamentally change by this technological growth. To describe the effect in terms of a cultural change, we relate to the cultural model of Hofstede (Shore & Vekatachalam, 1996).

We consider the situation of EU25 and see that (like in the industrial revolution) a changing relation between labor and family may be expected, and consequently a population distribution change (Institute for Family Policies, 2008). The industrial revolution has led to a significant increase of the population, which can be described by the Plateau Model (Verhulst, 1838) for population growth. Using this model, it may be shown that he Digital Revolution may lead to a decrease of population. This is discussed in the context of the transition to the so-called network society (Leevers, 2004).

Finally, we discuss to what extend these changes have an impact on the level of policy making. Modern information and communication technology will change decision making practices and therefore lead to an evolution of the democratic

model. These issues are discussed in the context of the trias politicas political model. This leads us to a discussion of Human Internet Rights, as pointed out by ICT Policy & Internet Rights (APC, 2008) according to the model of Human Rights. We also zoom in on the gender related effects and focus on the further specification of Internet Rights (Yu, 2002).

BACKGROUND

The rationality of technological progress is to improve the standard of living of a larger group of people. Yet not all members of that group will in general benefit equally and some members may become worse off even if the group as a whole, on average, flourishes. In many cases, because of traditional role patterns and power differentials, frequently there are clear obstacles in a society for women to benefit equally from the advantages of economic progress (McGregor & Bazi, 2001), (Hafkin & Huyer, 2002).

Worldwide women have a lower social position and fewer opportunities than men to improve their position, e.g. because of their more than proportional share in reproductive and household tasks. As a consequence, women in general have less access to power, education and productive sources than men, and thus fewer options than men to engage in new markets and technologies. Traditional social ways of thinking underlie many of these barriers (McGregor & Bazi, 2001).

But sustainability of development work may greatly depend on the flexibility to adapt the existing social structure, and thus may be hindered by the strength of these barriers. In order to make developing work sustainable, reconsideration of the existing societal structures therefore is of great importance.

There also is a clear recognition of these needs and interests at governmental level (see for example Ratgeber & Adera, 2000). An even representation of women at higher managerial levels

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