Internal Enterprise Development Strategy

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Abstract

The subject of this study is organizational and economic process that provides an improved mechanism for managing today's corporations. The practical significance of this study is that it allows us to develop the program and to prepare measures to optimize corporate performance through improvement of the management and business processes that will strengthen the position of corporations in a competitive environment, improve the quality of management, reduce administrative costs and improve bottom-line results of financial and economic activity.

Keywords: *production system, efficiency, performance management, industry, restructuring, localization; strategy.*

1. Introduction

This is inherent for market economy to get various mechanisms of organizations management. Firstly that could be buying and selling of companies. Such contracts are a mechanism of corporate organizational development means including (or release) of “new” (or “old”) organizations which supports attainment and keeping of corporate overall competitive advantage. There are many methods to achieve competitive advantage which were established during historical development of corporate as a business mode.

Majority of corporates initially develop in one chosen branch. The main features of such organizations development strategy are [6]:

- concentration of resources in a “narrow” segment of production;
- specialization on a non-differential product;
- orientation on a maximal profit by production scale and also by including of distribution and sales functions in organizational structure;
- usage of “price” policy in competitive activity – directed to full suppression of competitors.

2. Theory

There is another aspect of corporate organizational development – concept of transition to “integral” enterprise. Such concept became an attempt of a few big automotive concerns to respond new challenges of competitive activity recognized in automotive industry in recent years. An integral enterprise represented a new qualitative leap in organization, management and control of the whole production system. Key points of new logic of organizational architecture became such words as “mobilization of all human resources to achieve common target” and “abolition of traditional personnel division to those who make decisions and those who execute”. As known, that always led to irrational dispersion of intellectual efforts which were neither united nor stimulated at the previous organizational structure [5].

Another key concept of organizational model is a new logic of decision making. If in the Taylor hierarchy-functional model responsibility for all operating issues went to the top of organization and decisions went down – now in the new model the process is almost opposite. All raised questions and problems should be solved in the places where they appeared and by those people who recognized them and who have professional competency to fix them. At traditional

organization all privileges were given to functional departments but not to the logic of production process. As by traditional vision each functional department strives for maximal achievement of own targets. It was assumed that by such philosophy a functional department is also striving for the whole organization targets. But the practice proved that such situation is possible is only to implement a very complicated and laborious system of negotiations and interest conflicts solving between different departments [1].

At an integral enterprise the organizational center is the main production process and supporting processes closely related with the main one. Decisions are made there where they appear and where responsible people present who are capable to solve problems at professional level. The role of functional department changes: now it should submit it's resources to the production process for fixing of raised issue and operating process controlling [8].

Decision making responsibility now is delegated to a working group (team). Such working group has a leader in a head who is not only a hierarchical supervisor for the team but also a stimulator for his daughter for a creative work [10].

If to delegate decision making responsibility to production locations – it is possible to reduce number of hierarchical management levels. Those levels will be necessary which are demanded for production process regulations. As a result responsibility of the left managers and ordinary employers will increase and it's professional content also becomes wider [2].

The core of an integral enterprise is "elementary technological unit" (ETU) which is defined as a basic organizational production unit which controls technologically indivisible production equipment with measurable parameters and which operates at dedicated production cell with autonomous actions: preventing of problems, anti-crisis management, continues improvement, self-control.

All these actions should be directed for achievement of targets for quality, capacity and services. Elementary technological unit is a basic unit of a plant which is capable to get own targets for capacity, services and costs in applicable technological department [3].

One of the main management tasks is support of permanent development of material production efficiency, achievement of consuming product which maximally meets customers' expectations with minimal costs. Economic situation of open market seriously increases requirements to a producer [7]. As practice of leading machine building firms shows: neither technical upgrade of the production; nor implementation of new technics and technology not supported by continues improvement of incorporation government and psychology change of corporate philosophy – don't bring acceptable effect. On the other hand change of management approaches, growing up of the personnel in understanding of new approaches and targets allows to raise production effectiveness quite quickly and without big capital costs, which of itself may quite often help a company out of critical financial situation. Thus, there are well known actions of Japanese automotive corporation "Toyota" management to develop "Lean manufacturing" system. Similar methods were used by "Chrysler" management. "Group GAZ" also doing in the same way [9].

Common approaches are understandable and well known. The task is to define specific methods to solve the problem of increase of effectiveness of the basic (elementary) unit of – for example – foundry department. Let's take a foundry shop for consideration a foundry shop – and investigate different stages of solving of the above mentioned problem, changes in production organization and achieved results.

General points which give input for current status analysis and develop method for further process improvement are [4]:

- transfer of production product (also in technological process) goes by shortest way;
- equipment which is busy in production process should be optimized from point of view of synchronization of working cycles and capacity;
- product promotion control is based on a principle – each next step of production chain is a full-value customer of the previous step with all consumer rights in terms of quality, timing, delivery performance, etc.
- all operations and processes are described, there are cards of their actual status, there is a plan to standardize operations.

To execute activity for actual status analysis there are special groups created which include various specialists of production organization, technologists, managers, supervisors. Complexity of the process should be reviewed at the first stage to provide optimization. It has sense to select the most problematic area which determines shop functionality – and then expend the results to the whole shop. If we talk about foundry shop the most problematic area is recognized to be chipping area – where castings are handled with special trimming tools before shipment to customers. This chipping area is characterized with very heavy physical labor, not comfortable hygiene and sanitary conditions, significant number of employees [11].

3. Results

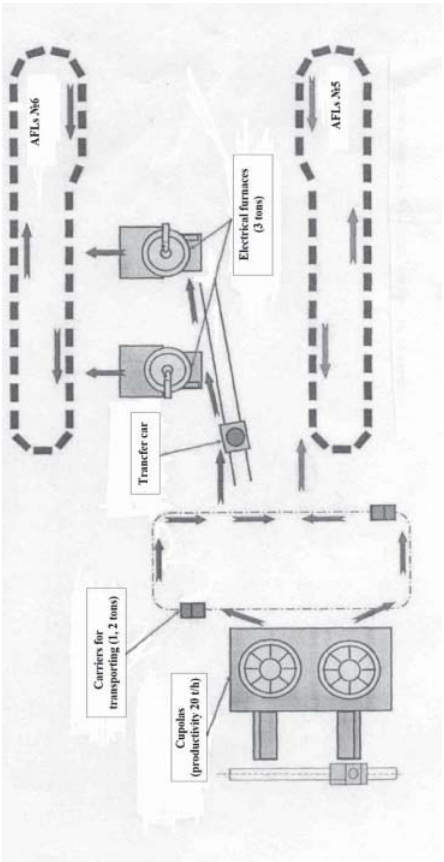
Development of modern economics proved that creation of effectively acting industry is not possible without implementation of strategies linked to new production technologies.

Let's take an example to implement mixing technology of melted metal based on a special metallurgical furnace with main technical features: direct current, electrical arc, DMPTU-12 type. Practical experience showed that mentioned type of furnaces significantly exceeds operational characteristics of other types of melting aggregates.

Have a look at technological process before effective action implementation. Raw materials come into the foundry shop by railway. Then raw materials are transferred by crane to daily bunkers from where may go to melting areas (e.g. cupolas). Cupolas do melting of raw materials to get liquid metal (alloy). Liquid metal goes from cupolas to electrical furnaces (EDP-12 type) by special carrier. EDP-12 furnaces make calibration of the liquid metal by chemical composition and temperature. Chemical composition is checked each 30 minutes by express analysis. After correct chemical composition is achieved – liquid metal goes to next special carriers for transporting to automatic forming lines (AFLs) where metal fills molded forms by special manual ladles (Fig.1).

As a result of process improvement electrical arc furnaces were replaced by new generation mixing furnaces on direct current. That was a complex of a few new technical solutions which allowed to extend technological options of electrical arc melting and avoid main specific problems of such type aggregates (Fig.2).

Mixer capacity exceeds the same parameter of electrical arc furnace by 4 times. Except of main function of DMPTU-12 – holding and heating of liquid alloy – it's usage gives a technical possibility to optimize many other technological processes. For example, if we need to establish production of heavy weight castings – it is more reasonable to use a mixer of DMPTU-12 type since electrical power of the last (and related cost) is a few times less than of electrical arc furnaces of the same capacity.



4. Conclusions

It gives a technical possibility, for example, at general production of steel castings at average weight 5 tons to produce

castings average weight 30 and more tones with the same electrical power of enterprise.

Advantages of the chosen technological solutions are:

- prevention of danger to drop liquid metal out of furnace
- quick speed of metal melting
- reduction of number of technological operations
- increase of melting area capacity
- automatic control behind melting operations
- more comfortable working conditions
- reduction of melting operation time
- exclusion of 3 electrical arc furnaces
- optimization of 4 staff positions (furnace operators)
- increase of production capacity by 2 times

Results of new production strategy implementation are summarized in Table 1 and demonstrate directions of technological process improvement.

Table 1. Results of technological process improvement

Indicators	Before implementation	After implementation
Equipment	12	9
Personnel	10	6
Scrap because of hardness	4%	1%
Number of good forms	88000 forms/month	105300 forms/month
Reduction of raw materials		10 967 thousand rubles per a year

Thus analysis of metallurgical production indicators before and after internal enterprise development strategy shows proves effectiveness of realized actions.

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