

PhD Jan Žukovskis¹

Aleksandras Stulginskis University

PhD Paula Pyplacz²

Czestochowa University of Technology

PhD Janusz Sasak³

Institute of Public Affairs of the Jagiellonian University

The strategy of innovation development of family businesses in the context of the information and communication technologies (ICT)

Strategie innowacyjnego wsparcia firm rodzinnych w kontekście technologii komputerowych

Abstract: The paper presents innovation issues of family businesses. In the context of computer technology defined conditions for innovative small businesses. The authors presented solutions for efficient implementation of innovative computing solutions, enhancing family businesses.

Keywords: family businesses, information and communication technologies

Streszczenie: W artykule przedstawiono problematykę wdrażania innowacyjnych strategii w firmach rodzinnych. W kontekście wykorzystania komputerowych technologii informacyjno-komunikacyjnych zaprezentowano modele zastosowań współczesnych systemów informatycznych w firmach rodzinnych. Zaproponowano rozwiązania pozwalające na sprawne wdrażanie rozwiązań komputerowych podnoszących innowacyjność firm rodzinnych.

Słowa kluczowe: firmy rodzinne, technologie informacyjne i komputerowe

Introduction

Robert D. Hof wrote in 'Business Week' weekly in 2010: 'We doubt everything we knew about the business world.' His opinion is not individual at all. Such terms as: telecommuting, portal, viral marketing, globalization, network effect, e-trading, virtual corporation and Moor's law have permanently entered the business dictionary⁴.

¹ Jan Žukovskis: Aleksandras Stulginskis University (Lithuania), r1@i4e.lt.

² Paula Pyplacz, Czestochowa University of Technology Al. Armii Krajowej 19b, 42-200 Czestochowa Poland, paula@zim.pcz.pl.

³ Janusz Sasak, Institute of Public Affairs of the Jagiellonian University, ul. prof. Stanisława Łojasiewicza 4, 30-348 Kraków, Poland, janusz.sasak@uj.edu.pl.

⁴ M. Lebecki, *Encyklopedia Nowej Ekonomii*, artykuł Magazynu Innowacji Marketingowych. <http://www.modernmarketing.pl/index.php?pg=ene>

The ongoing changes cause constant evolving of practical activities as well as theoretical background areas. Hence, the so called 'new economy' has not reached its final shape. The business environment is still being changed which throws down an intellectual challenge and forces us to use modern methods of managing an enterprise. It is believed that new Information and Communication Technologies (ICT) may function as a basis for the new, evolving economy. Although tele-informatic aspects serve a minor management function, it is hard to imagine all companies functioning without them. Implementing ICT solutions in their broadest sense, supports and increases the effectiveness of the business world as it accelerates managing procedures, upgrades operations and allows greater information resources.

Family businesses account for a huge part of the Small and Medium Enterprises (SMEs) sector. Researchers and practitioners have only recently perceived the family as the main factor influencing SMEs functioning. Due to their unique characteristics, small businesses serve an important role in the development of the economy. Unlike major corporations, they have the ability to quickly adapt and react to any demand fluctuations. Moreover, their individualistic approach to customer service makes them competitive and exceptional. Similar dynamics occur among small family owned businesses, which constitute a major part of SMEs.

It is estimated that family owned businesses comprise as much as 90 percent of all businesses in the world and that the Polish economy is mainly based on their performance. The main purpose of this work is to present the role and ICT technology usage by this specific type of organization – family owned businesses. ICT areas as the source of innovative activities will be mostly taken into consideration within this work. The results of surveys carried out among small family companies will also be presented.

Innovation capacity in family owned businesses

Innovation capacity is an immeasurable, difficult to appraise sphere of business performance. It is connected with corporate identity, its everyday operational activities and all sections' cooperation. It is reflected in the strategy of innovative development, in the specified company's mission and in its strategic goals. Appraising a company's innovation capacity needs to be multilateral and systemic. While analyzing, all workers daily performance and their actions taken for the benefit of the company as well as its cooperation with other entities must be taken into consideration. All previously mentioned factors create comprehensive, market innovative system.

Innovation itself must be effectively prepared, implemented and perceived comprehensively in order to bring measurable benefits. All company workers and entities cooperating with it have to be engaged in innovation activities. The participation of both groups depend on their knowledge and skills concerning a proper activity. Innovation has to be construed as a system proceeding variously, depending on company characteristics, its business area, its size, type of innova-

tion, number of people engaged, the level of their knowledge, financial resources involved and expected effects⁵.

Opinions, however, are sometimes divided at the innovation aspects of family owned businesses. Andres Colli compares two models – dynastic and open. In the first type, family is mainly focused on devolving its management to the future generation. That makes the firm rely on the level of innovation referring to the times of its beginnings. The second one enables non- family-related management staff to be hired. Thus, the so called open companies are considered to be more dynamic and innovative (IX Kongres Ekonomistów).

Both of the previously mentioned company types find their reflection at the market. The problem, however, often arises at the level of the owners' awareness, and is not connected with any financial conditions. Should they change their needs in the area of searching and implementing innovations, 'the innovative management approach' will hardly be achieved, extinguishing innovation capacity.

Investment execution is a starting point in innovative activities. Investments are now optimistically given adequate consideration in family companies' future business plans. As many as three quarters of firms (74% of Polish and 75% of European) prearrange investments. Only a couple of per cent (7% of Polish and 3% of European) declare withdrawing from the investment. Family businesses might perform more extensively in the future and, therefore, gain greater significance as suggested by investment plans prevalence. What is worth mentioning, Polish investment plans mainly abound in core business investments as approved by 81% of companies.

Market requirements, especially customers', also influence the level of Polish SMEs innovations. The more demanding a client, or a difficult and changing market, the bigger the number of innovation implementations. Using the 'pull' strategy is often a real reason for implementing innovations, since customers' needs and market demands compel innovation activities. It is the client and their needs and requirements that represent the lifeblood of innovations in many family firms, especially procedural and organizational ones. Family businesses agreeably consider customer acquisition their biggest asset. Such an opinion is shared by 54% of Polish companies and 56% of European companies. Another merit considered a top priority mentioned by Polish firms is customer service (51%), shared values and good practice (41%) and quick, flexible decision making (39%). Innovations are therefore believed to be an opportunity for enhancing strengths, personal ambitious dreams and ideas realization, effective competition and increasing the company's value.

Information technologies in a modern family business

The level of innovation, especially within the information and communication area, is strongly determined by general access to data and the fact of living in an information society. ICT spread has permanently changed the way enterprises communicate between one another, gain information, purchase goods and

⁵ K. Wójcik, T. Sierotowicz, *Potencjał innowacyjny organizacji jako determinant konkurencyjności*, <http://mikro.univ.szczecin.pl/gif/zke/4/abstrakty.pdf>, p. 59, p. 62.

services and fulfill their business goals. Technological development tends to be a time consuming process requiring constant financial support. Yet, its effects are seen just at the final stage of this process. Implementing innovations should therefore be a systematic, constantly improved company activity integrated with the company's development strategy. New technologies are to be implemented as a result of informed decisions prior to financial constraint connected with the danger of bankruptcy⁶. Using ICT in business activities influence the way they perform.

Small family companies appear to use available ICT solutions at different standards. It seems necessary to support a company with various information technologies ranging from the Internet up to integrated measures. Referring to the research conducted, the access to communication infrastructure, particularly to the Internet and computer equipment assessment in family enterprises is common (72%). Still, 19% of respondents take account of so little, whereas 9% of them do not even have access to the Internet while working. The majority of respondents claimed that computer equipment at their workplace is at a good level or a very good one. The determinants of the actual usage of information technologies have also been indicated by the respondents. They pointed to the nature of the duties performed as a key factor (83%). The following place is taken by the position held (52%). On the other hand, 77% of the participants involved in the survey admitted that using information technologies is determined by tasks completion dates.

ICT may have a wide scope of application, though, it has to be tailored to specific needs. Since small companies do not aim for highly advanced solutions, as much as 80% of the respondents claimed that information technologies are only useful for internal communication among co-workers and management staff. 46% of participants considered electronic support for documents as necessary, whereas 68% of them are currently using technology for their work graphical presentation, and 72% of them for communication with customers.

ICT capabilities have widely developed within the past years and that enables entrepreneurs to benefit from them. That seems to be of crucial importance for small family businesses which were previously beyond the reach of these possibilities. Such ICT solutions give small companies a room for action so that they may gain a competitive advantage in their field or even compete with bigger entities. As shown in a direct interview, respondents consider the information and data transfer rate as key benefit of using information technologies. Exchanging information (communication) between geographically distant enterprises therefore appears to be a significant factor as it may be performed on a real time basis. Thus, ICT allows access to information regardless of its storing place and staff location. According to the respondents, the possibility of managing data resources (which, for example, may be accomplished with the use of an expert system or data mining methods) is believed to be one of the greatest advantages. Hence, access to required knowledge, often expertise, is possible in a very short time. What is also remarkable is the fact that workers using gained

⁶ M. Brzeziński, K. Czop, Potencjał przedsiębiorstwa, [w:] *Wprowadzenie do nauki o przedsiębiorstwie*, Difin, Warszawa 2007, p. 102.

information perform at a higher level which is reflected in the quality of their actions. It has been claimed that a company engaged in information management may succeed in achieving a competitive advantage due to more effective activities, higher productivity, service quality and may also reduce the costs. There have also been more benefits mentioned by the participants⁷.

- creating new design resources and organizational structures, especially network ones;
- building new customer-supplier relations who exchange information via computer network;
- tracking the process of business actions in an easy way (for example controlling purchase information – reasonable purchases, expenditure control);
- e-trading development, existing in the global market;
- service and production efficiency enhancement mainly via Enterprise Resource Planning (ERP) and Electronic Data Interchange (EDI) systems;
- providing mechanisms for work coordination and acquisition of knowledge for an intelligent organization like data warehousing, Business Intelligence (BI), Online Analytical Processing (OLAP), data mining;
- internal documents electronic transfer.

Implementing ICT solutions

Implementing ICT solutions in small family businesses is regarded as innovation actions, though often performed within a unit itself. Organizational and process innovations are mainly taken into account while speaking of ICT. According to the Oslo Manual textbook, process innovations are those introduced within a process. The term also applies to implementing a brand new or significantly upgraded method of production or supply. This category includes a meaningful technology, devices and/or software changes as well as remarkably improved service methods⁸ (Podręcznik Oslo, p. 50-53). Process innovation also means all new technologies implemented for enhancing the quality of practices and therefore reaching for a new service method.

Organizational innovations, on the other hand, mean the implementation of a new organizational method in business practices undertaking, workplace organization or external relations. They include new procedures, a new way of workplace organization, external relations, new task division methods, decision making powers and new types of cooperation⁹. A modified platform implemented at a company's operational basis is also an organizational type of innovation. It covers the usage of new software in order to stimulate exchanging knowledge between the company and the outside.

The above mentioned examples often occur among small family firms. However, the range of opportunities seems to be prominent, especially if we perceive innovations at an organizational level. Micro and small family enterpris-

⁷ C.M. Olszak, *Wyzwania ery wiedzy*, [w:] *Strategie i modele gospodarki elektronicznej*, PWN Warszawa 2007, p. 33.

⁸ Podręcznik Oslo, *Zasady gromadzenia i interpretacji danych dotyczących innowacji*, wydanie trzecie, wspólna publikacja OECD i Eurostatu, p. 50-53.

⁹ Ibidem.

es do not usually invest in highly advanced solutions, the Internet, however, plays a key role for them. It enables them to get a fresh perspective on the way the business is run, allowing them to introduce some modern technological solutions. The importance of the Internet may be classified as follows¹⁰.

- improving the efficiency of already existing enterprises
- reducing operational and agency costs
- economies of scale attaining
- a chance to start new businesses
- existing niche market companies

The Internet is believed to provide the business world with a variety of marketing opportunities, often neglected by small companies. The main advantages are as follows¹¹:

- 24-hour access to the network available from any place in the world (computer and other mobile devices are necessary to use the network)
- inexpensive and efficient way of reaching out to customers in comparison to other means of communication
- large information storage- the ability to store detailed information
- the ability to update the shared information in a fast and efficient way which, in turn, allows companies to quickly access the network users
- creating a modern image of the company
- an easy way to assess the marketing effectiveness
- the lack of legal restrictions occurring in other media
- creating opportunities to use various ways of affecting customers
- accessing large demographic populations
- the ability to interact with customers – ‘pull’ type strategy
- the ability to make selective choices of information storage.

Intranet is one of the main internal communication tools connecting computer units within all company departments. It contains crucial documents, regulations, instructions, procedures, organizational issues and various additional tools available. Using co-workers’ computers, making phone calls or meeting in person is therefore unnecessary. All useful information may be transferred to each worker’s individual account so that they can perform their duties. Intranet helps save time and enables an easy, reliable and transparent document and information flow. As information is identical any misunderstandings may be avoided. Consequently, introducing intranet seems to be important since it ensures standards and procedures identity.

The market place offers a variety of free applications, often used by small family companies. Nevertheless, it is important to remember that these issues support only the general aspects of company functioning. In order to support other areas of company management (such as finances and accounting, staff and payroll, production, customer service and human resources) it is necessary to consider specialized systems. In the case of small and medium sized enterprises the previously mentioned systems are often separate units. The survey

¹⁰ B. Gregor, *Internet – nowy wymiar działalności organizacji*, e-Commerce, Łódź 2002, p. 68.

¹¹ J. Adamczyk, M. Gębarowski, M. Kandefer, *Internet na usługach marketingu*, Politechnika Rzeszowska, Rzeszów 2004, p. 12.

revealed the most often used solutions supporting company management. The majority of answers (92%) were related to finances and accounting systems. 61% of answers discussed units supporting warehousing, 22% of answers concerned using an ERP system (also known as a small ERP). Note that the majority of companies apply these systems only in selected areas.

The good news is that SMEs sector entrepreneurs realize the importance of innovations in these areas more frequently. The availability of computers and the Internet in businesses has a positive impact on the usage of IT.

Summary

The survey implemented by Planning and Review Process (PARP) indicated that enterprises that introduced innovations increased their prosperity chances in a competitive environment. More importantly, these companies gained greater profits than those companies which did not apply any innovations.

In the area of increasing innovation capacity, information technologies are of crucial importance. Nevertheless, investing in computer equipment and Internet website is only a tool which needs to be properly applied in order to bring benefits. Upon analyzing the benefits of implementing ICT, it is important to consider (next to hard evidence) internal, everyday company functioning as well as its cooperation with other entities. These two units are therefore believed to be a complete innovation system. Long term longitudinal observations of internal innovation capacity, along with IT usage analysis in the area of accessing external sources of innovation, provide a meaningful indication within this area.

Small, Polish family owned businesses offer a relatively inexpensive workforce and can easily fulfill the market niche rather than provide product quality and innovation. Overall, companies which will not generate new products and processes, will cease to exist. Thus, competitors will take advantage of the situation and produce goods at lower costs, using modern technology. Hence, companies existing in such a dynamic and technically advanced environment must incorporate an offensive innovation in order to avoid being perceived as defensive innovators or imitators¹².

Bibliography

- Adamczyk J., Gębarowski M., Kandefer M., *Internet na usługach marketingu*, Politechnika Rzeszowska, Rzeszów 2004.
- Brzeziński M., Czop K., *Potencjał przedsiębiorstwa*, [w:] *Wprowadzenie do nauki o przedsiębiorstwie*, Difin, Warszawa 2007.
- Gregor B., *Internet – nowy wymiar działalności organizacji*, e-Commerce, Łódź 2002.
- IX Kongres Ekonomistów <http://www.pte.pl/kongres/referaty/Baczko%20Tadeusz,%20Chaberski%20Artur/Chaberski%20Artur%20%20INNOWACYJNO%20C5%9A%20FIRM%20RODZINNYCH.pdf>

¹² P. Pyplacz, *Innowacyjność małych przedsiębiorstw jako czynnik kształtujący ich konkurencyjność. IT w organizacjach gospodarczych. Wybrane zagadnienia*, Wydawnictwo „Dom Organizatora”, Poznań 2010, p. 245-252.

- Lebecki M., *Encyklopedia Nowej Ekonomii*, artykuł Magazynu Innowacji Marketingowych. <http://www.modernmarketing.pl/index.php?pg=ene>
- Olszak C.M., *Wyzwania ery wiedzy*, [w:] *Strategie i modele gospodarki elektronicznej*, PWN, Warszawa 2007.
- Podręcznik Oslo, *Zasady gromadzenia i interpretacji danych dotyczących innowacji*, Wydanie trzecie, Wspólna publikacja OECD i Eurostatu.
- Pyplacz P., *Innowacyjność małych przedsiębiorstw jako czynnik kształtujący ich konkurencyjność. IT w organizacjach gospodarczych. Wybrane zagadnienia*, wydawnictwo „Dom Organizatora”, Poznań 2010.
- <http://badania.parp.gov.pl/raport-innowacyjnosc/raporty-innowacyjnosc>
- Wójcik K., Sierotowicz T., *Potencjał innowacyjny organizacji jako determinant konkurencyjności*, <http://mikro.univ.szczecin.pl/gif/zke/4/abstrakty.pdf>