

The Evolution of Customer Relationship Management System

Dorota Jelonek

Abstract – Paper presents the evolution of Customer Relationship Management Systems from the classical solutions, through e-CRM systems, to social CRM. The aim of this article is to demonstrate that social CRM systems are an effective support in managing the relationships with customers, especially in the areas of customer information management and customer communication.

Keywords— CRM, e-CRM, s-CRM, customer communication, customer information management

I. INTRODUCTION

Strategies oriented on the customer and strengthening customer relationships allow modern enterprises to get a competitive advantage on the market and make a bigger profit. This means that companies should develop their skills in terms of identification of customer needs and expectations and then provide customers with more and more benefits and satisfaction resulting therefrom. The role of customer is showed in the concepts of co-creating value with customers discussed by Prahalad i Ramaswamy [1], P. Kotler and K. Keller [2], P.F. Drucker [3] and in the concepts of innovation co-creation e.g. open innovations Chesbrough [4], Jelonek [5], collective intelligence Glenn [6] or crowdsourcing Howe [7].

Creation and evolution of customer relationships are a condition for cooperation.

Customer Relationship Management (CRM) is both a business strategy and information system, which will increase the effectiveness of the implementation of the strategy. Enterprises leverage the latest information technology achievements in the development of their long-term relationships with customers [8], [9].

The model and functionality of the CRM system changes with the development of ICT, especially with the development of the internet. Model e-CRM can be as activities to manage customer relationships by using the internet, web browsers or other electronic touch points. The popularity of social media has caused the CRM systems to evolve towards social CRM systems (s-CRM). s-CRM uses social media to develop and sustain interaction between customers and company.

The purpose of this paper is to demonstrate that social CRM systems are an effective support in managing the relationships

D. Jelonek is with the Faculty of Management, Czestochowa University of Technology, Czestochowa, Poland (+48343250846; e-mail: jelonek@zim.pcz.pl).

with customers, especially in the areas of customer information management and customer communication.

The following paragraphs present the essence of CRM systems, e-CRM and s-CRM models as well as the role of s-CRM in customer information management and customer communication.

II. THE ESSENCE AND FUNCTIONS OF CRM SYSTEM

Customer Relationship Management in the literature of the subject is considered as a strategy [10], process [11], philosophy [12], skill [13] or system [14]. Thus, the essence of CRM was well-defined by Greenberg [15]: „CRM (...) is not only technology. It is a strategy and/or a set of business processes. A methodology. It is all of the above or whichever you choose”.

CRM may be defined as the cross-functional integration of processes, people, operations, and marketing capabilities that is enabled through information, technology and applications [16].

Due to the CRM functions it can be divided into three basic types [17]:

- operational CRM,
- analytical CRM,
- collaborative CRM.

Figure 1 shows the model of CRM system that includes operational, analytical and collaborative modules.

Operational CRM, often referred to as front-office CRM, covers most areas of customer - company contact. CRM applications collect, process and store data about customers, so that later this data can be used in analytical CRM [18].

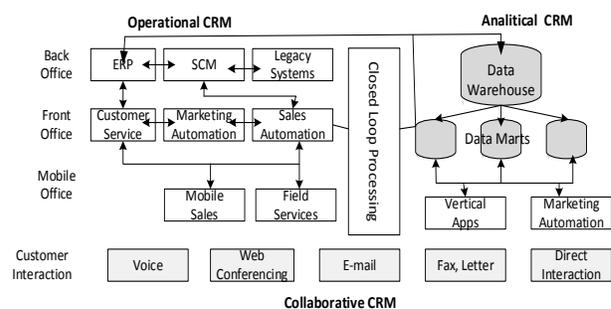


Fig. 1. The model of CRM

Analytical CRM, also known as back-office CRM, uses data from operational CRM and any other sources of data such as transaction systems or enterprise environment. Most of today's CRM vendors develop their own analytical CRM

modules or collaborates with producers of specialized information processing systems of the Business Intelligence type.

Collaborative CRM, also called the interactive CRM, are applications, that support various forms of contact with customers, especially by using modern technologies of electronic communication. The usage of ICT supports the work of employees who contact directly with customers, allowing for partial automation of these contacts.

The usage of internet in business and changes in the virtual environment made it necessary to modify CRM system. Network CRM, referred to as e-CRM, uses internet technologies, and like traditional CRM it implements processes of acquiring, storing and processing information about e-customers as well as sharing them with managers.

The possibilities of e-CRM, in terms of broadly understood customer service, may include [19]: building lasting relationships with e-customers, increasing the level of e-customer satisfaction, boosting sales, identification of those e-customers who generate highest or lowest revenues, minimizing costs of e-customer services, benefits from retail, decreasing costs of customer management, acquiring new e-customers, more efficient customer service resulting from personalization of service, providing e-customers with full information, creation of possibilities to choose, understanding e-customer needs, effective marketing communication with e-customers and quicker access to new markets.

III. MODEL OF S-CRM SYSTEM

The evolution of Web 2.0 and social media have significantly changed the customer relationship management model towards social CRM.

Social Media can be defined as a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content [20]. They are the technical enabler for an online-based exchange of digital contents and operationalize the principles and practices of Web 2.0. As the front-end to the user they represent something tangible compared to the intangible concept of Web 2.0. [21]. Customers want to talk about their consumption experience, new ideas, however they have various preferences on where, what and how to communicate. s-CRM system should allow for a full dialogue with customers using the communication channels of their preference. Moreover, web-user integration and participation becomes critical to establish trust and commitment in buyer-seller relationships.

Social CRM system may be defined from various perspectives. Social CRM is a philosophy and a business strategy, supported by a technology platform, business rules, processes and social characteristics, designed to engage the customer in a collaborative conversation in order to provide mutually beneficial value in a reliable and transparent business. It's the company response to the customer's property on the conversation [22].

According to Mohan [23], a social CRM system combines the "Web 2.0 features and social networking with current

CRM system." However, Social CRM is not just a set of technologies, but rather a company strategy, specific to boost customer engagement and building strong relationships with them. Askool and Nakata [24] describe SCRMM to be even a new paradigm for creating high value relationships.

s-CRM definitions point out that s-CRM is more than an extension of traditional CRM by means of new communication channels and about a new mode of managing relationships in a public environment that builds on and integrating the principles and practices of Web 2.

New dimension of social CRM add to the traditional aspects of customer relationship management was presented in Figure 2.

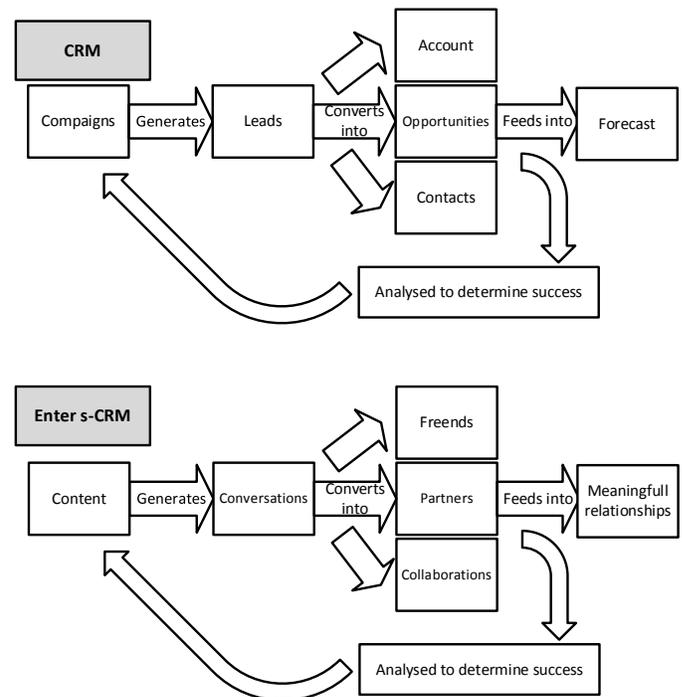


Figure 2. CRM v. s-CRM approach [25]

There were showed three important processes:

- Converting content into conversation.
- Extending conversation into collaborative experience.
- Transforming experience into meaningful relationship.

The main social media are clearly Facebook, Twitter, YouTube, LinkedIn and now Instagram and Pinterest [26]. However, the nature of the Internet through Web 2.0, is that almost all websites are becoming "social"; that is that they allow interaction [27]. Customers can post comments, ratings, reviews, and share all these across their own social networks. Thus, sites like Amazon, TripAdvisor, Urbanspoon, Yelp, the entire Google network and many other peer-to-peer websites such as blogs, micro blogs, wikis, podcasts, photo sharing, video sharing and social bookmarking can be viewed as social media technologies and thus as potential CRM tools [27], [28].

How an organization can use social channels to support s-CRM processes was presented on table 1.

Table 1. How an organization can use social channels to support s-CRM processes

Social channels	CRM and entity process		
	marketing	sales	service
Blog	-blog focused on building reputation written by a senior executive -focus on leadership	deals with members of a community, for acquisition of products and services	-capture of comments in the executive blog regarding claims or requests by customers, and to act accordingly
Internal Wiki	platform to share market knowledge that has been collected from conversations with customers	shared presentations on sales and common knowledge about new sales leads	creation of a knowledge base of customer service procedures
Video Sites/ YouTube	viral advertising propagated only on-line encouraging word-of-mouth references	point of contact to create sales opportunity in another channel	publication of educational videos on how to use certain product, extending the user manual on-line
Micro Blogging/ Twitter	-messages to announce special offers and discounts -spreading of viral marketing campaigns, integration with channels like YouTube	-launching of exclusive product offers for Twitter followers, as a way of looking for new sales opportunities -focus on the current follower base	-response to support inquires and product complaints, monitored by an exclusive team -focus on all digital customers
Personal Social Networks/ (Facebook)	-spreading of advertising campaigns within the communities of clients	-launch of new product and benefit campaigns for community members only -focus on the current follower base	-resolution of enquires among community members -opinion gathering regarding products and services

Source: [29]

The comparison of key differences between CRM and s-CRM in terms of their functions and features was presented in the Table 2.

Table 2. CRM v. social CRM. Features and Functions

CRM Features/Functions	s-CRM Features/Functions
Definition: CRM is a philosophy & a business strategy, supported by a system and a technology, designed to improve human interactions in a business environment	Definition: s-CRM (CRM 2.0) is a philosophy & a business strategy, supported by a system and a technology, designed to engage the customer in a collaborative interaction that provides mutually beneficial value in a trusted & transparent business environment
Tactical and operational: Customer strategy is part of corporate strategy	Strategic: Customer strategy IS corporate strategy
Relationship between the company and the customer was seen as enterprise managing	Relationship between the company and the customer are seen as a collaborative effort. And yet, the

customer - parent to child to a large extent	company must still be an enterprise in all other aspects
Focus on Company Customer Relationship	Focus on all iterations of the relationships (among company, business partners, customers) and specifically focus on identifying, engaging and enabling the "influential" nodes
The company seeks to lead and shape customer opinions about products, services, and the company-customer relationship.	The customer is seen as a partner from the beginning in the development and improvement of products, services, and the company-customer relationship
Business focus on products and services that satisfy customers	Business focus on environments & experiences that engage customer
Customer facing features - sales, marketing & support.	Customer facing both features and the people who's in charge of developing and delivering those features
Marketing focused on processes that sent improved, targeted, highly specific corporate messages to customer	Marketing focused on building relationship with customer - engaging customer in activity and discussion, observing and re-directing conversations and activities among customers
Intellectual Property protected with all legal might available	Intellectual property created and owned together with the customer, partner, supplier, problem solver
Insights and effectiveness were optimally achieved by the single view of the customer (data) across all channels by those who needed to know. Based on "complete" customer record and data integration	Insights are a considerably more dynamic issue and are based on 1) customer data 2) customer personal profiles on the web and the social characteristics associated with them 3) customer participation in the activity acquisition of those insights
Resided in a customer-focused business ecosystem	Resides in a customer ecosystem
Technology focused around operational aspects of sales, marketing, support	Technology focused on both the operational and social aspects of the interaction
Tools are associated with automating functions	Integrates social media tools into apps/services: blogs, wikis, podcasts, social networking tools, content sharing tools, user communities, tools are associated with communicating
Utilitarian, functional, operational	Style and design also matter
Mostly uni-directional	Always bi-directional
Based on a toolset (software)	Based on a strategy (corporate culture)

Source: [30]

IV. THE ROLE OF S-CRM IN CUSTOMER INFORMATION MANAGEMENT

In order to meet the needs of customers effectively companies must maintain a level of engagement with customers, but they must also be able to acquire and manage information on their customers [31]. Information management includes the following activities: information capture; information integration; information access, and information use. Social media and virtual communities collect a lot of data,

that can be captured. Data can indicate market trends, customer preferences, customer satisfaction, customer influence and value, and competitor information [28], [26].

Information integration requires the assimilation of customer information from all touch points, from different data sources, not just social media, to create a coherent picture of the customers, develop a single view of the customer and collect information about their interaction with the organization.

s-CRM system supports decision-making process only when delivered analysis are based on information resources of all data-collecting systems that are used in enterprise. The format and way of sharing information is also very important. It should be adjusted, so that a company can use information as quickly as possible.

CRM relies on the historical data based on previous buying cycles and experiences of clients. In traditional CRM approach data is logged by third party, usually with some time gap after the event has occurred. Whereas, s-CRM approach incorporates real-time data for real time information (ability to capture unforeseen sales opportunities) and data is generated directly by customers (better reliability of information).

With every engagement with customers on social media, more data is created [32].

In general, Social Media offers five different resources for s-CRM [33]:

1. The content of a posting (Posting Body) can be analysed for key words, opinions, topics, etc.
2. The meta data of postings (Posting Envelope) can provide details about authors, topics, sources, etc.
3. Provided data in profiles (Profile Body) contains information about emails, phone numbers, hobbies, interests, etc.
4. Meta data of profiles (Profile Envelope) contains information about friends, activities, other profiles, etc.
5. Interconnections between postings and profiles (Links) can provide insight into a person role, influence or relations.

Profile body and envelope, Posting envelope and Links are often available as structured data that may be integrated with CRM data by existing functionalities of CRM systems. Posting bodies and implicit links are unstructured data that needs to be transformed by data or text-mining (TM) before they can be integrated with CRM systems [33]. Data listed above is being used by the analytical module of s-CRM.

s-CRM support process of information management ensuring high quality customer information. Various customer information sources are well integrated and the customer information provided by system is useful. Moreover, the customer scoring and segmentation information are supported by CRM system.

V. THE ROLE OF S-CRM IN CUSTOMER COMMUNICATION PROCESS

Companies strengthen customer relationships by adjusting the communication system to clients expectations. Customer are increasingly using communication possibilities of Web 2.0

and Social Media, therefore they expect companies to do the same. Instead of pursuing a traditional one-way push communication, organizations are expected to foster a two-way interaction. At present, consumer expectations are likely not to be fulfilled and there is a perception gap on intentions to use Social Media [21].

CRM has traditionally consisted of one-way communication between company and the customer. s-CRM system assumes continuous exchange of experiences, not only between company and client, but also between individual clients.

Changes in the communication model were presented on the Figure 3. Instead of one-way communication companies should conduct dialog with clients and collaborate with them.

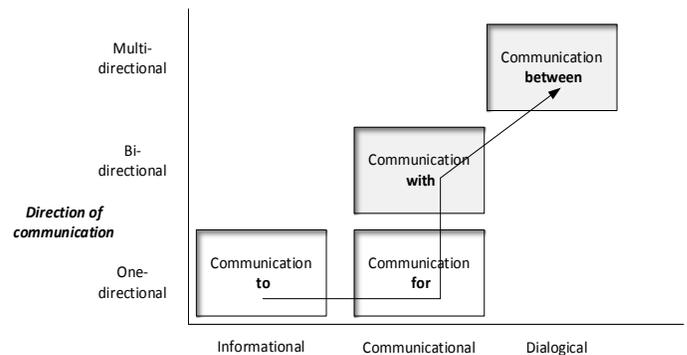


Fig. 3. Web 2.0 communication matrix [34]

Communication “to” the target groups is characterized by pushing persuasive messages of promotion, selling propositions towards a mass market (e.g. online ads).

Communication “for” is a target group approach planned persuasive messages with augmented offerings (e.g. a discount due to a membership anniversary).

Communication “with” rests on bi-directional interactions between an organization and its target groups and emphasizes an exchange of planned and spontaneous messages which is product and service focused [21].

Communication “between” emphasizes dialogue including an organization and multiple consumers.

s-CRM enables businesses to interact with customers in real time using variety of social media platforms in a cost effective way. Companies can use blogs, internal Wiki, video sites, micro blogging, personal social networks and effectively conduct their activities connected with sales, marketing, and customer services.

Social media as a platform for communication offers customers the role of promoters, commentators or co-creators. In other words, customers can become the primary actors in the process of creating the proposals.

VI. CONCLUSION

As more and more consumers are active on social media, marketers’ use of these tools is also increasing. 21 % of marketers say that social media has become more important to their company over the past six months [35]. Marketers have

found a customers via Facebook (52%), LinkedIn (43%), Twitter (36%) [35]. Social media technologies as the element of CRM have the capability to bring company and customers closer together through two-way interactions and dialog.

It was showed that s-CRM systems may effectively support customer relations and usage of its potential. It is important to perceive s-CRM system from the perspective of: supporting customer information management and improving dialogue with customers by using new channels of communication. Newly acquired customers can become in the future: the ambassadors of the brand, reviewers, innovators or consultants. Social media creates new behaviors of community members, such as sharing of experiences and emotions. Companies can later use those behaviors in order to build and strengthen relationships with customers.

REFERENCES

- [1] C. K. Prahalad, V. Ramaswamy, *Future of Competition: Co-Creating Unique Value with Customers*, Harvard Business School Press Books, 2003.
- [2] P. Kotler, K. Keller, *Marketing Management (13th Edition)*, Prentice Hall, 2008.
- [3] P. F. Drucker, *Management Challenges for the 21st Century*, New York: HarperBusiness, 1999.
- [4] H. Chesbrough, "The Era of Open Innovation", *MIT Sloan Management Review*, vol. 44/3, pp. 35-41, Spring 2003.
- [5] D. Jelonek, "The Role of the Internet in Open Innovations Models Development", *Business Informatics*, no 1 (23), pp. 38-47, 2012.
- [6] J. C. Glenn, "Collective Intelligence - One of the Next Big Things", *Futura. Finnish Society for Futures Studies*, Helsinki, Finland, vol. 4, 2009.
- [7] J. Howe, "The rise of crowdsourcing", *Wired Magazine*, vol. 14(6), 2006, <http://www.wired.com/wired/archive/14.06/crowds.html> (2015.01.20)
- [8] Nowakowska, J. Nowakowska-Grunt, "Current Status and Perspectives of Implementation of CRM System in Polish Businesses", *CRM. Customer Relationship Management '07. The International Scientific Conference. Lazne Bohdane, Czech Republic*, pp.136-144, 2007.
- [9] Mesjasz-Lech, „Wykorzystanie zintegrowanych systemów informatycznych ERP i CRM w przedsiębiorstwach w kontekście logistyki”, *Zeszyty Naukowe Ekonomiczne Problemy Usług Uniwersytet Szczeciński*, vol. 808, pp. 389-398, 2014.
- [10] Gordon, "CRM is a strategy not a tactic", *Ivey Business Journal*, September/October 2001. <http://iveybusinessjournal.com/> (2015.01.07).
- [11] J. Chen, K. Popovich, "Understanding customer relationship management (CRM): People processes and technology". *Business Process Management Journal*, Vol. 9(5), pp. 672 – 688, 2003.
- [12] M. Hasan, "Ensure success of CRM with a change in mindset", *Marketing Management*, vol. 37(8), 2003.
- [13] D. Peppers, M. Rogers, B. Dorf, "Is your company ready for one -to-one marketing?", *Harvard Business Review*, vol. 77(1), 101 – 119, 1999.
- [14] D. Adenbajo, "Classifying and selecting e-CRM applications: An analysis-based proposal", *Management Decision*, Vol. 41(6), pp. 570 – 577, 2003.
- [15] P. Greenberg, *CRM at the speed of light*. Berkeley: McGraw-Hill, 2001.
- [16] Payne, P. Frow, "A strategic framework for customer relationship management", *Journal of Marketing*, vol. 69(4), pp. 167-176, 2005.
- [17] D. Jelonek, "The Role of the CRM System in the Development of the Customer Capital of An Enterprise", *Processes of Capital Supply in Production Enterprises. Joint Work Edited by Helena Kościelniak, Serie Monographs No 1*, pp.103-109, 2006.
- [18] D. Jelonek, A. Chluski, „Możliwości wykorzystania systemów CRM w zakładach opieki zdrowotnej”, [in:] *Technologie informatyczne w administracji publicznej i służbie zdrowia*. Red. J. Goliński, A. Kobyliński, A. Sobczak, Wydawnictwo SGH, Warszawa, pp. 35-47, 2010.
- [19] D. Jelonek, „Zarządzanie relacjami z klientami w wirtualnym otoczeniu organizacji”, *Studia i Prace Kolegium Zarządzania i Finansów. Szkoła Główna Handlowa*, No 136, pp.19-31, 2014.
- [20] Kaplan, M. Haenlein, "Users of the world, unite! The challenges and opportunities of Social Media", *Business Horizons*, vol. 53(1), pp. 59–68, 2010.
- [21] T. Lehmkühl, "Towards Social CRM - A Model for Deploying Web 2.0 in Customer Relationship Management", Bamberg 2014. [http://verdi.unisg.ch/www/edis.nsf/SysLkpByIdentifier/4288/\\$FILE/dis4288.pdf](http://verdi.unisg.ch/www/edis.nsf/SysLkpByIdentifier/4288/$FILE/dis4288.pdf) (2015-03-01)
- [22] V. Nitu, C. Tileaga, A. Ionescu, "Evolution of CRM in s-CRM", *Economics, Management, and Financial Markets*, Vol. 9(1), pp. 303–310, 2014.
- [23] S. Mohan, E. Choi, D. Min, "Conceptual Modeling of Enterprise Application System Using Social Networking and Web 2.0. Social CRM System", *Convergence and Hybrid Information Technology ICHIT '08. International Conference*, 2008.
- [24] S. Askool, K. Nakata, „A conceptual model for acceptance of social CRM systems based on a scoping study”. *AI & SOCIETY*, vol. 26(3), pp. 205–220, (2010).
- [25] http://crm2.typepad.com/brents_blog/2008/07/social-crm-in-p.html (2015.02.10)
- [26] P. Harrigan M. Miles, "From e-CRM to s-CRM. Critical factors underpinning the social CRM activities of SMEs", *Small Enterprise Research*, vol. 21, issue 1, pp.99-116, 2014.
- [27] M. Chau, J. Xu, "Business intelligence in blogs: understanding consumer interactions and communities". *MIS Quarterly*, vol. 36, pp. 1189-1216, 2012.
- [28] H. Chen, R.H.L. Chiang, V.C. Storey, "Business intelligence and analytics: from big data to big impact", *MIS Quarterly*, vol. 36, pp. 1165-1188, 2012.
- [29] <http://crm2.pbworks.com/> (2015.02.216)
- [30] CRM 2.0 or Social CRM for Finacial Industry, http://www.deloitte.com/assets/Dcom-Croatia/Local%20Assets/Documents/2012/FSINews03.02-Social_CRM.pdf. (2015.02.10)
- [31] V. Hutchinson, P. Quintas, "Do SMEs do knowledge management? Or simply manage what they know?", *International Small Business Journal*, vol. 26, pp. 131-154, 2008.
- [32] T. H. A. Bijmolt, P. S. H. Leeftang, F. Block, M. Eisenbeiss, B.G.S. Hardie, A. Lemmens, P. Saffert, "Analytics for customer engagement", *Journal of Service Research*, vol. 13, pp. 341-356, 2010.
- [33] O. Reinhold, R. Alt, "Social Customer Relationship Management: State of the Art and Learnings from Current Projects", *25th Bled eConference eDependability: Reliable and Trustworthy eStructures, eProcesses, eOperations and eServices for the Future*, Bled, Slovenia, 2012.
- [34] Ballantyne, R. J. Varey, "Introducing a dialogical orientation to the service-dominant logic of marketing". In R. F. Lusch & S. L. Vargo (Eds.), *The Service-Dominant Logic of Marketing: Dialog, Debate, and Directions* (pp. 224–235). Armonk, NY: M.E. Sharpe Inc, 2006.
- [35] HubSpot, 2013 "State of Inbound Marketing Annual Report", <http://offers.hubspot.com/2013-state-of-inbound-marketing> (2014.01.20).

Dorota Jelonek is a professor of Management and currently the Vice Dean of Science at the Faculty of Management at the Czestochowa University of Technology. She started to work at the Faculty of Management in 1994 as an assistant. In 2000 she received a PhD degree. PhD research topic was "Modeling of Information Resources for Enterprise Environment Monitoring System". Dorota Jelonek holds her habilitation in Economic Theory at the Faculty of Management, Information Science and Finances, Wrocław University of Economics in 2011 year. Habilitation study focused on the "Strategic Alignment Between Environment Monitoring and Information Technology in a Company. A Methodological and Empirical Study". She has been the chairman of the team responsible for e-learning implementation in Czestochowa University of Technology since 2012 year. She is the author of 3 books, editor of 6 books. In addition, she is the author or co-author of 130 articles in Polish and foreign journals and book chapters. She participated in over 80 conferences in many research centers. Her scientific and research interests focus on solving problems related to the implementation of management information systems in enterprises, improving management information processes, and computer-assisted monitoring of the business environment.

Prof. Jelonek is a Member of Informing Science Institute (ISI) and a Member of the Board of Scientific Society of Economic Informatics.