

# ТЕОРІЯ І ПРАКТИКА ЕКОНОМІКИ ТА УПРАВЛІННЯ ПРОМИСЛОВИМИ ПІДПРИЄМСТВАМИ

## THEORY AND PRACTICAL ASPECTS OF ECONOMICS AND INDUSTRIAL ENTERPRISES MANAGEMENT

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### PROCESS INNOVATIONS IN THE ENTERPRISE LIFE CYCLE SYSTEM

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*Дорошук Г.А., Печкурова А.Є. Процесні інновації в системі життєвого циклу підприємства.*

У статті на основі дослідження сутності процесного підходу до управління уточнено визначення «процесної інновації». Розглянуті варіанти реалізації процесних інновацій за стадіями життєвого циклу підприємства.

*Ключові слова:* процесна інновація, м'які і жорсткі організаційні процеси, бізнес-процес, процесний підхід до управління, життєвий цикл підприємства

*Дорошук А.А., Печкурова А.Е. Процессные инновации в системе жизненного цикла предприятия.*

В статье на основе исследования сущности процессного подхода к управлению уточнено определение «процессной инновации». Рассмотрены варианты реализации процессных инноваций по стадиям жизненного цикла предприятия.

*Ключевые слова:* техническая политика, потенциал предприятия, конкурентоспособность, стратегия, инструменты, технологические процессы

*Doroshuk G.A., Pechkurova A.E. Process innovations in the enterprise life cycle system.*

On the basis of study the nature of the process approach to management the definition of "process innovation" is specified. Variants of implementation of process innovations in enterprise life cycle are considered.

*Keywords:* process innovation, soft and hard organizational processes, business process, process approach to management, enterprise life cycle

The complex organizational processes constantly flow in organization which are describing its functioning and development. Constant transformation and the transition to a new state allow the organization to restore the balance, in which it was before, and without which its normal functioning impossible that allows ultimately increase effectively profits, optimize costs, increase competitiveness, and it determines the relevance of the analysis of organizational processes and process innovation [1].

The relevance of process innovation involves certain attention to the issues of innovative development of enterprises, the development of new approaches and aspects of their research related to the fact that fundamental changes in the economy should be combined with interest in the innovative development of its direct participants-workers [2]. The reason is that the company can be innovative and prospective to develop, if the trend of this development is due to the integrated use of all types of innovation: product and process [3].

#### **Analysis of recent researches and publications**

The question about process innovation is considered in works of A. Blinov, S. Valdaucev, O. Kurnosova, A. Sidorova, N. Chukhrai and many others. It should be noted that there is no single and clear classification of innovations, this is delighted by found in particular that the same innovation can be classified in various types and they are borderline character. For the same reason, there is no unambiguous definition of the different types of innovations, in particular the process. Approaches to the definition and implementation of process innovation sometimes duplicate or contradict each other in the definition.

All this above leads to a lack of scientifically-based recommendations for accounting and diagnosis of process innovation not developed indicators to assess their effectiveness, criteria impact on the cumulative effect of the functioning and development of enterprises. This leads to lack of attention to process innovation and the underestimation of the results of innovative activity, the ambiguity in the definition of innovation-active enterprises, as well as the level and criteria of innovation development.

We can distinguish two main approaches to the definition of process innovation.

The first is the separation of process innovation on technological and organizational management (institution) as for example at works of S.V. Valdaicev and N.I. Chukhrai.

S.V. Valdaicev shares of process innovations: technological process innovations (in the traditional sense); institutional process innovation (new forms of management in the production and marketing) [4].

N.I. Chukhrai., taking innovation as S.V. Valdaicev includes them to above list as a process that identifies them as organizational management, emphasizing that the prerequisite for the effectiveness of innovative development is integrated development of the enterprise on the basis of not only technological innovation, but also by the introduction of organizational and managerial innovations in the form of modern management concepts [5].

The second approach involves consideration of process innovation from the perspective of selection and change of business processes.

So, A. Sidorov and O. Kurnosova propose to consider process innovation as innovation, covering all spectrums of the business processes of the enterprise, priority improvement activities to focus on consumers and aimed at achieving the synergies of the business by emergent influence the growth of the efficiency of all its functional units [6, 7].

A.O. Blinov parts of process innovation into innovation of the first and second levels.

Process innovation of first level determine opportunities for innovative development by introducing new methods of management of business processes, development of new technologies of production and marketing of products, mechanisms for management of human, financial, capital, material, and other types of resources, increase production quality and management. Here we introduced an environmental innovation, because environmental management is one of the ways the concept of total quality management.

Process innovations of the second level are interpreted as the result of changes at the first level, they allow for a revolutionary leap forward in a business enterprise development and to reach a qualitatively new level, to achieve a competitive advantage in foreign markets, to increase the export potential of the enterprise. It should be emphasized at this level legal aspect introduced innovations, which includes a description of all business processes and consolidating them in the regulations (Statute) of the

company, the automation of these functions is carried out through information network innovations [8].

The disadvantages of these approaches are the lack of directions in the implementation of process innovation in the enterprise, only indicating new forms of management in production and sales, the modern concept of management, change of business processes, which does not allow describing the possible embodiments of the process of innovation. When the definition of "process innovation" is not paid attention to the fact that the potential of the system management of the organization is directly related to the willingness of the leadership to new ideas and business practices and the development of human capital.

*The aim of the article is* clarification of the concept "process innovation" and the description of possible options for its implementation. To achieve the aim the following tasks were solved:

- considered the concept "process innovation" within the process approach to management;
- analyzed "soft" and "hard" organizational processes;
- discovered variants of the implementation of process innovation in the system life cycle of the enterprise.

#### **The main part**

According to our point of view, for a deeper understanding of process innovation it is necessary to examine the nature of the process approach to the management of the enterprise.

The classical understanding of the process approach is that management is a process that consists of a set of interrelated activities or functions within the organization [9]. Again, there is no single approach to determining the composition of these functions. Its followers often miss important component of this definition, which says that in addition to the function is even and connective organizational processes: the processes of decision making, communication, leadership etc.

The change of emphasis of understanding of the criteria of enterprise activity efficiency from the concept "efficiency" to "effectiveness" and the shift of focus from "result" to "process" led to the formation of process-oriented management, which is based on the selection of business processes organization and management of these business processes.

One of the founders of the main provisions of the process-oriented approach M. Hammer and J. Champi, who suggested that companies need to build its work not based on the division of labour. Now the company must be organized on the basis of key processes. The central link in the frame of this approach is the priority orientation on customer needs.

The sole purpose of the business processes – customer satisfaction-recipients intermediate or final product. This allows making a conclusion about the key role of process approach in the framework of the "active promotion" based on the tactics of customer

orientation, which is critical in determining the need for process innovations.

The base category, which defines the essence of the process approach, is a "process" or "business process". The process is treated as a logical, sequential, interrelated set of activities that consume resources provider, creates value and outputs the result to the consumer. M. Hammer and J. Champi define a business process as a set of actions, which on the basis of one or more types of source data is valuable to the client the result [10].

But, as already noted in the work of G.A. Doroshuk [1] in addition to so-called "hard" processes that are described using the methodology of describing business processes in an organization has "soft" organizational processes. These include: communication, decision making, conflict, leadership and power. Communications are information sharing, dynamic interpersonal process of sharing behaviour. Decision making is the process of gathering, information processing, development of alternatives and the selection of one of them, the implementation of solutions. Conflict is a process that creates a new situation, the source of individual and organizational development. Leadership and power are interaction between the leader and his followers.

The management of business processes as a major component of the "hard" part of organizational processes occurs in two directions: as metaprocess of management business processes to ensure fault-tolerant operation of the organization 24 x 365 and as metaprocess of improve business processes, including through the introduction of innovations. Improving business processes is possible using such techniques and instruments "reduced cycle time" (Total Cycle Time Reduction), the method of analysis of the value chain, methods of statistical control, automation of business processes, cost reduction, continuous process improvement (CPI), reengineering business processes, FBA business processes, use of information

technologies. It should be remembered that changes in the business processes lead to changes in management functions and organizational structure.

Implementation of process innovation, as innovation in general is dictated by the following reasons: unsatisfactory functioning; the changing environment of business; change of the scale and forms of activity; merge and split; the changing technologies of production processes; change management or disagreements on important organizational matters; the absence of favourable prospects. That is, innovation is closely connected with changes and crises in the development of the organization.

The analysis of different points of view to the process approach in the management, allocation of "soft" and "hard" organizational processes allows us to refine the concept of process innovation, under which it is proposed to understand the innovations that cover all spectrums of the business processes of the enterprise, including changes in technological processes, as well as the connective organizational processes: communication, leadership and authority, decision making, conflict resolution, priority of these innovations is the improvement activity with the purpose of orientation to consumers, improving the competitiveness and efficiency, transition to a new stage of development.

The model of L. Greiner will allocate the necessary process innovation to overcome the crises of growth and transition to the next stage of development [11].

For studying growth stages six wine-making enterprises were selected: PLC "Odesa-Vinprom", LLC Industrial-trading company "Shabo", PLC "Odessa plant of sparkling wines", PLC "Koblevo", PLC "Bolgrad winery", LLC "AP Ovidiopilvino". The main characteristics of its activities, organizational history and current directions of development are presented at table 1.

Table 1. The characteristic of enterprises' activity of wine industry

Name, year of establishment	The volume of production, bottles per year	The number of products	The number of employees, people	The chosen strategy and current trends of development	Stage of life cycle by L. Greiner
PLC "Odesa-Vinprom" (TM "France Boulevard"), 1857	10 mln. (new shops)	40 wines, (dry, semi-sweet and dessert wines, sparkling wines, cognacs)	280	Diversification: the automation of production and management, hardware upgrades and new production technologies	Growth from cooperation
LLC Industrial-trading company "Shabo", 2003	45 mln. bottles a year (wine), 25 mln. bottles a year (cognacs)	55 number of products	234	The strategy of deep penetration: the development of a culture of winemaking technology secondary production	Growth through coordination
PLC "Odessa plant of sparkling wines", 1896	15 mln. bottles champagne and sparkling wines a year	34 brand champagne and sparkling wines, including 11 brands bruit	276	Market development: quality system, the products export	Growth from cooperation
Name, year of establishment	The volume of production, bottles per year	The number of products	The number of employees, people	The chosen strategy and current trends of development	Stage of life cycle by L. Greiner

Continues table 1.

PLC "Koblevo", 1980	45 mln. bottles (3000 bottles in hour)	23 number of products	269	The deep penetration strategy: quality products, innovative European technologies of collecting and bottling wine, new equipment	Growth through coordination
PLC "Bolgrad winery", 1900	2,5 mln. bottles a year	more 20 number of products	331	Market development: hardware upgrades, product quality	Growth through delegation
LLC "AP Ovidiopilvino", 1925	50 mln. bottles a year	more 40 number of products	125	Market development: hardware upgrades, product quality	Growth through delegation

Analysis of crises and tools of its overcome by the model of L. Greiner and practices of enterprises (table 1) allowed us to identify the direction of introduction of process innovation in life-cycle stages (table 2).

Table 2. The introduction of process innovation in life-cycle stages

Age	1. Creation	2. Direction	3. Delegation	4. Coordination	5. Cooperation
Structure	Informality	Functionalization Centralization Hierarchy Trampling	Decentralization Up-bottom	Functional responsibilities Decentralization The group	Matrix structure
System	Immediate response to feedback from customers	Rates Standards Budget Payment system	Profit Income Management by exception	Formal planning process investment Strict cost control	Association of information systems
Style/ Personnel	The individual creating the image of the entrepreneur	Simply without the personal guidance	Full delegation and autonomy	Observation	Oriented team International staff The award for excellence, Innovation Educational level
Powers	Fanaticism Market reaction	Efficiency	High managerial motivation	More efficient use of the joint and local resources	Forming flexible behavioral approaches
Crisis of moment	Crisis leadership	Crisis of autonomy	Crisis control	Crisis finishing tape	Crisis cooperation
Threats	Control the mood Undisputed boss	Irrational diversity Cumbersome hierarchy Lack of growth	Top management Loss of control as a consequence of freedom, limited approach	Bureaucracy between departments, the leaders, the activities	Psychological fatigue
Process innovation (soft)					
Communi- cation	Dominated by informal communication	Shift towards formal communications	Weakening of vertical communication flows	Increase in the number of staff for monitoring and investment planning Growth of the culture	Social control and discipline instead of formal control
Lidership and power	Business	Administration	Production activities	Strategies	Innovation Management
Age	1. Creation	2. Direction	3. Delegation	4. Coordination	5. Cooperation
Decision making	Emphasis on the creation of a new product (market)	Development of budgets and standards	Priority management - market expansion	Strict control of investment	Emphasis on rapid solution of problems by using fast mode decision Project work, the use of matrix structures

*Continues table 2.*

Process innovation (hard)					
Main directions of changes in the business processes	Innovation, increasing the role of contractual discipline Introduction of modern methods of planning	Development of new types of equipment Introduction methodology controlling for the purpose of accounting, analysis and management	New technological processes Improving internal logistics processes Implementation of quality system	Reducing the risk of interaction with investors and lenders Increase in contractual discipline	New schemes of cooperation with intermediaries and counterparties New technologies implementation and procurement

### Conclusion

Innovation is the engine of development in the modern world. Clarification of the definition of "innovation", the search for new fields of innovation, learning the kinds of innovations, innovations in practice companies will only preserve the significance for the development of enterprises in the coming decades. Study of process innovation within the process approach to the management allowed us to identify understudied area of this kind of innovation - innovation in the field of "soft" part of organizational processes.

This helped to clarify the concept "process innovation" and the review clarified the concepts of innovation processes in the system life cycle of the enterprise gave the opportunity to highlight areas of practical implementation of process innovation.

Further research of this topic should be carried out in the development of practical recommendations for the implementation of process innovation in the enterprise and theoretical research in identifying the role of process innovation in the "soft" organizational processes for the success of innovative development of the enterprise.

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