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# A CRITICAL AND COMPARATIVE ANALYSIS OF THE INDUSTRIAL CORPORATIONS IN THEIR EVOLUTIONARY DYNAMIC

**GHERGHEL Sabina [1], INDRIE Liliana[2]**

[1,2] University of Oradea, Faculty of Energy Engineering and Industrial Management, Department of Textiles, Leather and Industrial Management, B.St. Delavrancea 4, Oradea, Romania, sgherghel@uoradea.ro, lindrie@uoradea.ro

Corresponding author: Gherghel, Sabina, E-mail: sgherghel@uoradea.ro

***Abstract:*** *Since the 2000s, a series of mergers and acquisitions of brand at industrial corporations' level has been observed in the global industry landscape, and an even more pronounced dynamism was manifested in Europe. The wave of mergers and acquisitions continues nowadays, when the concentration of the dominant "actors" on the industrial stage is followed by a similar process of creating enterprises able to compete with the first ones, either by the size of production or financial strength, or by innovativeness and introduction of new and competitive products. The existence of the Common Market and the EU on our continent has contributed enormously to the process of restructuring the "old" Europe.*
*In the first phase of the European construction, the stage where national markets were still dominant, but there could be noticed a serious growth of competition, in Europe there has been produced a huge wave of mergers, for many surprising. Once with the consolidation of the European Community, a new phase begins, in which enterprises begin to adopt "continental" strategies and policies, reasoning according to the logic of a market area. Through international mergers means, is implemented a strategy that adapts the minimization of costs and simultaneously an insurance policy against a future possible currency devaluation. Today we are witnessing the third stage, with rules that tend quickly towards a complete unification and a single currency. The agreements between the European enterprises can be considered favorable because they often lead to high levels of efficiency without decreasing elements that make them competitive.*

***Key words:*** *system production, competitiveness, merge, enterprise, market.*

## 1. INTRODUCTION

With the strengthening of the new economic Europe and the start of harmonizing the administrative-economic rules and the discipline competition, begins a new phase in which companies adopt a continental strategy and they are beginning to act according to a unique market logic. International mergers are realized, and enterprises implement strategies in order to minimize costs and simultaneously are heading a policy of insurance against the risks of currency depreciation.

The current industrial reorganization is primarily due to a strong activism of the major groups. The fundamental critique resource of all these corporations is defined by their ability to respond to competitive market dynamics by adapting their continuous production systems and technologies used and also by an efficient management of human resources and leadership. The textile and clothing sector is one of the most important of areas in the European manufacturing

industry. At the level of the European Union, approximately 1.7 million people are working in this particular field, fact which has the ability to generate a turnover of EUR 166 billion [1].

## 2. A CRITICAL COMPARATIVE ANALYSIS OF INDUSTRIAL CORPORATIONS

The critical comparative analysis of the industrial corporations is based on the following criteria:

- The performance of the production system adopted by the corporation,
- The anthropocentric orientation of the corporate management,
- The flexibility of the organizational model adopted by the corporate management,
- The control system adopted by the corporate management.

### 2.1. The comparative analysis of the production systems by specific characteristics

The comparative approach of the usual five production systems that characterize the industrial corporations is presented in Table.1., which summarizes, on a number of common features, six different levels for each type of production system.

***Table 1:*** *Comparing different production systems adopted in corporations*

| **Characteristic features** | **Corporate production systems** | | | | |
|---|---|---|---|---|---|
| | Manufacturing (MF) | Pure fordist (FP) | Neofordist (NF) | Economical (E) | Neomanufacturing (NM) |
| Division of labour | Reduced | High, by managers | High, by managers | High, by team-work | Reduced |
| Duties area | Large | Narrow | Narrow | Moderate | Large |
| Team-work | Moderate | Reduced | Reduced | Extended | Extended |
| Size of stocks | Big | Moderate | Big | Small | Small |
| Buffer facilities | Big | Reduced | Big | Reduced | Reduced |
| Area of fixes | Integrated | Small | Big | Very small | Very small, integrated |

By comparison, it appears that the pure Fordist system (FP) is similar to the economic system (E), while differences between the Fordist and the neofordist systems are much obvious. If we represent the distribution of the four types of production systems under a matrix form, according to the degree of adaptability to the changing offer and depending on the volume of production which makes an efficient system, is obtained: [2]

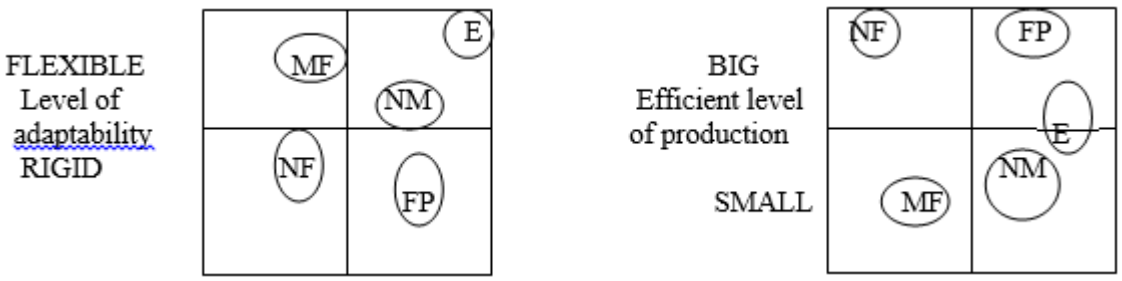


***Fig. 1:*** *Comparison of the efficiency of the production system types*
(Krafick adaption)

The figure shows that, in terms of adaptability, the most flexible, and thus the most adaptable are the manufacturing system (MF), the neomanufacturing system (NM) and the economical system (E), while the systems pure Fordist (FP) and neofordist (NF) are characterized by rigidity, so they have a low adaptability level. Therefore, Krafcik used two types of production systems, those of "buffer" (neofordist and manufacturing) and type "Economy" (pure Fordist, economical).

**2.2. A comparative approach of the production systems in terms of industrial corporations' anthropocentrism**

The anthropological approach of the evolution that has been experienced by the influence of the industrial techniques on manufacturing systems adopted by corporations belongs to Alain Touraine, who, while performing a deeper analysis, has managed to identify a complex transformation, structured in three phases, which do not follow perfect in time in terms of evolution, and that can coexist in different proportions in enterprises nowadays.

The first phase "A" represents the old labor system, in which independent worker action prevails. Also, the company is characterized by the coexistence of two worlds: one of the production, where the qualified worker is autonomous, and the other world, of the management, where the top manager has the full initiative.

Phase "B" appears and develops when the economic and technical conditions are relatively stable and predictable. The techniques can be scientifically studied and work organization is centralized. This phase is characterized by the predominance of the organization on execution, maintaining direct labor execution, and so the idea of human performance. Meanwhile, the priority of organization on execution provides some autonomy from technique.

Phase "C" begins with the advent of automation of manufacture. The worker turns into a supervisor of the technical system, which is inserted in a communication network.

Although aspects of the production system itself are not explicit, we can consider that the phases identified by Touraine are found in their evolution [3]. Thus, the phase "A" corresponds to the first form of production system, the manufacturing. Phase "B" corresponds to the system of mass production, Fordist, the production process having a manual-mechanized character. The third phase, "C" relates to the system of mass production, but which reached the stage where technical progress, on one hand, made possible the execution of performant and reliable production equipment, and on the other hand, the increase of the annual volume of production allowed the economic efficiency of the use of such equipment in the production process.

**2.3. The "organizational" comparative approach of the industrial corporations. The flexibility and agility of the corporate's structure.**

In the specialty literature is shown that many organizations, being under pressure environment, are moving towards new technologies such as flexible manufacturing systems, integrated manufacturing by computer, robots. The main reason for this happening is that new technologies promise to have the ability to operate in a flexible manner, in real time and at a much lower cost than the previous ones. However, current organizational models are not in line with technology, the motivation being of managerial nature, and there is no reason to have flexible systems if the company itself is inflexible and unable to respond quickly to changing needs of its customers [4]. Flexible systems and manufacture integrated by computer mean contextual changes in concepts related to manufacturing rather than simple steps in the development process and therefore the proposal that is made is a completely new form of organization to be developed so that the potential for them to be achieved [5].

Kakati shows that the process of development of manufacturing concepts can be identified in four stages shown in Table 2. [6].

***Table 2:*** *Stages of the process of development of the concepts in organizing the production in industrial corporations*

| Stage | Concepts of manufacturing | Variables of success-objectives that the organizational model must include | The properties of the organizational mode |
|---|---|---|---|
| Stage 1 | The traditional manufacturing system: production workshop, batch, mass production | - efficiency | - a functional organization with high fragmentation of tasks,<br>- the existence of many management functions,<br>- generating a high degree of specialization. |
| Stage 2 | Just–in–time (JIT): a manufacturing system based on the use of cards (Kanban) | -efficiency,<br>-quality,<br>-the reduction in the operating time (the duration of the production process) | - structuring JIT by overlapping functions,<br>- the allocation of functional responsibility at the point of origin,<br>- eliminating the unnecessary processes,<br>- reducing the top management functions. |
| Stage 3 | Reprogrammable automation DNC, CNC, SFF, CAD-CAM, Robots | -efficiency and efficacy,<br>- quality,<br>- flexibility,<br>- reducing the duration of production | - vertical and horizontal integration of functions and tasks,<br>- removal of both the processes and the support functions,<br>- coexistence of opposite business elements,<br>- a multiple rate structure type. |
| Stage 4 | CIM, computer integrated manufacturing, integration of the functions of design, production, information and of the logistic technology with the marketing function and the other functions | -efficiency and efficacy,<br>- quality,<br>- flexibility,<br>- reducing the production duration,<br>- innovation,<br>- mass customer (product adaptation to the individual customer needs) | - very high degree of integration of tasks and functions,<br>- complete elimination of functions and processes within the senior management,<br>- coexistence of some opposite business elements,<br>- a multi-beam type of structure. |

**2.4. A comparative approach of the production systems in terms of "process control" made by the management of the industrial corporations.**

Jaikumar identifies six stages of production, which are considered process control. This system of periodization of the evolution of manufacturing systems is based on the consideration of

12 quantitative and qualitative characteristics that define various aspects of how the control process was conducted in the companies and how performance parameters were recorded [7], [8].

***Table 3**: Comparison of the corporate management systems from the "control process" point of view.*

| **Characteristics** | **The British manufacturing system** | **The American manufacturing system** | **The Scientific Management (taylorism)** | **The improvement of the process (statistical process control)** | **Numeric control** | **Computer-integrated manufacturing** |
|---|---|---|---|---|---|---|
| Number of machines | 3 | 50 | 150 | 150 | 50 | 30 |
| Optimal size(number of employees) | 40 | 150 | 300 | 300 | 100 | 30 |
| Indirect labour – direct labour ratio | 0:40 | 20:130 | 60:240 | 100:200 | 50:50 | 20:10 |
| The growth of the labour productivity as against the previous period | 4:1 | 3:1 | 3:1 | 3:1 | 3:1 | 3:1 |
| Rejects as a share of the overall labour | 0,8 | 0,5 | 0,25 | 0,08 | 0,02 | 0,005 |
| Number of products | No limits | 3 | 10 | 15 | 100 | No limits |
| The target of the design | Mechanical | Production | Industrial | Quality | Systems | Knowledge |
| The purpose of the technology | Precision | Repeatability | Reproducibility | Stability | Adaptability | Versatility |
| The purpose of the control | The product functionality | Conformance | The conformance of the process | The capability of the technological process | Product-process integration | The existing technological processes |
| Organizational change | The guild destruction | Separation of the hierarchic and functional staff | Functional specialization | Teams of problems solving | Control at cell level | Functional integration |
| Work philosophy | "perfect" | "satisfying" | "reproduction" | "monitoring" | "control" | "develop" |
| Necessary abilities | Mechanical job | Repetitive sub-abilities | Sub-abilities | Diagnostic skills | Experimentation | Learning, generalization and abstracting |

Data in the report presented show that, with the advent of the computer technology, changes have occurred in understanding the scope of technology, in terms of methods and forms of organization, which caused the substantial downsizing of the optimal production unit from the number of employees' point of view. Simultaneously, the labor productivity continued to grow

considerably, the scrap reduced to insignificant odds in the total labor, and the indirect / direct labor ratio decreased permanently [9].

## 3. CONCLUSIONS

The economy manufacturing system is the one that combines the flexibility of adaptation with obtaining high efficiencies for low volume production, a situation characteristic for a growing number of industries, including the branch of textiles and leatherwork, faced with the need to meet the consumer demands, by diversifying the ranges of products.

The "computer-integrated manufacturing" phase requires learning, generalization and abstraction skills, which is correlated with the general trend of increasing the companies' flexibility. People must become more flexible in terms of professional knowledge and the best solution is continuous learning. The same problem is a priority for the companies, and that is considered as the optimal solution is the creation and maintenance of a "learning organization" by the managers of the business.

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