

Chapter 2

Justyna Patalas-Maliszewska¹, Irene Krebs²

A “MODEL 2.0” SUCCESS FACTOR FOR THE DEVELOPMENT OF MANUFACTURING ENTERPRISES

Abstract: A success Factor for the maintaining of de facto standards is not well known. Additional value for companies can be gained by an effective use of information and/or knowledge management tools. Enterprises with integrated IT systems/tools also gain a further advantage in relation to the company because it enables them to have an insight into every aspect of their operation with a precise and correct evaluation of the company's financial situation. Knowledge management tools that are used in enterprises must be continuously enhanced and adapted to ever changing business needs and priorities. This paper presents a concept of a Model 2.0 for the Development of Manufacturing Enterprises. We consider how such challenges, through the use of knowledge management tools, can be met in the context of firm's success. The empirical database consists of 25 Polish Manufacturing Companies which use knowledge management tools.

Key words: knowledge management tools, Model 2.0, manufacturing enterprises

2.1. Introduction

The competitive advantage of manufacturing companies is mostly dependent on the knowledge potential. We argue with Gupta et al, (GUPTA S. 2009), that today's competitive environment calls for organizations to focus on their core capabilities. Knowledge is a broad concept, embracing both the knowledge formalized (explicit) and non-formal knowledge (tacit). Tacit knowledge is gradually transformed into

¹ Ph. D., D.Sc., University of Zielona Góra/Poland, e-mail: j.patalas@iizp.uz.zgora.pl

² Prof., Brandenburg University of Technology Cottbus, e-mail: krebs@iit.tu-cottbus.de

codified and explicit knowledge (NONAKA I. and TAKEUCHI H. 1995) by using the information techniques, because the more explicit the knowledge is, the more the organization can easily transfer the knowledge. Looking at the relationship between data, information, management information and knowledge (SENN J.A. 1990) we argue with Senn, that knowledge can be defined as the strategic resources of a company. Use of the information systems, that support knowledge management in the manufacturing companies, can be for the companies as a guarantee to have a constant competitive advantage on the market. Knowledge management with the exploitation of available technology will undoubtedly reduce the risk of erroneous decisions in enterprises.

We agree with Mujadi (MUJADI H. et al. 2006) that knowledge management has evolved from traditional information system implementations (monolithic, centralized and controlled) to implementations based on collaborative sharing. The connection of resources within a company and/or of many co-operating enterprises makes it possible to concentrate on the key skills (competences) of the company (Patalas-Maliszewska J. and Krebs I. 2010). In this paper, we aim to investigate the role of use, relative advantage and compatibility of Web 2.0 technologies in explaining the intensity of their usage.

With new generations of firms adopting various Web 2.0 technologies, it is worth asking if there is a relationship between firm performance and the adoption of Web 2.0 technologies. Therefore, the purpose of this article is to study if a relationship exists between these two variables.

This article is organized into four sections. The first section reviews strategic knowledge management and generally Web 2.0 concepts. The second section reports the methods employed; the relationship was tested on a sample of 25 Polish manufacturing companies. The third section presents the findings of the research. The final section discusses the findings and suggests future lines of research.

2.2. Theoretical Background

Knowledge management plays a big role in the implementation of corporate strategy, increasing the speed of decision-making process. The companies see the need to reduce the risk and begin to take action to implement and develop knowledge management systems. The success of the enterprise will depend on the level of development of techniques and methods for communicating information and transform it into knowledge

Levy (LEVY M. 2009) studied whether a better assimilation of knowledge management can exist when it is facilitated by the Web 2.0 phenomenon. O'Reilly (O'REILLY T. 2005) stated that the key features of Web 2.0 technologies are participation, sharing, collaboration and communication and also summarized Web 2.0 as an architecture of participation where users become producers of content, data sources can be mixed up, and lightweight services from the Web can substitute traditional installed software on desktop PCs.

Wikis, Weblogs, Social Networking Services have been quite successful as knowledge management tools within enterprises in the last few years. We agree with Wagner (WAGNER C. 2006), that knowledge management tools, including wikis, may help to widen the bottleneck of knowledge acquisition. Koch (KOCH M. 2008) assumed, that the emergence of social software – including wikis, blogs, and social networking services is a major step in the right direction.

Zhang et al. (ZHANG C. et al. 2008) found a positive relationship between IT and financial performance of export-focused SMEs in China. Additionally, Simon (SIMION H.A. 1960) suggested that the use of information technology can improve organizational efficiency.

Li and Stromberg (LI C. and STROMBERG C. 2007) discovered that the benefits of blogs for firms are search engine optimisation; e-word-of-mouth (eWOM); improved brand perception and visibility; instantaneous client feedback; market research and insight; increased sales efficiency; and a reduced impact from negative user-generated content. Web 2.0 platforms are emerging as a viable channel of knowledge building for

general and discipline-specific communities (KANE G.C. and FICHMAN R.G. 2009).

So, we aim to illustrate the impact of the usage of collaboration tools, such as social software, on the performance of a firm.

2.3. Measures and Methods

The objective of this study was to investigate how the use of Web 2.0 technologies: social software can influence firm performance in Polish manufacturing companies. The survey used for testing the research model was developed by defining scales to fit the context of various knowledge variables. A three-point scale was used for all survey items, ranging from: “disagree” (one point), “agree” (two points), “strongly agree” (three points). The data for this study were collected from 25 Polish manufacturing companies (see Table 2.1):

Table 2.1. Profile of companies and respondents

	Items	Frequency (N=25)
Industry	Construction	12 (48%)
	Automotive	8 (32%)
	Others	5 (20%)
Department of the company in which the respondent works	Manager	20 (80%)
	Research and Development	2 (8%)
	Marketing and sales	3 (12%)
	Others	0 (0%)

Source: own elaboration

The survey was conducted in April 2013 through the use of direct interviews with respondents.

2.4. Research results

Factors of firm performance in the manufacturing companies under study were based on feedback surveys. The use of Web 2.0 technologies: social software in the enterprise: The degree of the use of social software by which one employee can collaborate with the knowledge and skills of another:

- 1. I use social media in my organization infrequently.
- 2. I use social media in my organization frequently.
- 3. I use social media in my organization very frequently.

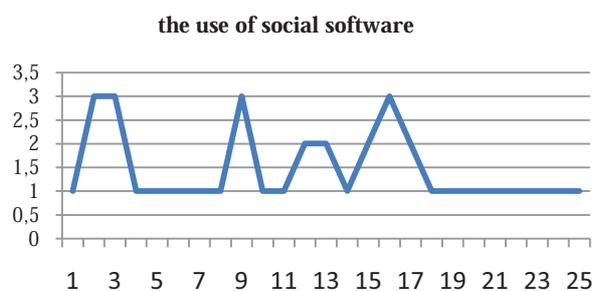


Fig. 2.4.1 The use of social software in Polish manufacturing companies.

Source: own elaboration.

And firm performance: how satisfied are you with the performance of your company with respect to receiving knowledge.

- 1. I know that in my organization the use of social software is not very important for the performance of my firm.
- 2. I know that in my organization the use of social software is quite important for the performance of my firm.
- 3. I know that in my organization the use of social software is very important for the performance of my firm.

The knowledge was developed by defining scales to fit the context of various knowledge variables. A average form three-point scale form knowledge: knowledge about market, knowledge about client knowledge about supplier, knowledge about competitors, knowledge about products, knowledge about new technologies was used for all survey items.

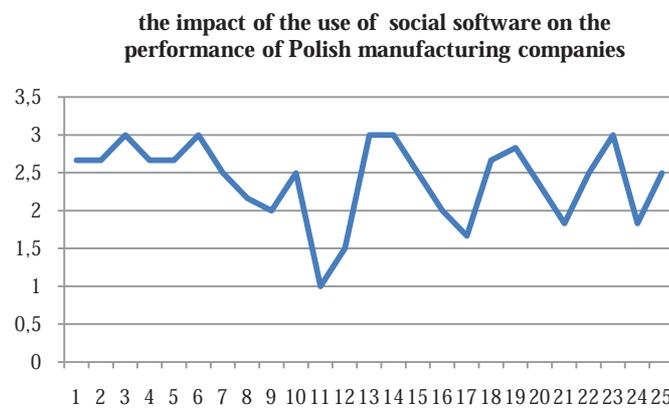


Fig. 2.4.2 The impact of the use of social software on the performance of Polish manufacturing companies.

Source: own elaboration.

The use of Web 2.0 technologies: Social Networking Services in Polish manufacturing companies assess the relationship that these technologies have with business performance. Our research posits from the preceding argument, that the use of Social Networking Services in Polish manufacturing enterprises have a positive influence upon a defined performance in these firms.

So, to determine the nature of this significant interaction, the study plots the effect (see Fig. 2.4.3): the performance of Polish manufacturing companies = 2.4831 - 0.0562 as a result of using Social Networking Services. Unfortunately, according to these results, the performance of Polish manufacturing companies clearly decreases with the social media

using in Polish manufacturing companies. This finding offers no support our research foundation.

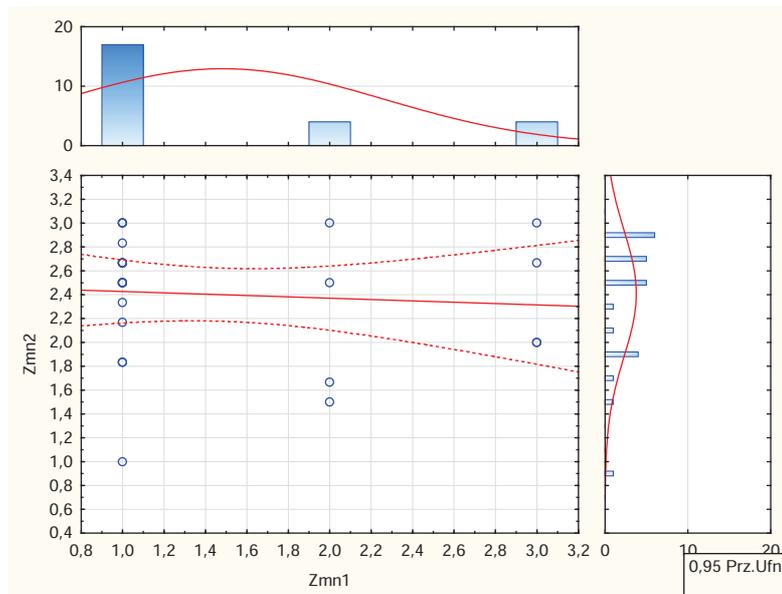


Fig. 2.4.3 Interactions involving the use of social media and the performance of Polish manufacturing companies.

Source: own elaboration.

So, it was found, based on the empirical research, that the use of social media decreases the performance of Polish manufacturing companies. It is therefore clear that discerning the type of knowledge sharing involved can significantly deepen our understanding of the contingent effect that such sharing has on company performance. Moreover, this study suggests that it may not be the best idea to implement social media that facilitate the sharing of tacit knowledge, because they could decrease company performance.

2.5. Conclusion

The success of an enterprise is decided by its ability to develop and/or implement IT technologies within a specified time. Knowledge, management vectored mainly through IT technologies, can enhance the effectiveness of internal business processes in enterprises as compared to those processes which are carried out without these technologies. Enterprises with integrated IT systems/tools also gain a further advantage in relation to the company because it enables them to have an insight into every aspect of their operation with a precise and correct evaluation of the company's financial situation.

This study was motivated by the actual needs of the managers of Polish manufacturing companies who have a strong desire to improve the performance of the companies in which they work in order to survive through tough competition in a knowledge area.

This study understands the use of Web 2.0 technologies: Social Networking Services in Polish manufacturing companies as an architecture for the firm investments. Our findings, although illustrate that the use of social media can decrease company performance, provide a first step, the understanding of these crucial links needs to be broadened and deepened, since investment in novel technology is of strategic importance to the value creation potential of a firm.

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