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Spis treści

Wstęp

Dostosowanie współczesnych organizacji do niespotykanej wcześniej złożoności i dynamiki otoczenia, a co za tym idzie – do nieprzewidywalności zachodzących w nim zjawisk, wymaga od funkcjonujących przedsiębiorstw ciągłej i szybkiej adaptacji stosowanych systemów zarządzania i modeli biznesowych. Jest to warunkiem koniecznym realizacji zamierzeń strategicznych i uzyskania przewagi konkurencyjnej.

Przedstawione w niniejszym opracowaniu artykuły lokują się w następujących obszarach: modeli biznesowych, sieci międzyorganizacyjnych, systemów zarządzania, orientacji procesowej i zarządzania projektami. Rozważania autorów osadzone są w kontekście paradoksów i antynomii – wszechobecnych w nauce i praktyce zarządzania.

Poszczególne artykuły są oparte na solidnych fundamentach: na szerokich studiach literatury, na interesujących wynikach badań empirycznych, a tym samym nie tylko ukazują wielowymiarową naturę współczesnych organizacji i złożoność problematyki zarządzania w erze paradoksów, ale również zachęcają do dyskusji. Autorzy wskazują na nowe kierunki badań i inspirują do ich podejmowania. Zaprezentowane wyniki badań i poglądy mają również wymiar aplikacyjny, ich lektura może bowiem ułatwić przedstawicielom praktyki sprawne poruszanie się w „dżungli teorii zarządzania".

Janusz Lichtarski, Witold Szumowski

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Sieci międzyorganizacyjne, procesy i projekty w erze paradoksów

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CYBERSPACE OF ENTERPRISES – POLISH ENTERPRISES' DEVELOPMENT MODEL-PROCESS ORIENTATION*

OTOCZENIE INFORMATYCZNE PRZEDSIĘBIORSTW – MODEL ORIENTACJI PROCESOWEJ POLSKICH ORGANIZACJI

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Summary: This article presents the results of empirical research conducted on Polish enterprises in 2009-2013. The purpose of that research was to obtain an answer to the question – where are the Polish enterprises heading in terms of their organizational development? It is pointed out that the development of enterprises towards process orientation favours the implementation of modern IT technologies. The article presents the business model of the development of enterprises' organizational cyberspace with the application of modern IT systems and the manner of their implementation and describes the features of enterprises' development towards process orientation as well as the results of research conducted on 883 Polish enterprises, concerning the process maturity of enterprises, in connection with the effects of that approach as expected by enterprises.

Keywords: cyberspace, enterprises development model, process orientation, organisational effectiveness.

Streszczenie: Artykuł zawiera wyniki badań przeprowadzonych w latach 2009-2013 na polskich przedsiębiorstwach. Głównym pytaniem badawczym postawionym w ramach opracowania było pytanie dotyczące poziomu dojrzałości procesowej polskich przedsiębiorstw w kontekście otoczenia informatycznego. W artykule przedstawiono model biznesowy rozwoju przedsiębiorstw w obszarze przestrzeni wirtualnej poprzez implementacje nowoczesnych rozwiązań z zakresu systemów IT. W opracowaniu zamieszczono wyniki badań przeprowadzonych na 883 organizacjach w Polsce, dokonując oceny dojrzałości procesowej, odniesionej do poziomu efektywności organizacji. Podejście procesowe odniesiono do oczekiwań artykułowanych wewnątrz badanych organizacji.

Słowa kluczowe: otoczenie informatyczne, model rozwoju organizacji, orientacja procesowa, efektywność organizacji

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1. Introduction

For more than two decades, a very intensive development of IT technologies has been observed. That development has been very quickly transferred to enterprises in the form of their informatisation (in terms of hardware and software), which has considerably changed the nature of those organisations. At present, every aspiring small enterprise has IT systems in place and the larger the enterprise, the more it depends on IT infrastructure. The global trend among modern enterprises is increased reliance on IT technologies. In particular, efforts are made to implement systems integrating all significant aspects of the operation of an enterprise. The robust development of IT technologies has resulted in the emergence of a new area in which enterprises operate – cyberspace. This area has become a field of exchange of information, as well as rivalry among entrepreneurs.

2. Cyberspace in which organisations operate

Companies have always faced a challenge of effectively organizing the processes of acquiring, processing, storing and transmitting information as well as making it available. Naturally, the speed and importance of those processes has not always been as significant as in today's globalised world. In the era of the robust development of IT systems, the new place where enterprises play their "game" is IT cyberspace, i.e. virtual space, created by a network of inter-connected IT devices (computers, IPhones, etc.). By capturing (or extending) successive areas of IT cyberspace, organisations fill it with information and data, thus transforming it into an organisational cyberspace. A focus on the optimum use of available information is becoming a dominant enterprise management strategy. Competing in a free market, which is available to customers 24 hours a day, with competitors having a similar offer being "just one click away", is extremely difficult and requires many organisational and conceptual efforts forcing employees and managers to take actions that strengthen the organisation's position among other players [Perechuda, Chomiak-Orsa, Cieśliński 2013]. Companies operating in cyberspace offer, first of all, an exchange of their key competences, through the robust development of "relations" inside an organisation and, most of all, with its environment. The Internet has become a tool that makes it possible to find a cooperating entity in a quicker way and implement the process of exchanging key competences. The extension of companies' activities to include the new area of cyberspace has been an opportunity for their growth or generated ideas for new businesses. In an effort to increase their potential, many organisations have entered the new virtual world, which has forced them to re-orient their existing business models or create new ones based on new ideas. The use of the first IT systems in enterprise management dates back to the 1950s. The first IT solutions made it possible to automate simple calculations with regard to single economic operations performed in an enterprise. Since then,

successive decades have seen a regular development of IT technology, which has manifested itself in more and more technologically advanced systems being put on the market.

Table 1. Simplified historical outline of the development of management supporting IT systems

20 c. decade	Significant progress in the development of management supporting IT technologies
1950s	The first IT solutions made it possible to automate simple calculations with regard to single economic operations performed in an enterprise
1960s	First systems based on database technologies – information and decision systems (IDS) Creation of software that preceded today's office packages – office automation systems (OAS)
1970s	Creation and development of decision support systems (DSS)
1980s	Creation and development of expert systems (ES) Creation and development of management support systems (MSS)
1990s	Development of MRP (Material Requirement Planning) class of systems Creation of ERP (Enterprise Resource Planning) class of systems

Source: own study based on [Jaworski 2013]

Today, practically every small enterprise is equipped with an IT system, which, if only to a small degree, improves and standardises enterprise operation. Most large organisations are based on extended, integrated ERP systems, which support each key area of their operation. That widespread informatisation, supported by the continuous robust development of IT technologies, unimpeded until this day, and the spread of the Internet, have brought about significant changes in the operation of enterprises. As regards the flow of information, the development of management supporting IT systems has resulted in a new way in which an enterprise is perceived as an organisation. The latest applications are based on the logistic company management technology and an enterprise itself is treated as a set of processes (activities) creating an added value within the organisation [Jaworski 2013]. The process approach has become widespread in today's enterprise management practice. At present, it is not only a theoretical concept, but also a tool used on an extensive scale in many companies in Poland. Those are not exclusively modern industrial works and the process approach is found with an ever greater frequency in services, and even public administration [Cieśliński, Mierzyński 2013]. An important change in the operation of enterprises in the era of such a spread of IT and communication technologies is also the fact that organisations have gone beyond their traditional, existing area of operation, having entered cyberspace. The degree of cyberspace penetration and the degree to which a company is entrenched/rooted in it depends, on the other hand, on the profile of its business. The effect of the above changes is a re-orientation of business models, which, in the era of such intensive IT changes,

become quickly obsolete at some companies, thus creating growth opportunities for others. The primary purpose of the implementation of all IT systems should be increased effectiveness of the operation of company processes. A consequence of that increase is growth in the profitability of the entire enterprise. The implementation of IT systems in Polish enterprises is based, with an increasing frequency, on their own models of business processes. Such a form of carrying on one's business makes it significantly easier to perform an operational analysis, which is one of the stages of the implementation of a new system. As demonstrated by the experience of many companies, implementing integrated IT systems is a difficult task, which does not always produce an effect. One of today's most effective tools that makes it possible to minimize implementation errors is preparing a company for informatisation through an analysis of processes [Butkiewicz 2000]. Implementation, defined as all activities aimed at defining the needs and limitations with respect to an IT system, is a complex process, involving a variety of personal and non-personal factors. Achieving the desired effects requires proper preparation and exact planning of all the work [SABKOM 2013]. Implementing an IT system is a multi-stage process. Therefore, implementation stages could be summarised, in the most general way, as:

1. Specifying the needs of the future system user.
2. Collecting information necessary to ensure optimum system configuration.
3. System adaption to the user's needs.
4. System installation and preparation for work.
5. User training.

An implementation methodology is a formalised, detailed description, with a division into individual stages and activities to be performed during the implementation process. Several implementation methodologies have been created for the purposes of implementing integrated management systems. It needs to be noted, nevertheless, that every significant manufacturer has, together with a company providing them with IT system implementation services, their own implementation methodology. Each of those methodologies recognises distinct implementation stages, which, depending on the methodology, cover a different range of activities that comprise them. As a rule, methodologies may provide for three to ten-eleven stages.

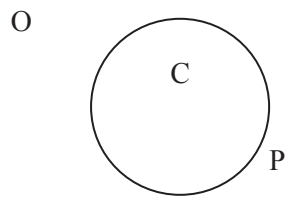
3. Organisational cyberspace – new business models

In the era of permanent instability of the surrounding environment, occurring worldwide, and especially in Poland, for at least a decade, every enterprise has been seeking ever newer concepts and methods for building their competitive advantage. Meeting market challenges, thanks to a competitive advantage achieved, requires a change of many elements and factors that determine this advantage in the organisation's operation. One of the tools that presents an idea for a business, in a more or less schematic manner, is a business model [Brzóska 2009]. The concept

of business model has many definitions. Expressed in the most general terms, a business model is a description of an idea for carrying on business activities or, to put it another way, a business activity plan with different levels of detail. Many Internet experts (led by programmers) believe that it is first necessary to prepare and offer a service and the business model will appear on its own, thus adhering to the American maxim "Build it and they will come". However, even if prospective buyers are, indeed, found, a question will inevitably arise: "What now"? Therefore, one of the keys to success is the establishment of a business model at the very beginning of one's business activity [Śliwiński 2008]. Examples of open business models can be found in a number of publications. A very interesting point of view was shown by Chesbrough [2007]. In an article based on corporation case studies the importance of open business models was shown. According to Chesbrought's research open business models enable an organization to be more effective in creating as well as capturing value. They help create value by leveraging many more ideas because of their inclusion of a variety of external concepts. They also allow greater value capture by utilizing a firm's key asset, resource or position not only in that organization's own operations but also in other companies' businesses.

4. Centre and periphery

In the traditional object analysis we divide every entity into two spheres (Fig. 1): centre and periphery. The figure below is describing a dual view of the object.



The legend:
O – object, C – centre, P – periphery

Figure 1. Dual view of the object

Source: author`s compilation.

Periphery means outer surface of the object, which in the traditional approach is not so important in comparison with its centre. This way of thinking is in the modern economy and society not adequate because: it is very difficult to identify centre and periphery of business and non-business entities; they are strongly interconnected; in the crisis situation, in many cases periphery plays crucial role in problem solving, centre and periphery are very often changing their position; it is very difficult to find the borders between them; the centre is more visible, therefore very often undergoes

external attack; periphery uses invisible sphere owing to which it could survive longer in unfriendly environment.
According to the following theses we can also list design principles. The list of ten design principles was presented below.

DESIGN PRINCIPLES
1. Do not concentrate only on the centre.
2. Do not find limits of centre and periphery.
3. Concentrate on the interactions between centre and periphery.
4. Change dual approach (centre – periphery) into multi influence approach.
5. Concentrate on the flow of information between centre and periphery.
6. Centre and periphery are equal.
7. Entity is energy field.
8. Internal and external energy flow simultaneously.
9. Situational approach is more useful than strategic management.
10. Reverse side is more important.

Tasks
1. Analyse chosen entity according to new principles.
2. Change the roles of centre and periphery.

5. Process training platform model

One of the elements of the methodology aimed at improving the process orientation of enterprises is a diagnosis of their process maturity. A proposal for diagnosing enterprises, referred to as the Process Training Platform Model, has been presented by W.B. Cieśliński [Cieśliński 2011]. The diagnostic method used is a survey performed by means of an interactive online questionnaire [www.bptraining2.pl/2014].

Before going into process training platform model it is necessary to define the definition of process maturity. Process maturity is a stabile situation with elements as follows: main processes are managed, measured, repeatable, documented and conscious within the organization. The purpose of the diagnosis is to allow for making comparisons inside and between organisations, as well as to determine the degree of control over processes in an enterprise and obtain the possibility of predicting their course, supply sources and the outcome of activities undertaken. The result of the diagnosis is the classification of enterprises in terms of the stages of their process orientation development [Cieśliński 2011]:

- preliminary stage,
- birth,
- growth,
- maturity.

Based on original methodology according to a process oriented development theory the analytical background was prepared. The next part of the following article contains the main results of long-term research program.

5. Results of a survey concerning the process orientation of enterprises against the background of the informatisation of enterprises from different sectors

Presented below are the preliminary results of a survey concerning the process maturity of enterprises, conducted on the basis of the process training platform model [Cieśliński 2011]. 883 Polish enterprises from different sectors have been surveyed. All data were collected based on process oriented methodology with elections tools and statistical methods involved.

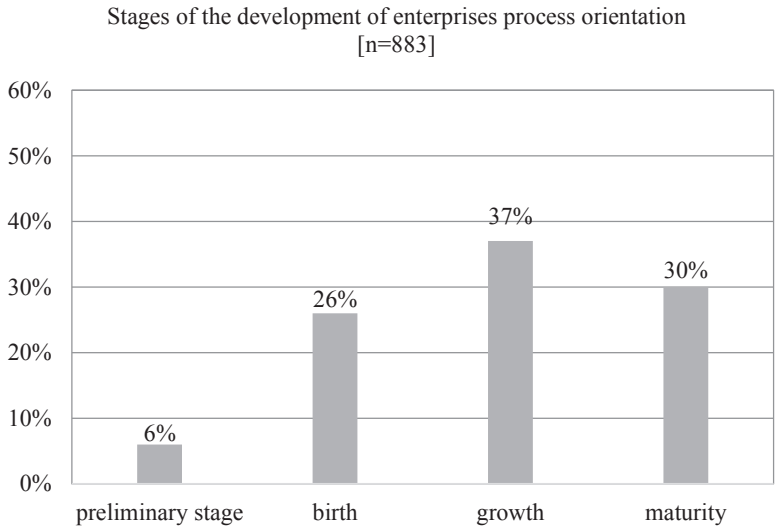


Figure 2. Stages of the development of enterprises' process orientation among 883 surveyed companies from different sectors

Source: own study.

The first stage of the survey determined the stage at which Polish enterprises are in their process orientation development (Fig. 2). Based on the results obtained, it has been demonstrated that 30% of the companies surveyed are at the highest process orientation stage – maturity. The largest percentage of the enterprises surveyed – 37% – is at the growth stage. In 26% of the companies surveyed, their process orientation is at the birth stage, while only 6% of the companies are at the lowest process orientation stage – preliminary. Another stage of the survey among the companies was verification of the priority assigned in the development of enterprises' process orientation. The survey distinguished three possible priorities: effectiveness improvement, informatisation, quality improvement (Fig. 3). Most of the companies surveyed see effectiveness improvement as their main priority in the

development of process orientation – 59%, followed by quality improvement – 31%, with only 10% of the enterprises prioritising informatisation.

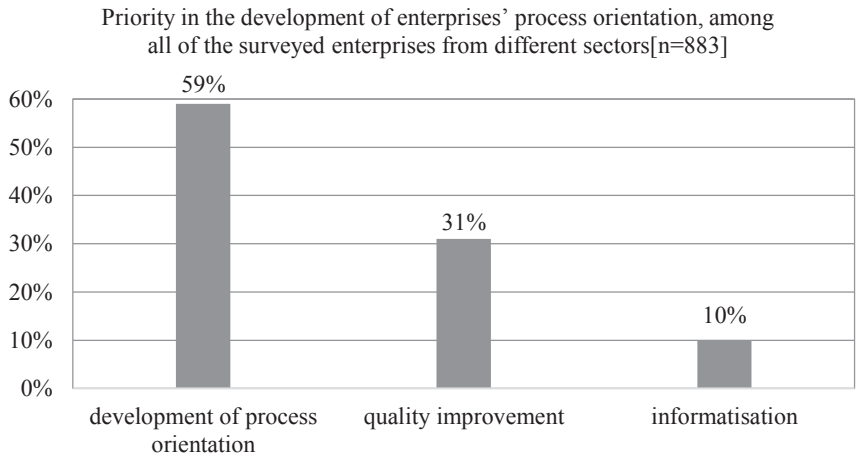


Figure 3. Priority in the development of enterprises' process orientation among all of the surveyed enterprises from different sectors

Source: own study.

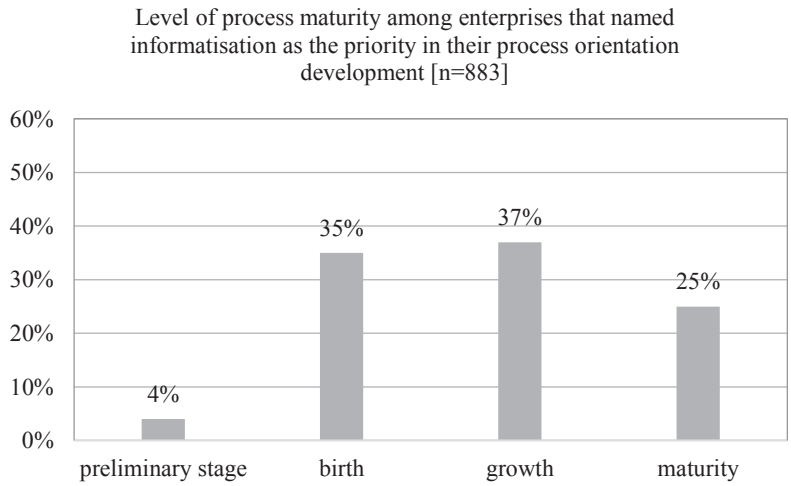


Figure 4. Level of process maturity among enterprises that named informatisation as the priority in their process orientation development

Source: own study.

For 10% of the enterprises that named informatisation as the priority in their process orientation development (84 enterprises), it was verified at which stage of their process orientation development they were. More than 25% of the companies were at the maturity stage, 37% – at the growth stage, 35% – at the birth stage and 4% – at the preliminary stage. When this result is compared with the result for all the companies surveyed (it is assumed that it is an average result among Polish enterprises), it follows that organisations that wish to develop their IT infrastructure are at a lower level of process orientation. This leads to a conclusion that an organisation's informatisation itself develops a process approach in enterprises.

6. Conclusions

The above survey reveals a surprisingly good result (in the opinion of the authors) for stages of the development of companies' process orientation among all of the Polish enterprises surveyed. In as many as 30% of the companies surveyed, the level of process orientation has reached the highest development stage – maturity, while 37% of the companies are at the growth stage. Such a result is regarded as very promising in the process of further development of Polish enterprises.

The survey conducted leads to the conclusion that the primary goal of implementing process orientation is effectiveness improvement, followed by quality improvement and informatisation. That result may be interpreted as implying that the overwhelming majority of Polish enterprises regard the quality of their services or products and the level of informatisation of their organisation as satisfactory, while, at the same time, they see effectiveness improvement as a great potential for their development.

The process approach is the basis for implementing all IT systems within companies. Enterprises with no process orientation are not capable of implementing an effective IT system. The development of informatisation is closely linked to the development of process maturity in enterprises. It also needs to be noted that, at present, it is effectiveness improvement rather than informatisation that is a priority in implementing process orientation. The global trend among modern enterprises is increased reliance on IT technologies, despite the fact that, for several years, an excess of data has been observed.

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