



The Role of Information System Flows in Fulfilling Customers' Individual Orders

Paula Bajdor, Iwona Grabara

Faculty of Management, Czestochowa University of Technology, Poland

Corresponding author: Paula Bajdor, Faculty of Management, Czestochowa University of Technology, Czestochowa, Poland

Abstract. Being aware of the role that an information system in the company plays and its impact on individual processes, this article presents an information system used in the selected company. The first part discusses the essence of an information system, while in the second part of the article all the processes occurring in the studied company have been described, together with the information accompanying them.

Keywords: information, information system, enterprise, order, project.

1. Introduction

Information systems are used by a man in almost every area of life, they allow for the proper functioning, not only the organization or company, but also everyday life. In the literature on information systems, there are many concepts and definitions concerning the substance of the information system. In the simplest terms, we can say that an information system is formed by the information itself. The diversity and multiplicity of occurrence of information contributed to the need for them together or categorize, which automatically led to a certain, separate groups of information which are formed into information systems. Among the most popular definitions of information systems, can be distinguished a definition given by A. Nowicki: information system is distinguished spatially and structured collection of information, information senders, recipients of information, news feeds,

and the technical means of transmission and processing of information, which is used to control the operation of the economic object (Nowicki & Sitarska, 2010). In turn, in the definition given by J. Kisielnicki and H. Sroka, an information system is a multilevel structure, that allows the user of such a system for transforming certain information input to the desired output information using appropriate models and procedures (Kisielnicki, Grabara & Nowak, 2005). A little different approach to information system presents P. Beynon-Davies, by him all information systems can be divided into three groups: technical, formal and informal. He stresses that such a distinction is beneficial for cognitive purposes, in practice it is quite difficult to distinguish which group it belongs to the system (Beynon-Davies, 2009). There is also a definition that specifies an information system as a fully organized combination of technical equipment, software, infrastructure and people to plan, control, coordination and decision-making in the company (Cashman, 2010). As is apparent from the figure above, information system is distinguished spatially and temporally structured collection of information, information senders, recipients of information, news feeds, and the technical means of transmission and processing of information, which is used to control the operation of the economic object (Grabara, 2001).

According to C. Abdullah information system is „a such as one in the opening scenario are combination of hardware, software, and telecommunication network that people build and use to collect, create and distribute useful data especially in organizational settings” (Abdullah, 2009).

The basic advantages, characteristics for the information system are as follows (Loch, Carr & Warkentin):

- A great facility in the performance of work,
- Update information in real time,
- Improving the quality of service by the company,
- The ability to store large amounts of information,
- The ability to operate 24x7 worldwide
- Creating new jobs.

But, information system has some disadvantages as well:

- Costs of the design and implementation of an information system,
- Failures and systems shut downs,
- The requirement for knowledge of computers and how they work,
- Privacy aspect,

Also, information system implementation may lead to the elimination of certain jobs and cause an increase in unemployment.

2. Information system in the enterprise

In relation to the company as an organization consisting people, information, technical equipment and materials, information system is examined in structural and functional aspects. The main elements of the information system are the sender information (both primary and secondary), channels through which information are transmitted, sets of information (databases or directories) and the recipient information are at the end (Dima & Man, 2013; Vlăduțescu, 2014). To all these elements work together smoothly with each other, it is necessary to equip companies in the technical means for sending and processing of information. In aspect of functionality, the basic tasks of an information system can be identified meets:

- Gathering information,
- Storing information,
- The processing of information,
- The transmission of information,
- Presenting information.

Information systems in the enterprise are kind of "nervous system" of organization and play a significant role in efficient management, and therefore, in addition to the tasks mentioned above, the information system should also fulfill the following tasks:

- Being the main source of information, allows the execution of activities that shape the current situation the company and its further development,
- To ensure communication between the management system and production,

- Enabling corrective action findings in the areas of planning and communication between internal and external environment professionals,
- To contribute to the development of competitive products and services that can provide the company an advantage in the market.

3. Information flows in the enterprise X – a case study

For research purpose, a service company, performing individual customer orders in the field of image processing and design, has been selected. Due to the nature of its activity and the number of ongoing contracts, the company used the information system whose components are:

- Data - all data about customers, orders, executed (and completed) projects and orders,
- People - employees of the company - graphic designers, managers, administrators, secretaries, and two directors,
- Hardware - computer equipment, printers, plotters, scanners, tablets, phones, telephone, cameras, photo
- Software - software for e-mail, database, and graphics software package for office,
- Telecommunication - e-mail, phone, fax,

The order's realization consists two phases - customer contact and the order receiving, and then the project realization and dispatch to customers.

The first flow of information in the enterprise is a contact made by client with an employee (1). This contact is the most often initialized by the phone call, e-mail less frequently and sometimes it happens that a potential customer arrives at the headquarters of the company. Then, during the meeting, the client provides information relating to the contract and the information gets feedback information about the offer presented by an employee of the company (2). When the customer decides to use the services of the company, and the first contact occurred through a telephone conversation or e-mail, the date of the personal meeting is setting up (3). At this point, information about the client: the basic data and a description of the

product ordered by him, are redirected to an employee, who personally will implement a project for a client. Such information are directed to the employee in form of an electronic document, but in addition, the paper is also written to the book of orders log (4). And customer gets an email confirmation of the meeting in the office (Siminică & Traistaru, 2013). During a personal meeting, there is not only the flow of information between the client and the worker but also from the company database to the worker. In the directions for running the client are contained details of his contract, while the information from the database contained details of finished projects implemented by the company, as well as details of the execution time of the order and the cost of its implementation (5). During this meeting a process to clarify the client's requirements regarding the contract and collapses final decision on the choice of the project takes place (6). All the determinations regarding the project are stored in the form of an electronic document on a computer disk belonging to an employee performing a given order and a copy is sent to the enterprise database. In contrast to the client is sent to confirmation receipt of the order to be implemented in the form of e - mail (7). After a confirmation followed by the preparation of the project, including the employee uses the information contained in the company's database but also with the information coming from the external environment, most often via the Internet (8 and 9). It may also happen that after sending the final version of the project, the client will report additional attention to its appearance, these comments are mostly reporting in the form of e -mail and sometimes during a call (12). In this case , those observations are recorded in the log procurement and e-mail with comments is sent to the top management of the company (Stavre, 2012; Drămnescu, 2013; Smarandache & Vlăduțescu, 2014). It may also happen that the first contact and the presentation of the offer, the customer will not happen resumes, in this case, the e -mails coming from him are deleted after a month of first contact (13). The above scheme presents the flow of information concerned the client, who uses the services of the company for the first time. However, in the case when the order is made the known client, the flow of information goes a little differently (Arhip & Arhip, 2012; Păun, 2013; Păun, 2014). At the time of establishing contact,

the employee goes back to the log of orders to obtain information about the client and where the contract relates to a project already underway in advance, contact the course is only for selecting the particular project (11). Information about the selected project also gets to log orders in the form of an e-mail to the employee responsible for the realization of the project (Vlăduțescu, 2013; Dima & Vlăduțescu, 2012).

At the time of completion of the contract, the project is ready to send to the printer, this is done via the internal computer network or project is manually transferred using the memory stick (1). After completion of the print quality control is performed - the results are stored in a text document, which is then attached to the whole contract documentation (2). If the quality control reveals shortcomings or mistakes, this information is sent to the person responsible for the project, and she/he, in turn, makes the necessary corrections (13). Again, the finished project is sent via the network to the printer (14). After printing, the order is being prepared for shipping. information at this stage are also sent via email to the client (3). Depending on customer preference, ready order is prepared for shipping, which involves the creation of documents for courier and enter the appropriate information into the system (in the form of a text document). If the customer prefers personal collection - employee by telephone or e-mail, tells the client that the order is ready to collect (12). Preparing for shipment includes two main activities - preparing the relevant documents - which are stored in the form of electronic documents, as well as stickers on the package containing the order (Vlăduțescu & Ciupercă, 2013). The same document is being also sent to the client (8) and after receiving confirmation of the received goods - they are sent to the database (9). In the process of transportation, the only information is a message to the client with, where he can expect a courier delivery (6) and then at the reception, followed by a receipt resulting contract (7 and 10). The receipt also is stored in the archive orders, the log of orders is evidenced completion of the contract and the relevant information are entered into the system (Bărbulescu, Țățu & Țățu, 2007; Dima & Man, 2012).

4. Conclusion

As with the scheme of reception, realization and supply to customers, ready orders, even in the case of the simple design, the whole process is accompanied by a range of information, the existence of which determines the efficiency of the whole process. Described in the article example vividly illustrates the important role of information systems in the enterprise functioning. Virtually every employee activities, leads to the generation, transmission or processing a certain amount of information. Without this information any business operations would not be possible. The information inside the company help implement the processes adopted in order, and the information coming from the outside, above all, allow the acquisition of new orders. In the audited company, few minor systems are used: for data archive, development projects and contacts with customers, but the basis for all these systems is the information system, determining and shaping the overall business.

References

- [1] Abdullah, C. (2009). *Organization of Information*. Institute Perkembangan Pendidikan, India.
- [2] Vlăduțescu, Ș. Three Diachronic Paradigms of Communication. *International Journal of Education and Research*, 1(12).
- [3] Avram, Marioara, & Traistaru, Aurelia (2014). A computational line of comprehension of account. *International Letters of Social and Humanistic Sciences*, (13), 79-88.
- [4] Bărbulescu, R., Țățu, D., & Țățu, L. (2007). *Investment in human capital. EU integration opportunities, Romania within EU: opportunities, requirements and perspectives* (pp. 430-435). V1. Sibiu: Editura Universității Lucian Blaga.
- [5] Beynon-Davies, P. (2009). *Business Information Systems*. London: Palgrave MacMillan.
- [6] Cashman, S. (2010). *Discovering Computers 2010*. Digital Technology.
- [7] Colhon, M., & Tandareanu, N. (2010). The inference mechanism in conditional schemas. *Annals of the University of Craiova-Mathematics and Computer Science Series*, 37(1), 55-70.
- [8] Cotoc, E. A., Traistaru, A., & Stoica, A. (2013). Systems of Environmental Management. *European Journal of Humanities and Social Sciences*, 25(1), 1316-1325.
- [9] Vlăduțescu, Ștefan (2013). What kind of communication is philosophy. *Jokull*, 63(9) 301-318.
- [10] Dima, I. C., & Man, M. (2012). Information engineering and its influence on adopting the decision in economic organisational entities. *Studia Universitas Petru Maior, Series oeconomica*, Fasciculus 1, anul VI.
- [11] Dima, I. C., & Man, M. (2013). Considerations on the strategy for sustainable development of companies under the conditions of current globalization. *'Science Series Data Report' Journal*, Volume. 5, Issue 5.
- [12] Dima, I. C., Man, M., & Vlăduțescu, Ș. (2012). *The Company's Logistic Activity in the Conditions of Current Globalisation*. In H. Cuadra-Montiel (Ed.), *Globalization, Education and Management Agendas* (pp. 263-294). Rijeka: Intech.
- [13] Dima, I. C., Skowron, M. N., Modrak, V., & Grabara, J. (2010). *Elements of Logistics, used in industrial operational management*. Presov: Apeiron EU.
- [14] Dima, Ioan Constantin, & Vlăduțescu, Ștefan (2012). *Persuasion elements used in logistical negotiation: Persuasive logistical negotiation*. Saarbrücken: LAP Lambert Academic Publishing.
- [15] Dima, Ioan Constantin, & Vlăduțescu, Ștefan (2012). Risk Elements in Communicating the Managerial Decisions. *European Journal of Business and Social Sciences*, 6(1), 27-33.
- [16] Grabara, I. (2001). Znaczenie systemów informatycznych w centrach logistycznych. *Zeszyty Naukowe Politechniki Częstochowskiej*, nr 153 Elektrotechnika z.16 cz.1.
- [17] Vlăduțescu, Ștefan, & Ciupercă, Ella Magdalena (2013). *Next Flood Level of Communication: Social Networks*. Aachen: Shaker Verlag.

- [18] Kisielnicki, J., Grabara, J., & Nowak, J. S. (2005). *Informatyka i współczesne zarządzanie*. Katowice : Polskie Tow. Informatyczne.
- [19] Kot, S., Ślusarczyk, B., & Starostka-Patyk, M. (2013). *Information Systems Supporting Cooperation in Supply Chains*. In: Supply Chain Management. Fundamental and Support Elements. Monograph. Edited by Virgil Popa, Marta Starostka-Patyk, Czestochowa.
- [20] Lis, T., & Bajdor, P. (2013). *Sales Logistics as a Model Used by Companies Fulfilling Individual Customer's Needs*. In: Challenges in Contemporary Management. Monograph. Scientific Editors Anna Lemańska-Majdzik, Piotr Tomski, Sekcja Wydaw. WZ PCzęst, Czestochowa.
- [21] Vlăduțescu, Ștefan (2013). Principle of the Irrepressible Emergence of the Message. *Jokull*, 63(8), 186-197.
- [22] Loch, K. D., Carr, H. H., & Warkentin, M. E. *Threats to Information System: Today's Reality, Yesterday's Understanding*, on: www.slideshare.net, access on: 13.02.2014.
- [23] Nowicki, A., & Sitarska, M. (2010). *Procesy informacyjne w zarządzaniu*. Wrocław: Wydaw. Uniwersytetu Ekonomicznego.
- [24] Vlăduțescu, Ștefan (2014). *Eight Computational-Communicative Operations of Building Information*. *Mitteilungen Klosterneuburg*, 64(1).
- [25] Arhip, C., & Arhip, O. (2013). Media phenomenon and strategic ritual. *Annales Universitatis Apulensis. Series Philologica*, (14/2), 239-246.
- [26] Colhon, M., & Tandareanu, N. (2010). The inference mechanism in conditional schemas. *Annals of the University of Craiova-Mathematics and Computer Science Series*, 37(1), 55-70.
- [27] Bușu, O. V. (2014). The Specific Character of Political Power under "Who Do I Obey Politically?". *International Letters of Social and Humanistic Sciences*, (10), 156-162.
- [28] Păun, M. G. (2013). Pedagogical Strategies in Instructional Design. *International Journal of Education and Research*, 1(10).
- [29] Colhon, M. (2013). Automatic Lexical Alignment between Syntactically Weak Related Languages. Application for English and Romanian. In *Computational Collective Intelligence. Technologies and Applications* (pp. 266-275). Springer Berlin Heidelberg.
- [30] Ionescu, D. (2013). Non-contradiction. The Main Way of Progress of Professional Interwar Magazines in Oltenia. *Journalism and Mass Communication*, 3(8), 528-531.
- [31] Arhip, C., & Arhip, O. (2013). Intermedialitate și metareferință în limbajul cinematografic contemporan. *Annales Universitatis Apulensis. Series Philologica*, (14/1), 55-62.
- [32] Enachescu, V. A., Hristache, D. A., & Paicu, C. E. (2012). The interpretative valences of the relationship between sustainable development and the quality of life. *Review of Applied Socio-Economic Research*, 4(2), 93-96.
- [33] Enachescu, V. A. (2013). Understanding multicultural Dobrogea. *Journal of Community Positive Practices*, 13(2).

- [34] Cristian, R. (2012). Religious discourse and postmodern rationality in bioethics. *Journal for the Study of Religions and Ideologies*, (31), 206-222.
- [35] Radu, C. (2012). The discourse as a cognitive process and space for subjective interaction. *Journal of Media Research-Revista de Studii Media*, (1 (12), 15-26.
- [36] Arhip, C., & Arhip, O. (2013). Media Quasi-Rituals Of Contemporary Society. *Buletinul Stiintific al Universitatii Mihail Kogalniceanu*, (22), 107-116.
- [37] Vlăduțescu Ștefan (2013). Message as Fundamental Discursive Commitment of Communication. *Journal of Studies in Social Sciences*, 5(2).
- [38] Paun, M. G. (2013). Changes in Management as an Instrument of Educational Intervention. *European Scientific Journal*, 9(31).
- [39] Arhip, O., & Arhip, C. (2012). Beyond 'Customer is King': Sales and Marketing Promotion. In *International Conference on Business Excellence 2007*.
- [40] Vlăduțescu, Ștefan (2014). Uncertainty Communication Status: Theory or Science. *International Letters of Social and Humanistic Sciences*, 10(2), 100-106.
- [41] Traistaru, A. (2013). Consolidation of the green marketing profile in current austerity period. *Jokull*, 63(9), 125-135.
- [42] Arhip, O., & Arhip, C. (2014). Dissemination of the Archetypal Field of Don Quixote in Camil Petrescu's Work. *International Letters of Social and Humanistic Sciences*, 10(1), 78-83.
- [43] Vlăduțescu, Ștefan (2014). Silence as an Uncertainty Communicational Inductor. *International Letters of Social and Humanistic Sciences*, (14).
- [44] Bușu, O. V., & Bușu, O. C. (2014). Recognizable Elements of the Mass Communication. *International Letters of Social and Humanistic Sciences*, (09), 100-107.
- [45] Colhon, M. (2012). Language engineering for syntactic knowledge transfer. *Computer Science and Information Systems/ComSIS*, 9(3), 1231-1247.
- [46] Teodorescu, B. (2014). Internal mechanisms of persuasion. *International Letters of Social and Humanistic Sciences*, (12), 73-78.
- [47] Iancu, I., Constantinescu, N., & Colhon, M. (2010). Fingerprints identification using a fuzzy logic system. *International Journal of Computers Communications & Control*, 4(5), 525-531.
- [48] Vlăduțescu, Ș. (2014). Drainage of Some Areas of Uncertainty in the Field of Communicative Instance Concept. *International Journal of Education and Research*, 2(1).
- [49] Siminică, M., & Traistaru, A. (2013). Self-Directed Learning in Economic Education. *International Journal of Education and Research*, 1(12).
- [50] Smarandache, Florentin, & Vlăduțescu, Ștefan (2013). Communication vs. Information, a Neutrosophic Solution. *Neutrosophic Sets and Systems*, 1.
- [51] Smarandache, Florentin, & Vlăduțescu, Ștefan (2014). *Neutrosophic Emergences and Incidences in Communication and Information*. Saarbrücken: LAP Lambert Academic

Publishing.

- [52] Stavre, I. (2012). *Internet and digital technology – influences on audiovisual communication and on teaching at master’s degree level*, Valencia, 2012, Published by International Association of Technology, Education and Development - ISBN: 978-84-615-5563-5
- [53] Țenescu, Alina (2009). *Comunicare, sens, discurs*. Craiova : Editura Universitaria.
- [54] Traistaru, Aurelia (2013). The components of economic record and the research object of Accounting. *European Journal of Business and Social Sciences*, 2(6).
- [55] Traistaru, Aurelia, & Cotoc, Elena Antoanela (2013). Archiving, Keeping Records and Financial Accounting Documents. *International Journal of Education and Research*, 1(11)
- [56] Vlăduțescu, Ștefan (2013). Communication Beings: Four Communication Prototypical Figures. *International Journal of Education and Research*, 1(11).
- [57] Vlăduțescu, Ștefan (2013). A Completion to the Traditions Matrix-Standard RT Craig, Induced by the Transformation of Communication-as-a-Field Membrane in Communication-as-a- Universe Membrane. *American International Journal of Contemporary Research*, 3(10).
- [58] Vlăduțescu, Ștefan (2013). The communication membranes. *European Scientific Journal*, 9(32).
- [59] Enachescu, V. A. (2011). Managing Decentralization of the Romanian Educational System. *Revista de Management Comparat International/Review of International Comparative Management*, 12(2), 293-300.
- [60] Wegner, L., & Kasan, C. (2012). *Definition of Information System and Advantages and Disadvantages*. Mara University of Technology.â
- [61] Grabara, Janusy, & Bosun, Petre (2014). Consideration on online education in Romania. *International Letters of Social and Humanistic Sciences*, (14).
- [62] Modrak, Vladimir, & Bosun, Petre (2014). Using the Delphi method in forecasting tourism activity. *International Letters of Social and Humanistic Sciences*, (14).