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B2B E-RELATIONSHIPS IN POLAND: RESULTS OF THE SURVEY

The study results of electronic relationships in B2B area in Poland on the ICT development background are presented in this paper. Using the survey method, the authors define the main areas of B2B electronic relations and its usage in the country.

Keyword: B2B, electronic relation, range of use.

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ЕЛЕКТРОННІ ЗВ'ЯЗКИ В СИСТЕМІ В2В У ПОЛЬЩІ: РЕЗУЛЬТАТИ ДОСЛІДЖЕННЯ

У статті наведено результати дослідження електронних зв'язків в області В2В в Польщі на тлі розвитку ІКТ. Використаний авторами метод дослідження дозволив знайти основні напрями електронних зв'язків у системі В2В та її використання.

Ключові слова: В2В, електронні зв'язки, області застосування.

Рис. 3. Таб. 1. Літ. 12.

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ЭЛЕКТРОННЫЕ СВЯЗИ В СИСТЕМЕ В2В В ПОЛЬШЕ: РЕЗУЛЬТАТЫ ИССЛЕДОВАНИЯ

В статье приведены результаты исследования электронных связей в области В2В в Польше на фоне развития ИКТ. Использованный авторами метод исследования позволил найти основные направления электронных связей в системе В2В и ее использования.

Ключевые слова: В2В, электронные связи, области применения.

Introduction. Business-to-business (B2B) concept includes all commercial transactions between business entities, such as manufacturers, service providers, importers, wholesalers and retailers. In a broader sense B2B also includes contacts with business, such as banks, other financial institutions, information providers and some government offices. B2B transactions are taking place throughout all supply chains, so their number is enormous. Nowadays, due to rapid development of information and communication technologies (ICT) and low costs of the Internet access, B2B transactions are becoming electronic, i.e. bypassing the paper documents. ICT make business transaction faster and reduce their costs. The number of errors and, consequently, the number of transactions have to be reworked, is rapidly declining as a result of implementation of B2B electronic relationships (McIvor, 2004). Electronic B2B essentially changes the inter-organisational business processes (Humphreys, 2006; Lawson-Body, 2006) and enables small and medium-sized enterprises (SMEs) to participate in the global market (Stockdale, 2004).

B2B electronic systems efficiency. The most popular form of B2B is e-commerce. Different kinds of electronic markets allow participating buyers and sellers exchange information on prices and product/services offering using the Internet and their interorganizational information systems (Fairchild et al., 2004).

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There are many different intentions of B2B implementation by SMEs and large enterprises. The most important of these are (Daniel and Grimshaw, 2002):

- enhancing customer service (56,6% of the respondents);
- improving efficiency of internal operation (51,1%);
- helping face the competitive pressure (46,2%);
- increasing the quality of communication with customers (37,2%);
- seeking to improve the market position (36,7%).

Unfortunately, the real benefits of B2B implementation are quite different. The same study (Daniel and Grimshaw, 2002) shows that the realized benefits due to e-commerce are the following:

- improving of interaction with customers (30%);
- access to global markets (17%);
- increasing the efficiency of staff time using (15,3%);
- personalization of customer services (9%).

Measurement of profits from B2B implementation is very difficult. The major tangible benefit of B2B e-commerce is cost savings (Standing and Lin, 2007). Unfortunately, their determination in financial terms is very difficult. Quite easily determined is the cost of investments. Much more difficult, almost impossible, is to calculate the revenue from the use of B2B e-commerce. For the purposes of monitoring the effectiveness of the implementation of B2B ICT systems must therefore develop a whole set of indirect indicators (Cullen and Taylor, 2009).

The range of implementation and use of B2B, and their efficiency is strongly dependent on market conditions. Research (Dal et al., 2010) explicitly emphasize the differences between B2B systems on maturity (e.g. France, UK) and developing markets (e.g. Turkey). The future of e-commerce in developing countries "is brilliant" (Peng et al., 2008). These findings strongly depend on the ICT development in a country. It is hard to imagine B2B e-relationship without proper ICT development.

One of the important area in B2B electronic transactions is their security and safety (Juszczak, 2011).

ICT development in Poland. E-relationships in B2B require access to information and communication infrastructure. The level of this access in different countries is measured by the ICT Development Index (IDI). IDI was developed and used by the United Nations International Telecommunication Union (Measuring, 2011). It is based on 11 ICT indices, grouped in 3 sets: access, use and skills. The access set of indices indicates the readiness of ICT infrastructure: fixed-telephony, mobile telephony, international Internet bandwidth, households with computers, and households with Internet. The use set of indices indicates the actual ICT intensity and usage: Internet users, fixed (wired)-broadband, and mobile broadband. The skills set of indices indicates the capability or skills of ICT usage. This set consists of direct indicators (adult literacy, gross secondary enrolment and gross tertiary enrolment) and some indicators calculated using the indices from access and use sets.

The most recent 2010 top IDI list of countries (published in 2011) is opened by South Korea, Sweden and Iceland. Poland is on the 38th position (in contrast to 40th position in 2009) with IDI 5.95 (5.29 in 2009).

Table 1. IDI subindices for Poland

Set of indices	Rank 2010	Value 2010	Max. value 2010	Rank 2008	Value 2008	Max. value 2008
Access	38	6.49	9.06	43	5.79	8.77
Use	41	3.84	7.85	40	2.08	6.92
Skills	13	9.08	9.89	15	8.94	9.80

More detailed analysis (Table 1) of Polish IDI subindices ranking shows that the main problem in ICT development in Poland is the usage area. The value of this index has grown (from 2.08 in 2008 to 3.84 in 2010) but the rest of world did it faster. The infrastructure (the access area) is going better as well as the skills area.

Many Polish companies are successfully implementing management information systems (MIS) called enterprise resource planning (ERP), which contain elements of interorganizational systems (Milosz, 2012).

The research problem. ICT development determines the development of B2B e relationships as mild Polish position on the ranking list IDI may cause inhibition of the use of e-commerce in Poland. Is it true?

On this basis the research hypothesis is: "Enterprises in Poland widely use the Internet in B2B relationships, both between enterprises and business environment".

The research method. The study used the questionnaire consisting of 2 activities: preliminary and main. Preliminary questionnaire (containing open-ended questions) was used to acquire knowledge and to formulate a set of possible responses. It was addressed to a small group of employees.

The main survey questionnaire consisted of 2 parts: company facts and content-related. The first one included questions on the profile of a company, its size and duration of activity at a market. The content-related part of the survey consisted of the series of questions, including the following:

Q1. Does your company use Internet or other electronic channels in its B2B relationships?

Q2. In what areas of activity your company uses ICT to collaborate with other companies?

Q3. In what areas your company uses ICT to work with business environment institutions?

The survey was addressed to administrative staff of enterprises of different sizes (not only SMEs).

The answer to Q1 was binary: yes or no.

Possible answers to Q2 were elaborated using the results of preliminary studies. The set of possible answers includes an open answer ("other, please specify") to avoid the omission of important area of B2B e-relationships. As a result, a set of answers to the question Q2 was defined as follows:

- order submission,
- making payments,
- negotiation of contract terms and prices,
- tracking of delivery,
- planning and scheduling joint projects,
- information exchange,
- other.

The same procedure was used to determine potential answers to the question in Q3. As a result, the following set of answers was defined:

- electronic transfers,
- payments via SMS,
- payments by bank or credit cards via Internet,
- transactions at stock markets and auctions,
- exchange of correspondence with banks and other financial institutions,
- other.

Results of research. The study was conducted among enterprises of different size and areas of activity in 2011 using the direct survey method among the postgraduate students in management, finance and economics. Those students work in different companies at various administrative posts.

The profile of the respondents corresponded to the structure of companies in Poland by the areas of activity and size.

A very high percentage (answers to question Q1) of companies (89%) uses ICT in B2B relationships. There is some diversity in this area, depending on the activities areas of companies (Figure 1).

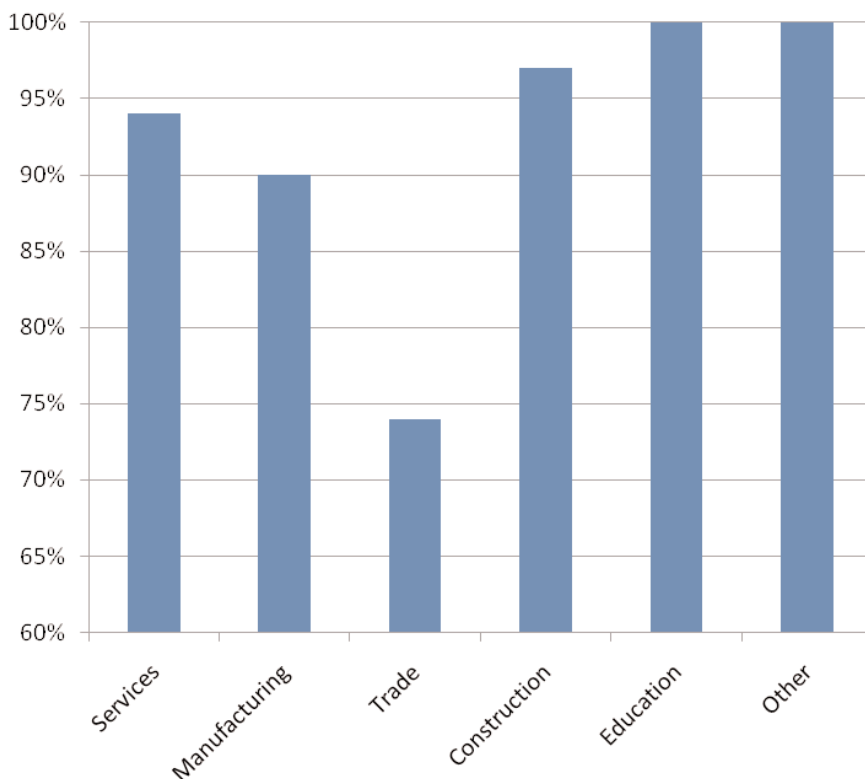


Figure 1. Percentage of the companies using ICT in B2B relationships

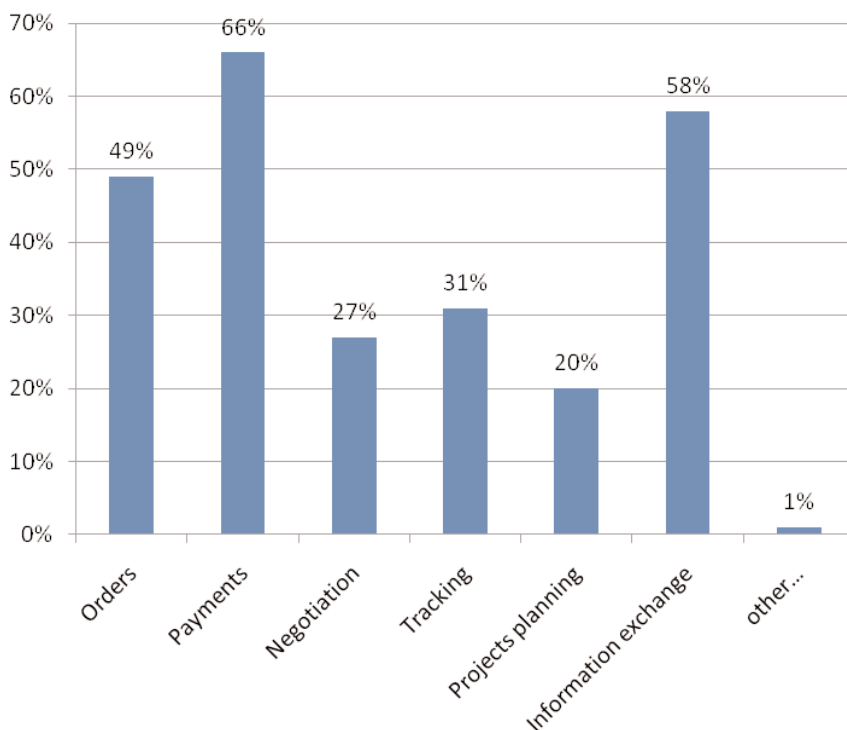


Figure 2. Areas of B2B electronic relationships

Most firms (Figure 2) use ICT in B2B mainly for payments to contractors (66%) and to exchange information. Relatively few of them use ICT in more advanced and interactive areas such as negotiation, planning of joint projects and monitoring of activities in real time. It is quite understandable. Such activities require advanced software and continuous work on-line.

Electronic money transfers (by Internet or by bank/credit cards) dominate (Figure 3) in electronic companies contacts with business environment. More than 95% (and 35% for bank/credit cards) of companies use this possibility. Unfortunately, the next popular area — exchange of correspondence with different business environment institutions — is used only by 27% of the companies. Other areas have even less percentage.

Conclusions. Poland is among the countries with the average development of ICT systems. In B2B e-relationships are the most common area of financial services related only to the implementation of payment. The popularity of this area is due, unfortunately, to the actions from the business environment of companies, namely the activity of banks in the implementation of e-banking. Banks have implemented electronic systems because of contact with business and effectively use economic incentives to use them. This has led to the fact that most companies have implemented systems of execution and monitoring of electronic payments.

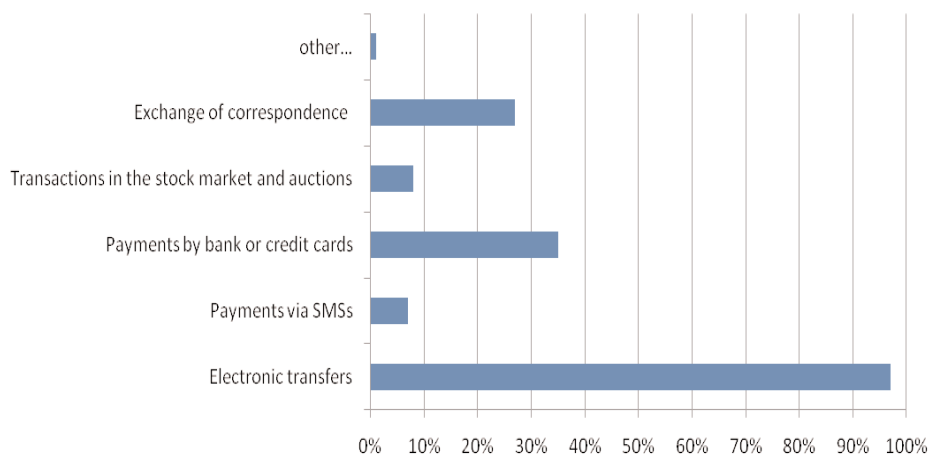


Figure 3. Areas of companies' electronic relationships with business environment

Unfortunately, in other areas of B2B e-relationships the situation in Poland is not very good. Advanced capabilities that ICT systems provide are used only by a small part of the surveyed companies.

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