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The role of information and its use in Polish companies

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THE ROLE OF INFORMATION AND ITS USE IN POLISH COMPANIES

Introduction

Information is an economic resource essential to the functioning and development of any society, state and national economy. This resource, along with other economic resources, shapes the development of the society and the economy¹. It is an essential resource for the development of enterprises.

The New Economy is a concept that is used to highlight the two main determinants of competitive advantage based on knowledge: globalization and the latest information technology. It is associated with the use of electronic technologies for the creation, acquisition, storage and use of information, and furthermore – knowledge, in order to gain and maintain competitive advantage. The amazing technical and technological progress, which allows for the transmission of information, and globalization are the two phenomena and the two forces that shape changes in all spheres of life in the twenty-first century. Information issues are at the centre of attention. The New Economy is distinguished by the role of information, rapidly developing information and communication technologies, and globalization.

1. The essence of information

The pace of economic changes now taking place and the processes and phenomena occurring in the changing environment, imply, or even necessitate the need to understand the nature and the great importance of harnessing knowledge. To-

¹ A. Toffler: *Future Shock*, Warsaw 1974.

day's organizations that want to survive and have a chance for further development, should value knowledge as a key strategic resource. This implies the need to develop and implement a knowledge management system in each area in which the organization operates, as an integrating process, which determines the degree of achievement of the adopted strategic objectives.

It is important to distinguish the basic concepts, such as data, information, knowledge and wisdom, which in the ordinary sense are often treated as synonyms. However, these concepts are very different².

Data is the narrowest concept and has a subordinate position in relation to information and knowledge. Data is defined as facts unconnected with each other. In the context of an organization, data signify a formalized record of transactions. In other words, data are raw, unanalysed facts, figures and events from which it is possible to draw information. Clean, unprocessed data are of little practical importance in business. Traditionally, data management consists in the analysis and selection of data made from the point of view of their production costs, speed – the time between the occurrence of a fact and its formal registration and quality – the extent, to which they are useful in making decisions. Development of technology and the computerization of enterprises going in its wake, greatly facilitate and accelerate data management processes. On the other hand, they pose a temptation to collect too much unnecessary data.

Information means data that have been categorized and classified or have been otherwise ordered. Information is data presented in a way that gives it a certain meaning or interpreted in the context of a particular purpose. The primary role of information is to change the way in which the recipient sees things. Thus, information affects the recipient's judgment and behaviour, which distinguishes it from data. Information is data after it has been processed in such a way that, as a result, it becomes meaningful, carries specific knowledge and ideas, and allows drawing conclusions. After the processing, it becomes useful and can affect the quality of decisions.

Knowledge, on the other hand, is organized, "clean" information. It arises only after drawing conclusions from the available data and information. In contrast to data and information, knowledge is intuitive, which makes it more difficult from them to define and analyse. Because knowledge is derived from people and is located in people's minds, it is something as complex and unpredictable as people themselves. Having a wealth of knowledge on a certain topic leads, in turn, to wisdom. Hence, wisdom is the use of knowledge in practice. The value of information is determined by people, who are able to assess the reliability of the transmission, to use the available messages, to identify the problem and take appropriate actions.

² A. Budziewicz-Guźlecka: *Information management for companies in the New Economy*, Scientific Journal No. 499, Service Management Vol. 3, Szczecin 2008, p. 198.

Knowledge is viewed as a flexible substance which is the result of mental processing of information that a person possesses³.

The impact of information technology on the economy and society is undeniable, and this is due to IT's distinctive features⁴:

- connectivity,
- convergence,
- ubiquity,
- development of appropriate software.

2. The use of ICT in enterprises in Poland

Since 2007, the rate of enterprises with Internet access across the country had been rising, reaching a level of 96% in 2010.

Among large companies, it remained at almost the same level over the last four years (almost 100% in 2009). The biggest progress has been observed among small businesses, which, as is the case with the number of available computers, had the least access to the global network. Since 2007, the rate of Internet access among small businesses increased by 5 percentage points, reaching 91% in 2008. In 2009, there was a slight decrease of 3 percentage points, while in 2010 the rate rose to 95%⁵.

Internet as a communication tool certainly has a lot of added values in comparison to other media. It is not only a medium of communication, but also creates a plane of social reality, which allows for interaction and the creation of social and business relationships.

The variety of technologies used for communication by employees of companies is presented in the table 1.

The most frequently used communication technology is mobile telephony – it is used by 73.2% of employees in the companies surveyed. Landline phones are used by 56.3% of employees, and e-mail by less than half (48.4%). In one-sixth of the companies (15.6%) employees use text messaging, and in 7.2% of companies they communicate through VoIP technology using computers⁶.

The reasons for using the Internet by employees are presented in the table 2.

³ *Fundamentals of corporate governance in a knowledge-based economy*, Ed. B. Mikula, A. Pietruszka-Ortyl, A. Potocki, Difin, Warsaw 2007, p. 113.

⁴ A. Drab-Kurowska: *E-commerce in modern economy*, 12th International scientific conference globalization and its socio-economic consequences, Uniwersytet w Żylinie, Żylinia 2012, s. 156.

⁵ *Information Society in Poland. Statistical results from the years 2006–2010*, Information and statistical studies, Warsaw 2010, p. 21.

⁶ www.uke.gov.pl, p. 68.

Table 1

Various technologies used for communication by employees

Type of communication	%
Mobile phone	73.2
Landline phone	56.3
E-mail	48.4
Text messaging	15.6
VoIP phone using a computer	7.2
VoIP phone using a landline phone	5.7
VoIP phone using a mobile phone	5.7
Teleconferences	5.2
Videoconferencing	4.7

Source: www.uke.gov.pl, p. 68.

Table 2

Reasons for using the Internet by employees

Reason	%
Internet is necessary for work	67.6
Searching for necessary information related to work	54.8
To communicate with customers (e.g. by e-mail, instant messaging)	36.1
Employees use the Internet for private purposes	22.8
To communicate with other employees (e.g. by e-mail, instant messaging)	17.8
To use online dictionaries	11.9

Source: www.uke.gov.pl, p. 75.

Most respondents answered that to the employees in their companies, the Internet is essential for work (37.2%). The second reason for using access to the network is searching for necessary information related to work (30.8%), and the third reason is communication with customers (19.9%). In 12.9% of the companies surveyed the Internet is used for private purposes. In 9.9% of enterprises, the Internet is used for internal communication. Using online dictionaries was mentioned by 6.9% of the surveyed enterprises⁷.

3. The use of ERP systems in Polish enterprises

ERP systems – Enterprise Resource Planning – a computer system of applications that integrate business processes at all levels. ERP systems cover all processes

⁷ www.uke.gov.pl, p. 75.

in the company and make it possible to optimize work in many areas of the business from finance through human resource management to logistics and production.

The problem with ERP systems is their high cost, especially when it comes to software, and a high degree of complexity. For this reason, these systems, which many large corporations can afford today, are still beyond the reach of the financial capabilities of small and medium-sized enterprises. This exclusiveness of ERP systems is one of the dimensions of digital exclusion in business⁸. It must be assumed that companies already having extensive computer systems and staff knowledgeable in the use of ICT tools, which, at the same time, usually have large financial capabilities, enjoy both⁹:

- facilitated entry conditions to undertake e-business,
- special abilities to implement comprehensive e-business concepts involving the use of electronic solutions in all phases of business processes, requiring electronic channels to communicate both in the business-environment setting, and for internal interactions between employees of the company.

In 2009 and 2010, the issues of using ERP and CRM information systems were examined, as presented in the table 3.

Table 3

Enterprises using ERP systems

Enterprises	2009	2010
Total	9.3	11.3
By size		
Small	5.4	6.6
Medium	20.1	22.0
Large	53.8	57.9

Source: *Information Society in Poland...*, p. 56.

In 2009, only one in ten enterprises in Poland operated an ERP system, with a similar percentage in 2010. The national average was significantly exceeded in 2009 by companies operating in the production and distribution of electricity, gas and heat (26%). The figures were similar in 2010 (29%). Enterprises in the con-

⁸ T. Wielicki, L. Arendt: *A Knowledge Driven Shift in Perception of ICT Implementation Barriers: Comparative Study of U.S. and European SMEs*, Journal of Information Science 2010, No. 36, p. 162.

⁹ M. Czaplowski: *Knowledge as a resource conditioning the introduction of e-business solutions by companies*, in: *The knowledge-based organization. Materials for study*, Ed. B. Powichrowska, Higher School of Economics, Białystok 2011, p. 160.

struction industry showed the lowest interest in ERP systems in 2009 among all (3%), but in 2010 their share increased to reach the level of 5%.

In European countries, on average every other worker used a computer at work. Among the leading countries in which the percentage of employees who use a computer is highest are Finland (70%) and Sweden (68%). Poland's position has increased compared to 2008 by 3 percentage points, but still this is a fairly remote place. In the case of computers with Internet access, Denmark (64%) and Finland (63%) are ranked higher, while in Poland the ratio is about half that¹⁰.

According to a report on the use of information and communication technologies, 43% of Polish companies do not have their own websites. This figure consists mainly of small businesses, which normally use computers. 88% of them have access to the Internet, and 15% make purchases and sales on the web. These companies still do not appreciate the value of having their own website.

The vast majority of large enterprises, employing more than 250 employees have their own web address, as the figure reaches 88.2%. Among medium-sized enterprises, employing up to 50 workers the figure is 79.2%. The lowest percentage is among small businesses, employing up to 50 employees. Only 51.9% of such companies have their own website. In Europe, the average rate for companies with their own website is 67%¹¹.

Conclusion

All of this means that the appropriate use of information technology today can reduce the cost of production or services manifold, or increase their profitability, and allows for the timely production of personalized products, adapted to the needs of individual clients.

In the knowledge-based economy, factors of economic development, such as raw materials and labour, are gradually replaced by new factors, such as employees who can utilize information and knowledge, and IT infrastructure, as well as the circumstances created by the national authorities for the establishment and development of the new economy.

¹⁰ *Information Society in Poland...*, p. 29.

¹¹ http://biznes.gazetaprawna.pl/artykuly/411823,tylko_polowa_polskich_firm_ma_wlasna_strone_www.html For comparison, in 2009, in European countries, 64% of companies had their own website. Differences between countries were quite significant, e.g. Romania – where only 28% of enterprises had a website, and Denmark, located on the top of the list, where 88% of businesses had a website. Poland was ranked in the middle with 57%.

Literature

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ROLA INFORMACJI ORAZ JEJ WYKORZYSTANIE WŚRÓD POLSKICH PRZEDSIĘBIORSTW

Streszczenie

W artykule zaprezentowano rolę informacji w nowej gospodarce. Wskazano między innymi wykorzystanie Internetu oraz systemów ERP przez pracowników w przedsiębiorstwach w Polsce.

Thumaczenie Agnieszka Budziewicz-Guźlecka