Digital Literacy and Electronic Business

Subjects: Others
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Digital literacy is a term that traditionally describes the extent to which a person is able to use interactive digital devices for living and working, such as computers and smartphones, as well as services delivered through these devices. The advent of the digital society at large and electronic business, specifically in the past decades, has broadened the use of digital devices beyond the isolated uses of working and simple communication; this advent has created digital ecosystems in which workers and consumers are embedded to various degrees, such as social media platforms or integrated shopping and media platforms. This embedding implies that a traditional, narrow notion of digital literacy needs to be extended and made more precise. For this purpose, we use the related notions of digital dexterity, digital proficiency and digital awareness. The term digital dexterity describes the extent to which an individual can handle or operate digital devices or services from a physical perspective. The term digital proficiency describes the extent to which an individual can use digital means to effectively and efficiently facilitate their living and working. The term digital awareness describes the extent to which individuals can understand what their position in digital ecosystems is, including the opportunities and threats of participating in these ecosystems. Digital literacy in the modern, broad interpretation is then the combination of digital dexterity, digital proficiency and digital awareness.

Keywords: digital literacy ; digital dexterity ; digital proficiency ; digital awareness ; electronic commerce ; digital ecosystem ; online platform ; consumer behavior ; privacy ; security ; lock-in

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The practical use of computers and related digital technology started somewhere in the middle of the 20th century. This practical use was first confined to government organizations and large business institutes; computers were very large, very complicated, and extremely expensive. Consequently, operation of computers was performed by only a small group of professionally skilled employees of these organizations. To all other people, computers were large machines inside large buildings not so much different from other large machines, often of a more mechanical kind, that one need not understand, let alone be able to operate.

With the personal computer becoming popular in the 80s of the 20th century [1], this situation started to change; the use of computing facilities came into the reach of the general public. In the early years of this development, this use was, however, limited to very specific applications for a rather limited group of individuals: those with a strong interest in digital developments. The use of computers in business environments was still largely limited to specially qualified staff. Hence, the ability of the general public to operate computers was not seen as a major societal issue. Apart from formal courses in higher education, computer training for the general public was often limited to hobby-like classes for those really interested.

At the end of the 20th century, this development changed profoundly through the advent of large digital infrastructures. The Internet had been growing exponentially and continued to do so [2]. In its ‘bare’ form not so usable for the general public, the Internet provides the basis for other digital infrastructures. Between 1995 and 2005, we see the emergence of the World Wide Web as such an infrastructure built on top of the Internet. The World Wide Web made its way into modern society on a large scale and is therefore nowadays in everyday speak simply referred to as ‘the Web’ or–incorrectly–‘the Internet’.

The Web makes internet resources easily available through pages in natural language that are linked to allow easy navigation between these pages. Initially mainly used for displaying mostly textual information in a rather static way, the Web was quickly extended with features that allow much more interactive use and presentation of diverse media. This was the basis for the start of electronic commerce (e-commerce in short) on the Web. Starting around 1995 with a few web shops of some tech-savvy companies, around the turn of the century we see that many commercial organizations embrace the Web as a main interaction channel for their business activities. Not long after, we also see non-commercial organizations venturing onto the Web for interaction with their members or customers, for example in the domain of electronic government. Consequently, electronic commerce evolved into a more general form of electronic business (e-business in short). Electronic business is the kind of business that is enabled by the use of information technology (IT); not only supported by IT [2]. In other words, the use of IT is essential for interacting with customers in e-business. In this

context, digital channels become mainstream in value delivery, influencing business strategy [3]—both in the business-to-business (B2B) domain [2][4] and in the business-to-consumer (B2C) domain [2]. In this era, lack of digital literacy started to become a small issue; without the knowledge of how to use digital devices, one could not use digital services. Usually, however, non-digital alternatives were broadly available.

Roughly between 2010 and 2015, we see that digital channels start to become the default means of interaction between organizations and individuals in a number of domains. Shopping on the Web starts to become an important alternative to physical shopping in traditional stores. Electronic banking becomes more and more attractive, based on extending customer-oriented functionality. Digital communication like email starts to replace physical communication like traditional post at an increasing pace. The rise of the smartphone [5] heavily contributes to this rise of digital interaction with an anywhere, anytime character. This development makes digital literacy more and more of an issue; a lack of digital literacy implies the inability to use modern channels for interaction in society and business. This also makes digital literacy a complex concept; it is not only about handling digital devices, but also about properly interacting in new digital settings.

In recent years, we see that the spread of digital interaction takes place so widely that it starts to negatively influence the availability of channels for non-digital interaction. A typical business-oriented example in many countries is the advent of electronic banking. With more and more people having access to digital channels and obvious efficiency advantages for banks in interacting electronically, we see a decrease in the availability of traditional banking; customers increasingly prefer mobile devices as their “branch” [6] and consequently many banks are closing many of their smaller local branches. On top of this, customers can be charged extra fees for the use of physical channels, such as traditional post to deliver account statements, to compensate banks for the lesser efficiency of such channels. In this setting, digital literacy starts becoming a real issue in society at large; a lack of digital literacy may make important societal and business functions very hard or even impossible to use.

Next to the rise of new possibilities through digital channels, we also observe the rise of new threats. There is the well-known threat of cyber-crime, in which criminals use digital channels to perform criminal acts [7]. Other threats may be less obvious to many individuals, however. An example is the threat to the privacy of individuals or the threat of consumer lock-in by large digital platforms. This requires the notion of digital literacy to be interpreted in a broader sense, as explained in the next section.

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