

The development of universal model of accounting system of small and medium business is based on modern computer technologies

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Abstract. Economic effect of the introduction of an automated accounting system takes one of the first places in the activities of small and medium-sized businesses today. This is achieved through optimization of accounting and obtain operational and analytical information that leads to an overall efficiency of business enterprises. Software is used on 1C: Enterprise, in most cases in Kazakhstan which has managed to prove itself as a reliable and efficient, user-to-date product. Automated accounting system can accelerate the processing of accounting data, which in turn leads to improved management of the enterprise as a whole.

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Introduction

The formation and development of small and medium-sized businesses in the Republic of Kazakhstan since the early days of economic reform is one of the priorities of the economic policy of the state. The entrepreneurial class has served as an essential attribute of a market economy and an independent subject of economic relations.

In addition in order to survive, small and medium business must be mobile. Managers of small and medium business require timely and reliable information for the control of the production process more efficient, thus achieving a stable financial position and strengthen its competitiveness. Quality inside information is also required for foreign investors and owners. It is necessary to develop and implement modern computer programs for automation of accounting and financial report of the functioning of small and medium business.

When developing software and application products designed specifically for automating business accounting prerequisite is to take into account all features of the activity of small and medium-sized businesses.

Hypothesis

It is assumed that the low competitiveness of small and medium business the Republic of Kazakhstan is associated with low levels of automation of their accounting systems.

The aim is to research and develop a universal model accounting system based on modern computer technology.

The authors solved the following problems to achieve the goal:

- the features of the implementation process of software for small and medium business of the Republic of Kazakhstan were researched;
- monitored the activities of small and medium business;
- conducted marketing research of effectiveness of using of automated programs
- developed a universal model of the enterprise accounting system based on modern computer technology to reflect the key linkages between elements of the system;
- developed a technique for modeling business processes and best practices for the implementation of this process.

Research methods

Widely development has received computer, structural-functional modeling through the growth of GUI and graphics packages recent years. The computer simulation, numerical experiment become a new tool by scientific knowledge, new technology because of the increasing necessity of passing from investigating of linear mathematical models of systems.

Modeling is an important aspect, allowing deeper and more detailed review of accounting problems. It is a prerequisite for the development of accounting in the unity of its theoretical and practical aspects. The purpose of modeling in accounting is to develop a methodology to streamline the receipt and processing of information about user objects [1].

There are three stages in the development of accounting simulation. At the first stage accountants use mathematical or symbolic illustrative image categories accounting for didactic purposes (for example, the so-called T-bill).

In the second stage modeling of economic processes have already happened, the structure of accounts disclosed through graphic charts, graphs and mathematical formulas.

The third stage of modeling associated with the development of cybernetics and systems theory. Thus, the system of linear equations of cost accounting, parallel construction plan and report matrices, etc. predetermined the level in the development of a new accounting methodology [2].

Thus the task of accounting of modeling is to create a unified model of the accounting process, which will be adequate for the current accounting model in the enterprise, but have advantages in the means and methods of forming the accounting information. This simulation promotes more complete implementation of the requirements of the system and improve the quality of improving its handling.

Modeling accounting in the conditions of automation aims to create processing circuits, synthesis and grouping of accounting information. It is offered the following sequence modeling systems: a conceptual description (research) of system, its formalization and algorithmization, quantification (quantification, measurement of qualitative characteristics, such as a scoring) system, if it is necessary.

There is a possibility a comprehensive, systematic approach to the description of the accounting process at the enterprise by modeling. The enterprise accounting process can be represented as a set of models, which allows content to highlight the main modeling capabilities [3].

Methodology description of models provides an opportunity to make necessary changes that ensure openness accounting system. The changes can be an increase or decrease nomenclature indicators, changes in the chart of accounts and classifiers, expanding the number of details in the primary documents, etc.

Economic and mathematical models are a special class of models, means of which the modeling of economic processes and objects is implemented.

It is used the mathematical models of most generalizations of factors at the initial stage of the modeling process, taking into account only the most general laws - the so-called conceptual models characterizing "the smallest scale" research. Then the object and subject of study clarify the complementing model of a large number of factors and measuring their performance scales intermediate degree of excellence that characterize the "average size" of the

study. Further, when the subject and object modeling defined, that is allocated a specific element of reality and its reproduction patterns resolved in detail, conduct detailed modeling that characterizes most "large scale" research [4].

Let's emphasize the accounting process in terms of automation on the basis of previously contained object modeling, object modeling and accounting system in the enterprise.

The accounting tasks are structured tasks, they have an exact solution of algorithm and can be represented by a simple mathematical model. Algorithms for solving problems do not require attracting of involvement and complicated mathematical apparatus based on the formalization of the description accounting rules contained in the regulations and instructions.

The automated accounting system (ASBU) includes a whole group of models in addition to the algorithms for solving user problems defined regulatory framework of accounting, reflecting the main features of the subject area, variously implemented in software. Features of the implementation models define the specific of using computer software technology, as well as its functionality.

Thus, mathematical tools, as well as a set of models presentation and interpretation of accounting information is used to describe algorithms for solving problems of accounting, refer to mathematical software control systems.

The conceptual model of the automated processing of credentials is a model of the accounting process and reflects its most basic, fundamental aspects of information. This model will be used in more detail in further studies.

Model system of accounts is the basis of accounting and reflects the order of the construction and interpretation of all synthetic and analytical accounts applied in the accounting. This model is an automated accounting system includes a system of synthetic accounts, analytical accounts system and the relationship between them [5].

Main

Dynamic situation on the market of goods and services causes the head to analyze vast amounts of information, make the best decisions quickly, bring them to the performers and constantly monitor the progress of technological, economic and financial processes. Implementation of accounting and analytical software package allows you to automate not only accounting, but also to restore order in inventory accounting in the supply and distribution of goods, track contracts, quickly calculate wages, hand over the reporting timely [6].

The enterprise can greatly injured or suffer burst-up due to negligence in accounting and analytical accounting. There are a lot of examples and often suffer enterprise that aims to work honestly. The reasons for this can be very different, from ignorance and failure respectively latest laws and regulations to the banal arithmetic errors arising in accounting manually.

It is clear that information technology is not able to completely change the experienced and competent accountant or analyst, but they allow you to streamline accounting, increase the amount of information obtained, increase the efficiency of accounting, to reduce the number of arithmetic errors, assess the current financial position of the company and its prospects. So it is important to structure the information base for the development of information systems to improve the management of objects, to minimize the time and cost of data entry costs, reduce data redundancy, maximize recovery of output information from the available data. These processes should be carried out in conjunction with the optimization of resources, technical and technological support of information system, which also affects its effectiveness [7].

It was established during the investigation that modern information systems must be corporate in nature, be a powerful tool for enterprise management. This corresponds to the increased capabilities of information technologies and their resource provision. It corresponds the increased capacity of information technologies, their resource provision. The data warehouse of information system, defined tasks of accounting, must comply with these processes. It is a daunting task that cannot be solved without modeling the structure of a data bank, designing accounting procedures querying, constructing of routine and specialized reports.

Finding solutions of these tasks is the subject of research.

Currently, for the study of activities is used modeling method, which involves the process of construction, the study and application of models. It is closely associated with such categories as abstraction, analogy, hypothesis. The modeling process necessarily involves the construction of abstractions, reasoning by analogy and construction of scientific hypotheses. But the main feature of modeling is a method of knowledge mediated using of proxy objects. The model serves as a kind of tool of knowledge, which the researcher puts between himself and the object and by which he is interested in exploring the subject. This feature of modeling method determines the specific form of use of abstractions, analogies, hypotheses, methods, and other categories of knowledge. The modeling

capabilities is the transfer of results obtained in the course of construction and study models, the original based on the fact that the model is in some sense display (plays, models, describes mimics), some researchers are interested in the features of the object. Modeling as a form of reflection of reality is widespread, and fairly complete classification of the possible types of modeling is extremely difficult, even by virtue of ambiguity of the concept "model" which is widely used not only in science and technology, but also in art and in everyday life. Reflection of reality carried out by means of mathematical models which are built into the structural model of the system and determine its performance [8].

The most important stage of the modeling process of accounting operations and software development is the stage of system analysis and modeling of the enterprise customer. Project success is dependent upon the stage of this. At this stage is formed the work requirements of information system and identifies solutions. Traditional methods include using requirements elicitation interviews and questionnaires, observation and study of working papers. The modern methods of eliciting requirements include the use of software prototypes, as well as techniques such as JAD (Joint Application Development) and RAD (Rapid Application Development). These approaches offer a deeper insight into the requirements [9].

We analyzed the primary requirements and planning of the first phase. Its main objectives were:

- Preliminary study of the problem;
- Analysis of the primary business requirements;
- Preliminary Economic Assessment of the project;
- Construction schedule of works;
- Creation and training of joint working group.

It is constructed the overview data flow diagram to assess the current situation with a view to its use to fit all of the fragments to each other and identify all deficiencies at this stage. The benefits of the new system of accounting operations of the enterprise, defined time costs, the cost are evaluated.

At the second stage, we conducted a survey study of the company, during which satisfy:

- Preliminary identification of requirements for the future system;
- Standard definition and topological structure of the enterprise;
- Determination of the list of targets of the enterprise;
- Analysis of the distribution of functions across departments and employees;

- Definition of the list used at the facility of automation.

Thus it was revealed the substantive activities of each branch of the enterprise and functional interactions between them, information flows within and between departments, external objects and external interactions.

At the third stage we have implemented and processing was built models of the company the following two forms:

- Model "as is", which is a "snapshot" of the situation at the plant at the time of the survey in order to understand what does and how the enterprise operates from the standpoint of system analysis and automated verification based on a number of errors and identify bottlenecks and to formulate a number suggestions for improvement;

- Model "as it should be," integrating perspective offers of the management and employees of the enterprise, experts and system analysts and allows to build a vision of new sustainable technologies of the enterprise

The final result is the construction of a system project (requirements model), which is actually the first phase of development of automation system (namely the analysis phase of the system requirements), which clarifies the requirements of the customer, formalized and documented. System design based on the model "as it should be" and the survey results of the enterprise in identifying requirements for the future system.

The main problem of failures in the implementation of such projects is the lack of interaction between domain experts and IT-managers. Majority of specialists implementing projects for the reorganization of business processes, ignore the key success factor of this type of projects, a constant interaction and information exchange with experts in related fields. From the perspective of the professionals, the key to the success of the project is to reorganize the communication between all groups of people interested in the task. This interaction is achieved through the development of various models that represent business processes and understood by all project participants. At the same time a model serves for formalizing and documenting the current state of affairs and to explore possibilities of improvement. In the market there are several technologies that are designed for modeling business processes and can facilitate the exchange of information. Tools for design, simulation and analysis are called CASE-tools (Computer-Aided Software Engineering). CASE-tool concept covers a variety tools that are used for computer analysis and of modeling, and tools for business process analysis represent only a small part of the whole family.

However, it was the study of business processes is a key factor in the development of some application and allows you to define the problem clearly and unambiguously that face developers [10].

To date the activities of small and medium-sized businesses the economic effect of the introduction of an automated accounting system is on the first places. This is achieved through optimization of accounting and obtain operational and analytical information that leads to an overall efficiency of business enterprises. software is used on 1C in Kazakhstan in most cases: The company, which has managed to prove itself as a reliable and efficient, the product meets the requirements of users. Automated accounting system can accelerate the processing of accounting data, which in turn leads to improved management of the enterprise as a whole.

Computerization of accounting based on modern technologies such as information and expertise - advising system allows not only to reduce the time and resources required for the implementation of accounting and analysis, but also to provide information that is very difficult to obtain manually. This information concerns primarily to the strategy of ways and means of improving the economic and financial situation of the company [11].

The application of computer programs for accounting automation and management has a significant impact on management of the company regardless of the industry in general. Software combines the accounting procedures and other business processes into automated enterprise system that has a positive impact on the overall enterprise management system. Automation of account provides the opportunity to achieve the basic objectives of the enterprise development to management unit: stability, its efficiency, attractiveness to investors, reliability and stability. The company provides control of the correctness, appropriateness, and more importantly, compliance with the "letter of the law" of accounting transactions and accounting in general using computer accounting software. It can easily be achieved by pre-programming of special algorithms, which are designed to monitor and verify [12].

It is also possible to develop a special computer program, which will be focused on the needs of a particular company. In this case it is possible to get the most significant economic effect. This program will include interaction of 3 subjects automation accountant, programmer and manager. Each subject affects the effective use of the developed program and the size of the positive economic effect of accounting automation depends on their interaction in some way.

We have a number of advantages, each of which is aimed at ensuring effective management,

which allows to make the best management decisions introducing computer technology of accounting for any particular enterprise. Using computerized accounting systems leads to the strategic development of the company as a whole (5).

Conclusion

The analyze of information system requirements of registration and administrative procedures for small and medium-sized businesses in the research process has been conducted developed a structural model of credentials based on the model of business, business management processes for small and medium businesses.

According to the results of the study the average level of automation of the enterprises is about 40%. Considering that the current level of automation in related sectors of the economy sufficiently high can confidently say that this figure is low.

The results of the research, following conclusions can make:

1) Theoretically substantiated using of modeling as a tool for the development of accounting principles revealed its practical implementation in a computerized accounting process.

2) Given the universal model of the enterprise accounting system based on modern computer technology to reflect the key linkages between elements of the system.

3) Developed a technique for modeling business processes and practical recommendations for the implementation of this process.

4) Asked to use a method of modeling the formation of accounting policy of the company to develop a mechanism to select the most appropriate of its provisions.

5) Improved methods of using simulation methods in the study of computerization of accounting for the further development of his theory and methodology.

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