Internal Audit of Conflicts in Enterprise’s Accounting with the Help of Artificial Intellect’s Instruments

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ABSTRACT

The article is devoted to the research of the enterprise’s conflicts in the accounting and to the progressive methods of their solvation. The causal-aftereffect connections of the conflict in the accounting at all the stages of its development process are revealed. The internal audit’s optimality for the system solvation of the contradictions between the sides of the accounting process is defined. The conflict’s generation stage in the accounting, as the main object of the internal audit’s preventive actions, is outlined. The economic practicability of the artificial intellect’s instruments’ usage (the artificial neuron networks and the machine training) for the efficiency of the internal audit’s operation in the struggle with the conflicts in the accounting is grounded. The basic competences of the internal audit’s workers for the operation with the artificial neuron networks and the machine training are formulated. The internal audit’s method is improved, - the efficiency of the conflicts’ solvation in the accounting, due to the instruments of the artificial intellect, is increased. The usage order regulation’s method of the artificial intellect’s instruments in the internal audit’s methods at the enterprise is offered.

Keywords: conflict, accounting, internal audit, artificial intellect, the artificial neuron networks, machine training

1. INTRODUCTION

The conflict is the integral phenomenon in the everyday being of each enterprise’s management at the modern stage of the entrepreneurship’s development in the digital economy. The conflict’s essence is displayed through the collision of the opposite interests of two and more economic agents, resulting in total in the destructive behavior of the enterprises. The main reasons of the conflicts’ existence in the economic system are the complex, uncoordinated and too dynamic legal norms, regulating the economic relations between its agents. The accounting is especially sensitive to the conflicts in the system of the enterprise’s management. The specific character of the conflicts in the accounting lies in the fact that the uncoordination and the contradiction of actions (or inactivity) between the participants of the accounting process generate the legal consequences – the responsibility, according to the norms of the valid legislation or the norms of the contract. The conflict’s subject in the accounting is the complex totality of the mutually connected principles, methods, procedures, rules and norms of the legislation, being obligatory for the complete and timely fulfillment by the sides of the accounting process. The investigations’ actuality of such conflicts is caused by the need in the efficient methods of protection from the real danger of their consequences for the enterprise. The efficiency of the conflicts’ management in the accounting requires the grounded scientific research of the internal audit’s possibilities for the revealing of such conflicts’ reasons, the methods of their safe solvation and the non-admission of their consequences. The epoch of the digital economy demands the consideration of the modern innovation technologies’ achievements from the mentioned research. The phenomenon of the conflict in the accounting has no distinct definition in the present-day period of the scientific thought’s development. Such appearance is poorly investigated by the scientists and there is little knowledge about it. Moreover, there are no systematic investigations of the conflicts’ internal audit in the accounting with the usage of the innovation technologies. However, the fragment separate researches in the sphere of the accounting, the internal audit and the digital economy exist in the scientific literature on the presented problem. The analysis of the latest researches and publications permits to separate the main results of the leading scientists’ operation in these spheres. Thus, I. Spilnyk and M. Palyuh [1] reinterpret the role and place of the accounting in digital economy. They point at the stimulating information potential’s influence of the digital economic space on the modernization of the accounting science. I. Y. Plikus, T. A. Zhukova and O. O. Osadcha [2]...
argue, basing on the empirical investigations, that the use of the digital technologies in the accounting gives the possibilities for the accountants to work newly and to solve the new tasks. The development of the technologies, including the artificial intellect, will result in the appearance of the new profiles of occupation and the demand’s increase for the experts of the accounting professions, being able to work not only on conditions of the legislation’s changes, but in the digital-format. O. N. Kuznetsova, A. E. Melguy, N. N. Kovaleva and Y. A. Dvoretska [3] examine the risk in the accounting, due to the apocryphalness of the accounting information, as the principal factor of the financial threat on conditions of the economic instability. In order to minimize such risk, it is recommended to create the system of the internal control at the enterprises. Ye. Yu. Svyatkovska [4] examines the perspective of the internal control for the risks’ management of the essential distortion of the financial reporting’s indicators in the system of the accounting. G. S. Klychova, A. R. Zakirova, A. R. Yusupova and E. R. Kamilova [5] research the perspective of the non-financial reporting’s formation on the ecological and social activity of the enterprise with the help of the computer accounting programs. A. S. Zetkin, Yu. V. Serdyuk, V. S. Shavrin and D. S. Skripova [6] mention that the modern information technologies are not sufficiently used for the efficiency’s increase of the internal audit. Therefore they offer to use the procedure of the electronic internal audit. O. A. Krykliy and L. D. Pavlenko reveal the actuality of the efficiency rise in the provision of the bank’s cyber-security in their research [7]. The need in strengthening of the preventive instruments’ role, the main one of which is the internal audit of the cyber-security, is also indicated. O. V. Sapogovska [8] examines the practicability of the internal audit of the estimation and management of the enterprise’s project risks. O. M. Dmytrenko [9] attracts the attention to the internal audit as the efficiency rise’s instrument of the accounting system and the enterprise’s activity in the whole. V. V. Muravsky [10] investigates the influence of the artificial neuron nets on the automation of the accounting and the managerial decisions-taking at the enterprise; grounds the application’s possibility of the artificial neuron nets for the organization of the accounting via the automated identification and classification of the primary documents’ forms; the transmission of the accounting data to the interested users; the optimization of the accounting processes; the automatic formation of the records on the accounts of the accounting; the results’ forecasting of the managerial decisions-taking. N. A. Azmuk [11] examines the transformation’s problem of the place and the role of the worker and the artificial intellect in the labor process in the digital economy; points at the reduction of the human labor’s part in one types of the activity with the simultaneous growth of its value in the other ones; grounds the place and the role of the artificial intellect and the worker in the routine, creative, social activity; defines that the main directions of the worker position’s strengthening in the labor market are the development of the human creative potential and the realization of the training’s concept during the whole life. A. K. Pogorelenko points in the research [12] at the importance of the artificial intellect in the international communications and the advantages of its possibilities in the nearest time. S. I. Dotsenko [13] researches the problem of the natural and artificial intellect of the cybernetic systems; revealed the series of problems in the practical realization of the artificial neuron nets, namely: the problem of the efficient mathematical model’s formation of the natural neuron on the basis of the central regularity of the brain’s integrative activity; the problem of the necessity to study the system of the artificial intellect “to measure” the things and their characteristics too; the problem of the training’s necessity for the system of the artificial intellect to remember the past experience.

The absence of the system approach to the solvation of the conflict in the accounting with the help of the internal audit and the instruments of the artificial intellect is left to be the undetermined part of the outlined problem in the epoch of the digital economy.

The aim of the presented article is the research of the conflicts’ nature in the accounting of the enterprise and the elaboration of the internal audit’s theoretic-methodic positions for their solvation with the usage of the artificial intellect’s instruments.

In order to achieve the mentioned aim, the investigation’s methodology, the basis of which is the dialectical method of knowledge of the conflict’s phenomenon in the enterprise’s accounting and the process of the internal audit with the use of the artificial intellect’s tools, is used in the article. The dialectical method in the presented research is added by the following scientific methods: the historical one – at the evolution’s examination of the conflict’s phenomenon; the analysis – at the research of the conflict’s essence in the accounting, the process of the internal audit, the components of the machine training in the artificial neuron nets; the synthesis – at the definition of the conflict’s reasons and dangers in the accounting of the enterprise, at the determination of the new competences for the workers of the internal audit; the abstractedness process – at the new function’s separation of the internal audit; the induction – at the influence’s determination of separate contradictions in the accounting on the formation of danger for the enterprise; the deduction – at the inspection of the danger’s dependence for the enterprise on the separate contradictions in the accounting process; the explanation – at the revealing of the conflict’s phenomenon essence in the accounting; the classification – at the definition of the types of the conflict’s sides in the accounting; the systematization – at the regulation of the conflict’s elements in the accounting of the enterprise at the stages of its development’s process; the concretization – at the determination of the conflict’s appearance reasons in the accounting of the enterprise; the generalization – at the elaboration of the internal positions for the solvation of conflicts in the accounting of the enterprise.
2. PRESENTATION OF THE MAIN RESEARCH MATERIAL

The famous American sociologist I. M. Vallerstein in his book “The End of Familiar World: Sociology of XXI Century” mentioned that “… all the decisions, taken in the society, are mediated by the conflicts – both between the various values and between the various groups, being often the defenders of the opposite values” [14, p. 118]. “…Such obviously unidentical things as “the struggle for values” (Y. Ozer), “the situation of rivalry” due to “the contradictory positions” (K. Boulding), “the uncoincidence of interests” (J. Berton), “the serious worthening or the sharpening of relations” (R. Kaste) or in general, “the collision of two contradictory, opposite thoughts, world outlooks, convictions, positions” (I. Rakhimova) are called the phenomenon of the conflict in the scientific literature” [15, p.3].

According to the Encyclopedia of Modern Ukraine, the conflict (from Lat. conflictus – collision) – is the collision of the opposite interests, opinions, estimations, values. It is the contradiction, appearing between people or collectives in the process of communication, their joint activity due to the misunderstanding or the opposition of interests, the absence of the agreement between two or more sides. The main elements of the conflict are: the conflict situation – the period of the hidden interaction or the one-side unsatisfaction, based on the individual or the group estimation of the situation that had happened; the participants – are the separate persons or the groups, who estimate differently the essence and the origin of the same events, connected with the activity of the opposite side; the object – is the subject, the event, the action, causing the conflict situation; the incident – the actions of the sides that are characterized by the uncompromisingness of the judgements and actions and are directed at the obligatory possession of the object of the sharpened counter interest; the conflict behavior – is the attempt to block the conflicting side’s aims achievement directly or indirectly [16].

The presented explaining of the notion “conflict” is the basic one for the further research of the conflict’s special nature in the accounting of the enterprise. According to the abst. 3 of the Art.1 of the Law of Ukraine “On Accounting and Financial Reporting in Ukraine” № 996-XIV from 16.07.1999, the accounting is the process of revealing, measuring, registration, accumulation, generalization, storage and transmission of information on the activity of the enterprise to the external and the internal users for the decision-taking [17].

The conflict’s essence in the accounting of the enterprise lies in the collision of the opposite understanding of the two sides of accounting, concerning the usage’s correctness of the acting legislation’s norms (including the norms of the contract) for the accounting of the economic operation, the realization’s erroneousness of which may lead to the violation of the legislation (including the norms of the contract) and the sides’ calling to the financial, administrative, criminal or economic-legal responsibility.

The sides of the accounting are divided into the internal and external ones in this research. The accountants and the other workers of the enterprise, taking part in exercising of the economic operations and their official documentary registration directly, are referred to the internal participants (sides) of the accounting. The accounting service of the enterprise and the accounting service of the counter agent (the supplier or the customer) are referred to the external participants (sides) of the accounting at the level of enterprises. The mentioned sides are in mutual relations, while exercising the joint economic operation, the official registration of the primary documents, according to the fact of such operation, its introduction into the registers of the accounting and recording, the usage of such operation’s sums for the calculation of the taxation object and others. The peculiarity of the conflict in the accounting lies in the fact that it’s not the one-moment appearance of the enterprise’s economic activity, but the long-lasting development’s process of the causal-aftereffect connection of such activity. According to its nature, this process passes three successive stages of the development. I Stage – is the conflict’s generation in the accounting. The historic accumulation of the contradictions between the sides of the accounting, determining the reasons of the future conflict situation, takes place at this stage. The contradictions in the accounting of the enterprise may appear due to the subjective or the objective reasons.

The objective reasons of the conflict – are the reasons, caused by the individual-psychological qualities of the people, who interact with each other in the accounting process. The typical reasons of the subjective character’s conflict are: the temperament, character, mood, jealousy, irritability, demonstrativeness, insularity, the psychological incompatibility, histeriness, intemperance, the low qualification, the absence of motivation, the poor attitude to the professional duties and others. The cognitive, motivational, organizational and other methods are traditionally used for the solvation of the conflicts with such type of reasons. Correspondingly, the conflicts in the accounting, due to the subjective reasons, are not the subject of this research.

The objective reasons of the conflict – are such reasons of the contradiction that characterize the collision of the objective economic-legal needs of each side (including the juridical person) in the accounting process. The most typical objective reasons of the conflict in the accounting of the enterprise may be:
- the absence of the primary documents, confirming the fact of the economic operation’s realization, or their improper official registration;
- the unreality of the economic operations;
- the reflection of the incomplete amount of the economic operations;
- the untimely reflection of the economic operations in the period of reporting;
- the economic activity’s illegality of the enterprise or the counter-agent;
- the absence of the legal reasons for the commitment of the legal actions, on the basis of which the economic liabilities appear, by the official persons;
- the untimely re-calculation of the obligatory payments;
- the demand of the enterprise (or the counter-agent) to present him (her) the additional primary documents, testifying to the documenting of the adjoining economic operations;
- the incomplete usage of the electronic primary documents and the levels of their protection;
- the absence of special knowledge and skills of the accounting;
- the non-fulfillment of the economic contracts’ conditions;
- the violation of the requirements to the material responsibility;
- the ununique explanation of the acting legislation’s norms;
- the gaps and collisions in the legislation;
- the absence of the necessity in the commitment of the definite actions by the side.

The presented research pays the main attention to the very objective reasons of the conflict in the accounting of the enterprise.

The conflict’s sides realize at this stage the reality of the appeared contradictions in the accounting, estimate their special discomfort or the threat, understand the necessity to use the corresponding actions and may commit the loyal actions for the unconflicted solvation of the existing contradictions. The admissible level of danger is characteristic for this stage.

II Stage – is the conflict’s development in the accounting. The main feature of this stage is the open confrontation of the conflict’s sides. The presented stage begins with the definite incident, according to which one of the sides formulates the uncompromising position (opinion) and commits the corresponding actions, aimed at the obligatory satisfaction of the personal interests, regardless of the counter interests of another side. Each of the conflict’s sides outlines its interest’s position and defines the personal form of the conflict behavior. The sides may involve the additional participants at this stage of the conflict, namely: the accountants-experts, auditors, lawyers or advocates. The main danger of the conflicts’ development in the accounting for the enterprise’s management lies in the destructive inability to exercise the economic activity completely or in the unproductive loss of its resources and economic benefits. It’s advisable to separate the following dangers among the mentioned ones:
- the unachievement of the compromising agreement in signing of the economic contracts;
- the worsening or the denunciation of the business partner’s relations with the counter-agents;
- the unfulfillment or the improper fulfillment of the contract liabilities before the counter-agents;
- the unreliability of the accounting information;
- the deficits, surpluses or the re-assortments of the commodity-material values;
- the stopping of the finished products’ (goods’) loading to the customer;
- the postponement of the payment’s terms for the realized finished production (goods, operations and services);
- the illegal reduction of the tax liabilities before the state;
- the checkings of the state fiscal service’s bodies, not provided for by the plan;
- the negative decisions at the examination of quarrels in the administrative and economic trials;
- the additional expenditures for the services of the auditors, lawyers and advocates;
- the penalties, fines and forfeits;
- the loss (uncompensation) of the tax credit from the added value tax;
- the control’s loss of the material responsibility of the workers;
- the loss of the potential economic advantages;
- the emotional intention in the operation of the accounting service;
- the additional stress for the managing complement of the enterprise.

The conflict of the interests in this stage gains the sharp contradictions, but the sides of the conflict come to the moment of the realization that the presented contradiction doesn’t give any result and it’s necessary to find a compromise by making the mutual concessions. However, the sides may not achieve the mentioned compromise, depending on the level of the critical danger for the separate side of the conflict.

III Stage – is the solvation of the conflict. This stage characterizes the activity of the conflict’s participants, aimed at the solvation of the contradictions and the stopping of their confrontation. Two scenarios of the contradictions’ solvation between the sides of the conflict in the accounting are possible in the limits of the presented stage: 1) the conflict is solved in the pre-trial order, - the compromise between the sides is achieved – the sides coordinate their positions and continue the interaction in the accounting process; 2) the conflict is solved in the trial order, - only one side wins in the conflict (completely or partially) – the interaction between the sides in the accounting is stopped.

The presence of the conflicts in the accounting, their frequency of the repetitions and in the whole, the resonance from their appearance is the evidence of the bad operation of the enterprise’s (or the counter-agent’s) accounting service and its management. It’s necessary to avoid the conflicts in the accounting, because they may cause the unproductive loss of the resources, the reduction of the managerial decisions’ quality and the infliction of harm to the business reputation of the enterprise. For that, the enterprise’s administration should elaborate the corresponding complex decision on the preventive measures of security from the conflicts in the accounting of the enterprise.

The optimal decision, concerning the management of conflicts in the accounting, is the involvement of the impartial third side – the internal audit. The specialists of such subdivision have the enough level of special knowledge of the enterprise’s business-processes, the rules of the official documentary registration of the economic operations, the national positions (standards) of the accounting, the international standards of financial
In order to solve the task, dealing with the monitoring of the contradictions at the stage of the conflict’s generation in the accounting of the enterprise, the internal audit is advisable to use such instruments of the artificial intellect as the artificial neuron networks and the machine training. The artificial neuron networks, according to their contents, represent the mathematical model, which is built, according to the principle of the biological neuron networks’ functioning. Such networks represent the calculation systems, having the characteristics for their self-training and the increase of their own productiveness. The artificial neuron networks characterize the system of the mutually connected simple processors (the artificial neurons). The basing architecture of the artificial neuron networks is composed of three groups of the layers: 1) the entrance layer (the grouped entrance neurons); 2) the hidden layer (the grouped hidden neurons); 3) the exit layer (the grouped exit neurons). Each processor of the network exercises two types of the signals: the signals, that he gets, and the signals, that he sends to the other processors. The neurons are united between each other in the network, where the attention is paid to every union. The main advantage of the artificial neuron networks before the traditional algorithms is the fact that they are not programmed, but they are trained. The training process of the artificial neuron network lies in the definition of the connections’ coefficients between the neurons, providing the adjustment of the weight parameters of the synaptical connections from the massive of the entrance data. The neuron network is able to reveal the difficult dependencies between the entrance and the exit data and also to exercise the generalizations in the process of training. The machine training of the artificial neuron networks may take place in one of the following ways: training with the teacher – the neuron system is adjusted at memorizing and reproduction of the dependencies between the known states of the entrances and exits; training without the teacher – in this case the training sample contains only the entrance data; training with the support – the additional system is introduced into the process of training – the external environment, which forms the comments to the decisions, taken by the neuron network, and thus acts in the role of the teacher. The artificial neuron networks process the great masses of the entrance data in the process of training and determine the regularities among them. After the artificial neuron network’s acquaintance with the considerable number of the necessary examples, the balance of this network is stabilized, the size of the mistake (error) reaches the zero or the acceptable small level. The architecture of the artificial neuron network is adapted to the solvation of the set task, according to the result of training. It means that
the neuron network has studied all the examples and is ready for the application. [19], [20].

The following is necessary for the practical introduction of the artificial neuron networks into the sphere of the internal audit at the enterprise: to provide the apparatus part of the computers with the considerable amount of memory; to involve the professionals in the computing sciences, who specialize in the systems of the artificial intellect in the part of the machine training of the artificial neuron networks.

It’s necessary to differentiate distinctly between the competences of the workers of the computing sciences and the workers of the internal audit in the elaboration and introduction of the artificial neuron networks.

The modelling, structure, training and the application of the artificial neuron networks for the revealing of the contradictions in accounting of the enterprise belong to the competences of the professional in the artificial intellect’s systems.

The introduction of the artificial neuron networks into the operation of the internal audit causes the high level of the requirements to the competences of its workers. The additional competences of the worker of the traditional internal audit should become the following ones:

- the presence of the basic knowledge on the operation’s principles of the artificial neuron networks and the machine training;
- the efficient communication with the professionals in the computing sciences;
- the preparation of the data base’s sample for the machine training, namely: the primary documents (the requisites and the contents filling) in the paper and electronic form; the units of measurement (gm., items, t, l, km and others); the signatures and the stamps; the amount of the economic units in the prise and natural look; the nomenclature of the reserves; the recipes; the articles of the calculation; the list of the materially-responsible persons; the persons with the right for signature; the accounting entries; the chronology and the system regularity of the accounting registers; the criteria of the classification (clustering); the types of the processed entrance data; the names of the counter-agents and others;
- the elaboration of the basic recommendations, concerning the solvation of the typical contradictions in the accounting of the enterprise;
- the operation’s correctness testing of the artificial neuron networks after the machine training.

It’s advisable to elaborate the corresponding internal document – the Principle “On Solvation of Conflicts in Accounting” at the enterprise - for the anti-conflict operation’s efficiency of the internal audit, with the usage of the artificial neuron networks and the machine training. It’s necessary to register the internal theoretic-methodic norms of the enterprise in this document that will determine the procedure’s regulation of the internal audit, concerning the monitoring of the conflicts in the accounting and their solvation. The main described norms of such Principle should be the following:

1) the characteristic features of the conflict in the accounting: the reasons of the appearance, the danger of the existence, the stages of the development, the sides of the conflict and so on;
2) the internal audit is responsible for the anti-conflict operation in the accounting;
3) the structure of the internal audit’s procedure, which foresees the monitoring of conflicts in the accounting and their solvation at the enterprise;
4) the application of the artificial neuron networks at the stage of the conflict’s generation in the accounting of the enterprise;
5) the methodic provision (including the data base with the examples) of the machine training of the artificial neuron networks for the revealing and solvation of the contradictions in the accounting of the enterprise;
6) the professional opinions’ usage of the internal audit’s workers for the estimation of the operation’s results of the artificial neuron networks and the application of the corresponding measures, concerning the elimination of the revealed contradictions in the accounting of the enterprise;
7) the responsibility for the operation’s efficiency of the artificial neuron networks in the system of the internal audit lies on their elaborator – the professional in the systems of the artificial intellect and the workers of the internal audit, providing the machine training and the testing of its operation’s exactness.

According to the above-mentioned order of the anti-conflict operation’s organization at the enterprise, the traditional method of the internal audit experiences the definite changes, - the addition of the methodic ways, concerning the application of the machine training of the artificial neuron networks in the struggle with conflicts in the accounting at the stage of their generation.

3. CONCLUSION

Thus, the conflict in the accounting is the negative phenomenon, which develops the destructive influence on the system of the enterprise’s management for the short period of time. The most dangerous displays of its consequences for the enterprise are: the worsening or the denunciation of the business relations with the counter-agents; the unreliability of the accounting information; the loss of the primary documents; the illegal reduction of the tax liabilities before the state; the checkings of the state fiscal service’s bodies, not provided for by the plan; the penalties, fines and forfeits; the additional stress for the administration and so on. Each result of the conflict in the accounting provokes the enterprise to the definite type of the responsibility. The optimal solvation of the broken problem at the enterprise is the involvement of the internal audit. On conditions of the digital economy, the high efficiency of the internal audit’s struggle with the conflicts in the accounting may be provided by the methods, being based on the usage of the artificial intellect’s instruments,
namely: the artificial neuron networks and the machine training. The application of the artificial neuron networks (together with the machine training) at the stage of the conflict’s generation in the accounting of the enterprise permits to the internal audit to receive the analytical data on the level of the accumulated contradictions between the sides of the accounting process and the variants of their neutralization. The usage of the artificial intellect’s instruments stimulates the internal auditors to gain the additional competences, connected with the basic knowledge on the operation’s principles of the artificial neuron networks; the preparation of the data base’s sample for the machine training; the variants of the contradictions’ solvation in the accounting and others. The application of the artificial intellect’s instruments in the procedure of the internal audit causes the widening of the internal audit’s method, due to the artificial neuron networks and the machine training. Taking into account the absence of the rigid regulations for the methods of the internal audit at the enterprise, it’s recommended to register the theoretic-methodic order of the conflicts’ monitoring in the accounting and their solvation, with the usage of the artificial neuron networks and the machine training, into the internal document of the enterprise – the Principle “On Solvation of Conflicts in Accounting”.

The application of the artificial intellect’s instruments in the accounting and the internal audit of the enterprise in the nearest perspective is inevitable. The reasons of this are: the vigorous development of the artificial intellect’s instruments, the accessibility of such systems, the successive examples of their usage in the other spheres of the enterprise, their dominating efficiency and economizing in comparison with the human labour. However, the application of the artificial intellect in the internal audit is efficient only for the typical industrious tasks in the accounting, whereas the curious, erudite and creative internal auditor remains to be irreplaceable for the solvation of the unstandard and creative tasks.

REFERENCES

[1] I. Spilnyk, M. Palyuh, “Accounting on Conditions of Digital Economy”, International Scientific Journal “Institute of Accounting, Control and Analysis on Conditions of Globalization”, iss.1 - 2. p. 83-96, 2019. DOI: https://doi.org/10.35774/ibo2019.01.083

[2] I. Y. Plikus, T. A. Zhukova, O. O. Osadcha, “Model of Accountant’s Profession in the Epoch of Digital Transformations: Key Directions of Accountant’s Competencies”, Pre-Azov Economic Journal, iss. 1(12), p. 200-205, 2019.

[3] O. N. Kuznetsova, A. E. Melguy, N. N. Kovaleva, “Management’s Mechanism of Accounting Risks in Agrarian Formations”, Agrarian Science of Euro-North-East”, iss. 5, p. 73-79, 2017. DOI: https://doi.org/10.30766/2072-9081.2017.60.5

[4] Ye. Yu. Svyatkovska, “Identifying and assessment the risk of material misstatement in control-based accounting system”, Corporate Finance, iss. 2, p. 5-26, 2016. DOI: https://doi.org/10.17323/j.jcfre.2073-0438.10.2.2016.5-26

[5] G. S. Klychova, A. R. Zakirova, A. R. Yusupova, “Formation of Reporting in the Sphere of Stable Development with the Usage of Information Technologies”, the Journal of Kazan State Agrarian University, vol. 13, iss. 2, p. 161-167, 2018. DOI: 10.12737/article_5b350b466c6540.96174109

[6] A. S. Zetkin, Yu. V. Serdyuk, V. S. Shavrin, D. S. Skripova, “Elaboration and Introduction of Electronic Internal Audits’ Procedures at HEE (higher educational establishment)”, University Management: Practice and Analysis, vol. 21, iss. 3, p. 85-91, 2017. DOI: https://doi.org/10.15826/umpa.2017.03.040

[7] O. A. Krykliy, “Internal Audit as Preventive Component in the System of Bank’s Cyber-Security”, Accounting and Finance, iss. 2, p. 124-133, 2019. DOI: https://doi.org/10.33146/2307-9878-2019-2(84)-124-133

[8] O. V. Sapogovska, “Internal Audit of Project Risks’ Estimation and Management”, Scientific Journal of Uzhgorod University. Series: Economics, iss. 1(2), p. 386-388, 2015. DOI: 10.24144

[9] O. M. Dmytrenko, “Internal Audit as Instrument of Efficiency Rise of Enterprise’s Accounting System”, Efficient Economy, № 5, 2017. DOI: 10.32702

[10] V. V. Muravsky, “Neuron Networks in Accounting Automation at Enterprise”, the Journal of Lviv Commercial Academy. Economic Series, iss. 49, p. 156-159, 2015. DOI: https://doi.org/10.36477/2522-1205

[11] N. A. Azmuk, “Artificial Intellect in Labour Process in Digital Economy: New Challenges and Possibilities”, Donbas Economic Journal, iss. 3(57), p. 137-145, 2019. DOI: 10.12958/1817-3772-2019-3(57)-137-145

[12] A. K. Pogorelenko, “Artificial Intellect: Essence, Analysis of Usage, Development’s Perspectives”, Scientific Journal of Kherson State University, iss. 32, p. 22-27, 2018.

[13] S. I Dotsenko, “On Natural and Artificial Intellect of Cybernetic Systems”, Scientific-Technical Magazine “Radioelectronic and Computing Systems”, iss. № 3(91), p. 4-13, 2019. DOI: 10.32620/reks.2019.3.01
[14] I. Vallerstein, The End of Familiar World: Sociology of XXI Century. - M.: Logos, 2004.

[15] Yu. I. Svatko, “Conflict as a Subject of Knowledge”, Scientific Notes of Na UKMA. Pedagogical and Psychological Sciences and Social Work, vol. 149, p. 3-10, 2013.

[16] Encyclopedia of Modern Ukraine (EMU), 2014. URL: http://esu.com.ua/search_articles.php?id=3235.

[17] The Supreme Rada of Ukraine. 3 Session. (1999, July, 16). Law № 996-XIV, On Accounting and Financial Recording in Ukraine. URL: https://zakon.rada.gov.ua/laws/show/996-14.

[18] A. Ye. Kononyuk, Bases of Artificial Intellect’s Fundamental Theory — in 20 books. Book 1. — K.: Education of Ukraine, 2017.

[19] O. Yu. Mints, Modelling’s Methodology of Innovation Intellectual Systems of Decision-Taking in Economy: Monograph. SHEE “Pre-Azov State Technical University”. Mariupol, 2017.

[20] S. Khaikin. Neuron Networks: Complete Course, 2- Edition.: Transl. from English. – M.: Publishing House «Williams», 2006.