

Information Technologies In Investment Operations

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Abstract. As national economies are linked together by the exchange of goods and services and by public and private communications networks, global securities markets develop. In securities markets, the introduction of automation, as well as any serious transformation of the enterprise is a complex and often painful process. But securities trading on a global scale brings with it new risks, as well as beckoning opportunities. Investors and Regulators and policymakers are seeking to understand these risks and appraise the demands that they will place on markets, market participants, and their regulators. This article describes the forces encouraging the development of international securities markets, the obstacles that must be overcome, and the major sources of information technology. It provides some estimates of the present extent of cross-border trading, and describes the largest and most active organized markets competitors in providing securities related services in Central Asia and the European Countries. It also describes the important clearing, settlement, and payment mechanisms that support major markets using different IT methodologies in financial market. Finally, it outlines the questions to be faced how to make span of securities trading stretches beyond the scope of national regulatory regimes with smart automation steps.

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Introduction

In recent years, several stages of formation and development of securities market have passed. During this period the world has undergone many changes: there were ups, downs, and more recently, a severe crisis. Nevertheless, the market grew and developed. And of course, with the country's market economy development a "sea" of financial information appeared - from the dry figures of different trading platforms to the news that could affect the further development of events in a particular market sector. In this regard, investors of all types are in need for timely and complete information to make good investment decisions.

Two rules formulated by Bill Gates in 2005 claim following statements. The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency [1].

Along with the development of the stock market, markets of information technology developed actively as well. The

large flow of information coming from various sources requires treatment. In this case there is a need for proper analysis of information, how to use it in solving certain problems. After all the information is not an end in itself. Any information should be systematized and analysed. It is especially important to find proper and timely solution for investors who are not professional stock market participants that are not directly connected to the trading systems. The problems faced by these investors are quite traditional. In the current context of the global socio-economic development, particularly important area was the provision of information management process, which consists of collecting and processing information necessary to make informed management decisions [2].

Before the governing body is put to the task of obtaining the information, it's processing, as well as generation and transmission of new information in the form of the derivative control actions. These impacts are carried out in the operational and strategic aspects and based on previously obtained data on the accuracy and completeness of which depends largely on the successful solution of many problems of gover-

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nance. It should be noted that any decisions require processing large volumes of information; competence manager depends not only on past experience, but on the possession of sufficient information on the rapidly changing situation and the ability to use it. Things you should know and understand the future leaders. There is no doubt that the key to success will be the ability to clearly orient in the flow of information and the ability to effectively use this information.

Computerization in the management of economic processes requires, above all, increasing worker productivity by reducing the cost / production, as well as training and professional competence of specialists engaged in management activities. In developed countries, while two are mutually connected revolution in information technology and business is going on.

2. Information technology in the securities industry and functional flow of financial instruments

One of the few offered by today's new integrated information system is *Signator/2000*. The prototype of this system was the system for the automation of investment funds *SIGNATOR*, developed in West Germany. It was created by *Servo Comp GmbH* - known German developer of application software packages. For example in Russia, the system delivers *Signator/2000 Servo Comp* computer company, representing the interests *Servo Comp GmbH* in the Russian market and dealing with the German adaptation of such systems applied to Russian conditions with the use of modern technologies of *ORACLE*. The company completed improvements *Servo Comp Signator/2000* system taking into account peculiarities of the Russian stock market and banking legislation and ensure its implementation and technical support [3].

The system is also available through distributors *Servo Comp* - known Russian companies, Open Technologies, Technology, and cognitive Stins Coman. *Signator/2000* stock system is universal and can be used to maintain the registry customers, accounting for sales, registrar and depository operations, and organization of internal documentation and reporting. Many organizations within service industries such as government agencies, banking and healthcare decide to structure their business with the back office - front office design; in this setting the back office handles tasks not involving the customer, while front office involves those activities that deal with the customer through some form of contact or receive input from them. When the time comes and an organization wishes to improve the back office area and achieve enhanced efficiency and speed; it is commonly suggested that outsourcing should help introduce the intended gains [4].

However, outsourcing is not always the right option for an organization, depending on the activities the back office performs and the organization's size might not make it a supreme candidate for this. It is at this point that the orga-

nizations are left standing in the cold as no alternatives are suggested; therefore creating a push towards outsourcing that might end unsuccessfully. The software product "1C-Rarus: Mutual funds, Revision 2" (1C-Rarus: PIF, red.2) is designed to automate the account open, interval and closed-end mutual investment funds of all kinds, as well as retirement savings. It included the following functions.

1. Accounting for Securities Auto loading issue of securities (NDC).
2. Automatic download securities prices (MICEX, RTS).
3. Flexible configuration of the loader deals in user mode.
4. Automatic evaluation of securities, taking into account the priorities of the exposed exchanges.
5. Ability to automatically download applications and the shareholders of the reporting agent.
6. Ability to automatically load movements on shares, and contact information for shareholders from a report by the registrar.
7. The system alerts the onset of corporate events and direct execution of routine transactions, such as repayment of the ACI, the repayment of the bonds, the partial repayment of the bonds.
8. Perhaps auto control Securities and ACI for the period.
9. A universal mechanism that allows carrying out conversion, consolidation, division, calculating, including complex cases. ACI revaluation surplus, revaluation of securities and other property.
10. Accounting for deposits and interest. Consideration of Bills. Accounting and automatic discounting of bad debts.
11. Accounting and revaluation of foreign currency assets and liabilities [5].

3. The automation system of the investment company

It is especially important to take proper and timely solution for investors who are not professional stock market participants that are not directly connected to the trading systems. The problems faced by these investors are quite traditional. Require immediate and comprehensive information delivered in an easy to use and analyse the form. If possible, it should be a program that could automatically analyse incoming information [6].

In any case, one goal is pursued - to maximize the effective investment of funds. From this basic information and other minor problems may arise: the right financial planning streams of payments, risk management, ensuring the optimal balance between profitability and liquidity of assets and simple automation of business activities of the company, from accounting and finishing operations coupled with the regional offices. The process of Investment Company as a professional participant of the stock market is made up of transactions and their execution (see Fig. 1).

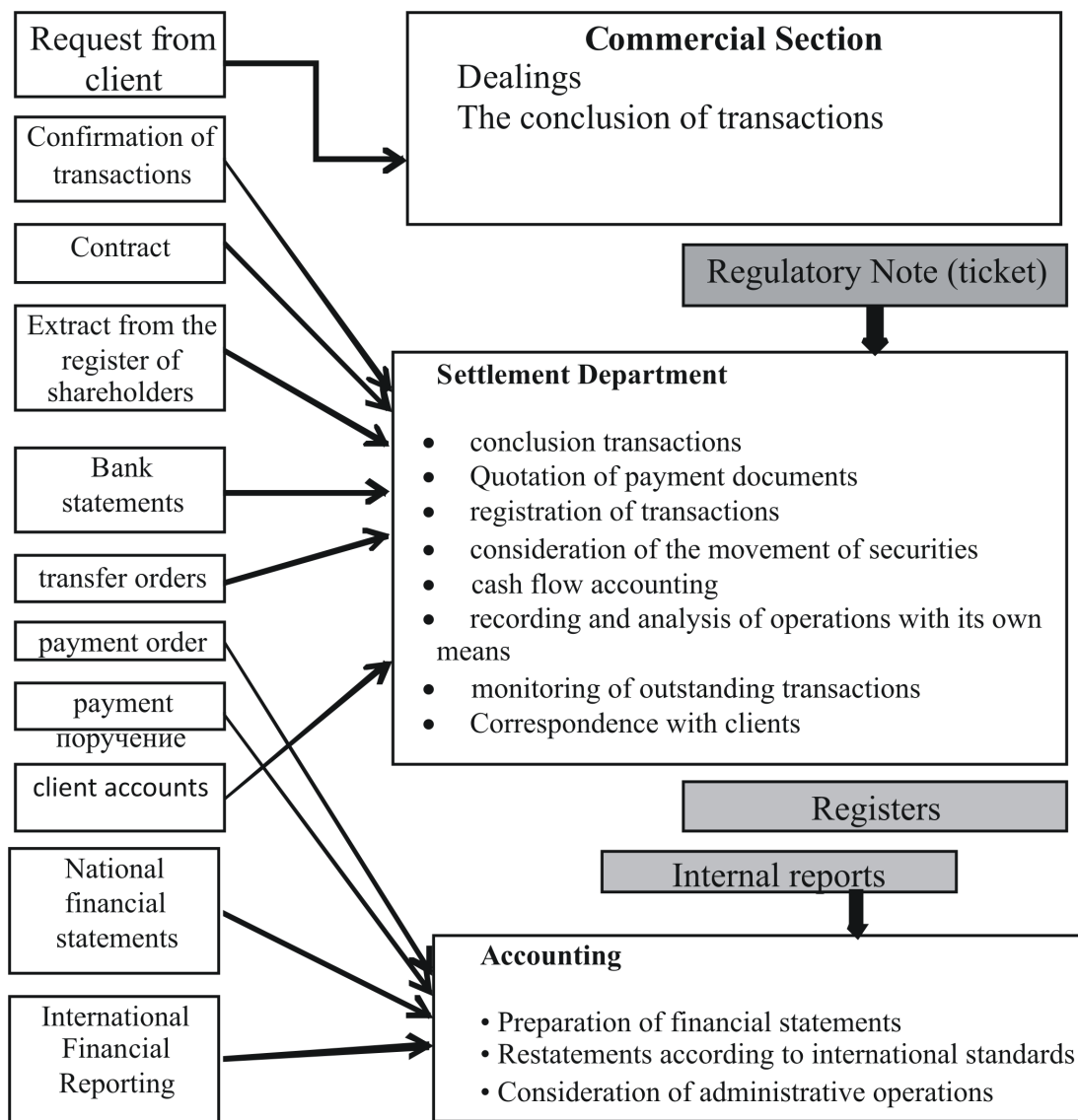


Fig. 1. The process of Investment company (adapted according Ref. [7].)

The investment company may work with a variety of securities and their derivatives on different exchanges. There is no doubt that creativity is the most important human resource of all. Without creativity, there would be no progress, and we would be forever repeating the same patterns (Edward de Bono, 1969). Currently, a large proportion of the turnover of the company has on corporate securities. The largest concentration of deals with them is on OTC trading system. Therefore, we consider the technology works typical of this trading system. In the structure of brokerage (dealer) companies are the following units associated with the process of execution and accounting of transactions (see Fig. 2).

Activity accounting is accounting for transactions directly related to trade in securities. Of course, the right is a statement about the relative autonomy of the back-office and accounting, but we cannot consider this process as a completely unrelated activity, since they reflect the state of the same economic processes, but in different ways. Moreover, the synchronization of business processes of the two units is the key

to the organization of concerted action across the company. According to standards developed by NAUFOR, back-office business performs operations corresponding to the execution of transactions, using the traditional system of double entry bookkeeping.

The difference is that the back-office uses a special chart of accounts. The structure chart of accounts except for back-office tracking includes tracking of ownership of securities. This allows you at any time to carry out verification of the location of these securities registrars. Therefore, if kept in sync of the back office and accounting, you can avoid further divergence of balance data with registrars. This is just one of the virtues. The other is that since the two departments are working with the same instruments, albeit in a different perspective, the process of execution and recording of transactions is not only self-regulating, but also more dynamic. And it allows the company to increase sales with the same headcount.

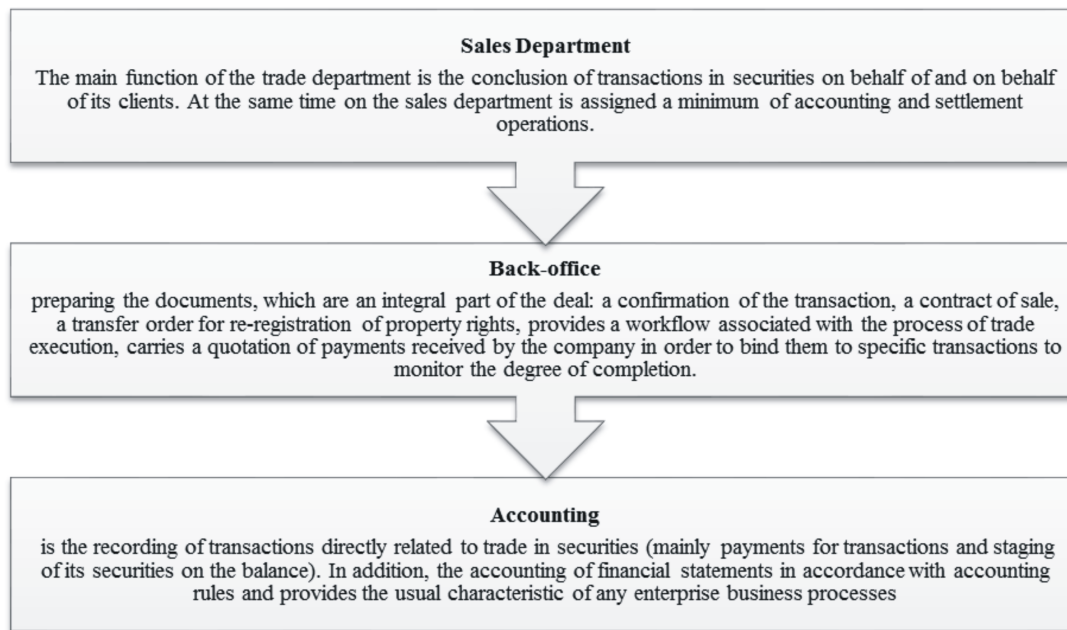


Fig 2. Process of execution and accounting of transactions (adapted according Ref. [8].)

4. Smart automation steps

Automation - a project that should be seen and manageable. Smart Automation - it is not just installing your software that helps automate some parts of the work. This is the process of innovation, which aims to bring business to the next level. "The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency" (Bill Gates, 2002). Make it a viable, efficient, profitable. This investment the main indicator of which has return on investment. Automation of business - this is one of the elements of modernization as it should not be blindly out of control. As with any opening of a new branch of any marketing project, it should clearly be planned, designed, fit in with the budget. This is the main idea of a phased-development return on investment and its calculation for each of the cycles of work.

In contrast to the typical settings - a phased development is a highly liquid product. It was originally planned, taking into account the specifics. Based on this, start the first stage and it is fully operational and begins to work.

Using your own built-in tools you can immediately carry out the analysis. See how much you spent on this stage, and how much money is brought to you. To carry out the calculation of return on investment. Having the numbers you can make a decision on funding the next phase.

Count: how much additional money earned you want to send for further automation. Or think if it is right to put back the entire increase in development.

Alternatively, return on investment is so effective; you need to have to increase funding. In any case, automation is

sighted, managed investments, return on which the well is calculated.

But most importantly it earns on itself. By the time will be put into operation the whole system, it not only pay for itself, but also to bring in excess of the profits.

5. The globalization of IT services: using different methodologies to improve of work staff qualification

When implementing corporate information systems in most cases there is active resistance to field staff, which is a major obstacle to the consultants and is fully capable to prevent or significantly delay the project implementation. This is due to several human factors: the common fear of innovation, conservatism (e.g., storekeeper, has worked 30 years with a paper card file, usually psychologically difficult to change the computer), fear of losing their jobs or lose their indispensability, the fear of substantially increasing responsibility for their actions. The leaders of the company who made the decision to automate their businesses, in such cases should make every effort to promote responsible group of experts conducting the implementation of an information system, to raise awareness of staff [9].

The development of and dependence on technology in the securities industry has accelerated in the last few years, due to increasingly lower margins and the extension into new markets. The ITIO qualification gives an excellent opportunity to the industry community to enhance their knowledge of the role and the challenges of information technology in today's world (Tech Mahindra).



Fig. 3. Smart automation steps (adapted according Ref. [10].)

The Chartered Institute for Securities & Investment is the largest and most widely respected professional body for those who work in the securities and investment industry in the UK and in a growing number of major financial centers round the world. Professionals within the securities and investment industry owe important duties to their clients, the market, the industry and society at large. Where these duties are set out in law, or in regulation, the professional must always comply with the requirements in an open and transparent manner (see Fig.3).

First, one of the most important features of the head of corporate information systems is modules of management accounting and financial controlling. Now, each functional unit can be defined as a centre of financial accounting, with the appropriate level of financial responsibility of its head. This in turn increases the responsibility of each of these leaders, and provides the hands of senior manager’s effective tool for the precise control of individual performance plans and budgets. Do not assume that working in the presence of an automated control system will be easier [11].

On the contrary, a significant reduction in red tape accelerates and improves the quality of processing orders, raising the competitiveness and profitability of the enterprise as a whole, and all it requires more discipline, competence and responsibility of the performers.

It is possible that the existing production facilities will not cope with the new flow of orders, and it too will need to make organizational and technological reforms, which subsequently have a positive impact on the prosperity of the enterprise.

A particularly important issue is the selection of the head

of the group and the administrator of the system. Head, in addition to basic knowledge of computer technology, must have extensive knowledge of business and management. In practice, in the major Western companies such person has served as CIO (Chief Information Officer) which is usually the second in the hierarchy of management. In domestic practice, the introduction of systems such a role, as a rule, is head of the ACS, or similar to it.

The basic rules of the organization of the working group expresses the following principles [12].

1. Professionals working group should be used with the following requirements: Knowledge of modern computer technology (and the desire to develop them in the future), interpersonal skills, responsibility and discipline.
2. With a special responsibility to approach the selection and appointment of the administrator of the system, since it will be available to nearly all corporate information.
3. The possible dismissal from the group of experts in the process of implementing the project may adversely affect its results. Therefore, group members should be selected from a dedicated and reliable employees and develop a system to support this commitment throughout the project.
4. Once the staff members of the group implementation, the project manager must clearly paint the circle solved each of these tasks, forms and reports of plans, as well as the length of the period. In the best case, the reporting period shall be one day.

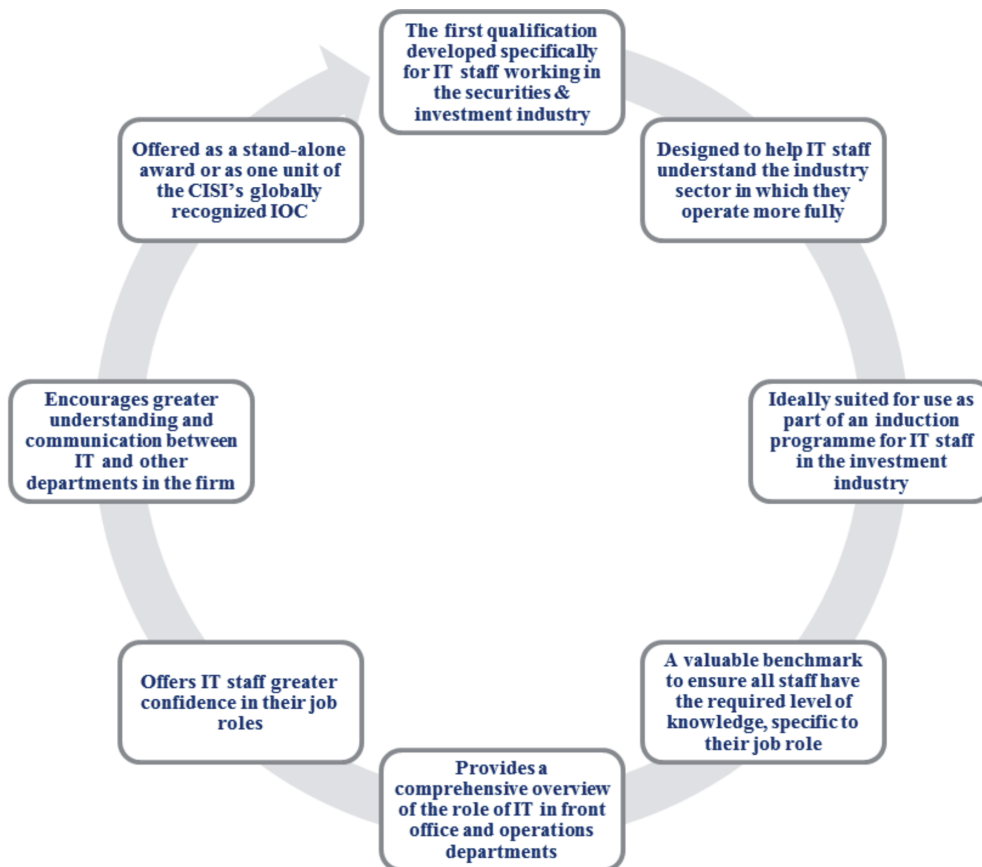


Fig 4. Functions of CISI (adapted according Ref. [5]).

6. Conclusion

Of course before starting the automation of business -it does not matter, the average company, large company or a very modest company - we should first of all decide for ourselves what we expect from the program. The fact that life should be better and happier is understandable. Everyone wants work to become easier. But what exactly the company expects from the business automation systems. Which areas require upgrading in the first place, what functions should be run applications. In short, what should be the "ideal program"? Unfortunately, at present, Uzbekistan has not fully formed national approach to financial market, and is currently managing the Uzbek is a volatile mix of Western management theory (which in many respects is not adequate to the current situation) and the Soviet-Russian experience, which, although and largely in harmony with the general principles of life, but it does not meet the stringent requirements of market competition.

The amount of information that must be processed to produce effective management decisions is so large that it has long surpassed human capabilities. It is the modern challenges of managing large-scale production that led to the widespread use of computer technology, the development of automated control systems, which required the creation of new mathematical tools and methods of mathematical economics. By improving information provision, positive results

are the following.

1. Possible cost savings by reducing payroll, utilities, cost of software, the cost of mail, the cost of registration of contracts, the costs of redistribution of resources.
2. Elimination of the possible costs in the future: to prevent the future growth of the number of staff, reducing the requirements for data processing, reduction of maintenance costs.
3. The possible intangible benefits: improved quality of information, increased productivity, improved and faster service, new capacity, more confident decisions, improved controls, reduction of late payments, making full use of the software.

The successful development of an integrated financial system is needed that allows solving the following problems: firstly, the production of regular security industry problems and secondly - the problem of choice and order of implementation of information systems. From the principle of unity of information implies the need to eliminate duplication and isolation of its various sources. This means that every economic phenomenon, every economic act shall be recorded only once, and the results can be used in accounting, planning, monitoring and analysis. Thus, the information system should be formed and perfected in the light of the above requirements, which is a necessary condition for improving the efficiency and effectiveness of management.

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