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SYSTEM ANALYSIS OF THE IT MARKET IN POLAND

Summary. The objective of the article is to present an analysis of Polish IT market. The work describes the general structure and particular segments of IT industry, presents its value and shows the dynamics of changes in 2002-2013. It proves that the condition of IT companies in Poland is not stable – although the value of the whole market has been growing year after year, new companies have been established and new markets have been identified. It was also shown that the share of Polish software enterprises in the whole IT market is still small: the top four developers of package software are foreign companies: Microsoft, IBM Polska, Oracle Polska and SAP Polska. In 2012, the share of Asseco Poland - the biggest Polish IT company, in the IT market was below 5%.

Keywords: information technologies, IT market, software segment.

ANALIZA SYSTEMOWA RYNKU IT W POLSCE

Streszczenie. Zasadniczym celem artykułu jest analiza rynku informatycznego w Polsce. Dokonano charakterystyki struktury i poszczególnych segmentów branży IT oraz ukazano dynamikę zmian wartości branży IT w latach 2002-2013. Udowodniono, że kondycja polskich przedsiębiorstw informatycznych nie jest stabilna, pomimo że z roku na rok wartość całego rynku IT rośnie oraz powstają nowe firmy. Pokazano także, że udział polskich przedsiębiorstw produkujących oprogramowanie w całej branży informatycznej w Polsce jest znikomy − czterej najwięksi dostawcy oprogramowania to firmy zagraniczne: Microsoft, IBM Polska, Oracle Polska i SAP Polska. W 2012 roku udział największej polskiej firmy IT – Asseco Poland – w całym rynku IT wynosił poniżej 5%.

Słowa kluczowe: technologie informacyjne, rynek IT, segment oprogramowania.

1. Introduction

The IT sector for many years has been one of the fastest developing areas of economy, not only in Poland but all over the world as well. Broadly understood information technology is the driving force of the whole Polish economy – promoting and stimulating its development. The national economy still needs the development of new technologies and increasing innovativeness, which is definitely promoted by stable growth indices of Polish IT industry.

The meaning of the term 'market' needs to be explained here. A market is “a set of rules of a market game between demand and supply, approved here and now as fair, reasonable and adequate, and regulating how the equation demand equals supply should be understood on a here and now basis”. This definition covers all possible markets, both those which really exist here and now, and those which are only symbolic and theoretical [7]. The aim of the market is to define the equilibrium in the market game between demand and supply. The equilibrium may be considered as a static process – then it is a point where the demand curve intersects the supply curve; or as a dynamic process – a result of a market game between demand and supply, treated as a function of time [7]. In the paper we will follow the static approach, that is the equilibrium is established for a fixed time, for instance at the end of the year or quarter.

IT market definitely belongs to high-technology market. A market is a living organism, dependent on the social capital of its participants. The analysis of Polish IT market, especially its software segment, is the subject of this study. Figure 1 presents system approach to information technology market in Poland.

Fig. 1. Polish IT market as a system
Rys. 1. Podejście systemowe do rynku IT w Polsce
Source: on the basis of [7].

The IT market developed in Poland in the 1980s: it was then that Ryszard Krauze's company – Prokom Software – had its start. The company developed and implemented information systems for public sector. Even nowadays, the success of Polish IT enterprises mostly depends on the obtained contracts for computerization of state institutions. That is a specific feature of the Polish IT market and almost never occurs in the leader countries, such as USA, Japan, China, Germany. Those assumptions resulted in formulating the **research hypotheses** as follows: a) the economic condition of Polish software companies is not stable; b) the share of domestic companies in the IT market in Poland is insignificant. The conducted investigations confirmed those assumptions. This paper demonstrates the results of the analysis of IT market in Poland as well as arguments in support of adduced hypotheses.

2. IT market

The sector of information technologies can be divided into three basic, closely interrelated segments: a) *hardware market* – desktop computers, monitors, laptop computers, printers etc.; b) *software market*: CRM (customer relationship management) systems, ERP (enterprise resource planning) systems, BI (business intelligence) – software which supports decision-making processes thanks to the analysis of data collected in IT systems. It can be used for the extrapolation of future and estimation of the current situation. The techniques used in BI are among others: data mining, expert systems, neural networks and genetic algorithms; c) *services* – implementation, technical service, consulting, training courses, outsourcing.

In 2012, 57% of the total value of IT market in Poland was generated by the sales of computer hardware, and 15%, by the sales of software. The remaining 28% of the revenue came from the sales of services (consulting, implementation, technical service, outsourcing etc.). The structure of information technology market in Poland in 2012 is shown in Figure 2.

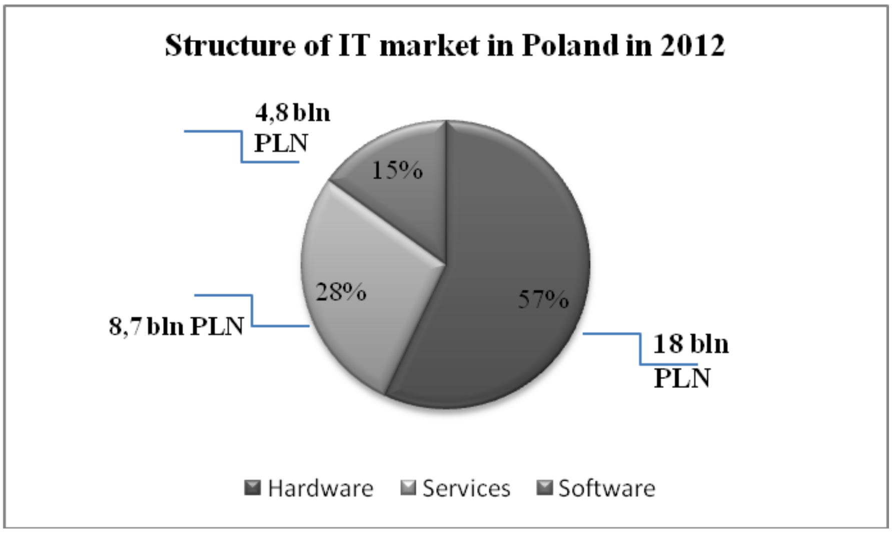

Fig. 2. Structure of IT market in Poland in 2012
Rys. 2. Struktura rynku IT w Polsce w 2012
Source: author's own study based on [8].

The value of Polish IT market, as one of the fastest growing markets in the Central and Eastern Europe, has been increasing year after year since it had first appeared. In 2009, the value of the IT segment in Poland dropped for the first time after 20 years of success. The market decreased by approximately 9% then. A similar economic downturn was observed on world markets at the same time. The downturn affected the sector of hardware sales the most: comparing to 2008, it lost 19% of the value. One year after the crisis, a clear improvement of economic situation occurred. It is clear from Figure 3 that the value of IT market (in billion of PLN) increased in 2010 by approx. 6% with regard to the previous year, and amounted to nearly PLN 26 billion.

3. Current condition of the IT market in Poland

The Top200 report presented in 2013 by Computerworld shows that the situation of IT industry in Poland has been improving since 2010; the value of that sector is still growing and new companies are emerging within it. Moreover, it should be emphasized that in the Central and Eastern Europe the market is developing twice as fast as the economy in general, and in Poland the dynamics of changes is even greater. The share of IT sector in Polish GDP is 4%. Figure 3 presents the comparison of the dynamics of the GDP changes and the dynamics of the changes of IT market value in Poland in 2002-2013. The value of Polish IT sector is growing much faster than that of the economy in general [1].

Thanks to that, Poland is perceived as a country of high information technologies, which should invest in the IT industry and concentrate on this area. There are some successful companies on Polish IT market, which are also developing very quickly on foreign markets. Currently, this market is the second biggest IT market in the Central and Eastern Europe (with the Russian one on the first position). Analysts predict that until 2015, Poland will become the sector leader in this part of Europe [4].

The situation of the IT sector is determined by particular industries of Polish economy. Public sector expenditure is of key importance for the condition of the IT market. In 2013, public sector contracts were signed on the total amount of PLN 3,1 billion (for the 200 largest orders). The biggest client in the field of IT services and products was the Social Insurance Institution. Large IT contracts were also received from the health sector, the Ministry of Defence and Ministry of Education. The largest supplier of IT products and services for the public sector and the health sector was Asseco Poland SA.

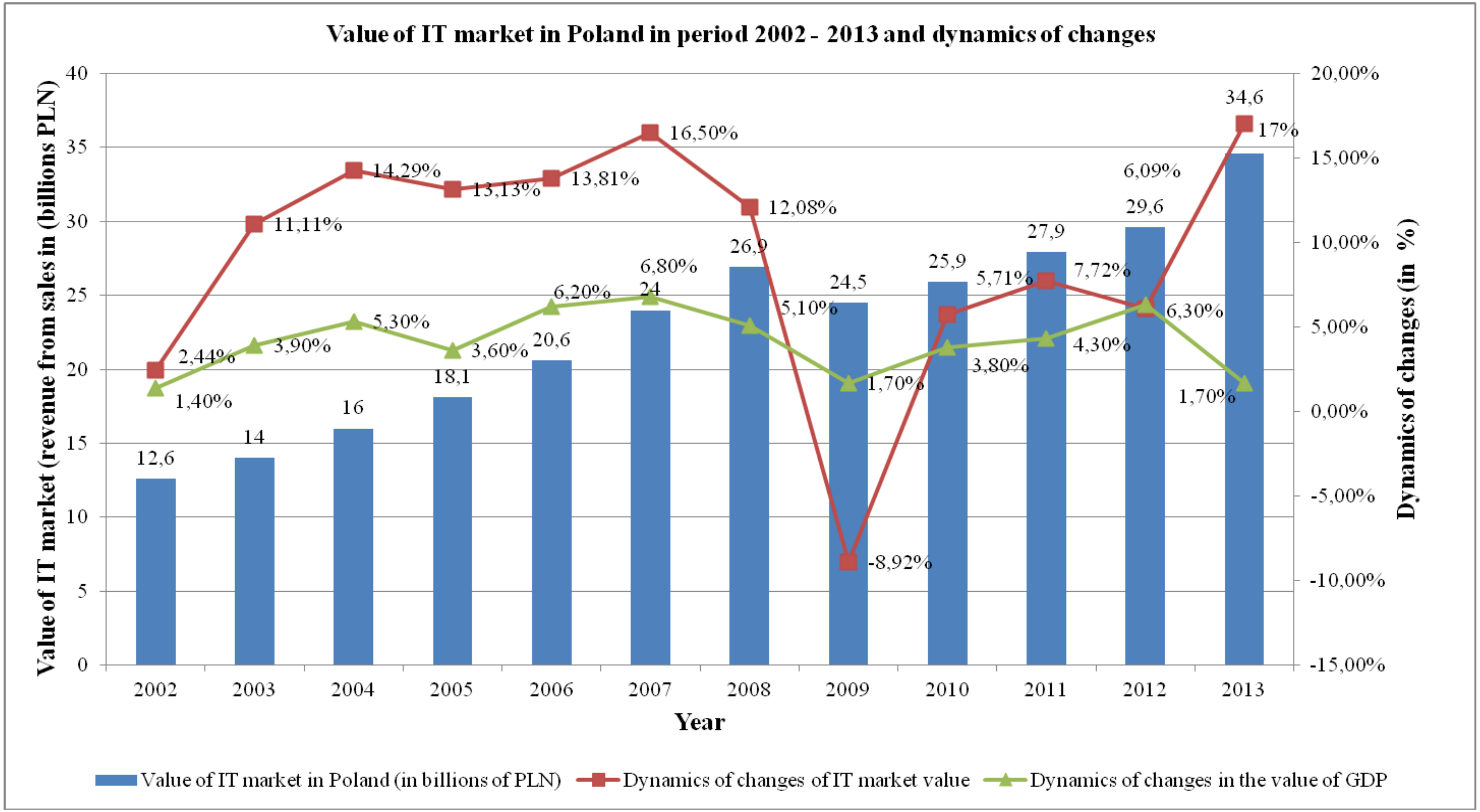

Fig. 3. Comparison of the dynamics of changes in the value of GDP and the value of the IT market
Rys. 3. Porównanie dynamiki zmian PKB i dynamiki zmian wartości rynku IT
Source: author's own study based on [2].

Table 1 presents the biggest suppliers of solutions and services for various sectors in 2012 [1].

Table 1

The biggest suppliers of solutions and services for various sectors in 2012

Sector	Company	Revenue from sector (in mln PLN)	Revenue from IT (in mln PLN)
Finance	Incom	590,247	908,072
Banking	Blue Media	435,491	512,342
Commerce	Wincor Mixdorf	200,521	334,202
Electricity power	Oracle Polska	80,520	671
Utilities	Oracle Polska	40,260	671
Media	Oracle Polska	13,420	671
Industry and construction	Capgemini Polska	113,490	378,3
Education and R&D	Integrated Solutions	41,580	154
Health care	Asseco Poland	92,318	1 318,828
Freight, transportation and logistics	PKP Informatyka	115,150	122,50
Public administration	Asseco Poland	487,966	1 318,828
SMEs	Incom	862,668	908,072

Source: author's own study based on [1].

In 2012, the biggest suppliers of solutions and services were: Incom (for the finance and SME sectors), Wincor Nixdorf (for the commerce sector), Oracle Polska (for the power, utilities and media sectors), Capgemini Polska (for the industry and construction sectors), Integrated Solutions (for the education and R&D sectors), Asseco Poland (for the health care and public administration sectors), PKP Informatyka (for the transportation, freight forwarding and logistics sectors) [1].

Table 2 presents 10 biggest IT companies operating in the Polish IT market in 2012. The ranking was based on the value of revenues from sales of IT products and services.

Table 2

Ten biggest IT companies in Poland in 2012

	Company	Sales from IT products and services (in mln PLN)	Changes in % (with regard to 2011)
1.	ABC Data	3 632,123	23
2.	ACTION S.A.	3 494,349	27
3.	HP Polska	3 253,870	7
4.	AB S.A.	3 018,039	20
5.	IBM Polska	1 389,885	5
6.	Asseco Poland	1 318,828	0
7.	Komputronik	1 171,586	25
8.	Microsoft Poland	1 150	-12
9.	Dell Polska	1 063,648	7
10.	Incom	908,072	-11

Source: author's own study based on [2].

The biggest IT company operating in Poland in 2012 was ABC Data, one of the leaders of IT hardware distribution in Poland, whose revenues from the sales of IT products and services were over PLN 3,63 billion, a result better by 23% than that of the year 2011.

4. Software market

The software segment has been for many years the smallest part of the total IT market in Poland. In 2012, the value of the software sector was 4,8 billion PLN and only accounted for 15% of the whole Polish IT industry.

Table 3

The largest package software suppliers in Poland in 2012

	Company	**Revenues from the sales of package software (in mln PLN)**	**Changes in % (with regard to 2011)**
1.	Microsoft	805	-38
2.	IBM	555,954	82
3.	Oracle	503,250	7
4.	SAP	369,750	5
5.	Comarch	240,037	71
6.	Cisco	222	-
7.	CD	159,534	22
8.	ABC Data	145,285	-
9.	AB S.A.	120,722	20
10.	HP Polska	97,616	7

Source: author's own study based on [2].

Table 3 presents the revenues from the sales of package software of 10 best Polish IT companies. In 2012, the largest supplier of package software in Poland was Microsoft, which – despite the sales drop by 38% – had the revenues of PLN 800 million. Microsoft is the manufacturer of business software: educational software, office packages (Microsoft Office, Office 365), solutions for the health care sector, analytical and BI systems (Microsoft SQL Server Platform), CRM and marketing support systems (Microsoft Dynamics CRM), project management systems (Microsoft Project), ERP/MRPII systems (Microsoft Dynamics ERP), HR systems (Microsoft Dynamics AX), WMS systems and warehouse management systems (Microsoft Dynamics). The company is also the manufacturer of the world's most popular operating system, Windows.

The summary presented in the Table 3 does not include Asseco Poland – the biggest company in Poland as far as net income is concerned. However, in 2012 Asseco ranked first in the segment of custom software and the segment of technical service, with the revenues of PLN 322,06 and 483,08 billion, respectively. Asseco is the biggest IT company listed at the Warsaw Stock Exchange with WIG20 index, specializing in the manufacture and development of software. The company also creates and implements centralized, comprehensive IT systems for the majority of economy sectors, e.g. banking, insurance, public administration, power industry, telecommunications, health care, local self-governments, agriculture, uniformed services and international institutions such as NATO, as well as large enterprises sector [9]. The biggest contract of Asseco Poland – information system KSI built for ZUS, has allowed to earn more than 200 million of PLN in 2012. This value is more than two thirds of the whole company's revenue from custom software in 2012. This demonstrates the great importance of single, valuable orders from public entities.

The biggest segment on the Polish software market is ERP systems. In Poland, the greatest supplier of ERP systems is SAP – an international IT company established in 1972, with the seat in Germany. According to IDC analyses, this company is the manufacturer of approx. 40% of management support systems used in Polish companies. Besides, SAP is the leader in all three main classes of business software: ERP, BI and CRM. The second largest supplier of integrated management support systems (ERP software) in 2012 was the Cracow company, Comarch, whose revenues in that sector amounted to PLN 100 million.

The situation in the ERP software segment has been difficult over the last years, so companies are looking for new solutions which would allow for an increase in sales. The segment based on cloud computing is quickly developing. However, small and medium-sized enterprises (the SME sector) rarely implement ICT management support solutions. The main reason for that is the high purchase cost of software improving management (ERP, CRM, BI) and expensive upgrades. The loss of interest in the implementation of integrated management systems on the part of enterprises does not mean, obviously, that their needs concerning the modernization of IT base are decreasing. New management solutions – systems based on the SaaS (*Software-as-a-Service*) model – are becoming available on the market. This is an example of the so-called computing cloud, whose nature is based on providing users with the newest IT technologies, applications and software via the Internet, without the necessary implementation and knowledge of the technical base. Such solutions, more and more often offered as services, are provided among others by Microsoft, IBM, Oracle, SAP and Comarch. Research by an analytical company IDC shows that the IT expenses of enterprises which move their applications to the computing cloud are only about half the value of the expenses incurred by companies which use standard software, although the costs of long-term SaaS licence and the implementation of traditional software are comparable. Easy upgrade of such software more and more often makes it the basis of the IT strategies of innovative enterprises.

It is worth reminding here that in 2012 the value of the software market accounted for 15% of the whole Polish IT industry and amounted to PLN 4,8 billion (Fig. 2). The data presented in Table 3 show that the first four positions among the largest manufacturers of package software are taken by foreign companies: Microsoft, IBM Polska, Oracle Polska and SAP Polska (Table 3). In 2012 the combined revenues of these companies from the sales of package software amounted to 2,2 billion of PLN, which constituted approximately 45% of the total value of Polish software segment. Thus, nearly half of the value of Polish software market goes to the four foreign companies.

Comparing to international IT companies operating in Poland, the share of Polish enterprises in the IT market is still quite small. In 2012, the market share of Asseco Poland, the biggest domestic IT company, was over two times lower than that of HP Polska. The share of Asseco Poland in Polish IT market was only about 5% in 2012 [9].

5. Summary

The “Global Competitiveness Report 2012-2013”, issued by the World Economic Forum shows that Poland belongs to 21 countries undergoing the transformation from the economy based on the effectiveness of production system to one based on innovation [5]. The development of new technologies and the increasing innovativeness of Polish economy are currently possible thanks to the constantly growing value of the IT industry. Over the last 3 years, this sector has had 7 per cent growth indices, and before the 2009 crisis, the dynamics of the changes had even been double-digit [6]. The development of the IT sector in Poland is closely correlated with the general economic condition of the country. Active involvement in the international market of new technologies is the opportunity for retaining the growth of GDP values [6]. After the system and economic transformation (started in Poland in 1989), there was a period of dynamic economic growth based on fundamental pro-market reforms, such as economic freedom, stabilizing the value of money, opening to the word.

The accession to the European Union in 2004 was also a driving force of economic growth in Poland [6].

The IT sector is a very competitive market, characterised by quick growth of innovation and technological advancement. Therefore, it is upbuilding that entrepreneurs perceive the need of increasing innovativeness and new technologies development in Polish economy. The IT segment in Poland has had good, stable growth indices in the recent years, thus strengthening its position of the driving force of the domestic economy. What is significant in that respect is the fact that Poland has many highly qualified IT specialists, whose potential allows for following the global trends and establishing the leading position in this part of Europe.

The results of the conducted survey confirmed the research hypothesis that the condition of software companies in the information technology market in Poland is not stable. The economic situation of them depend mostly on the information systems developed for public sector and state institutions. Polish software manufacturers do not have their own, worldwide known products. Moreover, they should provide the products and services mostly to business, not to public sector. Keeping the good position of Polish IT in Europe and the growing value of the IT market in Poland should be one of the key priorities both for the state administration and for Polish entrepreneurs as well. Polish software and IT services can be our economic strength, and Polish IT specialists should be appreciated, not only as the winners of world IT contests but as business partners too.

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Omówienie

Analizie poddano rynek informatyczny w Polsce, w tym przede wszystkim najmniejszy jego segment − rynek oprogramowania. Pokazano, że sytuacja gospodarcza branży IT w Polsce z roku na rok się poprawia oraz identyfikowane są nowe rynki. Jednak wciąż powodzenie funkcjonowania polskich firm IT uwarunkowane jest otrzymywanymi przez nie kontraktami na informatyzację państwowych instytucji. Ponadto, udział krajowych przedsiębiorstw budujących oprogramowanie w całym rynku jest znikomy. Cztery pierwsze miejsca wśród największych dostawców oprogramowania własnego zajmują przedsiębiorstwa zagraniczne. Stanowią oni konkurencję dla rodzimych firm, jednakże ich potencjał, innowacyjne produkty oraz kapitał społeczny pracowników są siłą napędową polskiej gospodarki oraz powodują, że wartość rynku IT w Polsce rośnie i staje się on bardziej konkurencyjny.