

## INNOVATIVE PROJECT OF ORGANIZATION OF INFORMATION AND ANALYTICAL PROVISION OF SUSTAINABLE BUSINESS DEVELOPMENT



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**Abstract.** The article is devoted to the research of new perspectives in the innovative development of information systems of enterprises, due to the trend of digital transformations in business and the spread of behavioral technologies in decision-making systems. The progressiveness of digital and managerial innovations in the development of the information system of the enterprise with the characteristic of a new type of data is grounded, which allows forming information with high qualitative parameters. The suggestions and recommendations set forth in the article are formulated for the innovation development of information systems, information processes and, accordingly, information provision of development of the competitive sustainability of modern business.

### **Introduction**

The establishment of information economy caused not only a complex of changes and transformations for the conditions of economic activity, but also established a new ideology of activity of enterprises for which an aggressive competitive environment was formed that can be compared with natural selection. In order to be competitive, need to move faster than others in the

right direction. The ambivalence (ambiguous) of modern entrepreneurial conditions is manifested in the creation favorable technical and technological environment for the activities of business entities, but the other side is the excessive dynamics of changes, consequently, the definition of new vectors of development, which should be followed and which should be adapted.

The purpose of the article is to form a new view on methods, tools, principles, measures and factors of fundamental changes concerning forming new type of information system that provides a large-scale project for business transformation under the conditions of innovative development projects.

**Literature review.** The issue of development of information-analytical provision of management is relevant and is considered in the papers of various scientists who have their own position on the conceptual provisions, principles and technologies of organizing the innovative information system for business. In particular, leading scholars of our time [1-10] identified a new stage in the development of management strategy and business model based on modernization of information processes. However, less attention is paid to namely the formation of a new view at the methods, tools, principles, measures and factors of radical change in the formation of a new type of information system. This encourages the intensification of research of a new nature for the development of an innovative project for the organization of information and analytical provision of sustainable business development.

**Research methodology.** The totality of general scientific methods of knowledge processes and phenomena that take place in the modern economy under the influence of innovations in the organization of information systems and the trend of digital technologies has become theoretical and methodological basis of scientific research. At scientific research used: system-structural method for specifying of digital transformations in business; method of analogy for forming a road map of information transformation in enterprise management; theoretical generalization and comparison methods for determining prospects and directions of business development project development on the basis of information provision.

**Research results.** Innovations, first of all, in information and analytical processes take a place key role in stimulating development and competitiveness in business. Previously, to achieve the result there was enough implementation of supporting technological decisions, but today now need much more – it

is necessary to manage capabilities and potential through the implementation of radical decisions (Charles, Tushman, 2002). Empirical studies have shown that in radical innovations there is a much bigger potential for business success than in supporting improvement of processes and products (Gassmann, Frankenberger, 2015).

The growth of business means the complexity of its organization structure, and therefore the task is to make responsible decisions at all levels of management systems in accordance with the development strategy and business model. The valuables of an enterprise should be the valuables of each employee, which involves targeting a single goal and agreed rules and with equal responsibility for the decisions made.

In order to provide valuables, resources that are material and non-material are required. Resources are the most flexible factor of innovations and can be combined in accordance with different development models with constant updating.

Formation of strategy begins with determination and assessment of problem situation that for core competencies is implemented by formulation of five basic tasks of its management: definition of priori (existing) core competencies; development of programs acquisition of core competencies; generation of core competencies; expansion of core competencies; monitoring and development of measures to protect core competencies with preservation of leadership (McGrath, 2013). Companies need a new alternative approach, according to which a combination of stability and constant change is formed that correspond to the tendencies of development of the world economy (Hamel, Prahalad, 1996).

Access to big volumes of information resources increases the chances of management personnel to respond in a timely manner to any changes. The management system takes into account precisely the information resources when assessing the

prospects and constraints of development of enterprise. Assessment of resources necessarily should be accompanied by the organization of appropriate procedures that involves the construction of an individual model of development with the transformation of source resources into a competitive advantage.

Information modeling can be called derived element integration of restructuring, adaptive update and implementation of innovations, because it is on the basis of the formation of information models that changes the traditional methods, principles and procedures with the transformation of the outdated business model. Exactly the information modeling allows seeing the prospects and really evaluating resources, risks, opportunities and constraints. On the basis of information modeling, resources are mobilized, a system of goals is formed, and constructions of managerial decisions are generated.

The structure of integrated information and analytical management systems is characterized by multilevel information communications and relations between management subsystems (at the micro level) and business entities (at the macro level). Increasing the efficiency of systems is a prerequisite for the achievement of synchronized development of the enterprise and reducing the risks and the state of uncertainty in its operation, since timely and complete information and analytical provision of management enables the formation of a model for responding to changing of conditions of management. In the conditions of technological determinism, the intellectual and technological development of information and analytical management systems that can become an alternative to information systems inherited with the traditions of monovariate generation of data for decision making is especially in demand. This is the announcement of transition to a new level of management of information processes, communication relations, self-diagnosis of databases with an increase in the level of efficiency, provision and evaluation of which requires additional development of organizational and methodological nature.

The essence of the modern information and analytical system goes beyond the traditional understanding of the processes of processing, transmission and storage of data and is

determined by the intricate structures of information relationships with the basis of rational and irrational interpretation of information for its further transmission in order to form knowledge and make managerial decisions.

Modern technological and intelligent decisions allow enterprises to have detailed information and form a multifunctional database with an information output that allows coordinating information flows and automatically updating data by involving large data systems that constitute a promising information resource for generating managerial knowledge. The database should be updated with information about the state of the enterprise environment from external sources that contributes to the greater constructiveness of the hypotheses, their reality, the link to the conditions and trends of the environment. It is important to take into account external evaluations, because it is additional knowledge that is different from the impartiality of the enterprise environment, its relations with the groups of influence and the developed image. The scope of information requests of an enterprise cannot be limited to information that reflects its material condition, but takes into account reputational benefits, business prototype of the business entity, the value of its intangible assets. Such information is now a priority for objectivity in decision-making, since it allows diagnosing an enterprise for its prospects of development and stability of a competitive position in the external environment.

The informational stage of the development of economy and society, which characterized by the intensity of information exchange and globalization, put forward new requirements for the approaches used in the formation of strategies. First of all, this is due to the fact that today the external environment is changing much faster and deeper than before, and the degree of uncertainty of the influence of various factors on the future increases. Approaches to the development of innovative strategies evolutionarily changed under the influence of new conditions of world development, the internal source of which is a person with its psycho physiological features and the ability to transform thinking (Figure 1).

Lower level takes strategy that based on available resources, that is, an option in which the strategic thinking of a management

system is limited to assets that are available for use. Such an approach could be considered effective at the beginning of the last century, when land, capital and assets were the priority factor in production.

Owning a larger volume of assets guaranteed the enterprise a competitive edge, and the strategy was to save capital and

provide increase of asset. Of course, in today's economic conditions, such an approach is not only ineffective, but also dangerous for business. The asset framework is a narrower approach to development that is unable to meet the current requirements of compliance with competitive dynamics in the external economic environment.

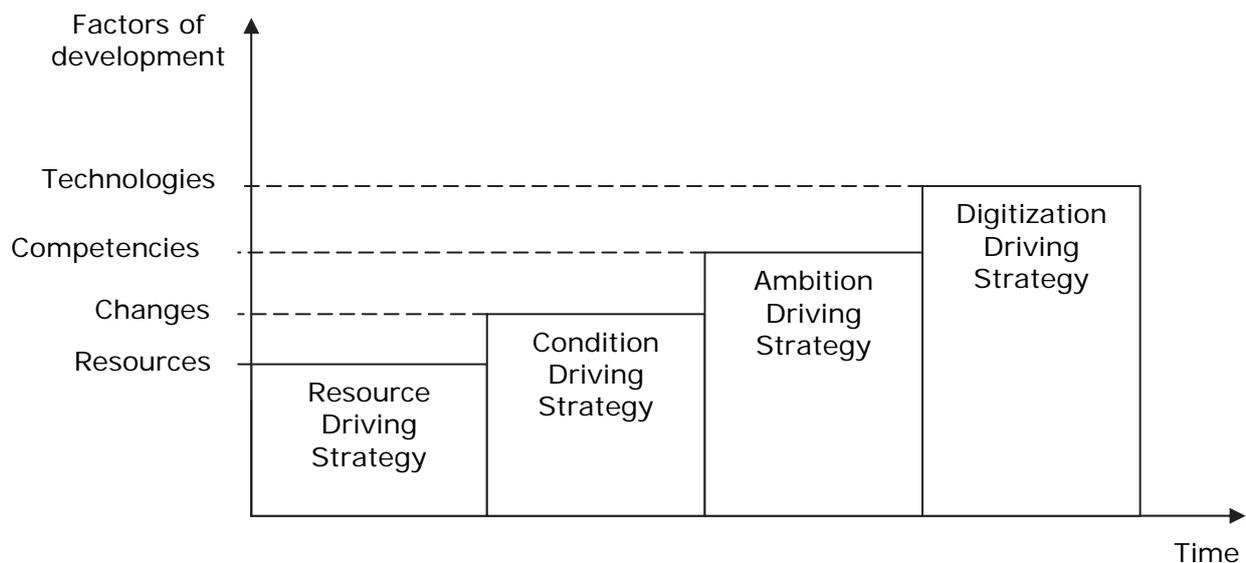


Figure 1. Evolution of approaches to strategy development

The next step towards the transition to innovation management is the approach to developing a strategy that based on the conditions of activity. In contrast to the previous approach, it is anticipated that achievement of competitive stability is ensured not through the ownership of assets but by the speed of adapting the enterprise to new environments with the ability to develop assets and create new products and services. Such approach allows timely response to past and current changes in the external economic environment, taking into account the internal conditions inherent in business. Accordingly, the planning process involves the collection of Big Data on the state of the market and the trends in its change, as well as on the activities of the enterprise at the current time and in the recent past. However, one should not forget that the changes taking place rapidly on the market make the future increasingly uncertain and less predictable.

The traditional process of strategy development is, first of all, analytical activity, the result of which is the choice of one of the most acceptable scenarios for the development of the enterprise, which will then

be transformed into a business plan and specific planning indicators. At the same time, the risks inherent in such a strategy are not at the development stage, but in the process of its implementation, and the main obstacle to its successful implementation is that before the management system, there are two complex tasks, which have to be solved simultaneously, – risk management in conditions of uncertainty and support of strategic decisions by personnel of the company.

The following approach (Ambition Driving Strategy) does not reject the analytical methods of the traditional approach, based on the conditions of development. At the level of strategy development based on ambition, analytical methods and procedures are integrated with the processes and tools that provide creativity, dynamism and interest from the staff of the enterprise. Distinctive features of this innovative approach are: the ambition of goals; behavioral management context; continuity of change management. Enterprises that are focused on ambitious development strategies determine the competence that is a complex of developed

skills, knowledge, technologies, patterns, ownership, which guarantees the company the achievement of a stable competitive position in comparison with other economic entities. A combination of core competencies provides the uniqueness (individuality) of business models and draft decisions, repeat (simulate) which competitors cannot, which is provided not only by a set of technological solutions, but by a number of knowledge, ideas, professional competences, skills, information.

It is the low dynamic ability, the inability to quickly adapt to changes in the market and manage knowledge is one of the most significant reasons for the weak competitive position of enterprises. A company that strives for leadership should provide a high innovation potential in developing a strategy that responds appropriately to the development of new products and services, human resources management, customer relationship management policy, implementation of innovation in the management model.

Today, the most effective approach is to develop a strategy based on digital technologies, since exactly technologies are promising competence of an enterprise that is oriented towards innovative development. Enterprises have discovered that new relationships are not limited to their employees and consumers – the real opportunity was to become part of many new global networks that unite companies, people and things in various industries around the world. This situation and the extent of its impact on the transformation of modern business opens up a new era of economic and social relations – «The Economy of All of Us», when enterprises become part of a single «digital fabric» that combines all aspects of business.

Intelligent equipment becomes a kind of bridge connecting the digital enterprise and the physical world. Today, within the framework of the concept of Industrial Internet of Things, many companies implement «smart» sensors in a variety of digital devices and bind them together.

After that, customers can get more than just new products and services, namely the benefits and the results they want. In this sense, the market is fundamentally changing under the influence of the development of new type companies with an innovative strategy, which involves offering the customer not a products or services, and the result of using a combination of digital technologies of the enterprise with intelligent end devices that used by the client. This is evolution not only in the strategy of development, but in the economy – the economy of the final result.

Thus, the next level of production efficiency will be the result of latest discoveries in the field of intelligent software. This can contribute to a new stage of evolution in all areas of business structures.

Digitization Driving Strategy is a serious step towards radical changes. Such strategy cannot be defined by a modernization tool that integrated with general business strategy. Digital changes are global transformations that are based on a digital basis, with the incorporation of their basic provisions into the development strategy, business model, operational activities and corporate culture of the enterprise.

The construction of the Digitization Driving Strategy is based on traditional factors of competitive growth, with the strengthening of key competencies that are updated in accordance with the requirements of the digital sphere (Figure 2).

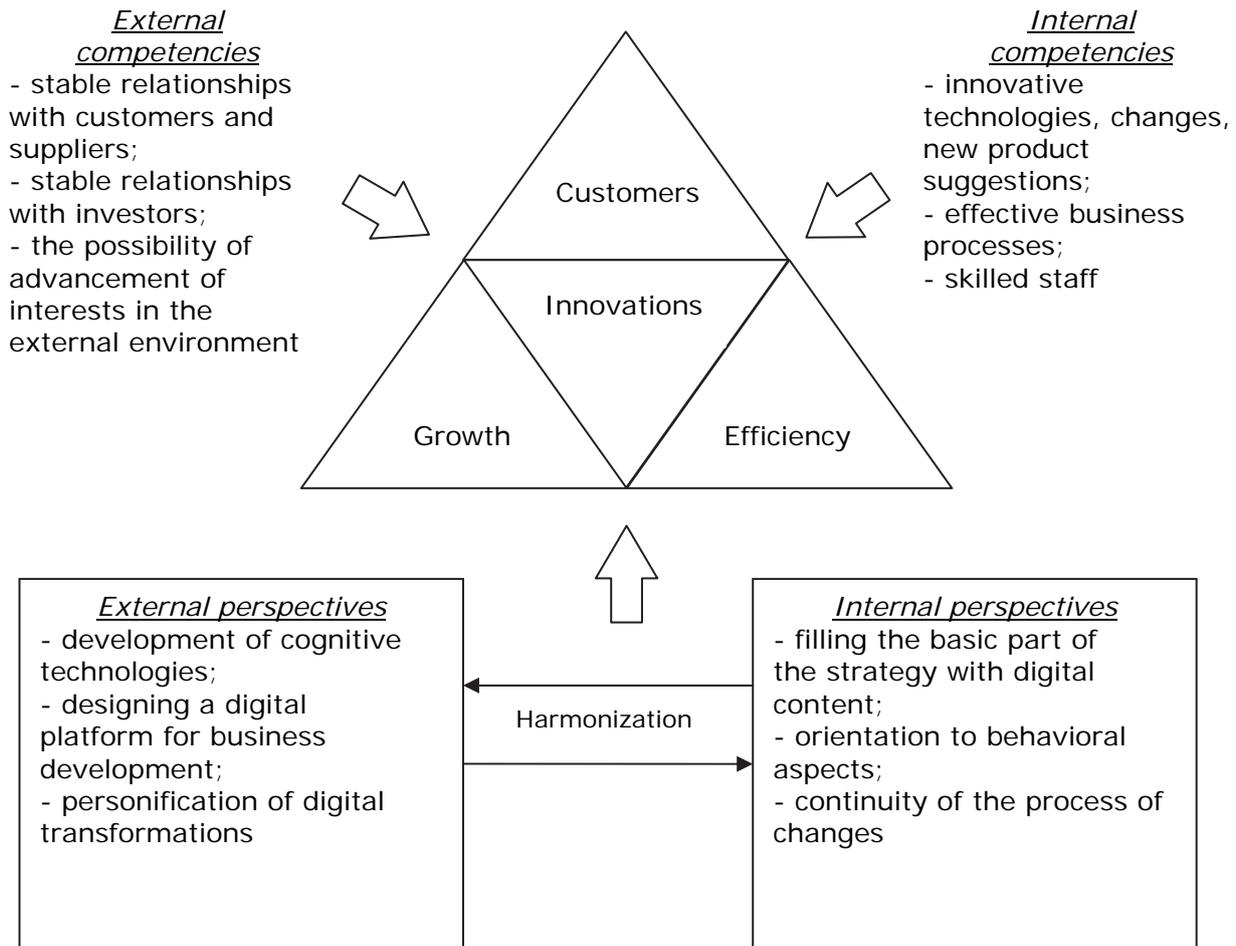


Figure 2. Totality of factors, competencies and perspectives in shaping the model of digital transformation

The central factor in digital transformation is innovation, which today is an obvious feature of a digital-oriented business, and therefore increases the amount of information processing by expanding the networks of interconnections and promoting new products through the digital platform.

The factor of innovations is directly related to the factor of customers by direct and indirect links. Innovation is being developed for customers, who are the main driver of digital-transformation as technology finally begins to directly affect revenue generation.

Focusing on digital technologies in customer relationships allows anticipating their expectations and offer products earlier than competitors. Modern business has to change the approach of client-centricity on digitalization, that is, transform the behavioral aspect of customer perception not only as an object of the business model, but as participants in the chain of joint creation of valuables.

Customers have become a basic business objective for business, as they ensure the growth of the enterprise. Growth is not only the goal of business, but the objective need to maintain the viability of the business entity with a transition to a higher level of global changes.

Efficiency is a mirror image of growth that based on digital transactions. Compliance with digital principles means creating as much value as possible for each amount of funds that enumerated by customers. Thus, the expansion of the target audience is achieved with an increase in the scale of the proposal, which is a new basis of effectiveness.

**Discussion of research results.** In a modern economy, competition is increasingly becoming event of not resources, and strategies and investments by companies are increasingly geared towards creating core competencies and ensuring their dynamic abilities. Digital transformation, innovative potential, ability to form more effective

strategies and constantly developing the company, updating its structure and key business processes in response to the challenges of the external environment play an increasingly important role. The desire to win in a competitive struggle brings new requirements to managers who have to set ambitious but achievable goals, shape the vision of the future company and make it the property of all employees, stimulate the search and find new non-trivial decisions in transforming enterprise activity on digital platform.

Information in the complex organization of the management system is considered from the point of view of the processes of collecting data, their accumulation, distribution, summation, transition to a new quality, updating, systematization, to transform them into a usable form.

Managing information as an organizational resource allows making timely adjustments to the activities of the enterprise and obtains better economic results. Modern forms of information organization provide a new environment for management objects – the only information space that management provides for the dynamics of business.

The formation and development of the information system of the enterprise is carried out in accordance with the project, which should take into account organizational, functional, technological and managerial characteristics taking into account the parameters of the business strategy.

Managing a project of information system is a separate branch of knowledge requiring appropriate training and skills. This is not only action programs, but a set of interrelated measures designed to achieve a specific goal for qualitative changes in information management. Forming the project of information system is based on three determinants – time, quality, cost.

The information has always been subject to increased requirements, which is why these factors are key to ensuring the qualitative characteristics of the data used for the activity and development of the enterprise.

These factors should also ensure the distinctive feature of the project – uniqueness. The development of the information system project is carried out taking into account the organizational, control, managerial factors that provide the appropriate parameters of information, taking into account the individual aspect of business.

The project of information system is an element of a general business development project, which uses the result of modernization of information provision of management. At each stage of the business development project, there is a need for some information that forms solutions in the subsystems and integrates with the data in other subsystems of the enterprise, thus forming an information management grid (Figure 3).

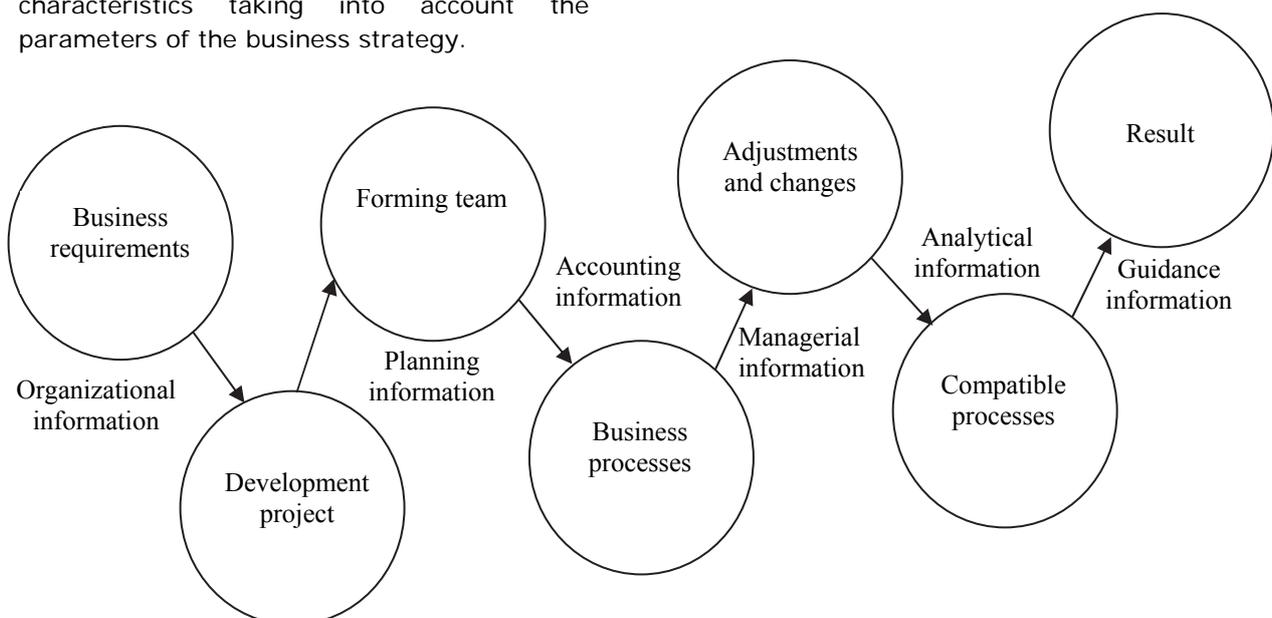


Figure 3. Schematic interpretation of development of business development project based on information provision (Bochullia, 2019).

The project of information system is also an important factor in the roadmap of information transformation in the management of the enterprise. Before starting to develop a roadmap, it is necessary to determine the general starting point and the direction in which the enterprise plans to move. Since the roadmap of information transformation is a complex system of informational, economic and professional relations in the enterprise environment.

The successful transformation of information provision of management involves implementation of a new system of competences, taking into account innovative technologies and trends in the field of activity.

At formation of a roadmap is important to adhere to the principle of confrontation, which allows you to go beyond the usual style of information management and find new ways and approaches for innovation in information processes. The roadmap should be designed to activate (initialize), design and integrate information processes for their combination with the general model of business development as a single information system that provides all subsystems of the enterprise's activity with integration with the external environment (Figure 4).

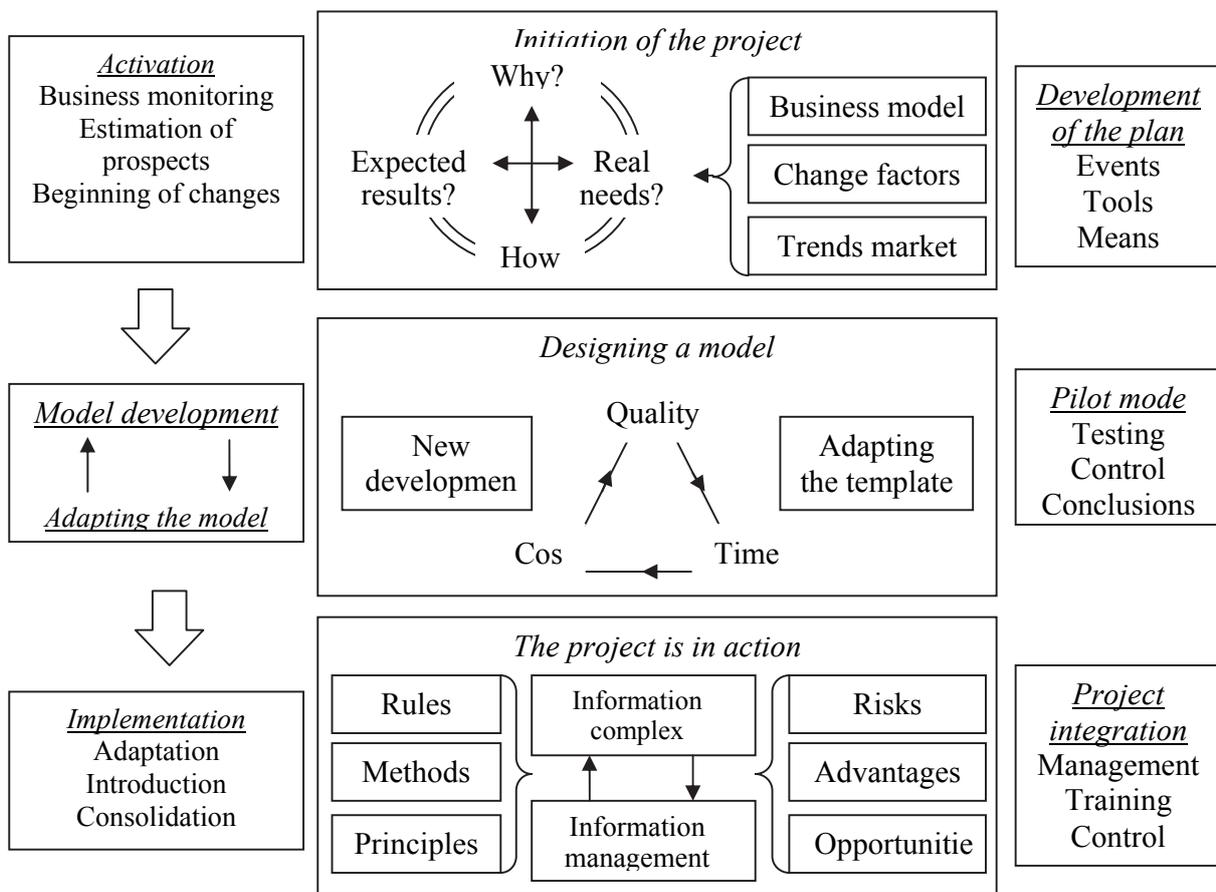


Figure 4. Roadmap of information transformation in the managing an enterprise (formed by Berger, 2016; Bochulia, Melnychenko, 2019; Bolman, 2003; Johnson, 2014; Laszlo, Zhexembayeva, 2011).

Formation of a roadmap allows providing a comprehensive transformation in the information system of the enterprise with the organization of a new level of information relations.

Each of the stages in the roadmap can vary according to the needs and requirements of the business.

At each stage, it is necessary to evaluate the result and only after recognizing it satisfactory to move to a new stage. The model of «cascade» and «web» is implemented in roadmap.

The first model allows managing all processes gradually during the development and implementation stages. The model «web» involves establishing close links between processes in all subsystems of the enterprise, which allows us to form a complex system of relationships and bring information management to a qualitatively new level.

Road map of information transformation is intended for measurement, calculation, formation, processing, transmission and storage of information about: current indicators of business processes; maximum allowable values of parameters in accordance with business goals and strategies; planned indicators in accordance with the set of decisions as a unity of capabilities, potential, risks and the originally chosen development strategy; generalized reporting indicators of the enterprise; data for objective decision-making. Roadmap of information transformation covers information and communication connections of all processes of enterprise activity.

With the help of the roadmap, the information provision of management process is developed in accordance with the distinctive features of the enterprise, the general tendencies of its development and the external context that providing the expected competitive advantages.

## Conclusions

Thus, a theoretical research is carried out in the article and the scientific task of developing an innovative project of organization of information and analytical provision for sustainable business development is solved. For this purpose, proposals for the development of information management with increasing the efficiency of information processes concerning the proposal of optimal data for the system of sustainable business development were formed.

The map of the description of the development of the organizational system of the enterprise is proposed, on the basis of which a view on the enterprise is formed as an open socio-economic system with a complex mechanism of interconnections and integration of elements of the internal and external environment. The map of enterprise development is based on the principle of conformity (congruence) of organizational behavior, which explains interconnections between subsystems of the enterprise – changes in one subsystem affect the changes in all the constituent elements of the enterprise. The roadmap is proposed for activation (initialization), designing and integration of information processes for their combination with the general model of business development as a single information system, which provides all subsystems of the enterprise with integration with the external environment.

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