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Process of Business Reengineering from the Aspect of E-Business

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Abstract

Through this paper may be able to consider re-engineering of business processes, as well as the impact of e-business on the productivity of companies. In addition, turning the attention to the fact that the re-engineering the company needed to implement a special project, so that all participants in the redesign process can give their maximum contribution. Also, it is necessary to pay attention to the fact that the company ended the reenginering should regularly analyze the redesigned processes and enter the newspaper of the time. Should be taken into account the role of information technology and, of course, management throughout the process. In the case study company Passage Group, shows the process of re-engineering the marketing department, and who should adapt to all other sectors in this company. Regarding the aspect of E-business, described the programming software, which the company benefits and the changes that followed the implementation and use.

Keywords: Reingeneering; Project; E-business; Redesign; Design process

Introduction

Re-engineering of business processes (Business Process Reengineering - BPR) or business re-engineering is a process that relates to the improvement of company performance. Reengineering business goal is to achieve maximum improvement in the company. To these improvements is the re-design and redesign of business processes or the environment. Basic principles of reengineering are: [1-3]

- Research is directed to the active processes that achieve results;
- Processes are analyzed from a business angle, especially from the angle of the buyer;
- Improvements which should bring significant overall results;
- Efforts in detecting the necessary improvements are focused on the application of information technology;
- The main idea is based on reengineering maximize performance and minimize costs, the spending of time;
- Operating environment must be changed, along with other parameters.

Business reengineering is the modernization of business systems. It determines the structure of the business system. In this paper will be analyzed business reengineering that includes the development of interorganizational systems. The main goal is reengineering is to make organization simpler and execution of all the components that participate in the total work. Simplification of the process reduces the complexity of the organization, which improves the operation and performance, and maximize the profit.

Appearance and use of the Internet, there is a mutual connection, access to information in real time, all over the place a simple user interface. Using the Internet, every company can be in real time to communicate with their customers, business partners and financial organizations, which stems from the fact that most jobs can be completed on-line. This has created new ways of getting information from the company, but a new way of conducting business and conclude agreements with business partners. The basic idea of reengineering business is the creation of new values in the business that will be recognized in the market. In addition to basic functions, such as product sales, marketing and customer service, business re-engineering is focused on the secondary functions, such as order processing, inventory management and warehouse and production. Of course, it is necessary to connect the primary and secondary functions. In order to take advantage of the full advantages of the Internet, it must be done on the redesign of the company level, and redesign the entire supply chain [2].

Methods

Research methods, applied in this paper are:

- Descriptive analysis,
- Method induction
- The method of the synthesis.

Descriptive analysis was attempted to clarify the case studies, in order to be understandable to readers from a wide range of scientific disciplines in general.

Method induction pursued the presentation of cases from the general to the particular.

The synthetic route is made to connect divided parts into a whole.

Process of business re-engineering

To re-engineering business was successful, it must be organized as a project, a team, goals, budget, tools, control points and deadlines.

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Management processes and improving the production process are the responsibility of employees, but it is not clearly defined as work commitments. Therefore, it is practical to realize this process through a separate project. There are five basic stages of the project [4-9]:

Need to move the event, which will result in the project. This may be compared to the competition, the pressure of employees, customers or business partners, problems with performance, delay in operations. After identification of moving event, following various discussions and decisions about running the project;

The project usually begins with selecting the leaders of the project and the formation of the central team. After that, the selection process will be approved in preces redesign, resulting in the formation of IT structures, in order to come to this stage of proposal and budget plan;

The redesign of business processes, the use of benchmarking methods to compare performance with other competitive companies;

The most complicated phase of the organizational transformation in which the system adapts and changes in IT structures. Then, introduce a new process and starts with the training staff and solving individual problems - if they come;

With regard to business re-engineering is not a single job, after the completion of the project should continue to monitor the situation, so that processes can be changed, maintained and upgraded when conditions require.

Business re-engineering in the construction of e-business can be characterized in seven phases:

- Preparation;
- Determination of the vision;
- Building a model;
- Analysis of the model;
- Action on the proposal;
- Planning and implementation;
- Evaluation.

It is possible to show activities carried out in parallel with these phases. Some of these activities are:

- Analysis of consistency, correctness and completeness;
- Development of project plans and
- Production of statutory reports.

Activities are assigned to project participants. Depending on the activities that are performed, it is possible to activate more options for each transaction that takes place in the activities.

It is usual to re-engineering information system itself reorganize organizations. That define the responsibilities for each position, based on the form and powers to access information of importance, depending on the job.

Restructuring the organization is a process that is necessary to see that organizations ¬ the changes should be made or forced as a consequence of the introduction of e-business. You need to see to what level and in what conditions it is possible to expect the integration process of the organization. There is a possibility that some jobs can be eliminated. The most important thing is to find the correct way to redesign jobs [3].

Implementation of e-business is directly put in reengineering business processes.

Re-engineering of business processes

Business process usually includes the following:

- Facing customers;
- Inter-functional, and cross inter-company relations;
- Information about the course of the process;
- Knowledge created about the process;
- Adding value to processes;
- The level of the structure of the process.

Business processes are changing topology redesign flows (material, information and knowledge flows). There are 3 basic ways of redesign:

- Restructuring and re-configuration process;
- Changes in information flows about the process;
- Change management knowledge about the process.

Process of redesign is based a few principles. The most important is the awareness of loss of time to a minimum, but it is important to the process of simplification and consolidation of similar activities. Process redesign is expressed through the following principles: [10,11].

- Remove the waiting time between processes, in order to create new value;
- Stronger, faster and companies need to do the work;
- Adaptability of the process is always and everywhere;
- Synchronization of physical and virtual parts of the process;
- Presentation of information in digital form;
- To provide fresh information on the status of the process;
- Set the processes using the constant active sensor;
- Setting up feedback that causes action;
- Use interactive analysis and synthesis, so that the process led to the creation of new values;
- Intelligence gathering knowledge and skills related to the process, which can be used later use
- Personalization of the process in relation to the habits of the project.

The first phase in the process of re-engineering is the identification of the need to redesign. Processes are often poorly known, and even less documented. The reason for this is that workers know the process as much as is sufficient to perform the job in your workplace. If you are watching a number of related companies, may be noticed that in this situation is less well-known processes. Can be noticed and processes are not directly related to the company and do not participate in its work. It is necessary to cleanse the company of the unnecessary processes, in order not to be accidentally included in automation, which results from re-engineering [11].

Of course, you will automate the processes of most critically, where the analysis of each of them fully implemented. The introduction of e-business usually have a direct effect on the reduction of the number

of processes in the organization. Overview of the increase, and the time of response to business queries significantly reduces.

It is necessary to determine only the re-engineering processes involved in the total business, while the other should be canceled. It is not desirable to waste time on re-engineering process that will not sufficiently affect the overall performance improvement company.

When the re-engineering of correct conduct, generally lead to decreased need for many participants in the performance process, and can happen, and to reduce the number of organizational units, and even the number of tools to participate in the production process. Information technology enables to provide a centralized look over redesigned integration process.

Monitoring mechanisms to improve the organization of the building in control of the individual process, and not building on its end. This control is installed in the automated processes, which are also implemented through automated and almost complete control over the execution of one job in all aspects of importance for the organization.

Change is made horizontal and vertical thickening process. Horizontal organization neighboring processes, and vertical waste unnecessary hierarchical level. After this completed reengineering, managers should be able to imagine a complete picture of business processes that constitute the system. It is important to note that the manager should not only monitors and controls, but also to assist in the process of decision-making and the development of the project.

Analysis indicate that, after a committed reengineering organizational processes, reduce the number of hierarchy level in half, and the number of managers in the third. Then the organization of business based on the knowledge of experts, who independently perform various tasks.

Important item is the flow of information. After a committed re-engineering information flow will be reversed: the main goal of data processing will become the way forward information from the top to the bottom of the organizational piramide.

E-business concepts important for re-engineering

Exchange of data between business partners electronically is usually based on the electronic exchange of data. Then the re-engineering focuses on the restructuring of information systems, in the restructuring business system company.

Internal database of each of the participants in the e-commerce should be composed of two parts:

- The first is contained in the structure of business organizations;
- In the second part of the history of the state of the business system.

In this way, development of two basic types of transactions is ensured: one kind is used for the definition of business transactions of the exchanging structure of the business between the two participants, while the transaction of business operations by exchanging information that depend on the state of the business system.

The emergence of electronic commerce has enabled the creation of exceptional tools to provide solutions to problems that occur along the entire supply chain. Numerous activities within the supply chain, from taking orders from customers, to product delivery can significantly facilitate the use of electronic commerce. Generally speaking, the use of electronic commerce can provide the following advantages when managing supply chains.

Digitalization of products: the development of digital products such as software and electronic editions of books and music, can eliminate the need for physical transport of certain products between participants in the chain. Delivery of such products to the customers is much faster, cheaper and simpler than the classical physical delivery of tangible products, thereby significantly reducing costs, especially due to the fact that it excludes the need for their storage.

Replacement of all paper documents electronically: This change has significantly improved the speed of business and its reliability, with significantly lower costs of transfer documents in electronic form in relation to paper documents. Thanks to the Internet and e-business significantly reduced the time needed to transfer documents can now be exchanged for a few seconds, regardless of where physical distances are partners.

Changing the nature and structure of the supply chain: Supply chain advent of modern electronic communications are increasingly changing their shape, linear structure are increasingly replacing hubs in whose hub is the manufacturer. This restructuring of the supply chain enables faster, cheaper and better communication and mutual cooperation of participants in the chain. A special advantage of the appearance of this new supply chain structure is reflected in a much better and more efficient communication and information exchange.

Improving cooperation and information exchange: between partners within the supply chain. In this way, e-commerce allows for much closer cooperation and coordination between the partners in the chain. Improving cooperation between partners in the supply chain as a result of there are many better sales forecasting.

Shortening the supply chain and minimize inventories: The emergence of electronic commerce leads to a change in the mode of production of a large number of products. Instead of mass production of an increasing number of companies use the advantages of modern business and moves to production according to customer orders. The automotive industry, for example, achieves several billion dollars savings each year only because of the savings on the cost of inventory. These savings are solely a consequence of abandoning the concept of mass production and the transition to a strategy of making according to the orders which supported the use of electronic commerce and the Internet.

Providing services to customers: The emergence of electronic commerce and the Internet has significantly diminished the need for interaction between the sales staff and customers, mostly thanks to innovations such as frequently asked questions and the detailed characteristics of products that today are an integral part of official web presentations of all enterprises. The possibility of monitoring the delivery status is another of the services that can significantly increase the level of customer satisfaction.

Improving business efficiency: Improving efficiency is mainly reflected in the benefits achieved by buying and selling over the Internet.

The most important role of e-business is facilitating purchases and sales in all segments of the supply chain. The most important categories of activities that have been achieved maximum benefit include procurement, internal activities within the supply chain, sales and the combination of procurement and sales.

Procurement Activities

A number of innovative e-business models provide significant support to procurement activities. These models are collectively described as electronic procurement. For example, it may be applications for reverse auctions, collecting offers suppliers to the buyer's site, a joint procurement by the consortium and group purchasing.

Internal value chain activities

Internal supply chain activities include several internal activities of e-business. These activities, from entering orders for materials, through the recording of sales, to the monitoring of delivery, usually carried out with the help of the corporate intranet network.

Sales activities

The following models represent typical sales activities with the help of e-commerce: Sales through its own Internet presentation: Large companies (such as Intel, Dell or HP) for many years using this model. On the company's web site customers can search electronic catalogs on the basis of which they can carry out the order. Large customers get their own pages and catalogs tailored to their needs. Companies selling their standard products, many of which allow customers to when shopping via the Internet configured products that best meet their needs.

Auctions: Large companies, often on their websites perform auction sales of their products and old equipment. Electronic auctions can significantly shorten the time required to perform sales and reduce logistics costs. For example, in the United States, each year at auctions sold more than 2.5 million used cars. Many of these auctions are conducted via the Internet and selling them cars to rent-a-car agencies, government agencies, banks and many other large organizations. The buyers at these auctions are, as a rule, car dealers who buy them wholesale and then resell these vehicles to customers who buy them on a piece. Traditional car auctions are usually performed on large parking lots, on which the cars exhibited and performed their physical auction sales. In electronic auctions, cars can not be transported to where the auction is held very, and not customers do not have to travel to the place where it is performed. Studies have shown that internet auctions provide an average savings of $ 500 for each car sold **[5].**

Stock exchange: Electronic exchange may represent a significant support in the business supply chains, since they can be used very quickly and with minimal cost, to find all the services that are members of the chain necessary.

- The combination of sales and purchases
- Sometimes a combination of sales and purchase activities of e-business can prove to be extremely useful solution. This combination can be made to B2B exchanges, where they face numerous buyers and sellers. Most of these markets are specialized for particular industries (eg. Exchanges of precious metals, energy), so they are called vertical Stock Exchange [6].

The Structural Elements of the Model Re-Engineering Of Business Processes in Procurement E-Business

Starting with the key objective of the procurement to ensure continuity of production and economic operations of the system, from its place and role in providing the necessary inputs, it is possible to identify the structure of all the activities and processes that are continuously taking place in a logical and meaningful way. This structure has the following form:

- Definition of procurement policies, as well as a set of relevant principles concerning procurement, price, quantity, quality, deadlines and stocks;
- Development of appropriate procurement plan, which is the operational plan and determining the individual procurement of various types of materials - by types, quantities and deadlines in order to obtain materials in accordance with the dynamics of production and maintain the necessary supplies, to ensure continuity of production and avoid extremes in stock (lack or accumulation of material);
- Seeking deals reference the appropriate forms (forms) at different addresses of potential suppliers, the establishment of direct communications, or through certain advertisements in the press, the Internet;
- Selection of suppliers based on the expressed elements collected offers, such as quality, quantity, price, delivery terms and conditions that must be agreed certain dynamics of investments and policies rational inventory;
- Preparation of orders that must be transferred suppliers appropriate technical, commercial and legal requirements and contains the necessary criteria to urge suppliers to comply with the defined terms and to be decorated in a way that excludes the subsequent intervention and language concerns;
- Check the execution of the order is based on the need to check the order of elements, which refer to material quality and delivery times;
- Making a complaint putting an end to the resulting errors or omissions in the delivery of materials, corrections, subsequent replacement materials or restitution, in addition to damages arising due to lack of materials and the production process;
- Shift the terms of delivery because of the extra demands and needs of production, changes in the market, difficulties in payment, etc. Storage, as well as the process of receiving purchased materials - through quantitative and qualitative receipt; the process of storing, storing and providing the necessary conditions for the protection of purchased materials; issue, as the process of counting and classifying materials and the end-user; registration process on the basis of which is determined by the warehouse operations and inventory which compares the actual state of inventories as shown by the records;
- Monitoring quality of suppliers and defining measures that can improve the quality of delivery and the relationship of business partners.

In order to improve the supply system, it is necessary to systematically describe and prescribe ways:

- Selection of suppliers and contracting system;
- Valuation, or similarity suppliers, those who are candidates zazasnivanje appropriate business relationship;
- Conquest and verification of suppliers and products;
- Planning and implementation of procurement (materials, machinery, tools, equipment);
- Receipt, storage, warehousing (accommodation) and issuing materials;

- Recording of purchases, inventories, etc.;
- Advertising shortcomings incoming materials;
- Research procurement market, particularly in terms of the changes that occur on the supply and demand;
- Procurement coordination with other parts of the organization, such as manufacturing, accounting and strategic marketing;
- Borrowing documents, check invoices and issuing payment orders resulting obligations from the activities of the purchasing function.

Figure 1 shows a conceptual model for reengineering of procurement and payment system in terms of electronic business. Current conditions is not developed adequate provision in the system production. This model electronic data enables the optimal price, quality and efficient delivery. Also, electronic commerce is provided electronically transfer money which is also a very rational business process.

Results and Discussion

Case Study - The company passage group belgrade

In modern conditions: large market turbulence, variable demand, competition and the multitude of required innovations, there is a need for rapid and radical changes in business processes. This need has realized the company Passage Group since it was shown that implemented marketing activities (despite the usual separation of the budget of 2% of turnover), do not show results that would be reflected in increase in the volume of sales or capturing better market position.

The idea is to devise a system approach that aims to improve key business processes of the Company.

Company profile indicates that it is a family company, which exists and successfully operating for over 30 years. Manufactures and sells women's clothes, and has more than 100 employees. Since the creation showed entrepreneurial spirit, and of the small workshop grew into a successful and well-established Company.

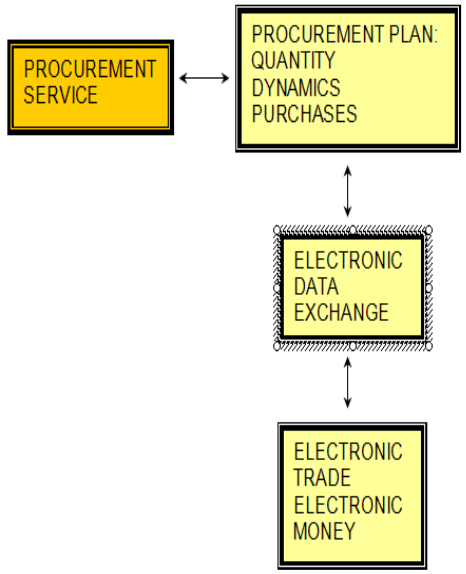

Figure 1: Conceptual model reengineering of procurement and payment system.

This entrepreneurial orientation of the Company led the way for success and advancement, and this means that it is constantly thinking and the implementation of some changes, it seemed that the company grows and increases performance.

The first crucial changes were made after the realization that family is insufficient and that the team can no longer "everyone to do everything," but that the management team must step up employees who have rich experiences designed to build your career in parallel with the growth of the Company: This was carried out, and as a result of these changes through the process of re-engineering, the Company rejuvenated and got the energy that makes the driving force of the working team. This means that the Company redesigned its human resources.

Further operations of a long series of years, the fashion house founded spontaneously and nourish a special organizational culture based on real values such as dedication, creativity and mutual respect.

Other radical changes started after the decline of sales and the approach adopted "Every man is very important for organization": This means that the strategy focusing on human resources initiated another process re-engineering: unlike the previous practice that in the context of functional organizational structure exist Sector Marketing, the fashion house has created another approach marketing activities.

The new approach means that marketing is not only the scope of the sector that already permeates Marketing and other sectors, and to establish itself as the responsible person of a man who would be responsible for all activities that take place in the framework of the marketing strategies implemented, the new approach does not Marketing sector only, but in all other parts of the enterprise, respectively at the level of tasks every business function that is done in these parts, or sectors.

For example, in the sector of Procurement, jobs are not only oriented to the normal supply of raw materials, more emphasis is placed on the price of raw materials (as part of the marketing mix), distribution channels and monitor the promotional activities of suppliers.

Furthermore, in the sector Production, to focus the product as an element of the marketing mix in terms of its quality, then the reduction of waste, perhaps adding some new value of the product for the purpose of targeting new customer groups, etc.

Indicators of a successfully implemented reengineering process the following values that are embedded in all parts of the business:

- Faith in what company works but also striving for perfection,
- Community spirit,
- Synergies,
- Commitment to the individual, the team and the whole organization,
- Presence of marketing in all sectors initiated the permeation of marketing activities and tasks through a complete corporate culture of the Company,
- Increased requirements for product quality,
- Reduced costs, which increased profit companies.

Adapting to modern market conditions of business, the *Company is in the process of re-engineering attention to the electronic mode*

of operation. According to marketing activities, the emphasis is on promotion. The Company implements the most effective (also inexpensive) way of advertising through the web site and through social networks, while ordering the product can also be done through internet stores, as another form of e-business. It thus meets the needs of modern consumers.

Described says that the company conducted a reengineering process improvement of e-business; in this sense it is accepted and the use of new software as a tool to conduct business under the name Lidder 10 MRS.

This software has an important application in:

- Anagement and Analytics: shows the necessary information to make decisions,
- Accounting and Control: automates all accounting tasks posting and control of business changes,
- Operational automates the recording of sales, purchasing, reservations, inventory, billing, payment, etc.

The software allows very efficient ways of working and involves the use of tools and modes that can not be easily described through common programs used so far.

All parts of this software are part of a whole and have a unique base of expertise and knowledge on the state of the whole system in all its aspects, and now. Lidder is a professional tool and a great help at work.

Implemented process reengineering is important in changing the current rules of behaviours in the organization, as well as changes in access to certain business matters and activities. Instead-established procedures, process reengineering are designed new solutions, which led to the adoption of a different approach, encompassing key processes in this fashion house

In addition, all resources are mobilized in order to constantly encouraged, generate and disseminate new creativity and organizational skills. All this leads to innovation and strategic advantages to it, ultimately.

Conclusion

The problems which usually appear during the re-engineering are: 20 percent technological and 80 percent organizational. Technological solutions of problems are almost always available on the market and such problems are much easier to solve than organizational problems. Due to strong influence of human factors, organizational problems do not allow the simple application of existing solutions. In order to redesigned system function successfully, it is necessary to realize the full automation of the exchange of messages in all key areas of e-business.

In order to achieve full integration of applications and information system, should meet certain requirements:

- A unique approach in handling internal and external messages;
- System should enable management of different types of messages (E-form, e-mail, EDI, private documents, the local data);
- Timely notification of errors, high-priority messages, delay of feedback message;
- Interface should have intelligently routing messages to the intended place, without user intervention;
- The level of security that is required in the business must be realized in the interface;
- To provide full automation in the internal environment of the interface is required connection to the message accounting, taxes and fees, audit, archive and recovery procedures in case of forced outage.

To achieve full automation of the procedures, it is necessary to reduce the procedures on the model in which IT system makes decisions, because the delay that may arise due to the formation of schedule bureaucracy used functions can jepardize the chain of exchange of business documents in one job. Methods of Approval of business functions are replaced with the so-called custom stamps, information about who created or changed data when the transaction is done. On the basis of these data it is possible to determine the responsibility of each user itself, and in the same way you can see and the competence of persons who are at the top of the organizational pyramid.

During the integration of e-business systems applications in various business partners, showing a series of problems that necessary resolve to ensure that its introduction:

- Leadership, which has influence and control in an organization is not able to make decisions when you cross the border organizations, and decision-making much more complex;
- The development of inter-organizational relations require overtime work in a large number of business partners;
- Information from the information system can be exchanged with different partners in different formats, which brings more complexity;
- Often imposes the need for interfaces oriented to different communication systems, hardware platforms, operating systems and application software.

In areas in which design information systems are established in business terminology, which is necessary to realize the system of e-business. Therefore, it is very important to create a unique and terminology for all of the participants, which will be included in the common vocabulary of terms.

Life cycle development, presented one of the known methods usually face the need for the deviation of parallel and often contradictory tasks. However, these jobs must be done to meet the needs of business partners, which increases the complexity of the project and its redesign.

The boundaries of the system provided a high degree of uncertainty, because it is necessary to determine how long to go in the changes in order to meet the high demands of external business relations.

Before you begin the process of reengineering, it is well to analyze in what condition the company. It is necessary to solve a major dilemma: whether to, upon completion of the process re-engineering in the business situation to improve and how [12,13].

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