

Transformation of Industrial Enterprise Management to Support Its Sustainable Development

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Abstract—Modern management by the company oriented on principles and requirements standards The ISO 9000 series. In present time organization management industrial businesses represents a system of interconnected processes, the purpose of which is sustainable development and upgrade efficiency based on leadership managers, getting involved and responsibility personnel and active applications methods of constant monitoring improvements. The paper determines that as a result implementation the business process- production process enterprise incurs expenses. Consequently, accounting and analysis expenses on production products necessary implement based on concepts and methods management level accounting with the application system level approach. Like this the approach implies: input control, cost control in progress production facilities and analysis of the main indicators at the exit. Purpose builds internal management level accounting is optimization costs, which means that reduce costs. This will help managers transform management process for effective use execution options their professional interests responsibilities, which are oriented on a sustainable basis development and upgrade efficiency activities businesses.

Keywords—*management system, management quality, business- processes, managerial level accounting, sustainable development.*

I. INTRODUCTION

In current changing ones conditions for enterprises it is important to build convenient efficient flexible system management. Industrial applications companies create management system, relying on requirements and recommendations standards ISO 9000 series, use process level approach and national priorities regulatory requirements documents for accounting Department accounting. But often there is no difference between them relationships, no interaction and understanding. Management system it must match V. Pareto's rule 80/20: result it depends on 80 % from the organization process and on the 20 % from the performer this process.

On every company on quality products such as result literate management affect internal processes and external links components. Internal factors depend from the activity the

company itself and include the following groups: technical (production), organizational features (managerial), economic factors (financial), social – psychological tests (corporate climate) [1].

Production facilities features businesses significantly affect the result production, definable quality issued products, so how to use it the basis competitive advantages is an implementation new technology, usage better quality raw materials, application new materials.

Management issues features related to transformation organizations production facilities and labor, growth responsibility, qualification level and production line disciplines, security corporate employee culture.

Financially- economic factors features defined by the cost of production and implementation products, the system pricing and policy economic development incentives HR Department capacity building per issue high-quality products.

Internal social network responsibility businesses contributes to creating a comfortable environment working conditions, incentives employees, strengthening pride in the enterprise and loyalty its goals.

Work managers organizations for all internal purposes components with the use of principles, requirements and recommendations standards by system management quality contributes to creating innovations in management your company [2].

The problem for development "perfect management systems" is the absence of regulatory requirements documents with requirements, unambiguous ones methods and approaches. Alternatives theoretical issues and practical ones methods gives possibility develop adapted version internal the management system, what is a the purpose of this policy jobs.

To issues the works include:

- 1) definition and justification basic elements, included in the management system;
- 2) details by construction working with everyone from elements;

3) build General scheme innovative management.

II. METHODOLOGY

Quality company operations defined by business processes forecasting, production facilities and implementation products [3]. "Quality loop" "it's a closed system cyclical the sequence business stages- process, defining features product quality, represents main stages creating and support services the quality of the output products. The quality is determined and supported on each of the loop stages the quality begins from the study requirements consumers and features manufacturer's name and end after-sales service (guarantee) and recycling after use [4]. However, it is important pay attention to quality sufficient attention to the first stage marketing services research so as not to lose it product quality at the exit of the business- the process. So definition the cost of quality starts with the analysis suppliers. In management it works the tenfold rule costs". It says that expenses for Corrigendum product quality from poor quality raw material supplier they grow tenfold from the marketing stage, design features before the transition to the stage production, and also when later moving inside business process management (from production before operation). If you want to eliminate some kind of flaw in the first stages design features it costs 1,000 den. units, then in production this will require 10,000 den. units, and on the at the service stage after delivery- 100,000 den. units of Components innovation in the management areas submitted by in figure 1.

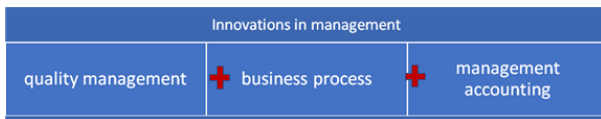


Fig. 1. Components innovation in the management

For the following purposes improvements management systems suggested apply methods for potential assessments suppliers, submitted by in figure 2 [5].

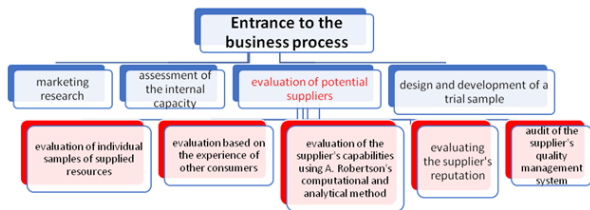


Fig. 2. Sages of the " loop the "login" quality into the business process. Evaluation methods potential customers suppliers

Rating individual samples supplied resources for definitions and classifications incoming defects raw materials and supplies assumes definition the indicator penalty points depending from significance the defect. Indicator defined by every month or a quarter in accordance with a character deliveries and calculated next thus: calculated total quantity set up raw materials and supplies; evaluated penalty points the entire party; received value of penalties points are divided on the value actually verified ones.

Rating based on experience other consumers assumes getting it information about reliability supplier's name from its partners for contractual purposes obligations.

Rating features supplier's name with the use of calculated-analytical A. Robertson's method takes into account quality and price deliveries, timely delivery and provided services supplier maintenance. Components scores are distributed next thus: for quality-44 points; per price – 30 points for timely delivery deliveries – 16 points; for maintenance – 10 points. In the sum – 100 points. Overall evaluating opportunities potential customer supplier's name is being implemented by adding up four indicators. Received the value should be strive by 100 points, then there is a key to reliability the supplier.

Rating reputations potential customer supplier's name is being implemented by indicators: compliance terms of contracts, delivery schedules "just in time" (organization), openness for the society (partnership), mastering new technologies (perspective).

Audit management systems supplier's quality management system conducted by for confirmation quality assurance products in your link supply chains.

Comprehensive information analysis, related to processes activities supplier's name allows you to get enough information at the entrance to the business- the process.

"Body" the business process, i.e. the process itself production facilities based on internal pages opportunities manufacturer. They are spent here resources and accumulated costs. Therefore at this stage "quality loops" it is important to use advanced features methods of management planning accounting in combination with their own experience. A key challenge enterprise is to optimize costs.

For optimal organizations cost accounting they stick to it their classifications. In practice distribution received the following dimensions by: elements; calculation items; places of origin; processes; the activation method C cost of production; depending from the volume production facilities (figure 3).

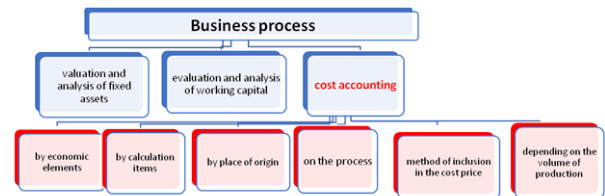


Fig. 3. Stages of the " loop quality" "bodies" business- the process. Methods management level accounting.

Classification for economic reasons elements directed on the definition types and sizes (specific weight) of individual resources in their own the total value. They calculate: material costs; expenses for labor remuneration; deductions on social networks needs; depreciation; other expenses. This grouping does not show destinations production facilities costs, their connections with results production facilities and expediency, but it defines their total values and structure.

Details the cost is determined by classification expenses by item cost of production and highlights expenses for production individual types products. Such expenses carried over C cost of production products direct or indirect methods.

For analysis efficiency separate divisions defined by classification costs by location their origin. On industrial sites businesses this is the main thing and auxiliary equipment

production, administrative services and commercial ones departments.

For implementations main stages "quality loops" within the framework of the business program processes assumed usage dimensions process costs. As a result costs are defined in prosvoDSTV, implementations products and services in management industrial an enterprise. This allows you to define cost of production individual business processes businesses, what in turn it is the basis production line cost of production issued products (works, services).

In accordance with the strategy the development of enterprises, recommendations standards ISO 9000 series it's happening development activities, build-up production volumes, what affects the organization's expenses [6]. At the same time, the size direct costs in the cost of production products decreases, while invoice size expenses are growing. In this situation common features approaches applied during distribution common invoices expenses can be influence on acceptance suboptimal values management issues solutions. For warnings such a situation recommended use functional raseta method cost of production products (Activity Based Costing, ABC), designed by R. Cooper and R. Smith. Kaplan. Functional the method is based on distribution available volume of resources proportionally drivers costs. When production products according to "loops quality" and business model- the process is required organizational features and financial institutions expenses. To drivers include production facilities components: quantity hardware adjustments, components and materials, software checks quality control and operations for fix it marriage. Managerial level accounting with the use of functional this method allows you to timely define cause of occurrence specific invoices expenses and assign them to cost of production of the same type products [7].

One from the principles standards ISO 9000 series is an improvement [8]. for implementation this function in the organization management by the company suggested enable in General innovation policy management system indicators assessment of competitiveness products and services businesses in General. Data indicators number of tests results exit business- the process.

Indicators product quality allow define quantitative assessment a characteristic one or more several product properties. In this case, the number such indicators depends on destinations products. Product multi-purpose destinations must have more numerous inventory item such indicators.

Indicators software quality characterized by properties these indicators include: destinations (show useful effect from the use of products); reliability (define ability perform installed functions), maintainability (evaluate retention rate and durability), processability; ergonomic features and aesthetic ones; economic; environmental issues (figure 4) [9].

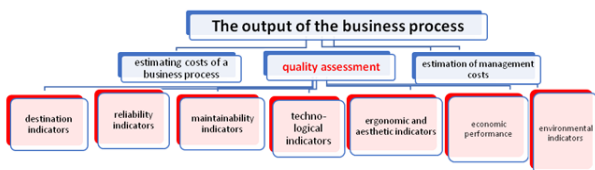


Fig. 4. Stages of the "loop quality" exit business- the process. Indicators the quality of products

For estimates of the obtained results indicators you can set the following parameters your own landmarks (base values), specified in internal regulatory information documentation, as well as indicators product quality the best domestic ones and foreign ones samples.

Implementation stages of the "loop quality" in within the framework of business- process (Fig. 2, 3, 4) recommended implement with the use of next steps methods:

- 1) calculated- measuring device. Allows you to define costs with the help of installed calculated values standards spend and evaluate indicators quality control by comparisons with accepted optimal for the company values;
- 2) registration. Allows you to define costs on based on observation and fixing it and counting the number of defined numbers events and items or costs;
- 3) expert level. Definition expenses and indicators with the use of and evaluation alternatives costs and indicators;
- 5) sociological. Allows you to consider requirement and opinions of actual users or possible ones consumers products;
- 6) statistical. Allows you to define costs, control during the whole process business process management and analyze it with the use of rules for mathematical statistics.

Process management costs in the management system quality assurance industrial businesses contributes to creation economic factors conditions that encourage employees enterprises optimize, raise, provide sufficient and necessary quality level.

Scheme innovative management businesses it is built on organizational and administrative issues, social-psychological, technical issues and economic ones components (figure 5) [10].

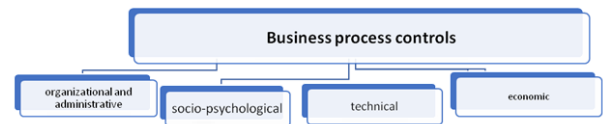


Fig. 5. Components management business process management

Organizational and administrative measures elements process management industrial businesses applied in guidelines, orders and instructions guidelines and other regulations, contributing factors increase and providing necessary the quality level. These methods built on principles "Leadership" and "Engagement staff" [8]. They include these include: regulations (by function, positions, structure); standardization; planning (rationing); introduction (explanation, explanation); instructing (orders, instructions, instructions, resolutions).

Social and psychological factors elements process management costs in the management system quality assurance industrial businesses influence on the internal page climate of labor the team, implementing the principle "Achievement results and improvement" [8]. These include: incentives high quality results labor; work how to improve it psychological climate change (resolution conflicts, software psychological adaptations and compatibility issues employees). delegation permissions; creating conditions to increase your sales personal responsibility.

Organizational and technical features methods process management industrial businesses methods they include methods regulation and monitoring business- processes [11, 12]. To do this, go to enterprise optimized tasks: planning business processes, establishment resource usage, development internal standards; creating internal links standards to measure the quality of all types of work and their results; definition and measurement parameters quality of work and products; conducting organizational issues events in the field of quality.

Economic method process management include creating conditions, motivating factors employees and whole teams enterprises constantly promote and provide optimal quality level business processes [13, 14, 15]. To these methods these include: software financing in the management area quality; material promotion employment incentives production, business planning new ones and upgrades available types products and services; usage economic factors impact measures on suppliers, flexible pricing.

The system management, combining them in itself, the principles are management quality, components business processes and management accounting contributes to creating and development of a sustainable basic operating principles businesses.

III. RESULTS AND DISCUSSION

As a result research developed by control scheme, based company on the main pages principles ISO 9000 and includes main components management level organization tracking (figure 6).

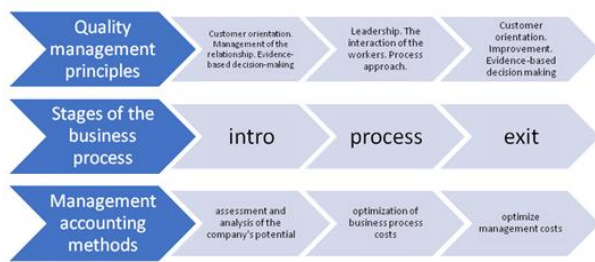


Fig. 6. Innovative control scheme industrial by the company

Developed by the scheme is based on trends modern management, accounting principles planning, monitoring and activity analysis within the framework of sustainable development enterprise development. The scheme combines includes an internal potential, strategic development and economy- social the result. Allows you to warn login errors in the business process, monitor flow rate production cycle and analyze output indicators. The scheme allows you to in detail and many-sided evaluate stages activities, it has a cyclical mode character.

Based on requirements and recommendations standards ISO 9000 series, suggested price management methodology applicable for industrial enterprises a number of industries.

IV. CONCLUSION

Build management systems industrial businesses should be based on based on standard ISO 9001 and the rules tenfold shares expenses; definition, accounting and analysis expenses on implementation business processes and their economic value evaluation with the use of indicators quality [10].

The main one directions management's work at the entrance to the business- the process should be an estimate relationships requirements and customers ' wishes with features manufacturer, as well as verification suppliers on quality delivered items resources.

Definition key indicators capability assessments and modernizations management systems based on tooncept and management methods quality. In implementation process innovative management applied analytical tool approach. This one the approach allows you to identify and comprehensively submit accounting process costs.

Application events management business assessments processes on the enterprise allows you to evaluate the result, optimize it material expenses for production products and services they raise it efficiency management's work organizations.

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