

The Level of Planning in Small and Medium-sized Enterprises in the Agricultural Sector in Slovakia in Relation to Green Controlling Considering Climate Change

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Abstract

In today's world of many unexpected changes, businesses cannot rely solely on unplanned and unexpected success. The purpose of controlling is to support the company's management by, among other things, providing crucial information for the management of the company. A company cannot rely only on intuitive estimates, but needs exact data for its work. It must be based on well-developed plans, so planning is a necessary condition for the existence of controlling in the company. The company's pressure to promote environmental aspects in business has also brought a new direction of controlling. Green controlling deals with the integration of the ecological perspective into business and its role is to ensure transparency in ecological issues so that aspects aimed at environmental protection are also taken into account in the economic decision-making process.

In this paper, we focused on examining the level of planning and promoting environmental aspects in the planning of small and medium-sized farms. Empirical findings are based directly on the answers of agribusinesses in Slovakia. On the basis of the empirical examination, it can be argued that neither the length of the market nor the legal form affects whether the companies plan. On the other hand, the size of the company and foreign capital participation are determining factors for the existence of a planning system. There is no planning for a longer period of time in Slovak agricultural enterprises. The company's focus mainly on planning their activities within one year. This study contributes to European research focusing on the importance of farm planning in a transforming economy such as Slovakia.

Keywords: *agricultural companies, small and medium sized companies, green controlling, climate change*

JEL Classification: *D24, Q19, M21*

1. Introduction

The tool for treating the economic systems is controlling, which allows not only detecting the action of economic and non-economic factors, but also their future development, analysis of deviations from the desired state and prepare corrective actions (Sedliačiková et al., 2015). The use of Managerial Information System and Controlling has significant impact on better business performance (Zámečník and Rajnoha, 2015). Controlling is a management subsystem focused on the planning and control process, on its coordination and information support (Horváth, 2004). Controlling is thus carried out using two subsystems, namely database security and planning and control (Máče, 2012).

Business planning is a popular managerial practice, especially in the SME context (Brinckmann et al., 2019). Business planning is a skill, or, more precisely, a collection of skills such as opportunity analysis, business-model development, strategic marketing, financial planning, decision making, etc. (Chwolka and Raith 2012). Changes in the business environment reinforced the case against formal strategic planning. Strategic planning had become less about strategic decision making and more a mechanism for coordination and performance managing (Grant, 2003).

At present, it is necessary to harmonize business activity and activity aimed at protecting the environment, because the increasing use of the environment leads to its endangerment (Lovciová, 2021). The importance of innovation for company's sustainability impacted also the practice of controlling. As a management service which provides transparent information for decision making process, controlling has to follow management's focus and activities (Vitezic, Vitezic, 2015). Controlling is a success factor, no doubt. Different perspectives of its development, e.g. controlling in SME's, crisis controlling, project controlling, controlling in HR, finance, production as well as controlling in non-profit organisations and sustainability or 'green' controlling are some of its future directions (Bedenik et al., 2019). There is a variety of terms used to name "green controlling" such as environmental controlling, ecologically oriented controlling, ecological controlling, eco-controlling etc. (Păunică and Mocanu, 2017). For a successful implementation of ecological goals, on the one hand transparency about the environmental performance of a company and on the other hand an integrated consideration of ecological information in controlling processes and instruments is required (Horváth, Isensee and Michel, 2012). An active, systematic approach of the organization to the issue of environmental responsibility, represents a comprehensive approach consisting in the implementation of all important steps in order to reduce the environmental burden of the organization on the environment. For organizations that choose this proactive approach, environmental responsibility is a stable part of their strategic plans (Nadae, Carvalho and Vieira, 2019).

Švikruhová et al (2020) identified the needs of primary milk producers regarding the new CAP 2021–2027. They pointed out that in the current situation and needs of milk producers in Slovakia in relation to the strategic objective is important to increase the competitiveness of the milk producers and importance of increase in investment planning. The agriculture represents one of the sectors of the economy, where economic differentiation is more than obvious (Vozárová, Kotulič, Vavrek, 2016). In comparison with other economic sectors, the agriculture is known for its specific characteristics. First, the production processes in agriculture are supplemented by a factor of the impact of natural conditions, weather, and the length of the production cycle and associated length of current assets turnover (Vozárová, Kotulič, 2017).

2. Data and Methods

The aim of the research was to analyze the extent to which the planning system in small and medium-sized agricultural enterprises in Slovakia is developed and the extent to which environmental objectives are taken into account in individual plans, resp. the degree of application of the principles of green controlling in agricultural holdings. The outputs presented in this article are the result of a pilot survey of an extensive research study. We conducted the survey on a sample of 67 farms using a questionnaire, which was supplemented by personal interviews with selected entities.

The research basis for the questionnaire conception was the findings from the study of foreign scientific publications dealing with the issues of planning and integration of the so-called green

goals into business plans. Theory and practice show that the business environment is currently unstable, also due to the increasing impact of climate changes. For this reason, the importance of planning is still growing. We followed up on Janík's (2006) research, which analyzed the performance of planning activities in Slovakia's business practice, regardless of the industry in which he tried to point out weaknesses and reserves in the area of planning activities. In our research, they focused primarily on the sphere of agriculture, in which planning is of particular importance, because agriculture is characterized by certain specifics compared to other sectors. As Steklá et al. (2015), the agricultural sector is an important part of an economy and has its own specifics. Its specificities are primarily of seasonal nature of production and dependence on natural conditions.

The questionnaire was filled in by corporate managers (managers, directors, heads of economic departments, controllers, accountants). The introductory part of the questionnaire contained the so-called classification questions, which approximated the structure of the research sample in terms of number of employees, legal form of business, length of market presence and foreign capital participation. In terms of size, the research sample consisted of 46% (31) small and 54% (36) medium-sized agricultural entities. Limited liability companies accounted for the largest share, at 66% (44). Cooperatives were accounted for 34% of the research sample (23). The questionnaire survey involved 52% (35) of agricultural holdings that have held their market position for more than 15 years, 40% (27) of holdings operating in the market between 5 and 15 years and 7% (5) of companies that have been operating in the market for less than 5 years. The structure of the research sample reflects the fact that agriculture has a relatively long history on the market. After accession of the Slovak Republic to the EU, agricultural enterprises with foreign capital also became a reality. From this point of view, 16 (24%) companies with foreign capital are represented in the research sample.

The research study focused on finding answers to questions in the following areas:

- existence of a comprehensive planning system,
- length of the planning period,
- areas in which plans are formed - types of functional plans with emphasis on the length of the planning period,
- implementation of green goals in the planning process in accordance the climate changes impact

Common mathematical methods were used to evaluate the questionnaire, supplemented by a graphical representation. The statistical method Chi-square test, which is aimed at determining the dependence between the studied phenomena, was also used. We also used the interview method to clarify and supplement the information obtained through the questionnaire. Sales managers from three farms answered the questions we tried to better understand the respondents' answers to the questionnaire.

3. Results and Discussion

Planning processes are a basic element of applying controlling in a company. They enable to predict the fulfilment of set goals and the development of the company in general in both global and analytical indicators of internal organizational units. We therefore asked respondents whether they have a comprehensive planning system in place on the farms they represent.

According to Mikovcová (2007), the planning system contains a summary of all business plans at each level and in each area, which ensures that all concepts, methods and planning tools are used uniformly and the company can achieve greater efficiency in the implementation of plans. From a research sample of 67 companies, 48 (72%) entities stated that they had a planning system in place. Planning processes are a basic prerequisite for applying controlling in a company.

From an interview with representatives of selected farms, we learned that even if they do not create all types of plans and at every level, in the case of farms we can declare a unified planning system. Whether the existence of a planning system in a company depends on the length of the company's operation in the market, the legal form of the business, the size or foreign capital participation, we tried to find out using the Chi-square test. Subsequently we set hypotheses. The results of the Chi-square test have shown that the legal form of the business and the duration of the market do not affect whether farmers plan the next steps of their activity. In both cases, we accept the null hypothesis at the significance level $\alpha = 0.05$ about the absence of dependence. On the other hand, the Chi-square test revealed a correlation between the existence of a planning system and the other two factors, which means that whether companies have a unified planning system depends on both their size and foreign participation in their capital.

Table 1 Chi-square test to determine the relationship between the existence of planning system and size of business and foreign capital participation in agricultural enterprises

Chi-square test		
Size of business	p value	0,010404
Foreign capital participation	p value	0,024528

Source: own processing

In the following questions, we asked respondents whether agricultural enterprises are involved in the creation of operational and strategic plans. Figure 1 gives us a picture of the structure of business plans in terms of time according to the size categories of agricultural holdings. Respondents answered that out of 19 small agricultural entities that have an established planning system, 100% of farms create short-term operational plans within one year and 14 (74%) enterprises set up and devote themselves to creating long-term strategic plans (over 5 years). Of the 29 medium-sized agricultural entities that responded to the introduction of the planning system, 100% of farms draw up short-term plans and 27 (93%) farms also deal with strategic planning.



Fig. 1 Structure of business plans in terms of time

Source: own processing

The structure of the responses of the two size categories of agricultural holdings is quite similar. This means that the surveyed companies most often focus on operational planning and, conversely, underestimate the need for planning with a longer time horizon. Our result is also confirmed by Szabo, Grznár and Janík (2008), whose research was focused on the evaluation of planning in Slovak companies. They argue that planners focus on short-term plans and, conversely, neglect strategic issues. It follows that strategic planning is a problem area not only in the agro-sector but also in other economic sectors.

A closer look at the issue is provided in the following table, which summarizes the types of functional plans, which are most often compiled in terms of time in the two size categories of agricultural holdings examined. During the interview we emphasized the importance of planning system application due to the impact of climate changes. Respondents claim that the production planning requires the most significant role in creating business plans according to the ongoing climate change.

Table 2 Number and structure of business plans according to time and function, which are drawn up by agricultural businesses

	Production plan	Sales plan	Human resources plan	Financial plan	Marketing plan	Purchasing plan	Investment plan
Operating plan	43	34	12	40	13	32	26
	90%	71%	25%	83%	27%	67%	54%
Strategic plan	23	15	4	38	2	14	35
	48%	31%	8%	79%	4%	29%	73%

Source: own processing

Already the first look at table 2 confirms the fact that agricultural holdings are mainly focused on drawing up short-term operational plans. Among them, the production plan, which compiles 43 (90%) farms, is at the forefront. The strategic production plan is compiled by 23 (48%) companies. Production planning must take into account a number of factors, such as market demand, cost-effective orders, assessment of company capacity, etc. The prerequisite for effective production planning is that it must be based on real and well-known conditions not only of the company but also its external environment. Also managers emphasized that they must constantly adapt to climate change in crop production. This fact needs to be implemented in the production plan. Number of 40 (83%) entities are engaged in financial planning in a short time, 38 (79%) companies compile a financial plan for a period of more than 5 years. Its role is to ensure the financial health of the company, which is conditioned by sufficient liquidity and solvency of the company. The third most frequent functional plan in operational planning is the sales plan. In the short term, this plan is compiled by 34 (71%) companies and only 14 (29%) entities are involved in strategic sales planning. A good sales plan should include a quantification of future sales revenue according to the production plan.

A number of facts need to be taken into account when planning a purchase. First of all, it is necessary to know what financial possibilities the company has not only from internal but also external sources. Managers must know how many stocks they can store and for how long, what are the delivery dates and how will they proceed if the deadline is not met. At the same time, they must have an overview of suppliers, their offers and quality levels, and they must also plan a number of other requirements. Insufficient purchasing planning reduces the quality of deliveries, the company will not be able to respond to unexpected situations, e.g. if he does not

receive the consignment in time, he will not have enough time to think about the next step and will act without sufficient discretion. Purchasing planning can be an important tool for improving the quality of work, so it needs to be paid attention not only at the level of operational planning, but also at a higher level. Purchasing planning in a time horizon of up to one year is carried out by 32 (67%) agricultural entities. If a company does not have such a purchase plan, it may affect its profit or loss. The investment plan must be based on the strategic intentions of the future development of the business unit.

This means that the company must have planned future investments, it must plan the amount of investments at least in the range of annual depreciation in order to ensure the reproduction of fixed assets. Every company should invest in its future development, because otherwise it could lose its competitive advantage. The short-term investment plan is drawn up by 26 (54%) small entrepreneurs. Number of 35 (73%) entities pay attention to long-term investment planning. Our analysis shows that the investment plan is gaining in importance in long-term planning. The goal of human resource planning is to provide a sufficient number of employees with the required education, skills and abilities that the organization needs to avoid staff surpluses or shortages. In addition to the above, human resource planning also deals with the constant development of employees in order for the company to ensure a flexible and qualified workforce. It can be said that 12 (25%) small businesses implement human resource planning in a short period of time. Only 4 (8%) companies are involved in strategic employee planning. As can be seen from tab. 2 farms pay the least attention to marketing planning. The marketing plan should serve to support the company's promotional and marketing activities and should include a marketing strategy according to the tools of the marketing mix. The marketing plan is compiled by 13 (27%) companies and long-term 2 (4%) companies within one year.

After studying the green controlling application in agricultural holdings and fulfilment another set goal, namely the examination of the degree of consideration of environmental objectives in farm planning e.g. adaptation to natural conditions, climate changes, etc. we asked the respondents the following questions. We found out to what extent they generally take environmental aspects in context of climate changes into account in their business.

Out of the 67 agricultural holdings, 43 companies answered positively. In the remaining 24 companies, environmental targets are not defined at all and company's management is not dealing with the environmental issues in planning processes specifically. Based on the answers from interviewed representatives of selected business entities, we found that many companies implement strict environmental approaches only if they have an economic benefit, e.g. improving the image of company or force of climate change. Rajnoha et al. (2019, p. 61) confirm that nowadays, customers are increasingly looking at sustainability aspects, and this situation to become even more intense in the future.

In order to determine the dependence, we performed a Chi-square test in which we examined whether examined factors as the size of the company, the legal form, the length of operation in the market and foreign capital participation had an impact on the respondents' answers. From the analysis, we found that whether companies solve problems of environmental management depends on the participation of foreign capital in the company, so we accept hypothesis H1.

Table 3 Chi-square test to determine the relationship between taking into account environmental aspects in business activities and foreign capital participation in agricultural holdings

Chi-square test	
p value	0,030148

Source: own processing

Respondents who answered in the affirmative to the previous question, as well as those who carried out the planning, also asked which processes they paid the most attention to environmental objectives.

Table 4 Level of consideration of environmental objectives in planning

	Modus	Median	Average	Min	Max
Strategic planning	4	4	4,09	3	5
Operating planning	3	3	2,91	2	5

Source: own processing

The responses show that the implementation of environmental aspects or objectives achieves a higher rate in strategic planning than in operational planning. The strategic plan determines where the company wants to go in the future and how and also taking into account the constant effects of climate change. We evaluate the relatively high average values of the answers to this question. From interviews with representatives of selected companies, we have derived the conclusion that farmers themselves are aware that the aspect of sustainability is becoming more intense in the business sphere, thus deviating from the traditional perception of strategic goals focused only on the financial dimension of sustainable development. On the other hand, many companies are struggling with financial problems, which acts as a barrier to focusing on environmental goals, and companies are only focusing on financial goals. This statement corresponds to the argument of Rajnoha et al. (2019), who wrote that although the importance of sustainable development is steadily rising and enterprise orientation to this objective abroad is higher, under conditions of the Slovak business environment, sustainable development is not firmly anchored in corporate practice.

4. Conclusion

The importance of planning in agricultural entities is declining with increasing time horizon. Businesses focus mainly on operational planning and, on the other hand, underestimate strategic ones. In terms of operational plans, the production plan, financial plan and sales plan have a dominant position. Within the strategic plans, the farms place particular emphasis on the investment and financial plan. Quality and flexible strategic planning is key to the long-term direction of the company in today's rapidly changing times especially in agricultural production which is under the impact of climate change. Rajnoha and Lorincová (2015) also confirm that a quality strategic planning system has a long-term positive impact on the company's performance. According to research by Bestvinová, Mrvová and Hrablík Chovancová (2017), small and medium-sized enterprises, unlike large companies, do not place such an emphasis on strategic planning, which results in small and medium-sized enterprises adapting more dynamically to change. Szabo, Grznár and Janík (2008) did research that focused on planning evaluation in Slovak companies. Their results are in some respects almost identical to ours, because at the same time they confirm that companies use operational planning the most and neglect strategic. They argue that planners focus on short-term plans and, conversely, neglect strategic issues. It follows that strategic planning is a problem area not only in the agro-sector but also in other economic sectors. On the other hand, they claim that the financial and marketing plan is at the forefront of the functional plans, but in our questionnaire survey, the marketing plan ranked last. One reason may be that farms still rely on the Slovak Agriculture and Food Chamber sales.

As the effort to protect the environment concerns not only individuals but also the business sector, we also examined the area of green controlling. We researched the issue of promoting

environmental goals in business planning regarding the impact of climate change. Our analysis has shown that foreign capital participation is an important factor influencing the promotion of environmental aspects in business. Farms that have long respected and taken into account environmental aspects in the business plan, i.e. are part of strategic plans. Naturally, not all environmental goals are appropriate for every business, even given the industry in which they operate. However, there are several general objectives to achieve environmental sustainability and address climate change. It is necessary to realize that the implementation of environmental goals in business does not mean reducing profits, on the contrary, it is a means of a successful strategy, because it improves the company's market position in relation to the general public by building its status and reputation. Likewise, customers (especially the younger generation) are often able to change their business habits just to reduce the negative impact on the environment. Socially responsible business is what can distinguish companies from their competitors.

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