

## REENGINEERING A SOLUTION FOR SMALL COMPANIES IN THE CONTEXT OF THE PANDEMIC

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**Abstract:** Reengineering consists of reinventing business by using the latest technology and, therefore, making leaps in performance. Reengineering and restructuring are not synonymous. Restructuring responds to the interests of shareholders to increase efficiency and effectiveness, while reengineering is concerned with the situation of employees and customers. Reengineering aims to change the way processes are conducted and, as a rule, does not change the organizational chart and does not involve the disappearance of positions and dismissals of employees. The paper presents how, in the difficult pandemic period in which many businesses were reduced or even disappeared, a small company, using the principles of reengineering, reinvented itself and manages to survive. The specialized literature mentions that among the companies that resort to reengineering are those that face great difficulties. It is known that trouble teaches you what to do but the company in question had no great problems before the pandemic. They could send employees into technical unemployment, but they wanted to continue production by making the products that were requested online and start the production of protective masks from the debris that fell from the cutting process, given that the raw material met the requirements. In the first period, they were donated to hospitals and later they sent for sale. The employees were divided and worked in shifts to respect the distance, thus avoiding possible illnesses. Sales increased in time, people did not lose their jobs, nor did their income decrease, customers were satisfied, and the business also grew.

**Key words:** reengineering, process, efficiency, employees, customers.

### 1. INTRODUCTION

Most organizations want to increase competitiveness in a time-based competition and an environment dominated by dynamism and uncertainty. Time-based competition means faster delivery of products and services, compared to competitors, giving companies an important strategic advantage.

In a constantly changing world, the organization must behave like a tennis player: to be able to hit the ball well, no matter how it is served by the opponent [5].

Deming said that in today's world there are only two types of organizations: those that change and those that are out of business [9].

In the same context, Toffler noted that as the pace of change accelerates in society, the old economy is replaced by the "economy of impermanence" [1].

Organizations need to initiate change processes to meet market demands, increase shareholder values, or fulfill government strategies. They often need to initiate and implement change processes to maintain organizational stability and to support balanced economic growth and sustainable development.

The reorientation towards the new organizational paradigms requires many changes. Organizational

change is the adoption of a new idea or behavior by a particular organization.

One of the purposes is to compress and control the time interval from receipt to delivery of the order, to accelerate the movement of goods and reduce stocks.

Accelerating logistics activities reduces the level of financial assets to be used and increases the level of customer service.

Changes occur with dizzying speed, with an avalanche of information, with new technologies that must be assimilated and in these conditions people are often subjected to mind-boggling stress.

As C. K. Prahalad said, what is important today is no longer the learning curve, but the forgetting curve [10].

Change is no longer an event, but a "modus vivendi."

Igor Ansoff believes that when proper management is lacking, change is fraught with conflict and becomes costly in human and financial terms [4].

The success of understanding and accepting change depends more on leadership ability than on managerial skills. The first thing to do is get involved. It is important to involve everyone inside the organization, who is relevant or who has an interest in the change process, because it is impossible to do something from the outside.

Changes are more likely to succeed when things go well [12].

It aims to change as an approach that targets both the physical resources (hardware, software, machines,

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robots, system components) and the human resources of a company – services, data, documents and processes – an approach that is deliberately introduced into the environment. Production can affect the functioning of the organization's environment, the efficiency and productivity of the enterprise, or even threaten the entire vision and development of the company. For most companies, changes in production begin when a problem is identified in the production process or when the product design changes. There are many ways to manage the change process, and production managers are forced to navigate this uncertain field. The problem that managers face is the difficulty of managing the increasing complexity, of accurately anticipating the impact of the changes made by them or of evaluating different options in advance. To ensure that changes are effectively implemented within internal and external teams, it is important to develop robust production change processes. Without such a process, production management consists of an endless series of ad hoc, undocumented and unplanned changes.

Even if it is a question of adopting a new technology (computer system, production equipment, production process, etc.), there are three major directions for implementing the change:

- transforming the management of the enterprise (Leadership);
- transformation of enterprise processes (Workflows);
- transformation of organizational culture (Cultural Change).

In the business environment, here this phenomenon is even more intense, understanding and assuming change make the difference between success and failure.

The benefits of introducing change are abundant and are mainly associated with reducing risks and improving the quality of products/services.

## 2. REENGINEERING

The term "reengineering" was coined by Michael Hammer, in a high-profile article in Harvard Business magazine called: "Reengineering the business: don't automate, eliminate" [2].

Reengineering has been prescribed as an important tool for achieving and maintaining competitiveness.

Reengineering involves a complete rethinking of key processes to promote horizontal coordination and increase flexibility in relation to environmental changes. Reengineering advocates the organization of work around processes, not the functions of the organization and results in reorientation from the vertical structure to the structure that emphasizes teams and employee empowerment.

By redesigning all components of a process, waste of resources of all categories and delays can be removed. Reengineering promotes decentralization, mutual interdependence and shared use of information.

Figure 1 shows the reengineering process and its components.

There are three keywords that motivate the use of reengineering (the three C's: Customers, Competition, Change):

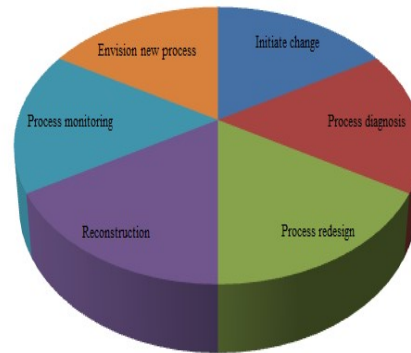


Fig. 1. Business Process Reengineering (source: made by the author with information from the literature).

- Customers have become more demanding; they are not satisfied only with what is offered to them, they each have a certain vision about their own needs and about how they must be satisfied; At present, we no longer talk about "customers", but about "that customer" (respectively about the demand for customized, personalized products/services);
- The competition is constantly growing and is of several kinds: based on price, quality, assortment; those who are not competitive are eliminated from the market and new entrants to the market do not always obey the already existing rules, they make other rules, contributing to the continuous change of the economic context;
- Change is an inevitable and very complex process; it implies the diversification of the demand and the supply, the modification of the rules of the game according to which the economic agents are oriented, the products/services newly appeared on the market are more and more varied and have an ever shorter life cycle; change is getting faster and deeper now compared to what it was years ago.

Reengineering, by definition, differs radically from other business practices such as Total Quality Management (TQM), Lean Production, Downsizing or Continuous Improvement, Six Sigma.

Types of companies that use reengineering [7]:

- organizations in difficulty (which have problems with maintaining the market, which do not produce at the required quality level, which are out of competition);
- companies that are not yet in difficulty, but are expected to have problems in the future;
- companies that do not have and do not seem to have problems, but have an ambitious and aggressive management that believes that you can only win if you are one step ahead of everyone, if you change constantly, using innovations and opportunities market.

Generally, the following changes occur in a company that uses reengineering [11]:

- work units change and process teams are created from functional departments. Employees from different departments must be brought together to mediate the exchange of ideas, to form a systemic

thinking on the whole process and not just on a single stage;

- the attributions of the different positions change and thus from simple operations to multi-dimensional works. Specialists are replaced by generalists. This change also reduces the realization time.
- the role of people changes and from the status of subordination they come to have decision-making power and in this way the communication chain is reduced. It is no longer necessary for an operator to wait for a problem to be solved by the boss. He has the right and the duty to make the decisions he considers correct. This requires that the company's management has full confidence in the employees and that they have the ability and knowledge to make the optimal decision;
- employee training shifts from skilled to education. The staff will not necessarily be hired depending on the specialized studies or experience in the respective field. He will be chosen according to the level of education he has. It starts from the idea that a trained person, even in another field, is smart enough to learn to do anything else;
- measuring performance and establishing rewards is no longer about activity but about results. This means that people with long seniority in the company or those who occupy a higher position in the hierarchy do not have to receive a higher salary. It starts from the idea that all those who have results in their field of activity must be encouraged and motivated;
- values change, from self-protection to production. Employees must understand that they work for the client and not for their bosses and in this context are remunerated depending on the degree of customer satisfaction. It is important to understand that it does not matter who is wrong, that in the end, only the result obtained matters. This discourages unfounded competition between departments and encourages teamwork;
- managers also change from supervisors, they become coaches (mentors). They need to become active in order to improve their activities;
- organizational structures change so that hierarchies flatten;
- bosses change and from mere findings of results they must become leaders.

Information technology (IT) will play a strong role in redesigning business processes and will continue to present the recursive relationship between IT and reengineering. It is necessary to use IT as a lever to fundamentally change the way business is conducted.

Figure 2 shows how the transformation using IT generates the new system from the old one. Major change programs such as the reengineering process involve important changes in the entire structure of the organization. It is obvious that during the existence there were changes that were started and even finished and which involved some intensive changes, related to quality or extensively, at the quantitative level, in the vast majority of the company's subsystems (personnel, technologies, structure, products, strategy).

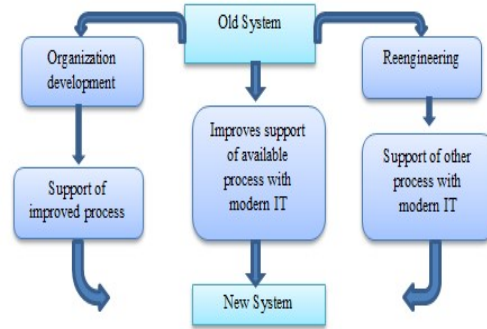


Fig. 2. Transformation using IT (source: made by the author with information from the literature).

In reengineering, radically redesigning means completely ignoring existing procedures and structures and inventing completely new ways of operating. Reengineering means reinventing the company, not just improving or developing or modifying the business.

In practice, however, this vision is very difficult to achieve. Existing constraints of various kinds (organizational, financial, legislative, etc.) often make it impossible to organize a process remodeling project in a radical way [6].

Reengineering involves not only making marginal or gradual improvements, but real dramatic leaps in results.

Marginal improvements require only certain fine-tuning while dramatic improvements require the demolition of the old and its replacement with something new [2].

In this context it can be stated that reengineering, in the full sense of the concept, has not been implemented by any entity, but certain specific elements of reengineering have been applied by all companies through restructuring plans of management processes, production processes, financial, economic activity, being planned and implemented without realizing that they represent elements of reengineering.

70% of reengineering cases fail for various reasons but the predominant ones are those of a human nature, because people's mentality changes the hardest. [8]

The literature has highlighted some common mistakes that diminish or even nullify success in reengineering:

- there are people who just try to fix a process, to practically patch it up, instead of totally changing it;
- there are managers who do not pay enough attention to employees and/or their opinions considering that they are far above all;
- there are people who are satisfied with small results, following the principle of small and safe steps, because no one guarantees the success of radical changes that obviously involve high costs and long time to materialize;
- there are people, without patience who easily give up the first inconvenience such as, for example, resistance to change;
- most people are not prepared to give up old mindsets. Most people, even those who understand

the depth and acceleration of change, consider the idea of change threatening [3].

### 3. COMPANY PRESENTATION

The story of the company in question begins in 1998 in a small manufacturing workshop, in which 3 people produced cotton pajamas for women, children and men, in a space rented in SIBIU. After 3 years of renting, the company decided to build its own production space in SIBIU.

The object of activity of the company is Manufacture of underwear and sportswear.

The company did not follow the classic path of the profile companies in Romania, which focused almost exclusively on export. Company chose to produce for Romania, under his own brand, even if this meant choosing the more difficult and less safe road. After almost two decades of struggle, in an ever-changing market, the brand is today a national brand. It has gained its position on the Romanian market, in the sale of pajamas and SPORT articles, made of cotton, for children, women and men.

The company's products are currently sold in about 300 partner stores across the country. The brand's philosophy revolves around three landmarks. It is about quality, diversity and innovation, landmarks embedded in products that reach the store shelves at affordable prices for everyone. Quality is monitored in all phases of production, starting with the choice of material and ending with the packaging of the product. However, pre-pandemic trends have allowed them to "play" with new cuts, models and bold colors, making attractive products for young and very young.

The company owns an online store where it sells: pajamas, T-shirts, tracksuits, leggings, pants, aprons, for women, men and children and offers discount depending on the quantity, between 5–10%.

The company operates in a field with fierce competition.

Clothing from China, Turkey and Second Hand are severe competitors.

Even if the company works with cotton material, so clearly superior, they are always concerned with reducing production costs, they cannot compete with their prices.

The market share at the level of Sibiu and Romania is presented in table 1. The data was provided by the company.

The market share in Sibiu fluctuated so that from 11.39% in 2017 it decreased in 2018 to 8.96% and then in the following year it increased to 9.45%.

At the level of Romania, there was an increase in 2018 compared to 2017 of 0.01% and then a stagnation at this value.

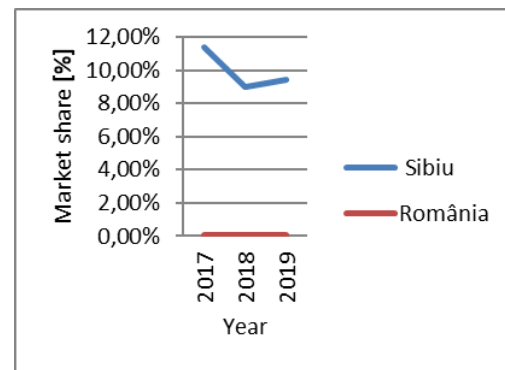


Fig. 3. Evolution of market share.

The graph shown in Fig. 3 was constructed based on the data in Table 1.

The recorded results show the permanent concerns of this small company (only 12 employees) for continuous development.

The involvement of the entire staff of the organization was a key element in the company's path from survival to success.

In addition to moments of success and satisfaction, they also faced many challenges in identifying the resources and solutions that customers expected from them. Failures and tense moments were not lacking, but they played an important role in forming the team and most of the time, they strengthened the relationships with customers.

The "open door" policy is promoted, which does nothing but lead to better and more efficient communication and can lead to decisions-making at the right time for carrying out activities.

Weekly working meetings are held with all employees where the problems of the organization are discussed and solutions are sought together so that transparency is ensured.

Debating all the problems faced by the company in meetings with all employees is beneficial because each person in its segment knows in detail the situation.

In order to maintain a competitive and innovative organizational environment, the most important factor that leads to the profitability, sustainability and growth of any organization is the involvement of employees.

Debating all the problems faced by the company in meetings with all employees is beneficial because everyone feels important in the activity it carries out.

Employees feel good that they are consulted, that their opinion matters and thus ensure that transparency desired by everyone and even and participatory management.

The entire organization is involved in serving the value chain.

Being a small company, with an ambitious management, with dedicated employees, it was considered that if the problems are not analyzed, it risks going as wrong, until the losses are reduced operationally, but time and money are lost at process level.

The company has taken over elements of the Lean System, based on the principle that the customer pays only what brings him value and from this perspective

Table 1

Evolution of market share

Market share	2017	2018	2019
Sibiu	11.39%	8.96%	9.45%
Romania	0.07%	0.08%	0.08%

must eliminate waste and be flexible in adapting to market requirements, including the frequency with which the customer wants to deliver a particular.

The company has introduced in practice elements from Six Sigma, the complementary Lean Manufacturing methodology, through which the processes stabilize quickly, reduce their variation and give the products stability and robustness.

The great achievements of the Lean approach were well highlighted in this period of pandemic crisis. In these moments, the importance of the principles was rediscovered: waste reduction, cost reduction, minimum investments for development, finding resources internally, development focused on the most important resource: INTELLIGENCE.

Discussing Six Sigma, the employees were delighted with the DMAIC methodology and decided to use it. This involves the following steps:

- Defining;
- Measuring;
- Analyze;
- Improvement;
- Control.

Often, utilizing the client perspective, the organization conducts an end-to-end course of opinions, incorporating cross-discipline and cross-functional staff views.

Organization, improved productivity and competitiveness, integrated production systems and concern for quality, lead to success.

This allowed the faster flow of capital, stocks were optimally sized and non - quality was declared and assumed by employees as too expensive to be accepted.

The purpose of applying these elements was:

- Concrete focus on the customer obtaining the increase of consumer satisfaction;
- Increasing the company's profit;
- Improving the quality of the products made;
- Increasing employee satisfaction;
- Reduction of operating costs and major recoveries of invested capital;
- Establishing a mechanism for generating change management;
- Reducing the number of defects;
- Cultivating the pleasure of excelling.

In addition to those already mentioned, the competitive advantage is also manifested by:

- company with seniority appreciated by customers;
- the company makes products with a favorable price / quality ratio;
- the company has loyal and well-trained employees;
- the company has its own supply / distribution system consisting of employees of the company and two minibuses owned by the organization;
- the means of production are new, modern and efficient;
- optimizing the organization of production and continuous concerns to result in small stocks with fast movement;
- relations with suppliers are of the partnership type even if they are not regulated by a contract but their stability over time proves it;

- customer relations (stores) are partnership type even if they are not regulated by a contract but their stability over time proves it;
- the company works with raw materials and quality materials whose good processing leads to obtaining quality products appreciated by customers;
- relationships in the organization are based on respect, empathy and conflicts are avoided;
- sales agents are rotated periodically and get to know all areas, with all the problems that may arise;
- uses raw materials and materials responsibly, ensuring an advanced degree of use;
- productivity/organization is superior to many competing companies even larger.

#### 4. REENGINEERING A SOLUTION FOR SMALL COMPANIES IN THE CONTEXT OF THE PANDEMIC

At the beginning of the pandemic, the people were sent home and the all clothing companies in Romania sent people home.

In the context of the coronavirus crisis, the problem was that people would be left at home for a longer period. Life is hard, wages do not allow savings to provide a decent life for a long time, and some employees had debts to banks.

Employees have been at the center of management's concerns because they are part of the company's body and nothing can be done without them.

The current pandemic has had and still has a major impact on the economy. In order to survive, the textile production companies focused on the production of equipment necessary in the fight against the new coronavirus.

Several companies and firms in Romania, noticed the opportunity and reconverted in the context of the coronavirus pandemic, giving up partially or totally their productions in order to make, instead, protective equipment and masks, insufficient at that time.

Thus, it appeared as a general need, the realization of non-medicinal protective masks, because the company did not have the sterilization technology.

In this context, the company adapted to the needs of the market and made cotton textile masks that can be washed. They used the equipment they had and adapted the production.

Traditional products were sold through the online store, but the rest of the stores were closed. The making of the masks could be easily done from the remains resulting from the process of cutting the products that the company made.

Online sales have risen sharply for the company's established products but have not matched those of the pre-pandemic period.

In this way, pajamas, T-shirts and masks were made at the same time and the continuity of the company's activity was ensured, in the conditions in which many stopped the activity.

Obviously, all measures to protect workers were taken and observed and there were no illnesses.

Then there were problems with the raw and auxiliary material.

These problems began to diminish when the relaxation measures appeared and slowly, slowly returned to normal but in a different context.

Later the masks arrived in stores, for the general public, and in shopping malls.

## 5. CONCLUSIONS

From what is reported, it is highlighted that when the employees of a company believe in what they do, they follow their leader and even in very difficult conditions they manage to find viable solutions together.

Through effective communication, employees are no longer afraid of change as long as they are always informed, always receive answers to questions and manage to understand the need for change.

In order to accept and contribute to change, people must feel a personal benefit, understand how they will be in the new context.

Reengineering, in essence, is a complex concept that aims at radical changes and as many works in the literature mention no firm failed to apply it "ad litteram" because such changes involve costs that, most often companies cannot afford. On the other hand, not everything related to the past is obsolete and results can be obtained using them.

Customer orientation, better communication, flattening of the hierarchy, reducing costs without affecting quality are vital elements.

Changes must always be thought of because the good is the enemy of the better.

From what has been presented about the company, it can be seen that there is a participatory, ambitious management where communication is treated with due importance and the team is well welded.

Even reengineering is totally different, the functional existence of the Lean and Six Sigma elements allowed the reengineering elements to function. For the company, reducing costs means changing balance and not just cost cuts, which would obviously mean imbalance.

The company considers that waiting is an additional frustration and avoids it by building lasting relationships with both suppliers and customers.

Every customer is treated with respect whether they are new or old.

From the Lean approach, the employees understood that the most important resources are the internal losses, which the company is not aware of, but which it will have to determine and reduce, even to the point of elimination: stocks, waiting times, reprocessing.

The company understood that it is not the product itself that needs to be targeted, but the technology and the process.

It was understood that the redesign of the product is "ying", while the redesign of the process is "yang".

Losses and waste are the target of joint actions of the company's staff.

Balance of flows and flexibility are doubled by an interdisciplinary focus on quality, for all employees, regardless of field. Quality is ubiquitous, representing the level of maturity, cohesion and team spirit of the organization.

The theory recommends that changes be made when things are going well so that they can be thoroughly prepared.

The company proved that even in difficult conditions of pandemic crisis it managed to reinvent itself and survive.

Following the reengineering elements from Fig. 1, it is observed that they are found in the company's activity, provided by a high-performance IT support and a mature team able to use them.

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