

МРПТИ 06.35.31: УЧЕТ
JEL classification: M41, L21

INTERNAL CONTROL: NON-LINEAR VIEW

M.A. Zholayeva

PhD doctor, Acting Senior Lecturer
L.N.Gumilyov Eurasian National University
Astana, Kazakhstan
zholayeva_ma@enu.kz

ABSTRACT

Purpose – the main purpose professional standards require an auditor to obtain an understanding of a clients business, including its internal control. The author adheres to another, broader approach of the notion of non-linearity internal control. Unable to default to high control risk and perform only analytical and tests of balances procedures, an auditor is required to obtain the understanding, identify and evaluate risks of material misstatement due to fraud and error and link the risks to appropriate substantive procedures to prevent financial statements from being making it easier making it materially easier misstated. Understanding and documenting internal control is integral to this process, which is the formulation of an audit strategy and conclusion of the research paper.

Methodology – The internal control system, in which stimuli causes a backlash, with small impact on internal control system may cause big effects, should be recognized as nonlinear approach.

Originality/value – importance of work nonlinearity of is expressed in the complexity of the system of internal control, the prevalence of unsustainable, not deterministic ones processes, describes the development of internal controls with departures from sustainability facility, nonlinear nature of internal control, with lots of chaotic links.

Findings – main focus and findings of the article already in the not to distant future researchers will pay great attention to the study of nonlinear phenomena in internal control, especially in the audit. Economic activities will certainly lead to the adoption of the new governance system self-organizing nature of internal control, accounting systems based on non-linear thinking.

Keywords: control; framework for internal control; risk-focused approach; internal control system; risk-management

INTRODUCTION

In the era of digital changes, non-linear system replaces linear system, and this reflects on the internal control. The management depends on how management subject imagines the system that he manages. Understanding the difference between descriptions, models of systems helps to increase the possibility of managing the changes and their efficiency. There are only four control forces operating on the corporation to resolve the problems caused by a divergence between managers ' decisions and those that are optimal from society's standpoint. They are the

- capital markets,
- legal/political/regulatory system,
- product and factor markets, and
- internal control system headed by the board of directors.

For this reason, linear view: internal control systems of companies is important for managers of individual and organizational changes.

LITERATURE REVIEW

New York State Society of CPAs: CPA Journal, Internal Controls and Managing Enterprise-Wide Risk, by John Farrell, Securities and Exchange Commission: Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports. Internal Controls for Small Businesses.

In modern literature the internal control, basically, discovers on the example of manufacturing enterprises. Individual works devoted to internal control in the companies. According to opinion of the U.B. Baimuratov [7], the internal control provides the real situation assessment, and makes the preconditions for changes introduction into planned indexes of entrepreneurship development. Internal control is one of the tools of management on making managerial decisions, providing trouble-free operation of the companies. Internal control helps to achieve tasks and goals, of long-term prospect as well as the operative management.

The founder of the cybernetics Norbert Wiener called the control feedback, presented on fig 1. [5], without which, the organization of efficient management between interacting elements, particles, and system, is impossible. The management consists of sub-systems, characterizing its content: informational support, the principle of feedback, purposefulness, human resources potential (management), mechanisms (forms and methods) of management. These peculiarities are characteristic only for self-management systems.

THE MAIN PART OF RESEARCH

Non-linearity describes fundamental and universal connections and relations between the objects. It can be called the opposition of the linearity. However, it is more difficult, as non-linearity crosses the principle of the superposition and gives nothing instead. The existing interpretations depend on what aspects of business are objects of internal control (synonym – intersystem, intraeconomic, intercompany).

Non-linearity is well described by Lorenz's Butterfly Effect. Lorenz studied the chaos theory. Here are two extreme reasons of non-linearity:

- Inherent – internal laws of the system:
- Infused – from the external environment

Speaking about the stable and non-stable state of the system, the sequence and chaos are meant. The first, indicates the predictability, the second indicates the opposite.

Between the power of influence and reaction of dissipative system exist a non-linear connection – in spite of great effort, the result may be insignificant. On the other hand, the weak signal in some conditions can self-accelerate and self-oscillation process occurs.

We suppose that such phenomena are possible because of positive (reinforcing) and negative (opposed) feedbacks. The structure of the system represents a set of feedbacks and the relation between them, which is described as self-organization. That is why the imposition to the non-linear system some plan of development can lead to unpredictable results, presented on Figure 1.

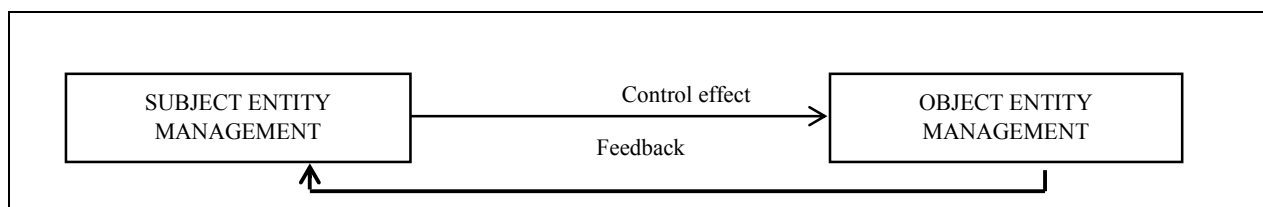


Figure 1 - General management scheme

Source - authors design

According to this scheme the efficient activity of the agent, increase of the class system level, conservation and accumulation of its property is defined by the level of creation of agent control construction. The order of management of agent, as every other management system, can be introduced as the sum of agent of management, control object and interconnection between them. Agent of management produces the control

action in form of commands, signals, transmitted to the control object. The control object perceives the control action and acts in accordance with the control message. That the object received the control action and reacted for it, the agent knows with the help of feedback. [6].

Internal control in its modern interpretation based on the principles of the Committee of Sponsoring Organizations of the Treadway Commission (follows as, COSO) published in the USA in 2006 in Internal Control-Integrated Framework [13]. The importance of this concept concludes in the basic ideas and key elements of internal control, the emphasis is placed on the responsibility of the administration of the company for its condition. According to the COSO model, the internal control is the process, built into the current activity of the company, providing by its managers and all personnel to achieve triad goals: productive and financial efficiency (operational goals), reliability of financial and managerial initial data (informational goals), and compliance of set requirements (compliance goals).

COSO described five interconnected elements of the internal control: control environment, risks assessment, control procedures, communication and information, monitoring. At the same time the internal audit included into the first and the fifth element of internal control. The role of special structural department was defined: the internal audit committee - the organ, implementing the monitoring on realization of control procedures, independent assessment of the system of the internal control and the recommendations generation. The model of the internal control system can be introduced as the following formula:

$$\text{Internal Control System(ICS)} = \text{Environment} + \text{Means} + \text{Procedures} \quad (1)$$

Most companies, publishing their documents, took as the basis the integrated concept of the internal control. In particular, London's and New York's stock exchanges. The admission of the rules as obligatory for the significant number of the companies, shares of which are quoted on the stock exchange of these countries, played the significant role for the recognition of internal control importance. The similar demands were set in many developed countries. One of consecutive institutes in implementation of the COSO conception was the Basel supervision committee (follows as – Basel committee). In 1998, Basel committee published a document “Framework for internal control systems in finance organizations” [12], which highlights that the system of the internal control is the required condition for efficient functioning of the banks and provision of stability of financial system. Three main goals to achieve for every company while creation the system of internal control coincides with those, defined in COSO concept. Basel committee suggested 13 principles, complying with which is necessary to achieve the proper internal control in financial organizations. These principles are grouped into five categories, complying to given by COSO, and one specific category – assessment of the condition of the internal control concept. On this basis, the focus in supervisory activities has shifted from monitoring the correctness of operations to risk assessment, analysis of the qualitative aspects of activities, financial condition and development prospects of companies. In August 2001 Basel committee prepared recommendations “Internal audit in finance company and the supervisor's relationship with auditors”. Introduction of this document emphasizes that the proper internal control in finance companies must be supplemented by the efficient service of internal audit that indecently assesses the control systems of organizations [12].

Under the system of internal control in companies of the Republic of Kazakhstan we understand the organizational totality, including internal control directions, capturing the questions on company's subdivision activity organization, powers allocation, and limits compliance, monitoring, procedures of internal control, accomplished by the subjects of internal control in accordance with their competence. A three-level concept of internal control functions in business structures of Republic of Kazakhstan (Fig 3).

Internal control:

- *of the first (operational) level* is implemented by managers and the personnel of the department carrying out appropriate operation.
- *the second level* provides for the inspections from other departments and supervisors, who are responsible for activity of the given department.
- *The third level* provides for the inspections and independent assessments of the internal control conception by the service of head business auditor.

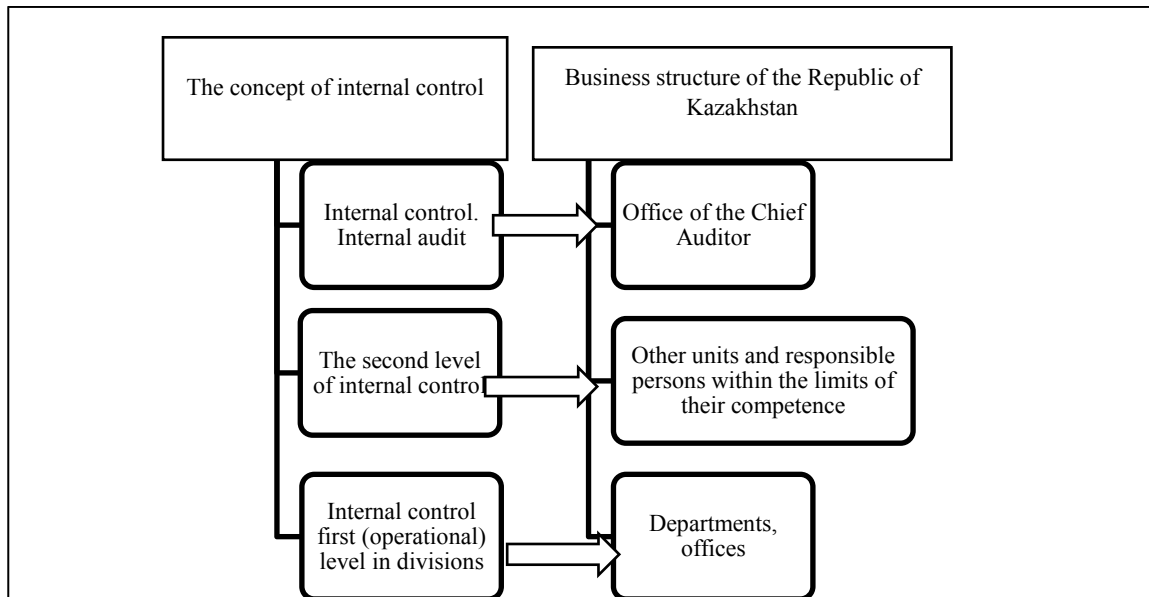


Figure 3 - A three-tier system of internal control within the business structures of the Republic of Kazakhstan
Source - authors design

The information about the results of internal control condition assessment is given by the service of head auditor to the chairman of the companies and managers of departments, in which the inspection (control) was executed. Taking into account that the unite concept of internal control, suitable for all departments, doesn't exist, The Resolution of the government №4 dated 1 February 2010, Agencies of the Republic of Kazakhstan on Regulation and Supervision of the financial market and financial organizations, provides the methods and main types of control procedures as well as typical structure on the basis of which each regional department develop its own order for implementation of internal control with regard to the particular conditions and business specific.

The progressive experience of regional departments of companies, where begun the pilot implementation of the internal control concept draws interest. For example, the management with the aim of organizational provision of the given direction of work, a special department has been established and the working group has been created to carry out activities connected with functioning and monitoring of the internal control system. Significant contribution in providing methodology and motivational readiness of the personnel was the internal control conception, developed in the head office of the company. It defines the main principles of the internal control concept, given in table 1.

Table 1. Principles of system of internal control

Principles	Consolidation	Consolidation of the responsibility to the managers of structural departments for productive processes and risks characteristic to it
	Involvement	Involvement of all employees within the framework of job responsibilities in the risk management, including identification, assessment, monitoring and regulation of risks
	Implementation	Implementation of the independent assessment of the internal control and the system of risks management by the special internal department.
Source - authors design		

One of the starting points of the concept is that the development of control procedures must begin with the identification and assessment of risks, so that the internal control system can respond to hazards in time, rather than becoming a formal verification of compliance with established requirements. For the purposes of classification and identification, six characteristic risks (operational risk, legal risk, reputational risk, credit risk,

market risk, management risk) and five types of resources (technological, managerial, property, information and personnel resources) were distinguished. The analysis showed that approximately 70–75% of internal risks are operational risks, most of which are related to human factor or problems with property income. In practice, all structural departments develop internal documents, establishing the procedure for managing risks caused not only by intraorganizational reasons, but by external factors as well. Risk classifiers are made, they identify possible risks for each activity, identify factors and possible consequences of their implementation, develop appropriate control procedures. Structural departments are charged with keeping risk classifiers up to date.

An analytical database is used as a universal monitoring tool, in which all structural departments permanently information about emerging risks and measures taken is recorded. Moreover, control procedures include not only measures to identify risks and eliminate their consequences, but also to prevent these risks in the future (development of rules, instructions, additional measures; appointment of responsible persons, personnel professional training, etc.). According to the results of universal monitoring, all structural units conduct self-assessment on a quarterly basis and make up a report on the condition of internal control systems, on the basis of which a specially designated unit analyzes and summarizes the situation, developing relevant internal documents and recommendations. This approach aimed at improving the order of risk management, it allows you to track the completeness of management procedures and customize the internal control system to solve new problems arising from changes in internal and external conditions of functioning. The analysis showed that a significant role in the formation of the internal control system in the regional departments of business structures is considered in Table 2.

Table 2. Formation of the internal control system of business

First	The appointment, depending on the scope and difficulty of the work performed in the regional departments of the company, of the department or authorized person, subordinate to the first manager, who are responsible for issues related to the implementation and general functioning of internal control. Special structural departments are necessary especially for the period of setting up and adjustment of internal control mechanisms;
Second	Establishing of the work group, along with the internal control department helps to structural divisions in methodology and organization, carries out the monitoring, the order of internal control and reacts promptly on the risks, appearing in structural divisions, excluding the repetitions.
Third	Occasional inspections of assessment and the arrangement of the internal control in structural divisions, aimed to more advanced conceptual approach to internal control organization.
Source - author's design	

THE RESULTS / CONCLUSIONS

The results of the work carried out, can be introduced on the Board of Directors of companies, and successful experience distributed to the structural divisions of departments of Kazakhstan companies. It is necessary to emphasize that the division of audit into external and internal is a historically important stage in the companies' development. At the same time, it is important that continuing to concentrate the audit, it is necessary to organize the arrangement and implementation of the internal control functions in structural divisions. Otherwise, external audit tasks will not be performed effectively enough. Owing to this, it is advisable to make amendment in the typical organizational structure of regional departments, including in it a division (department) of internal control.

Let us go into detail of one of the key factors of proper internal control - motivation. Its point is to encourage staff to work, aimed at achieving the goals of the organization through the organic inclusion of elements of internal control. In the end, in the center of control of any structure there are people on whom depends the productive implementation of decisions and planned work. Thus, in the United States, have gained acceptance the companies, known not only for financial and economic stability, but also a clear focus on the needs and interests of their employees, consumers, and society [14]. Another well-known fact is that well-established work with staff lies at the basis of the successful functioning of Japanese companies. We should admit that some employees, especially at the initial stage, perceive the work on creating and strengthening the internal control system as a formal, complicating activity that distracts from the main work. The word "control" itself causes negative emotions in many people, associated with restrictions, coercion, lack of independence, discipline and

subordination. Unnecessarily rigid or unsuccessfully designed concepts can lead to the fact that staff will only strive to meet the requirements of control, and not to achieve their goals. Owing to this, the formation of the control environment is of particular importance. The administration needs to promote the awareness of each employee of the strategy and methodology of internal control, to maintain the principles of corporate ethics (competence, integrity, confidentiality). Motivating factors are:

- opportunities for professional growth;
- systematic training and exchange of experience;
- maintaining a favorable psychological climate in the team.

Methods of material encouragement should be used depending on the results obtained and the progress towards the goals set. Such work should contribute to the fullest use of human resources for carrying out the tasks of the companies and their regional departments.

Thus, the main goal of the head of the organization is not the creation of a control system that would fully guarantee the absence of deviations, errors and inefficiencies in work, but a system that helped in a non-linear system to identify and eliminate them in a time, contributing to an increase in work efficiency. The basic principle of the organization of internal control lies in the fact that it is not necessary to concentrate on expert control of operations, but it is necessary to control how the process itself established, and works and changes during the nonlinear system.

We believe that in the not too distant future researchers will pay great attention to the study of nonlinear phenomena in internal control, especially in the audit.

Financial economists have a unique advantage in working on these control and organizational problems because we understand what determines value, and we know how to think about uncertainty and objective functions. This we have to understand even better than we do now the factors leading to organizational past failures (and successes): we have to break open the black box called the firm, and this means understanding how organizations and the people in them work. In short, we're facing the problem of developing a viable theory of organizations. To be successful we must continue to broaden our thinking to new topics and to learn and develop new analytical tools.

СПИСОК ЛИТЕРАТУРЫ

- 1 Баймуратов У. Деньги и финансы: нелинейная система: Научно-популярное издание. ТОМ 1. – Алматы: Экономика, 2005. -320с.
- 2 Дюсембаев К.Ш. Теория и эволюция аудита. Монография. Экономика баспасы.-Алматы 2012.с.694
- 3 Адезис И.К. Стили менеджмента эффективные и неэффективные. Пер. с англ. — М.: Альпина Бизнес Букс, 2009. —199с.
- 4 Винер Н. Кибернетика, или управление и связь в животном и машине.М.: Наука, 1983. 344 с.
- 5 Жолаева М.А. Роль внутреннего контроля в системе управления деятельностью страхового субъекта. Вестник КазНУ. Серия экономическая №4 (104). Алматы «Қазақ университеті» 2014, с.155-163.
- 6 “A Guideto the Sarbanes-Oxley Act,” Scott Green. Manager's Guide to the Sarbanes-Oxley Act: Improving Internal Controls to Prevent Fraud Hardcover – February 26, 2004.
- 7 COSO 'Enterprise Risk Management - Integrated Framework' 2004.
- 8 Colpert J. L. Bowen P. L, Compramision of Internal Controls: COB IT, SAC, COSO and SAS 55/78/ is Audit and control journal № IV p.26-35.
- 9 Dale M.Waleed S. Muhanna A. IT internal control weaknesses and firm performance: An organizational liability lens International Journal of Accounting Information Systems. Volume 12, Issue 4, December 2011, P. 280–304.
- 10 Internal Control – Integrated Framework, Committee on Sponsoring Organizations of the Treadway Commission, New York: COSO, 2006, p.1-115.
- 11 Sharma P, The London Working Groups report on prudential Supervision of Insurance Undertakings, Conference of insurance supervisory services of the member states of the European Union 2002, p.1-112.

- 12 Baimuratov U. Harmony of economy and society. The paradigm of «D+3D», laws, and problems. Xlibris Bloomington, IN 2014. E-Book. p.353
- 13 Robert H. Montgomery , Revised by James Gershon. (20 May 1998). *Montgomery's Auditing*. New York, United States: John Wiley and Sons Ltd.
- 14 Deming E. (2000). Out of the crisis. The new paradigm for managing people, systems and processes. United States: MIT Press.
- 15 "Auditing Standard No. 5: An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements". Public Company Accounting Oversight Board. Retrieved January 24, 2014.
- 16 Lie Dharma Putra. (2018). Effective Internal Controls for Small Medium Business. Copyright © 2018 Accounting Financial Tax. All rights reserved.
- 17 "Guidance for auditors of smaller public companies" (PDF). Public Company Accounting Oversight Board. January 23, 2009.
- 18 AGENCY: Securities and Exchange Commission. (June 20, 2007). *Commission Guidance Regarding Management's Report on Internal Control Over*. <https://www.sec.gov/rules/interp/2007/33-8810.pdf>: SEC Interpretive Guidance.
- 19 American Institute of Certified Public Accountants. (2014). *Management Antifraud Programs and Controls*". America: American Institute of Certified Public Accountants. (PDF).
- 20 Washington, D.C. (Jan. 23, 2009). PCAOB Publishes Staff Guidance on Auditing Internal Control Over Financial Reporting in Smaller Public Companies. PDF.
- 21 Zabihollah Rezaee, Richard Riley (2009). Financial Statement Fraud: Prevention and Detection, 2nd Edition. United states: Wiley

REFERENCES

- 1 Bajmuratov U. Den'gi i finansy: nelinejnaja sistema: Nauchno-populjarnoe izdanie. TOM 1. – Almaty: Jekonomika, 2005. -320s.
- 2 Djusembaev K.Sh. Teorija i jevoljucija audita. Monografija. Jekonomika baspasy.-Almaty 2012.s.694
- 3 Adezis I.K. Stili menedzhmenta jeffektivnye i nejeffektivnye. Per. s angl. — M.: Al'pina Biznes Buks, 2009. —199s.
- 4 Viner N. Kibernetika, ili upravlenie i svjaz' v zhivotnom i mashine.M.: Nauka, 1983. 344 s.
- 5 Zholaeva M.A. Rol' vnutrennego kontrolja v sisteme upravlenija dejatel'nost'ju strahovogo subjekta. Vestnik KazNU. Serija jekonomicheskaja №4 (104). Almaty «Kazak universiteti» 2014, s.155-163.
- 6 “A Guideto the Sarbanes-Oxley Act,” Scott Green. Manager's Guide to the Sarbanes-Oxley Act: Improving Internal Controls to Prevent Fraud Hardcover – February 26, 2004.
- 7 COSO 'Enterprise Risk Management - Integrated Framework' 2004.
- 8 Colpert J. L. Bowen P. L, Compramision of Internal Controls: COB IT, SAC, COSO and SAS 55/78/ is Audit and control journal № IV p.26-35.
- 9 Dale M.Waleed S. Muhanna A. IT internal control weaknesses and firm performance: An organizational liability lens International Journal of Accounting Information Systems. Volume 12, Issue 4, December 2011, P. 280–304.
- 10 Internal Control – Integrated Framework, Committee on Sponsoring Organizations of the Treadway Commission, New York: COSO, 2006, p.1-115.
- 11 Sharma P, The London Working Groups report on prudential Supervision of Insurance Undertakings, Conference of insurance supervisory services of the member states of the European Union 2002, p.1-112.
- 12 Baimuratov U. Harmony of economy and society. The paradigm of «D+3D», laws, and problems. Xlibris Bloomington, IN 2014. E-Book. p.353
- 13 Robert H. Montgomery , Revised by James Gershon. (20 May 1998). *Montgomery's Auditing*. New York, United States: John Wiley and Sons Ltd.
- 14 Deming E. (2000). Out of the crisis. The new paradigm for managing people, systems and processes. United States: MIT Press.

15 "Auditing Standard No. 5: An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements". Public Company Accounting Oversight Board. Retrieved January 24, 2014.

16 Lie Dharma Putra. (2018). Effective Internal Controls for Small Medium Business. Copyright © 2018 Accounting Financial Tax. All rights reserved.

17 "Guidance for auditors of smaller public companies" (PDF). Public Company Accounting Oversight Board. January 23, 2009.

18 AGENCY: Securities and Exchange Commission. (June 20, 2007). *Commission Guidance Regarding Management's Report on Internal Control Over*. <https://www.sec.gov/rules/interp/2007/33-8810.pdf>: SEC Interpretive Guidance.

19 American Institute of Certified Public Accountants. (2014). *Management Antifraud Programs and Controls*. America: American Institute of Certified Public Accountants. (PDF).

20 Washington, D.C. (Jan. 23, 2009). PCAOB Publishes Staff Guidance on Auditing Internal Control Over Financial Reporting in Smaller Public Companies. PDF.

21 Zabihollah Rezaee, Richard Riley (2009). *Financial Statement Fraud: Prevention and Detection*, 2nd Edition. United states: Wiley

РЕЗЮМЕ

В статье исследуется внутренний контроль с позиций нелинейного управления бизнеса. По этой причине рынок и обеспечение надежности, «прозрачности» и непрерывности в системе нелинейного управления бизнеса внутреннем контроле. Также, нелинейный взгляд к формированию внутреннего контроля, рассматриваются актуальные вопросы организации риск-ориентированного контроля бизнеса, анализируется роль системы внутреннего контроля в бизнес структур.

ТҮЙІН

Мақалада бизнесті басқаруда бейсызықтық тұрғысынан ішкі бақылау жүйесі зерттеледі. Сзықтық емес тұрғысынан бизнесті басқаруда ішкі бақылау жүйесінде "ашықтық" және үздіксіздік, сенімділікпен қамтамасыздандыруға байланысты нарыққа әсер етеді. Сондай-ақ, бизнес-құрылымдарда ішкі бақылау жүйесінің ролі талданады, бизнестің ішкі бақылауында тәуекелге-бағдарланған өзекті мәселелерін ұйымдастыру пысықталады, ішкі бақылаудың қалыптасуына бейсызықтық көзқарас межеленеді.