

COMPUTER-AIDED AND WEB-BASED TOOLS IN CUSTOMER RELATIONSHIP MANAGEMENT

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ABSTRACT

All customers today seek easy access to a wide range of information of products and services, which are in particular available online. It is therefore especially important that an enterprise can establish relationships with consumers at each stage of their life cycle, also in the virtual space. The available computer systems must be used more widely by the company management for the purpose of improving the customer service. This study aims to present the state-of-the-art online tools which, if appropriately selected and used, enable to build relations with customers and to manage them.

Keywords: customer relationship management (CRM), computer-aided tools

1. INTRODUCTION

To successfully operate an enterprise, it is important to define and then pursue business goals, which include for example profit maximization, gaining of market share, increasing of sales volume, improving of goodwill, staff creativity and product and service novelty, and last but not least, finding new customers. It must be noted that one of primary goals of business is to arouse and then to maintain interest in a product or a service and to achieve a desirable level of sales. However, to make sure that the above objectives are achieved, consumer satisfaction [1] must be built which involves understanding the needs and meeting or exceeding the expectations of customers. The synergic relationships between a company and customers require appropriate and effective customer relationship management, i.e. outlining and implementation of customer-oriented processes beneficial to both parties. [2]

2. TASKS AND APPLICATION OF IT TECHNOLOGIES IN MANAGING AN ENTERPRISE

The usefulness of IT in managing an enterprise is unquestionable, however many companies still do not avail of the possibilities that computerization creates in the field of analysis and exploration of data for the purposes of acquiring useful information in the following areas:

- Classification by ordering a subject into a predefined class.
- Estimation, when the class to which the subject has been ordered into constitutes a constant set of values frequently used in prognostic tasks based on the methodics of decision trees, neuron networks and statistical analysis, e.g. time spans.
- Detecting ties when the task involves finding a group of subjects occurring together in defined contexts.
- Grouping, which involves finding groups of subjects with similar characteristics in the set of

subjects under review. Taxonomic methods, among others, are used for the realization of this type of task. [3]

Increasing the application of IT in managing an enterprise requires financial outlays and this has an impact on decreasing the value. The return on investment on IT is hindered by a high level of risk, especially in the scope of innovative applications.[4] Together with the increase in application of IT in business, the amount of tasks and functions served by using IT, the process of transferring economic activities and other forms of human activity into virtual space may be observed. [5] The virtualization of the organization is an inevitable process, occurring after the engagement of new propositions of IT applications, including the following:

- Communication technologies facilitating various forms of connections of a network variety, creating communication ties both within and outside the organization, thus playing an important role in the process of transferring and spreading knowledge, coordinating activities and generating added value in the network, as well as outside the traditionally perceived area of the organization.
- Technologies of storing information and creating a database of knowledge as the fundamental form of capital of enterprises in the era of knowledge.
- Interactive technologies monitoring and scanning the environment, serving the identification of relevant information in the field of ensuring security, contacts with clients, dynamics of sales, favouring the current learning process of the organization at hand, as well as supporting the processes of decision-making in the enterprise.
- Technologies of data analysis and their reporting as exist in the form of specialized systems.
- Modeling technologies availing of software for the creation of scenarios of development for situations, predicting change, simulating the aftermath of decisions taken.

- Design technologies serving to test and analyse the design concept in virtual space prior to the construction of the prototype, widely used in the manufacturing industry, as well as for organizations and the management of processes.
- Manufacturing technologies serving and controlling the automated production lines, having a positive impact on the productivity, consistency and quality of the manufacturing processes.
- Technologies of providing services by technological channels facilitating the development of the e-services and e-commerce sector [6, pp.53-55]

The application of IT in an enterprise requires a systemic approach for the creation of the only unrepeatably combination of multiple types of technologies, in a system supporting the management of the enterprise at hand by taking account of its specifics in the field of resources, contacts with the environment, mission, strategies and other aspects. Most frequently, organizations avail of many systems simultaneously, which particularly include the following: communication systems, systems of feedback, network systems, systems of rendering services, systems of knowledge management and other computer systems involving IT in the areas of creating added value etc.[6. 56-58]

The appropriately constructed computer systems of supporting managerial decisions avail of the rich methodological output of mathematical statistics, econometrics and operational research, while also offer efficient and effective solutions for application in business. Contemporary methods of exploring data offer techniques for searching databases with the aim of finding knowledge in them based on the so-called inductive machine algorithms of machine learning. [7] IT systems for supporting decisions in business encompass a wide spectrum of technologies, including OLAP (on-line analytical processing), which facilitates integration, aggregation and multi-criteria analysis of databases, together with the appropriate visualization of research results ensuring fast perception and use for decision making purposes.

The opportunities that IT creates have been availed of in enterprises to a small degree up to now.[8] Among the IT applications that have led to the achievement of business success may be distinguished as follows:

- CRM (analytical customer relationship management),
- assessment of the possibility of a client going to a competitor (churn)
- fraud detection,
- trend analysis [9, p. 400].

Due to the large amount of tasks realized in an enterprise with the use of IT, the large number of components in IT systems and multi-system formats in IT applications in business, a key role is played by compatibility [10, p. 22]. This is associated with the need for coordination of suppliers and specialists in the field of creating hardware and software, as well as IT

infrastructure and applied applications in a way that ensures uninterrupted and effective cooperation between all the elements, as only this supports the creation of added value over the value engaged in the costly IT.

3. BUSINESS AND SOCIAL RELATIONSHIPS

Each company which operates deliberately or undeliberately within an economic system, establishes a variety of relationships both with corporate personnel (internal relationships) and with people from outside of the organization (external relationships), which shows how business is engaged in social systems. All business decisions affect (positively or negatively) the community in which the company is operated. A company is a part of the surrounding community, whereas local community in some way always affects business, or even penetrates through it. [11] A company operating within a surrounding environment is always subject to interactions with its stakeholders [12]. Stakeholders mean people or group of people who are directly or indirectly interested in the effects of business by participation in and/or benefiting from them. Differentiation of stakeholders in an enterprise enables to distinguish between those who build primary and secondary relationships with the organization.[13] Primary relationships are developed through the market, basically at the level of purchase and sale. Secondary relationships go beyond the market, but they are also related to interactions between a company and local community. Stakeholders [14] categorized by their power and influence on business can be divided into sub-managing, contract and context stakeholders. Sub-managing stakeholders are all people and/or entities without whom business could not be operated and no business objectives could be achieved (e.g. owners, personnel, managers). Contract stakeholders are those whose role is defined by a contract and who form an indispensable part of the business plan (customers, suppliers, co-operators and competitors). Context stakeholders include local communities and local, regional or international institutions representing general public.

Relationships between a company and its stakeholder tend to fluctuate, therefore it is imperative that the enterprise is able to identify, define the needs and expectations and methods to achieve satisfaction of the stakeholders.

4. RELATIONSHIPS BETWEEN COMPANY AND CUSTOMERS

Another special type of relationship to be observed in business world is a company-customer relationship, which is closely related to pursuing business goals, i.e. achievement of customer satisfaction and meeting of customer needs.[15]

Through purchase/sale transactions [16] customers provide financial resources, which enable the company to maintain and strengthen relationships with other stakeholders.[17] Low customers' interest in a product or service may have a severe impact and cause elimination of the product or service from the market and termination of its active participation in the economic system.

After buying a product or a service, consumer often refers to previous experiences or individual expectations or patterns. Positive emotions mean customer's satisfaction with the purchase, getting what was expected, and creates grounds for future purchases. Level of satisfaction [18] is measured as a difference between actual and required features. High level of customer satisfaction causes a situation of a "self-selling products"; it is also related to positive kind of advertisement created by loyal customers. Retaining customers and gaining loyalty must be a primary objective to each company. There is a correlation between customer's loyalty and repeated purchase behavior and willingness to share opinion about the enterprise (supplier).

Importance of customer's needs and satisfaction forces business to engage in the process of meeting these two factors. Each customer-oriented company must permanently monitor consumer's behavior, style of living, changing tendencies and requirements in order to expand knowledge about and better understand customers and their needs and to build close emotional connections. [19] Customers appreciate companies' efforts to tailor their attitude and provide customized offers, even in mass production.

Customers dissatisfied with a product or service pose a real danger to business; such consumers will simply leave the product and switch to other brands, will not repeat purchasing and will spread negative word-of-mouth information which means the company is losing contacts and has little chance of regaining such unhappy purchasers. Dissatisfied customers may also choose to complain or file formal claims against the manufacturer which, on the other hand, will help the company to find out the reasons of dissatisfaction and gives an opportunity to regain trust and rebuild reputation.

Besides, each entrepreneur must remember that the best advertisement is done by satisfied customers, whereas unhappy and disappointed buyers not only leave the product and switch to another brand, but will also complain to other people about their bad experiences.

A successful organization should develop and implement a business strategy in order to build long-term positive relationships with customers.

There are several types of customer relationship strategies, for example [20]:

- clasp strategy
- zipper strategy
- velcro strategy

In clasp strategy the company offers certain standards with respect to products or services and expects customers to adjust their needs to the proposal. In this type of strategy the company makes an offer and persuades potential customers to its products or services, whereas customers either accept or refuse the offer. This strategy rejects the requirement of co-operation and matching expectations of both parties, it is limited only to delivery of the offered goods chosen by customers on the basis of their effectiveness.

Strategy in which a company and a customer try to adjust to each other, and the processes implemented script together so that all small elements go well like in the zipper, is called "zipper strategy"[21]. In this type of

strategy all processes executed by both parties are meticulously analyzed and such evaluation helps to eliminate any unnecessary activities and implement rules of cooperation that are based on mutual trust and confidence. In zipper strategy relationships between the parties are complex or even difficult and mutual engagement is needed to maintain good relations.

Velcro strategy is focused upon customer who has specific needs and certain model of action. Relationships between customer and service provider are not very tight, but they enable the parties to benefit from co-operation, though.

5. CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

Operating of a business enterprise requires making a variety of decisions that are mostly related to building relationships and pursuing certain objectives. Both the nature and frequency of relationships require different decisions, i.e. managing which is understood as a process including the following stages: [22]

- identification of stakeholders
- assessment and classifying of the stakeholders with respect to potential risks and co-operation
- determining a type of relationship strategy with key stakeholders
- effective implementation of such strategies

Customer Relationship Management (CRM) is a business strategy focused on improvement of customer satisfaction and building customer loyalty. Both of the above objectives can be achieved by better understanding of customer characteristics and purchase patterns, by adjustment of the offer to customer needs and by efficient service and providing reliable and exhaustive information directly to customer.[23]

Some people perceive it as a strategy, the others as marketing, advertisement or management. Lack of comprehensive approach to CRM that would encompass both marketing and technological aspects causes such diversity of attitudes.[24] CRM is concerned with customer management needed in order to attain increased profits providing benefits to customers, whereas strategy of setting and managing goals includes effective administration of relationships with buyers and exceeding their expectations. Customer Relationship Management is a philosophy, concept and strategy, not technology.[25] It is used to consolidate and optimize some activities and processes in an enterprise to be automatically performed, for example:

- supervising advertising campaigns on a regular basis
- assessment of effectiveness of advertising campaign against number of purchase orders
- bulk mailing
- automatic call distribution
- automatic distribution of e-mails to departments by qualifying them using key words
- automatic downloading of e-mail attachments (according to scheduled date and time)

- automatic generation of reports and/or specifications
- supervising performance of the sales force on a regular basis.

In Customer Relationship Management it is crucial to use all contact information and communicate with business customers. The company is focused on using the possibilities that lie within close relationships with customers which should be expressed by improvement of customer benefits, increased profits, reduction of costs related to customer service and prolongation of the overall time of relationships.[26]

6. SELECTED CRM TOOLS - CONTACT CENTER AND CALL CENTER

Contact Center

- Web site - customers can access information and online support at any time with no need to directly contact the operator. One of the online applications used to provide information is so called "web co-browsing". It enables someone in an enterprise contact center to interact with a customer and send information needed and not available or difficult to be found in the network at the moment.
- E-mail (electronic mail). E-mail messages are directed to the Contact Center team who responds questions. Intelligent systems are able to automatically re-direct the message to appropriate person on the basis of the words used in the question. E-mail Auto Responder is a very common application used to automatically respond customers' questions, usually with respect to current price lists or offers. Advanced software is able to answer automatically to the customer after analyzing the question content in case of less complex questions.
- VoIP or Voice over Internet Protocol, a process of transmitting voice communication over a digital network instead of over a traditional phone line.
- Chat-room is a type of application that offers a possibility to carry out real-time online discussion by several users at a time. There are also online video- and audio- chat rooms.
- Call-Center is a centralized switching office handled by a number of operators. It is a part of Contact Center. The purpose of Call-Center is to:
 - receiving customer requests by telephone
 - providing sales and marketing information
 - recording and processing business transactions
 - contacting customers during advertising campaigns
 - telemarketing and selling products
 - supporting market research, surveys and opinion polls
 - reminding of late payments.[27]

The primary benefit of call-centers is distribution of phone calls to appropriate operators.

A decision who to re-direct the call can be made on the basis of customer identification (for example using personal identification number) or of an answer to an automated agent. Then the request is placed in a queue and waits to be handled; during the wait-time customers will hear additional information. Systems may differ in the level of technological advancement and functionality.

7. CRM SOFTWARE SOLUTIONS

Today's market offers a number of independent CRP applications that can be integrated with ERP systems; there also are ERP systems with a CRM module implemented.[26] World's major ERP vendors (for example SAP, Oracle or Microsoft) offer cloud CRM extensions to their basic products. There also are smaller vendors who deliver only CRM interfaces.

SAP's "MySAP CRM" system is one of the most important solutions available on the customer relationship management software market.[29] The application enables comprehensive monitoring, full control and management of relationships with customer. Multiple functionality of the solution can be divided into three main classes:

- Operating CRM helps to support transactions and customer-oriented activities in the field of sales, service and marketing. The module enables front-office and back-office integration and customer effect synchronization in real-time across all communication channels.
- Analytical CRM helps to develop, support and optimize customer-oriented decision-making processes. It uses data sources of SAP Business Information Warehouse (SAP BW) and is focused on planning, optimizing and simulation supported by SAP Strategic Enterprise Management (SAP SEM).
- Co-operative CRM supports activities aimed at ensuring close co-operation with Customers, suppliers and business partners. Functions available within this area are used to extend customer relationships beyond the traditional sales and marketing and to build long-term partnership based on interactions.

Software vendors provide organizations with specific modules within each of the above areas, for example Oracle's sales, marketing and service modules. SAP offers CRM industry specific solutions, i.e. libraries of functions tailored to a wide range of industries and administration areas.

Oracle Sales Online is a tool designed to support sales departments. Sales representatives connect their own websites and use them as their office. The information is entered on-line and immediately processed, which enables managers and related departments or divisions quick access to all details. Sales people can review their assignments, meeting timetables and dates of promotion events, or generate sales forecasts and receive information regarding salaries, commissions etc.

Oracle Marketing Online is an application that enables organizations to manage marketing campaigns. The

solution also helps to define various types of offers and to match them to campaigns and events; to analyze effects of previous campaigns through reviewing the history and to manage marketing campaigns and events.

Oracle Service Online provides the company with a range of customer-related tools: from initial interaction to successful problem solution. Tools encompassed by the module will enable for example:

- managing customers' accounts
- switching and re-directing phone calls
- distribution of tasks between staff
- managing spare parts
- reporting and customers settlements.

The architecture of this application is based on a three-tier processing model that distributes tasks between the layer of database, application and customer.

CRM Microsoft Business Solutions is a solution tailored for Medium Enterprises. Functionality of Microsoft CRM is based on three basic clouds: customer service, sales and marketing.

Customer service module helps to:

- manage inquiries: automated matching of incoming questions to specific cases
- place inquiries in a queue: setting priorities and directing questions to the right team
- information base: handling inquiries by quick searching through the information base
- manage purchase orders: managing service requests, automated notification of completion

Sales module encompasses the following functions:

- key customer management: tracking information regarding the most profitable key account relationships, adjustment of the offer to the requirements of such customers, appointment of a representative responsible for maintaining relations
- customer group management: matching and conversion of contacts into different customer groups without re-entering of data, information saving
- purchase order management: preparing and conversion of offers into orders, order modification and processing. If integrated with an accounting system, Microsoft CRM will automatically generate invoices
- competition monitoring: managing details regarding competitors and matching them to an estimated probability of contract awarding. Reports describing activities of competitors with a breakdown into regions, products etc.[30]

Specialized software may enhance the efficiency of CRM. Collecting and analyzing data is an important element of optimal offer planning, marketing activities, responses to changing market situation. Companies tend to have data spread across different departments; information kept by one department is not available to the others. Technical support workers are usually not aware if they provide services to a key account customer or to a

minor buyer who generates less revenues. Sales department cannot check what is the level of satisfaction of key customers. Thus, a technologically advanced computer system to process data and comprehensively support the performance of sales, marketing and planning departments is the best solution.[31]

8. CONCLUSIONS

Know how in the area of initiating and applying IT in a way that adds value to the enterprise, constitutes a significant instrument in the competitive fight, acquiring a long lasting competitive advantage and indeed is the key factor in the success of an enterprise in the era of knowledge.[32]

CRM functionality is basically associated with main corporate areas, i.e. pre-sales service, sales and after-sales service. Each of these areas encompasses processes that determine business success. CRM uses the state-of-the-art technologies: interactive websites, intelligent call centers, portable computers (palm tops) to be used by sales representatives. CRM systems help to integrate customers and suppliers which is particularly important on the capital goods market (Business-to-Business) where close relationships guarantee timely deliveries of top quality products. Furthermore, CRM ensures better forecasting of sales volumes and more precise identification of target recipients of marketing campaigns.

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Bogusława Ziółkowska was born on 7.09.1963. She received her M.A. in Economics in 1987, at the Faculty of Trade, Transportation and Services at Academy of Economics in Katowice in Poland. She defended her PhD in the field of management in 2000; her thesis title was “ Modernity of capital goods vs. the competitive position of the enterprise”. Since 1992 she has been working with the department Economics and Investment of the Faculty of Management at University of Technology in Częstochowa in Poland. She is an author of tens of scientific publications, including monography titled "Management of processes of value creation in the enterprise, Perspective of virtualization". Her scientific research are focusing on the problems of enterprise's value in science of management, virtual organizations and effectiveness of using informatics instruments and systems at organization's management.