

The Approach of Managers to the Internal Control System in Contemporary Agricultural Enterprises in Slovakia

Anna Látečková , Petra Súlovská 

Institute of Accounting and Informatics, Faculty of Economics and Management, Slovak University of Agricultural in Nitra, Slovakia

Abstract

Nowadays, we consider it necessary that the accounting entities are built of high quality, stable, and should be equipped with an internal control system. We consider it important that they base their decisions on their own and up-to-date information and that there is feedback afterwards. In the work, we also focused on the preference for improving the internal control system in selected accounting entities. Preferences were analyzed based on a questionnaire survey of managers and executives in selected accounting entities. The database contains information on 46 respondents from the ranks of managers, financial directors, accountants and other responsible employees for the performance of control from the questionnaire survey. We decided to use the binary logit model in order to estimate the inclination of individual preferences in favor of the need to improve the internal control system. On the basis of which we came up with interesting findings from the point of view of management and executives in selected agricultural enterprises. With our findings from the analysis of managers' preferences, we can state that the decisive factors that contribute to the willingness to improve the internal control system are the automation of control processes. We found that managers who make a decision based on a thorough analysis of the problem contribute to the willingness to improve the internal control system. Managers' satisfaction with financial evaluation was also a decisive factor, and therefore those employees who were satisfied with their financial evaluation were also more willing to improve the internal control system. At the same time, it should be noted that the absence of current scenarios in which activities are developed, along with the need to adequately address constant changes and changes in market requirements, brings a significant change in business management. .

Keywords

Internal control system, accounting, business management, preference analysis.

Látečková, A. and Súlovská, P. (2025) "The Approach of Managers to the Internal Control System in Contemporary Agricultural Enterprises in Slovakia", *AGRIS on-line Papers in Economics and Informatics*, Vol. 17, No. 1, pp. 67-79. ISSN 1804-1930. DOI 10.7160/aol.2025.170106.

Introduction

Internal control is a dynamic and repetitive process that aims to help management focus on the operational and financial goals of the organization. The establishment of a system of internal control provides reasonable assurance regarding the achievement of three objectives: effectiveness and efficiency of operations, reliability of reporting and compliance with applicable laws and regulations (COSO, 2023).

Due to limited archival data, relatively few researchers have empirically examined internal control over operations and compliance. Although researchers do not directly examine operations and compliance objectives, researchers generally suggest a positive relationship between the achievement of the three

internal control objectives. For example, Turel and Bart (2014) suggest a positive association between internal control over financial reporting (ICFR) and financial performance (improved performance from lower compliance costs and improved operations). Feng et al. (2024) claim that the quality of financial reporting is also ensured as a result of the operational performance of the accounting entity. Examining the connection between material deficiencies related to the inventory in ICFR and the accounting entity's inventory management, it follows that their study points to a positive connection between the quality of ICFR and the accounting entity. Similarly, Chang et al. (2019) provide systematic evidence of the relationship between effective ICFR and firm operating activity. Kedia and Reddy (2016) also

find a significant association between operations that were not aligned with corporate activity and financial misstatement. In addition, a recent study by Abbott et al. (2016) provide evidence that operational control risk indicates potential weaknesses in financial reporting controls. Specifically, Abbott et al. (2016) focused on operational control risk in two ways: data breaches (i.e. computer security attacks) and a control risk index developed through form text analysis. Their findings suggest that operational control proxy risks are positively related to subsequent financial reporting deficiencies, restatements, comments, and audit fees. The organization's plan and all coordinated methods and measures adopted within the enterprise protect its assets, control the accuracy and reliability of its accounting data, promote operational efficiency and promote compliance with the management policies maintained (American Institute of Certified Public Accountants - AICPA). The Turnbull Report, first published in 1999, defined internal control and its scope (AICPA, 2013).

An assessment of the internal control system therefore requires a deep understanding of the firm's business, the risks it faces and the controls it has in place to deal with risk exposure at all relevant organizational levels. This understanding, in turn, means understanding the entity's goals, business processes, organizational resources, structures, roles and responsibilities. The review task is therefore for stakeholders with different professional backgrounds and perspectives on internal control matters, including managers, executives, process owners, risk managers, and internal and external auditors (Elder and Yebba, 2020).

On the basis of the valid legal regulation of businessmen's accounting, it describes the most important controls that the selected accounting entity should carry out in order for its accounting to be correct, complete, demonstrable, and comprehensible. The description of the control of accounting accuracy by the accounting entity itself also draws attention to the objects of the control. The basic task of accounting is to faithfully display, record and report the economic reality of the company.

In terms of content, reliable and correct information is the basis of effective business management, in which the pragmatic side of the company's accounting information is applied. However, not every manager knows how to use them correctly.

In order for this information to be truly beneficial, it is essential that managers (Látečková, 2023):

- mastered basic accounting terms and principles,
- were able to correctly interpret the information value of each synthetic account, interrelationships between accounts, options for creating analytical records, the method of creating financial statements and their subsequent analysis.

The method of evaluating the actual performance of the internal control system is directly linked to the evaluation of its design. Indeed, it is not possible to assess the actual effectiveness of the performance of an internal control system without assessing its design (IIA, 2024). Thus, assessing the compliance of internal procedures and external regulation is only a part of evaluating the performance of the internal control system. Furthermore, compliance assessment is only a fraction of the overall assessment of the adequacy of the internal control system. This principle challenges many assumed notions of control. Furthermore, verification regarding the actual functioning of the internal control system is only possible when the design has been assessed and found to be adequate. If not, the verification process should take into account the assessment of the impact of the residual risk resulting from a faulty or insufficient system (Dittmeier, 2014).

The importance of internal control systems in organizations lies in the effective performance of functions and tasks, avoiding surprises, preserving the rights of shareholders, developing the general quality of activity and verifying the appropriateness of this activity, as shareholders always expect the organization to have good and effective control (Hussney, 2022).

An assessment of the internal control system therefore requires a deep understanding of the firm's business, the risks it faces and the controls it has put in place to deal with risk exposure at all relevant organizational levels. This understanding, in turn, means understanding the entity's goals, business processes, organizational resources, structures, roles and responsibilities. Therefore, the review task involves stakeholders with different professional backgrounds and perspectives on internal control matters, including managers, executives, process owners, risk managers, and internal and external auditors (Elder and Yebba, 2020).

Most cases of financial fraud occur in the form of false disclosure of financial statements, which is usually caused by mutual agreement on a false transaction with related parties or by changing the normal and fair price of the transaction, resulting in the transfer of profits and risks. between related parties and heterogeneous disclosure of accounting statements leads to incompatibility or low comparability of accounting information (Li et al., 2022).

Management of enterprises that implement abnormal transactions with related parties use their information advantages to choose accounting policies and disclosure methods that lead to the maximization of their returns, to implement accounting information systems that differ from industry standards, or to manipulate the accounting disclosure process. information, which will reduce the comparability of accounting information with other companies in the industry (Blokdyk, 2020).

Compared with external supervision, internal control as the key to the success of corporate governance can identify various types of related party transactions and limit the scope, frequency and proportion of related party transactions, especially the abnormal related party transactions that Li et al. (2022) in his of studies directed his attention, on the basis of which they effectively affect the authenticity of published financial statements and the comparability of accounting information.

The governance of modern companies is a critical research area for scholars at home and abroad, and principal-agent theory has become a theoretical source and foundation of thought for the study of corporate governance issues. Theoretically, companies have multiple and multi-layered ownership institutions, so the principal-agent problem must deal with incentive incompatibility (Liu et al., 2023). Equity incentives were first introduced in the US to create a risk-benefit sharing mechanism that aligns management interests with shareholder interests (Lisic et al., 2019). Since then, managerial ownership has become an effective measure of corporate incentives in developed markets due to its long-term and effective problem-solving benefits.

Study by Chang et al. (2014), using non-publicly available data obtained from Taiwan's regulatory agency, explores an almost unexplored area of research regarding the disclosure of internal control deficiencies in an entity's operations

and compliance. Specifically, we examine whether the size and competence of internal audit influence the quality of internal control over operations and compliance. The results indicate that IA staff size is negatively associated with the occurrence of internal control deficiencies in operations and compliance. In addition, IA staff competence (i.e., collective level of education, professional certifications, and external audit work experience) is negatively associated with internal control deficiencies in compliance, but not in operations. The findings partially support the contention that IA quality is positively associated with the effectiveness of internal control over operations and compliance.

An effective internal control system includes the organizational planning of the enterprise and adopts the entire work system and process to meet the following objectives (Bradley et al., 2017):

- security of business assets against theft and wastage,
- ensuring compliance with business policies and the law of the country,
- evaluating the functions of each employee and officer in order to increase the efficiency of the operation,
- ensuring real and reliable operating data and financial statements.

Accounting entity using information technologies that support the integration and sharing of information have a positive effect on improving the effective functioning of internal control (Chen et al., 2008).

Information integration can reduce data manipulation and errors, improve information accuracy, and ensure effective formulation and implementation of an accounting entity's internal control activities (Teru et al., 2017). Information sharing can improve the availability of information from different departments and facilitate communication within the accounting entity.

We assume that IT expertise can improve the overall quality of the information system. Board directors with IT experience can help with the company's IT principles and architecture and are able to ensure that the organization's IT sustains and extends its strategies and objectives, including IT-related internal control strategies and policies. In addition, when it comes to building an information system, IT expertise can help select the right IT infrastructure, bridging the gap

between the system and the actual business needs during system design. (Feng Y., 2024) Finally, directors with IT education are more likely to value the information system, and their appreciation will create a supportive and accepting environment for the information system in the company. Our paper contributes to the literature in the following aspects.

An information attack generally results in confidential data theft, financial fraud, downed web servers, and corrupted operational data, all of which affect the accuracy and reliability of financial data derived from the information system. If entities do not implement proper information security, they cannot guarantee the accuracy and reliability of their financial data. Built-in ERP control functions can positively affect the effectiveness of internal financial reporting controls. However, ERP does not necessarily protect against some deliberate system manipulations, for example, some controls may not be activated in time during the implementation phase. In addition, top managers may try to override some control functions to manipulate the date of performance of revenue management (Chang, 2019).

While many studies have examined IT governance, there remains a significant research gap regarding the link between internal audit (IA) functions, IT governance, and IT controls. Some academic discourses have initiated the investigation of this triadic relationship. For example, Héroux and Fortin (2013) delved into the participation of IA in IT governance, clarifying the role of internal audits within IT governance and the interplay between the distinctive elements of IA and its involvement in IT governance. Their finding points to two characteristic elements of IA that increase IA involvement in IT governance as the extent of IT audit resources and experience and the number of IT staff associated with IT training or certification.

Recent studies have primarily focused on the effects of digital transformation on firm production factors, including cost reduction, human capital improvement, and technological advancement (Cheng et al. 2018).

In their study, Zhang and Dong (2023) state the benefit in two aspects. On the one hand, it shows that the quality of internal control serves as a specific mechanism through which digital transformation affects the productivity of firms. This finding provides valuable insight into the precise mechanisms governing the economic consequences of digitization within firms.

On the other hand, this article focuses on China.

While numerous studies evaluate internal audit quality with a focus on ICFR, our study differs from previous research by extending the examination of internal control quality to two critical but less studied objectives—operations and compliance. Specifically, our findings help to bridge a gap in the literature by examining the effects of IAF attributes on the achievement of a company's operational and compliance goals, and expand our understanding of the relationship between IAF and internal control objectives. In addition, the unique data set obtained from the Taiwan Regulatory Authority allows us to avoid some of the shortcomings of previous archival-based papers, which mainly depend on the Global Auditing Information Network (GAIN) database that collects auditors' responses to IIAs. Questionnaires (Wu, 2024).

Ostaev et al. (2022) in their study focus on internal controls in the system of economic security of the agricultural sector. The aim of the study was to establish the function of internal control in the system of economic security of agricultural enterprises, as a mechanism for identifying risks and threats. In accordance with this goal, the main task was determined to justify the theoretical and practical aspects of internal control in the system of economic security of agricultural enterprises. The work examines substantive and formal methodological aspects, including the study of laws, theories, the structure of scientific knowledge, analysis of research methods from the point of view of logical structure and formalized approaches for the construction of theoretical knowledge.

In studies by Kontsevaya S. and Alborov R. (2017) focused on the management system in Russian agricultural enterprises. The aim of the study was to design a system for making managerial decisions and a control system. The proposed system of management decisions is based on the calculation of coefficients identifying economic (gross production, labor productivity, material return, amortization, etc.), environmental (material waste, labor intensity, etc.) and social efficiency (average wage, rates of growth and labor productivity and other) according to the types of products in the agricultural enterprise. Production efficiency is estimated by a system of evaluation criteria and factors. The factors in the proposed system are divided into 3 groups: economic efficiency factors, environmental efficiency factors, social efficiency

factors. The system of control and evaluation of the efficiency of agricultural production based on the presented factors is carried out in special tables, where each actual value and each type of product has an efficiency coefficient for the current year in relation to the base value or the average value for the last 3 years. The post contains an example of calculating coefficients based on data from financial accounting.

Managerial accounting would, according to Ostaeve et al. (2020) should have been aimed at solving long-term prospective problems. Managers of an economic entity with the authority to make strategic decisions develop forecast scenarios taking into account the opinions of competent experts involved in the assessed economic area. The authors developed a coordinated idea of which option for predicting economic development is the most advantageous for an agricultural enterprise, also from the point of view of the variability of the economic situation. The authors' study was aimed at improving the quality of managerial accounting in agricultural enterprises with a comprehensive evaluation of the effectiveness of activity management.

Materials and methods

The main goal of our study was to find out what factors on the part of managers contribute to the willingness to improve the internal control system. For that reason, we conducted a questionnaire survey. The database contains information on 46 respondents from the ranks of managers, financial directors, accountants and other responsible employees for the performance of control from the questionnaire survey. In the analyzed period of 2023, 15 agricultural enterprises were monitored, in which we tested internal controls. When choosing accounting entities, we chose the following criteria:

- accounting entities have an implemented internal control system,
- accounting entities are focused on primary agricultural production,
- accounting entities account in the double-entry bookkeeping system,
- the managers of the selected companies were willing to provide us with sensitive internal data and cooperation was already established with them in the previous period. In this way, we ensured the availability of relevant data for solving our research.

25 companies were approached, of which 15 companies accounting in the double-entry bookkeeping system expressed their willingness to cooperate in the selected issue.

We obtained the outputs from our analysis from the multi-platform software Gretl.

The estimated model includes the following variables, which we created on the basis of a questionnaire survey:

- PreferenciaVKS – Do you see a need to improve the internal control system? (0-no, 1=yes) This is a dependent variable, the other mentioned variables are exogenous:
- AccountSys - Do you think that the accounting system in your company is effective in terms of control processes?
- Automation - Do you think that the automation of internal control processes will make the performance of the control itself more efficient?
- Personality Types – What type of personality best describes you in your work?
- Time – Are you willing to work overtime, if necessary?
- Self-development – Would you be interested in self-development in your work?
- Salary – Are you satisfied with the amount of your financial evaluation?
- Gender – 0- female, 1- male;
- Age – 0- 30-49 years, 1- 50 and more years;
- Children – 0 - has no child, 1 - at least one child;
- Education – 0-secondary education, 1-university education.

Of the total number of 46 respondents, 21 were women and 25 were men.

Please, abide by the template paper structure, it is obligatory.

The basic characteristics of the basic set of respondents are shown in Table 1.

		gender (in %)	
		woman	man
Personality type	Perceivers	33	28
	Thinkers	48	31
	Judges	19	41
Age	30-49 y.	48	44
	50 and more y.	52	56
Education	Secondary education	38	32
	University	62	68
Children	Have no child	33	20
	Have a child	77	80

Source: Own processing based on data from a questionnaire survey.

Table 1: Basic characteristics of the basic set of respondents.

To develop the work, we decided to use the binary logit model in order to estimate the inclination of individual preferences in favor of the need to improve the internal control system (ICS). We focused on monitoring whether respondents have the willingness and effort to contribute to the improvement of this system. Otherwise, the respondents do not see the need to improve the internal control system, and they consider the current state to be sufficient. We obtained the outputs from our analysis from the multi-platform Gretl software.

For the analysis of preferences regarding the internal control system, it is not necessary to formulate hypotheses, as we focused on analyzing the level of influence of individual exogenous variables on the endogenous variable.

We monitor the binary variable Y_i , which takes on values of 0,1.

Research premise is as follows:

$Y_{it} = 0$ (respondents do not see the need and are not willing to improve VKS), [1]

$Y_{it} = 1$ (respondents see the need and are willing to improve VKS).

Using the defined latent variable Y_{it} and individual exogenous variables X_{ji} , we entered the following equation for the model for the analyzed period:

$$Y_{it} = b_0 + b_1X_{1i} + b_2X_{2i} + b_3X_{3i} + b_4X_{4i} + b_5X_{5i} + b_6X_{6i} + b_7X_{7i} + b_8X_{8i} + b_9X_{9i} + b_{10}X_{10i} + b_{11}D_{1i} + b_{12}D_{2i} + b_{13}D_{3i} + \varepsilon_i \quad [2]$$

We refer to the cross-sectional entity as i , which takes the values $i = 1, \dots, 15$.

Where:

Y_{it} - i -th accounting entity, the t -th period

of the endogenous variable "VKS Preference",

X_{1i} - i -th accounting entity of the exogenous variable "AccountSys",

X_{2i} - i -th accounting entity of the exogenous variable "Automat",

X_{3i} - i -th accounting entity of the exogenous variable "Personality Types"

X_{4i} - i -th accounting entity of the exogenous variable "Time",

X_{5i} - i -th accounting entity of the exogenous variable "Self-development",

X_{6i} - i -th accounting entity of the exogenous variable "Salary",

X_{7i} - i -th accounting entity of the exogenous variable "Gender",

X_{8i} - i -th accounting entity of the exogenous variable "Age",

X_{9i} - i -th accounting entity of the exogenous variable "Children",

X_{10i} - i -th accounting entity of the exogenous variable "Education",

D_{1i} - i -th accounting entity of artificial variable "OsobTypA",

D_{2i} - i -th accounting entity of artificial variable "OsobTypB",

D_{3i} - i -th accounting entity of artificial variable "OsobTypC",

b_0 - locating constant,

b_{1-13} - unknown parameter of the binary logit model,

ε_i - i -th accounting entity of the random error of the variable Y_i .

It was necessary to create three artificial variables so that they take on two states (0-no, 1-yes), which we tested using a binary logit model:

"PersonTypesA" - perceivers,

"OsobTypB" - thinkers,

"OsobTypA" - judges.

For maximum likelihood estimation, we used the works of authors Ajmani and Wooldridge. Who devote more detail to this statistical method in their works. The logit model is based on the maximum likelihood estimation method (Chi-square). In the case of the binary logit model, we will consider it as a distribution function, a logistic distribution function. The estimation of parameters b_{1-13} is realized using the method of maximum significance of the model, now it is no longer a linear function, where we assume independence of observations. The closer the ratio of the logarithms of the likelihood functions is to 0,

the higher the fit rate, on the basis of which we claim that the model is complete and better describes the modeled data (Ajmani, 2009).

Using the odds ratio, we get a better idea of the interpretation of the coefficients in the binary logit model, in which the logarithm of the ratio of the probability of occurrence of the event p_i and the probability of the occurrence of the complementary event $(1-p_i)$ is defined. We refer to this share as the chance, which is calculated by simply taking the logarithm of the estimated parameters. The odds ratio for the variable X_{ji} was calculated in Excel via the function $\exp(b_j)$. If we get a value greater than 1, we can claim that respondents with a higher education will increase the odds ratio in their willingness to improve the internal control system by the calculated value expressed in %, assuming that all other variables are constant. If we obtain a value of the de-logarithmic coefficient smaller than 1, we claim that respondents with a higher education have a reduced chance ratio in their willingness to pay environmental taxes by the calculated value expressed in %, assuming "Ceteris paribus". The correct interpretation of the model parameters for the binary logit model is very important for the successful implementation of the model (Wooldridge 2002).

Results and discussion

A considerable number of authors deal with the issue of the internal control system. By studying various scientific literary sources, we obtained a comprehensive view of the investigated issue. We consider it important to acquire knowledge, especially in the areas of performance and efficiency of the functioning of the internal control system.

Our finding was that there were not many scientific publications devoted to the need for an internal control system focused on the field of accounting in agricultural enterprises. We obtained the following relevant resources from the authors Ostaev et al., Kontsevaya and Alborov, which are devoted to agricultural enterprises in the field of internal control system. Ostaev et al. (2022) in their study focus on internal controls in the system of economic security of the agricultural sector. The aim of the study was to establish the function of internal control in the system of economic security of agricultural enterprises, as a mechanism for identifying risks and threats. In accordance with this goal, the main task was determined

to justify the theoretical and practical aspects of internal control in the system of economic security of agricultural enterprises. The work examines substantive and formal methodological aspects, including the study of laws, theories, the structure of scientific knowledge, the analysis of research methods in terms of logical structure and formalized approaches for the construction of theoretical knowledge.

In studies, Kontsevaya S. and Alborov R. (2017) focused on the management system in Russian agricultural enterprises. The aim of the study was to design a system for making managerial decisions and a control system. The proposed system of managerial decisions is based on the calculation of coefficients identifying economic (gross production, labor productivity, material return, amortization, etc.), environmental (material waste, labor intensity, etc.) and social efficiency (average wage, labor growth and productivity rates, etc.) by types of products in the agricultural enterprise. Production efficiency is estimated by a system of evaluation criteria and factors. The factors in the proposed system are divided into 3 groups: economic efficiency factors, environmental efficiency factors, social efficiency factors. The system of control and evaluation of the efficiency of agricultural production based on the presented factors is carried out in special tables, where each actual value and each type of product has an efficiency coefficient for the current year in relation to the base value or the average value for the last 3 years. The post contains an example of calculating coefficients based on data from financial accounting.

Managerial accounting would, according to Ostaev et al. (2020) should have been aimed at solving long-term prospective problems. Managers of an economic entity with the authority to make strategic decisions develop forecast scenarios taking into account the opinions of competent experts involved in the assessed economic area. The authors developed a coordinated idea of which option for predicting economic development is the most advantageous for an agricultural enterprise, also from the point of view of the variability of the economic situation. The authors' study was aimed at improving the quality of managerial accounting in agricultural enterprises with a comprehensive assessment of the effectiveness of activity management.

Based on the study of domestic and foreign literature, we can conclude that a number of problems can

arise in the internal business environment, which can be prevented by building an internal control system.

The presented conclusions, which are based on the performed analysis, can be generalized for companies of other industries, and therefore the selected sample of companies is not a limiting factor. For this reason, we do not consider the selected sample as a limiting factor for the application of the obtained results. The procedure presented in the thesis can be used in any company where an internal control system is applicable.

The applicability of the results is not limited only to agricultural enterprises, as the issue of the internal control system affects enterprises in general.

Continuing the research in the field of internal control system, we would like to focus on defining the design, implementation and operating effectiveness.

The content of the database is information from 46 respondents from the ranks of managers,

financial directors and accountants and other employees responsible for the performance of control.

Therefore, in order to be able to analyze this influence, we had to quantify the range of responses to create a model. In the following Table 2 we present the estimated model containing endogenous and exogenous variables.

In the question "what type of personality best describes you in your work?", we chose the following range of answers:

- perceivers - they are realistic people who like to emphasize details. They use common sense and experience to solve the problem.
- thinkers – they tend to be preceded by a thorough analysis of the problem before their decisions. They weigh all the pros and cons, they are really honest and fair.
- judges – they like to be organized and prepared, they like to make plans and it is most convenient for them when they have different rules.

Label of the variable	Character. variable	Identification and monitoring of controls	A range of answers
PreferenceICS	Endogenous variable	Do you see a need to improve the internal control system?	0 - no 1 - yes
AccountSys	Exogenous variables	Do you think that the accounting system in your company is effective in terms of control processes?	0 - no 1 - yes
Automat		Do you think that the automation of internal control processes will make the performance of the control itself more efficient?	0 - no 1 - yes
Artificial variables: PersonTypesA PersonTypesB PersonTypesC		What type of personality best describes you in your work? (PersonTypeA – perceivers; PersonTypeB – thinkers; PersonTypeC – judges)	
Time		Are you willing to work overtime, if necessary?	0 - no 1 - yes
Self-development	Exogenous variable	Would you be interested in self-development in your work?	0 - no 1 - yes
Salary		Are you satisfied with the amount of your financial evaluation?	0 - no 1 - yes
Gender		Determine your gender.	0 - woman 1 - man
Age		Which of the mentioned age categories do you belong to: 1. category - 30-49 years 2. category - 50 and more years	0 - 1. cat. 1 - 2. cat.
Children		Do you have children?	0 - has no child 1 - at least one child
Education		What is your highest level of education?	1 - secondary 2 - university

Source: Own processing based on data from a questionnaire survey.

Table 2: Estimated model with characteristics of endogenous and exogenous variables.

90% of women from the total number of women and 84% of men from the total number of men responded positively to the preference for improving the VKS. 28% of women out of the total number of women and 32% of men out of the total number of men responded positively to the question whether the respondents think that the company's accounting system is effective in terms of control processes. 71% of women out of the total number of women and 76% of men out of the total number of men responded positively to the question of whether the automation of internal control processes will make the performance of the control itself more efficient. In the case of overtime, 33% of women from the total number of women and 32% of men from the total number of men answered positively. 48% of women from the total number of women and 44% of men from the total number of men responded positively to the question about willingness to self-development. When asked about salary, we noted that 33% of women from the total number of women are not satisfied with their financial evaluation, while men were dissatisfied with 36% of the total number of men.

After specifying the variables we selected, we proceeded to select a specific type of model that would be suitable for the empirical analysis of the investigated issue. The basic assessment of model quality using Gretl statistical software is shown in the following Table 3.

Correctly predicted cases	46 (99.9%)
The maximum likelihood model method- Chi-square (p-value)	89.1433 (0.0000)

Source: Own processing based on data obtained from a questionnaire survey in selected accounting entities.

Table 3: Basic assessment of model quality.

The first statistic in Table 3 speaks about the significant predictive ability of the models, i.e. the model correctly predicted 99.9% of the values. Significance of the model based on a p-value that is less than our chosen significance level of 0.05, we can say that the model as a whole is highly significant. We consider the statistics of correctly predicted cases to be the most important statistic, and we say that the model is good because the model correctly predicts the values.

The following Table 4 shows the parameter estimates in the model that we estimated using Gretl statistical software. It is an analysis of individual preferences affecting the willingness to improve the internal control system.

Label of the variable	p-value	from logarithmic coef.	significance
AccountSys	0.9991	1.7846	
Automat	<0.0001	1.9973	***
PersonTypesA	0.6971	2.4407	
PersonTypesB	<0.0001	1.2246	***
PersonTypesC	0.9968	2.0872	
Time	0.9994	0.9780	
Self-development	<0.0001	1.7455	***
Salary	<0.0001	1.2435	***
Gender	<0.0001	1.7685	***
Age	0.9991	0.5006	
Children	0.9967	1.4533	
Education	0.9982	0.9892	

Source: Own processing based on data obtained from a questionnaire survey in selected accounting entities.

Table 4: Estimation of model parameters.

The exogenous variable in the logit model is the logarithmic ratio of the probabilities that the phenomenon will occur or will not occur. After this adjustment, the coefficients are interpretable. In the next chapter, we deal with the interpretation of the results of the analysis.

This subsection is devoted to the interpretation of the results from the analysis of managers' preferences. The variables "Automat, PersonTypeB, Self-development, Salary" and "Gender" have significant coefficients, so we marked them with three stars. Other variables are considered insignificant and unsuitable for the interpretation of their coefficients.

The variable "AccountSys" came out insignificant, based on which we cannot interpret the effect on the endogenous variable. At the same time, we do not confirm the assumption that the respondents consider the company's accounting system to be effective in terms of control processes. Out of the total number of respondents, only 30% of respondents confirmed that they consider the company's accounting system effective in terms of control processes.

With the variable "Automat", we assume that if the respondents agree that the accounting system in the selected accounting entity is effective in terms of control processes, it increases the willingness to improve the internal control system by 99.7%. This means that if the respondents are convinced that they have the automation of processes in the accounting system, which leads to a positive effect on the willingness to improve internal control. We see here a space for solving the issue

of IT solutions for setting up automation control processes in the accounting system of the selected accounting entity itself. In our opinion, the more automated the process will be, e.g. in accounting, the less error will occur, e.g. in the accounting system itself and in its data processing. We hereby confirm our assumption, where we found that approximately 73% of respondents think that the automation of internal control processes will make the performance of selected internal controls more efficient.

Based on the results of the "PersonTypeB" variable, we can state that respondents who consider themselves to be thinkers have a higher willingness to improve the internal control system than other personality types by 22%. Thinkers were considered to be those who tend to have a thorough analysis of the problem before their decisions. They weigh every pros and cons, they are really honest and fair. These are employees who quickly adapt to new or changing risks or operational deficiencies, which has a positive effect on the improvement of the internal control system in the selected accounting entity.

In the case of the "Self-development" variable, we can state that respondents who are interested in training and want to realize themselves in self-development have a higher preference for improving the internal control system by 74%.

The variable "Salary" expresses a positive tendency to increase the willingness to improve the internal control system. Thus, respondents who are satisfied with their financial evaluation have an increased willingness to improve the internal control system by 24%.

As a result of the analysis of the "Gender" variable, we can assume that women have a higher willingness to improve the internal control system by 77%. This is an interesting finding, but at the same time it is confirmed to us during the personal meetings themselves, from which the same result was noticeable. Thus, women were more active also with regard to proposed changes to the implementation of the internal control system.

In our work, we achieved interesting knowledge and solutions, which were directly presented to the management of selected accounting entities. At the same time, it should be emphasized that the knowledge gained from our study is also suitable for publishing scientific articles.

Conclusion

In the article, we focused on the analysis of preferences for improving the internal control system in selected accounting entities. On the basis of which we achieved interesting findings from the point of view of management and executives in selected accounting entities. As a result, these exogenous variables "Automat, PersonTypeB, Self-development, Salary" and "Gender" were suitable for interpretation due to the fact that they have significant "p-value" coefficients. Other exogenous variables are considered insignificant and unsuitable for interpreting their coefficients.

With our findings from the analysis of managers' preferences, we can state that the decisive factors that contribute to the willingness to improve the internal control system are the automation of control processes. Another finding is that managers who make a decision based on a thorough analysis of the problem contribute to the willingness to improve the internal control system. Managers' satisfaction with financial evaluation was also a decisive factor, and therefore those employees who were satisfied with their financial evaluation were also more willing to improve the internal control system.

With the variable "Automatic" we can assume that if the respondents who agreed that the accounting system in the selected accounting entity is effective in terms of control processes, they are more willing to improve the internal control system by 99.7%. We see here a space for solving the issue of IT solutions for setting up automation processes of control in the accounting system of the selected accounting entity itself. As we already mentioned during the actual testing of internal controls, the more automated the process will be, e.g. in accounting, the less error will occur, e.g. in the accounting system itself and in its data processing. At the same time, we also confirm our assumption, where we found that approximately 73% of respondents think that the automation of internal control processes will make the performance of selected internal controls more efficient. With the exogenous variable "PersonTypeB", we can state that respondents who consider themselves thinkers have a higher willingness to improve the internal control system than other types. Their preference for improving the internal control system is higher by 22%.

Thinkers were considered to be those who tend to have a thorough analysis of the problem before their decisions. They weigh all the pros and cons, they are really honest and fair. They quickly adapt to new or changing risks or operational deficiencies, which has a positive effect on the improvement of the internal control system in the selected accounting entity. Based on the results of the exogenous variable "Self-development", we can state that respondents who are interested in training and want to realize themselves in self-development have a higher preference for improving the internal control system by 74%. We also noticed a positive trend in the "Salary" variable, which contributes to an increase in the willingness to improve the internal control system. On the basis of which we can claim that respondents who are satisfied with their financial evaluation have an increased willingness to improve the internal control system by 24%.

In conclusion, we found an interesting result of our analysis for the variable "Gender", where our assumption is that women have a higher willingness to improve the internal control system by 77%. We consider this to be an interesting finding, but at the same time it is also confirmed by the personal meetings themselves, from which the same result was noticeable. Thus, women were also more active regarding the proposed changes to the implementation of the internal control system.

The internal control system should be designed, implemented and maintained by those charged with governance, managers and other employees

to provide reasonable assurance about the achievement of the entity's objectives, in cases of reliability of financial reporting, efficiency of operations and compliance with applicable laws and regulations.

From the obtained results, we suggest to accounting entities the automation of the internal control process in the accounting system, which would have a positive effect on a smaller amount of errors in the control process itself. Managers should be interested in trainings and should want to realize themselves in self-development, which will also contribute to less erroneous entries. Managers should especially have a thorough analysis of the problem before their decisions. They should be able to quickly adapt to new or changing risks or operational deficiencies, which also has a positive effect on improvement of the internal control system. An important aspect is also the financial motivation of managers, which would contribute to the improvement of the internal control system.

In the article, we achieved interesting knowledge and solutions designed to contribute to the improvement of the internal control system in selected accounting entities. At the same time, it is necessary to emphasize that the knowledge gained from our studies are also suitable for publishing scientific articles. This approach to the analysis of testing the internal control system through a questionnaire survey of managers can be applied in various business entities, which is how we brought added value not only in accounting entities focusing on agriculture.

Corresponding author:

Doc. Ing. Anna Látečková Ph.D.

Institute of Accounting and Informatics, Faculty of Economics and Management

Slovak University of Agricultural in Nitra, Tr. Andreja Hlinku 2, 949 76 Nitra, Slovakia

Phone: +421 37 641 4149, E-mail: anna.lateckova@uniag.sk

References

- [1] Abbott, L. J., Daugherty, B., Parker, S. and Peters G. F. (2015) "Internal Audit Quality and Financial Reporting Quality: The Joint Importance of Independence and Competence", *Journal of Accounting Research*, Vol. 54, No. 1, pp. 3-40. ISSN 0021-8456. DOI 10.1111/1475-679X.12099.
- [2] Blokdyk, G. (2020) "*COSO Internal Control Integrated Framework A Complete Guide - 2020 Edition*", Everand, 5STARCook, 234 p. E-ISBN 9781867356837.
- [3] Bradley, L. P., Muriel, L. and Sanders, P. R. (2017) "A survey on firms' implementation of COSO's 2013 Internal Control-Integrated Framework", *Research in Accounting Regulation*, Vol. 29, No. 1, pp. 30-43. ISSN 1052-0457 DOI 10.1016/j.racreg.2017.04.004.
- [4] COSO (2013) "*Internal Control - Integrated Framework: Illustrative Tools for Assessing Effectiveness of a System of Internal Control*", AICPA. p. 146. 2013. [Online]. Available: https://egrove.olemiss.edu/cgi/viewcontent.cgi?article=1770&context=aicpa_assoc [Accessed: 22 Feb. 22, 2024].

- [5] Dittmeier, C. and Casati, P. (2014) "*Evaluating Internal Control Systems. A Comprehensive Assessment Model (CAM) for Enterprises Risk Management*", The Institute of Internal Auditors Research Foundation (IIARF). 2014. [Online]. Available: <https://www.scribd.com/document/324225855/Evaluating-Internal-Control-Systems-pdf> [Accessed: May 6, 2018].
- [6] Elder, R. J. and Yebba, A. A. (2020) "The Introduction of State Regulation and Auditor Retendering in School Districts: Local Audit Market Structure, Audit Pricing, and Internal Controls Reporting", *A Journal of Practice & Theory*, Vol. 39, No. 2, pp. 81-115. ISSN 0278-0380. DOI 10.2308/ajpt-52596.
- [7] Feng, Y., Mao, Y., Cai, J. and Xu, N. (2024) "Can board IT expertise improve corporate internal control?", *Finance Research Letters*, Vol. 62, part A., p. 105126. ISSN 1544-6123. DOI 10.1016/j.frl.2024.105126.
- [8] Global Internal Audit Standards (2024) "*The Institute of Internal Auditors (IIA)*". [Online]. Available: <https://www.theiia.org/en/pages/search-results/?keyword=The+Institute+of+Internal+Auditors+%28IIA%29%22> [Accessed: 22 Feb. 22, 2024].
- [9] Héroux, S. and Fortin, A. (2013) "The Internal Audit Function in Information Technology Governance: A Holistic Perspective", *Journal of Information Systems*, Vol. 27, pp. 189-217. ISSN 0888-7985. DOI 10.2308/isis-50331.
- [10] Hussney, I. H. (2022) "*Internal Control in Organizations: Review Performance and Efficiency*", 90 p. Independently published (December 11, 2022). ISBN 979-8367412284.
- [11] Chang, Y., Chen, H., Cheng, R. K. and Chi, W. (2019) "The impact of internal audit attributes on the effectiveness of internal control over operations and compliance", *Journal of Contemporary Accounting & Economics*, Vol. 15, No. 1, pp. 1-19. ISSN 1815-5669. DOI 10.1016/j.jcae.2018.11.002.
- [12] Chang, S.-I., Yen, D. C., Chang, I.-Ch. and Jan, D. (2014) "Internal control framework for a compliant ERP system", *Information & Management*, Vol. 51, pp. 187-205. ISSN 0378-7206. DOI 10.1016/j.im.2013.11.002.
- [13] Chen, C., Lin, C. and Lin, Y. (2008) "Audit partner tenure, audit firm tenure, and discretionary accruals: Does long auditor tenure impair earnings quality?", *Contemporary Accounting Research*, Vol. 25, pp. 415-445. ISSN 1911-3846. DOI 10.1506/car.25.2.5.
- [14] Kontsevaya, S. and Alborov, R. (2017) "Managerial accounting and agricultural efficiency control in Russia, *Proceedings of the 26th International Scientific Conference Agrarian Perspectives XXVI: Competitiveness of European Agriculture and Food Sectors*". pp. 145-150. ISBN 978-80-213-2787-0.
- [15] Kedia, B. L. and Reddy R. K. (2016) "Language and cross-border acquisitions: An exploratory study", *International Business Review*, Vol. 25, No. 6, pp. 1321-1332. ISSN 0969-5931. DOI 10.1016/j.ibusrev.2016.04.004.
- [16] Látečková, A. (2023) "*Základy účtovníctva*", Nitra: Slovenská poľnohospodárska univerzita. p. 201, ISBN 978-80-552-2578-4. (In Slovak).
- [17] Li, J., Xia, T. and Wu, D. (2022) "Internal Control Quality, Related Party Transactions and Accounting Information Comparability", *Procedia Computer Science*. Vol. 199, pp. 1252-1259. ISSN 1877-0509. DOI 10.1016/j.procs.2022.01.159.
- [18] Liu, Y. (2023) "Managerial ownership and the effectiveness of internal control", *Finance Research Letters*, Vol. 58. ISSN 1544-6123. DOI 10.1016/j.frl.2023.104339.
- [19] Lisic, L.L., Myers, L. A., Seidel, T. A. and Zhou, J. (2019) "Does Audit Committee Accounting Expertise Help to Promote Audit Quality? Evidence from Auditor Reporting of Internal Control Weaknesses", *Contemporary Accounting Research*, Vol. 36, pp. 2521-2553. ISSN 1911-3846. DOI 10.1111/1911-3846.12517.

- [20] Litten, S. H. (2023) "*Achieving Effective Internal Control over Sustainability Reporting (ICSR): Building Trust and Confidence through the COSO Internal Control—Integrated Framework*". [Online]. Available: https://.coso.org/_files/ugd/3059fc_a3a66be7a48c47e1a285cef0b1f64c92.pdf [Accessed: Oct. 2, 2023].
- [21] Ostaev, G. Y., Shulus, A. A., Mironova, M. V. and Smolin, Y. V. (2020) "Accounting agricultural business from scratch: management accounting, decision making, analysis and monitoring of business processes", *Amazonia Investiga*, Vol. 9, pp. 319-332. ISSN 2322-6307. DOI 10.34069/AI/2020.27.03.35.
- [22] Ostaev, G. Y., Khosiev, B. N., Azrukuliev, Z. M., Dzobelova, V. B. and Kallagova, A. K. (2022) "Internal control in the economic security system of agricultural and processing organizations", *Revista de la Universidad del Zulia*, Vol. 13, pp. 140-157. ISSN 0041-8811. DOI 10.46925//rdluz.36.10.
- [23] Teru, M. (2017) "Magnitude, moment, and measurement: The seismic mechanism controversy and its resolution", *Studies in History and Philosophy of Science, Part A.*, Vol. 65-66, pp. 112-120. ISSN 0039-3681. DOI 10.1016/j.shpsa.2017.02.002.
- [24] Zhang, H. and Shizheng, D. (2023) "Digital transformation and firms' total factor productivity: The role of internal control quality", *Finance Research Letters*, Vol. 57. ISSN 1544-6123. DOI 10.1016/j.frl.2023.104231.
- [25] Wu, T.-H., Huang, S. Y., Chiu, A.-A. and Yen, D. C. (2024) "IT governance and IT controls: Analysis from an internal auditing perspective", *International Journal of Accounting Information Systems*, Vol 52. ISSN 1467-0895. DOI 10.1016/j.accinf.2023.100663.