Implementing selected strategic documents focused on increasing efficiency and competitiveness of agricultural enterprises in the Czech Republic

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Abstract: Strategic documents are considered the basic tools for managing and coordinating any company’s development, setting the basic development directions and goals that the company wants to achieve and the ways to achieve them. It is always necessary to reconcile the diverse interests of interest groups in relation to the development of a given enterprise to make efficient use of resources and opportunities, as far as possible without conflicts. The classification, meaning, and contents of companies’ strategic documents are most often based on their established practice. The article’s main goal is to identify the level of implementation of a group of implemented strategic documents aimed at increasing the efficiency and competitiveness of agricultural enterprises in the Czech Republic. The data, which were subjected to factor analysis, were obtained via a questionnaire survey from 70 agricultural enterprises in the Czech Republic. The results part contains also results from qualitative research (focus group, n = 7). The results showed that agricultural enterprises implement groups of so-called conservative strategies and competence development strategies. Most of the surveyed agricultural enterprises have a formulated innovation strategy, while 56% of enterprises do not have an implemented environmental strategy.

Keywords: human resource management strategy; innovation; mission and vision; tools for managing and coordinating; Varimax method

"Mission” and "vision” are the top strategic documents of every organisation and enterprise, regardless of the business sector. In many companies, especially medium and small ones, however, these documents do not exist and/or are relatively little used (Baral and Pokharel 2016; Džupina 2017). It causes the absence of other strategic documents as well. However, if there are no strategic documents in companies, the preservation of sharing and preservation of knowledge influencing employees’ actions and the achievement of performance and target behaviour of the company is missing as well (Vukmirović et al. 2017). The existence of strategic documents is the first prerequisite of a successful implementation of individual activities in the company, leading to a competitive advantage (David et al. 2014; Hitka et al. 2018; Manab and Aziz 2019). Given the emphasis on transfer of knowledge into practice, the development of digitisation and the need for innovation in agriculture, with people being the carriers of knowledge and experience, the most important strategies influencing the current practice of the companies are: i) the human resource management strategy, ii) organisational strategy, and iii) organisational culture strategy. It can be said that strategic documents represent an effective auxiliary tool for fulfilling the visions and goals of the organisation. Still, it is necessary to effectively plan organisational processes and create strategic documents in accord-
ance with their settings. According to research by Baral and Pokharel (2016), Džupina (2017), Vukmirovic et al. (2017), strategic documents help in developing and achieving competitive advantage of companies.

This article aims to identify the level of implementation of a group of implemented strategic documents aimed at increasing the efficiency and competitiveness of agricultural enterprises in the Czech Republic. This article's subject is an analysis of the structure of interdependencies of variables from the questionnaire survey on the assumption that these dependencies are results of a smaller number of immeasurable common factors.

Theoretical background. To achieve the organisation's goals, especially long-term ones, top managers create incentive systems focused on middle management (Henry et al. 2018). One incentive tool is strategic written documents and codes containing organisational goals, rules, and guidelines that harmonise and standardise both managers and employees' behaviour to minimise failures (Stevens and Buechler 2013; David et al. 2014; Baral and Pokharel 2016; Blok 2017; Džupina 2017). The main and basic strategic documents include mission, the contents of which can also include the company's values, and vision. The mission and the vision are at the top of the pyramid. Their goal is to mobilise and motivate employees to achieve the organisation's goals (Džupina 2017; Sengupta and Sahay 2017) and its basic direction (Aguilar-Barrientos et al. 2015). Mission and the vision are followed by other strategic documents that are specific and focused on individual areas of the organization (David et al. 2014; Zakayo 2018).

In addition to strategic documents, codes are also important, especially ethical ones, based on missions, visions, and strategic documents, and that determine the rules of conduct for employees and their harmonisation and standardisation (Stevens and Buechler 2013; Blok 2017). Strategy papers and codes contain a codified set of explicit knowledge with the possibility of further storage, use, and transfer (Manab and Aziz 2019). By their nature, they meet the requirements for knowledge management subsystems which enable the organisation to transfer and use them and, at the same time, to incentivise workers (Igielski 2017).

The agricultural sector is specific in this context. It is necessary to consider not only the rate of return and profitability of the company but also the short- and long-term impacts on the environment (such as water contamination, declining groundwater levels, rising greenhouse gas concentrations, soil erosion, loss of biodiversity, significant potential of renewable energy sources) (Whelan and McBratney 2000; Franzluebbers et al. 2011; Lemaire et al. 2014; Janicek et al. 2017). Corporate strategies inevitably adapt to this apparent contradiction. Mazur-Wierzbicka (2015) demonstrates that agricultural enterprises' corporate social responsibility (CSR) can be applied as a tool for sustainable development. Common Agricultural Policy (CAP) and CSR are included in the Europe 2020 Strategy. Increasingly, the society is encouraging (not only agricultural) companies to play appropriate role in society towards the community, the environment, and the economy (Ogun-tade and Mafimisebi 2011). Every enterprise is influenced by strategic documents and existing knowledge transfer (which is a partial goal of CAP).

Another challenge is to adopt systems in agriculture linked to modern integrated technologies that will be able to deliver high socio-economic outcomes (Smithers and Blay-Palmer 2001; Sulc and Tracy 2007), and thus more environmental benefits. As Smithers and Blay-Palmer (2001) stated, the concept of adaptation has become an essential topic of research and strategic business planning. Technological innovation (Crosson 1983) and innovation strategies are important elements in adapting to climate change.

MATERIAL AND METHODS

The article was created on the basis of the assessment of data obtained by quantitative research in selected agricultural enterprises in the Czech Republic. An agricultural entrepreneur under the Agriculture Act is a natural or legal person who intends to operate agricultural production as a continuous and independent activity in his own name, on his own responsibility, to make a profit. These are business activities in the field of crop and animal production in agriculture across sectors. The questionnaire survey, totaling 20 questions, was divided into 3 sections. The first section contained identification questions (4; closed questions) – sector, market, size of the organisation, existing of human resources (HR) department, the second focused on the existence of strategic documents, and the last on the characteristics of the organisational structure. One representative of the company was contacted at a time – the owner, the director, or a manager. Data were obtained using an online tool.

In total, 860 e-mails to owners or management of companies in the Czech Republic were sent out (to 20% from primary, 20% from secondary, 60% from tertiary sector), 70 responses returned from agricultural sector (i.e. 40.7% return rate from agricultural compa-
A probabilistic selection was made in accordance with the established statistical rules. The results can be generalised only to this sample. The questionnaire respected the ethical aspect and the anonymity of respondents. The structure is in the following Tables (1–2).

Correlations between selected variables were calculated, and the data was also assessed by factor analysis to find hidden factors (using the multicriteria analysis). Normally distributed continuous variables are a prerequisite for the use of exploratory factor analysis. The factor analysis model describes the observations by the following equations:

\[ X_1 = a_{11}F_1 + a_{12}F_2 + \ldots + a_{1m}F_m + U_1 + \mu_1, \]
\[ X_2 = a_{21}F_1 + a_{22}F_2 + \ldots + a_{2m}F_m + U_2 + \mu_2, \]
\[ \vdots \]
\[ X_p = a_{p1}F_1 + a_{p2}F_2 + \ldots + a_{pm}F_m + U_p + \mu_p \]

where: \( X_1, \ldots, X_p \) – observed variables; \( F_1, \ldots, F_m \) – latent common factors; \( a_{ij}, \ldots, a_{pm} \) – factor loads; \( U_1, \ldots, U_p \) – specific factors representing random deviations; \( \mu_1, \ldots, \mu_p \) – constants.

The following is true for an orthogonal model of the factor analysis:

\[ AA^T + D \]

where: \( A \) – factor load matrix, \( a_{ij} \) is an element in the \( i^{th} \) line and \( j^{th} \) column of the \( A \) matrix; \( D \) – diagonal matrix with values \( d_1, \ldots, d_p \) on the diagonal.

The Kaiser-Meyer-Olkin (KMO) measure of selection adequacy was used to assess the suitability of using factor analysis, i.e. an index comparing the magnitudes of the observed correlation coefficients and the magnitude of the partial correlation coefficients. The data in the questionnaire survey in question meet the criterion of the minimum value of the KMO statistics.

Correlations of a number of manifest variables were analysed, and groups of latent variables were determined on the basis of this analysis. The structure of variables relationships we determined by the application of the factor analysis. The number of factors was chosen by maximum likelihood factor analysis with the Kaiser Varimax rotation (for the selection of substantial factors, the Kaiser-Guttman rule was applied), according to which in order to determine the eigenvalues of the covariance matrix of the original observations, the number of factors selected must be equal to the number of the eigenvalues exceeding their average value. The correlation coefficients are in the interval from \((-1; 1)\). If the correlation coefficient is positive, it shows a direct proportion (negative – indirect proportion). For the evaluation, the value of variable correlation higher than 0.3 (moderate correlation), according to Anderson (2013), was used.

### Table 1. Structure of selected agricultural companies in relative frequencies according to ownership sector and size of the company (%)

<table>
<thead>
<tr>
<th>Size of companies</th>
<th>Ownership sector</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>public and state-owned</td>
<td>private</td>
</tr>
<tr>
<td>1–9 employees</td>
<td>8.57</td>
<td>24.28</td>
</tr>
<tr>
<td>10–49 employees</td>
<td>5.71</td>
<td>32.86</td>
</tr>
<tr>
<td>50–249 employees</td>
<td>15.72</td>
<td>12.86</td>
</tr>
<tr>
<td>Total</td>
<td>30.00</td>
<td>70.00</td>
</tr>
</tbody>
</table>

Source: Own survey

### Table 2. Structure of selected agricultural companies in relative frequencies according to area of operation and size of the company (%)

<table>
<thead>
<tr>
<th>Size of companies</th>
<th>Area of operation</th>
<th>Human resources department</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>international</td>
<td>national</td>
</tr>
<tr>
<td>1–9 employees</td>
<td>7.14</td>
<td>10.00</td>
</tr>
<tr>
<td>10–49 employees</td>
<td>8.57</td>
<td>12.86</td>
</tr>
<tr>
<td>50–249 employees</td>
<td>10.00</td>
<td>15.71</td>
</tr>
<tr>
<td>Total</td>
<td>25.71</td>
<td>38.57</td>
</tr>
</tbody>
</table>

Total: 100.00

Source: Own survey
It should be noted that factor analysis is a more heuristic method that requires a deep understanding of the problem under study and knowledge and experience of the method. Therefore, the method can sometimes be rejected by statistics as less accurate, ambiguous and subjective, on the other hand, many sociologists’ researchers use factor analysis quite often and trust it. Also in management research, this method is often used and supported by international researchers (Anderson 2013). The resultant data from the analysis were compared with the reactions of respondents to minimise distortion. As statistics or statistical software may group variables that seem similar, there still may be mistakes in groupings. Therefore, all results were manually controlled to ensure the internal consistency of all factors is high and all variables that form each factor are valid and coherent (Magidson and Vermunt 2004).

Furthermore, the dependencies between selected qualitative features (individual strategic documents in agricultural enterprises) and 3 identification questions (size, ownership sector, and existence of an HR department) were tested. Statistical hypotheses were formulated as null ($H_{01}$), indicating the absence of dependence, such as $H_{01}$: “There is no statistical dependence between the formulation of the company mission and the size of the organisation.” Pearson’s good match test was used for the testing, and the power of dependence was determined using Cramer’s $V$. The IBM SPSS Statistics Version 24 statistical software was used to evaluate the results.

The quantitative research results ($n = 7$; plus moderator) were based on the focus group. The owners of agricultural companies, directors, economists in an agricultural company were asked. Implementing the strategic documents in agricultural enterprises was discussed (in three parts of the focus group: introduction and opening remarks, main part, conclusion).

**RESULTS AND DISCUSSION**

Using the principal components method and the Kaiser-Guttman rule, the number of factors (2) was determined and the reliability of the two-dimensional representation of the original variables was evaluated. The first factor relating to strategies explains almost 43% of the total variability, the second component nearly 11% of the total variability (Table 3).

As shown in Table 3, the first two factors explain approximately 53.5% of the total variability, and two components will suffice to explain the original variables. In Table 4, partial correlations with selected variables can be observed (important documents that organisations implement within their strategies). As shown in Table 4, the first factor is strongly correlated with the following documents: mission of the organisation, company strategy, environmental strategy, the strategy of quality, organisational culture strategy; the second factor is strongly correlated with the following: personnel strategy, code of ethics, ergonomic strategy, code of social responsibility, innovation strategy. Given the above findings, factor 1 was identified as a conservative strategy and factor 2 as a competence development strategy. Undoubtedly, agricultural enterprises need to succeed in their productive, economic, ecological, and social functions.

Conservative strategies, in this case, summarise information on the long-term efforts of the agricultural enterprise, on serious interest in the environmental impact, on the systematic provision of high-quality products and services and, last but not least, on strengthened awareness of the contents of organisational culture. A mission, a company strategy, and a strategy of quality have been implemented by more than half of the surveyed agricultural enterprises. On the contrary, 56% of the surveyed companies lack an explicit environmental strategy and 53% lack an established organisational culture strategy. Agricultural enterprises should systematically use agricultural land according to protection and improvement of the environment and landscape to preserve areas of high natural value and natural resources, including the conservation of biodiversity-rich habitats. In the field of agriculture, where biological material is used, the need to create an environmental strategy is essential. Organisational culture has a significant impact on the organisation’s performance and implementation of the organisational strategy. It supports the achievement of the organisation’s strategic goals and leads to higher employee performance. For this reason, it is considered a key element for the success or failure of a business.

Competence development strategies work with the “competence model” describing competencies, i.e. knowledge, skills, experience, and personality characteristics necessary for the required performance in a given position. The ambition of the model is to link the job description with company values effectively and it allows for improving the quality of personnel work in the company, contributes to the consolidation and promotion of company values, and facilitates the work of managers and HR staff.

Personnel strategy as an organised set of long-term goals in the staffing of the company strategy forms the
core of the organisation’s strategy, as employees are a crucial resource. The personnel strategy is implemented by 57% of the surveyed agricultural enterprises, which means that the majority of respondents have a well-considered and prepared concept of all relevant personnel activities and the entire personnel work. A code of ethics is implemented by the majority of surveyed organisations (60%). The development of corporate codes of ethics is caused by the increasing societal pressure, as it is a doctrine, a source of evaluation of the company’s activities by stakeholders (which is in line with research of Petříček et al. 2020), a tool to eliminate unethical behaviour, and support for the above-mentioned corporate culture. The code of social responsibility goes hand in hand with the code of ethics. 46% of the surveyed organisations have implemented this document. Socially responsible companies fulfil, first and foremost, the legislative requirements, and then (beyond the legal requirements) they voluntarily apply socially responsible behaviour (CSR). Combining economic, environmental, and social goals in parallel brings a clear competitive advantage. Corporate social responsibility is a direction that emphasises the change in the orientation of organisations from short-term to long-term goals.

An ergonomic strategy is not implemented by the majority of agricultural enterprises surveyed (69%); this is an important finding of this research, as ergonomics, as a cross-cutting discipline aimed at adapting working conditions to possibilities of human performance, is a very important area in agriculture. With the increasing application of mechanisation, automation, and robotics, and ever-increasing economic pressures on labour efficiency, the relationship between the production process, the work environment, and the human work is becoming increasingly both more complex and more important, not least in the context of occupational safety and health which is in line with research of Tamers et al. (2020).

66% of respondents have an innovation strategy in place. Innovation strategy as a systemic approach supported by theory, purposefully compiled procedures, methods, and tools for managing complex innovation actions positively affects competitiveness and productivity and efficiency. It is the strategic document most often implemented by the surveyed agricultural enterprises.

Within the research, the dependencies between qualitative features, i.e. the existence of a given strategic document and identification questions, were determined (Table 5).

Based on the Table 5, the following variables have the highest absolute and relative frequency: innovation strategy, code of ethics and personnel strategy. The dependence between the variables company size and code of ethics was proved. The ownership sector influences whether the organisation implements the organisation’s mission, company strategy, personnel
strategy, code of social responsibility. It can be stated that the size of the agricultural enterprise and the non-existence of its HR department do not affect the existence of strategic documents, as opposed to its ownership sector, i.e. whether it operates in the public/state-owned sector or in the private sector. All analysed types of strategic documents are used primarily in the private sector, which is an opportunity for development in agricultural enterprises within the public/state-owned sector. The existence of strategic documents will help increase companies’ efficiency and competitiveness, as evidenced by existing research (David et al. 2014; Zakayo 2018).

In today's business world, all organisations, regardless of their business sector, strive to achieve a long-term competitive advantage. That is reflected in an above-average economic effect when using resources (Mahoney and Qian 2013; Oberholzer-Gee and Yao 2018). Apart from land, the most valuable resources in agriculture also include human resources and their competencies, which are crucial for achieving strategic goals (Montresor et al. 2014; Tzempelikos and Gounaris 2015; Tsai et al. 2016; Nemlioglu and Mallick 2017; Peters and Taylor 2017; Glova et al. 2018; Guesalaga et al. 2018).

Knowledge has great importance not only in high-tech sectors but also in agriculture that witnesses great dynamics of innovation, development of digitisation, transfer of knowledge into practice. In terms of competitiveness and achieving competitive advantage, knowledge is a prerequisite for its long-term achievement being confirmed by results from focus group and the other surveys in other countries (Cuervo-Cazurra and Rui 2017; Cozzolino and Rothaermel 2018; Saranga et al. 2019; Stacho et al. 2020). The results based on a literature review (Džupina 2017; Sengupta and Sahay 2017) showed that it is necessary to set the vision, mission of the organisation, and the organisation-wide strategy in each organisation, including the strategy of human resources management. A similar survey in the area of strategic management was applied in the Slovak Republic and Poland (Stacho et al. 2015; Stasiak-Betlejewska 2017). Authors accent the group of strategic documents in area of competence development strategies such as social responsibility, personnel strategy with diversity or code of ethics. These results in this article are in accordance with Stacho et al. (2015), Stasiak-Betlejewska (2017).

The present article's findings also include that most companies do not have an implemented ergonomic strategy as an internal strategic document setting out procedures and responsibilities to identify ergonomic risks and design and implement measures to prevent, reduce, or eliminate them. Understanding and promoting the importance of ergonomics in society is an important social issue. More and more employers are beginning to address issues related to their employees’ quality of working life. This fact forces modern-minded agricultural enterprises management to abandon the classic model of only the necessary fulfilment of legally stipulated obligations in the field of occupational safety and health. The global agricultural workforce is changing, ageing in some parts of the world, and it is important to realise what these demographic changes mean for job security. The use of the age management concept is also a current challenge for employers, especially in connection with the agricultural workforce's ageing. The future is very likely to face climate change, i.e. rising temperatures, extreme weather events, precipitation changes, and more extreme weather conditions, so related new diseases and health risks can be expected to emerge.
CONCLUSION

In the context of the article’s main goal, two groups of common factors were defined through exploratory factor analysis, namely conservative strategies and competence development strategies. The upcoming industrial revolution (Industry 4.0) representing global automation points to the transition to an innovative society. This is also evidenced by the fact that most surveyed agricultural enterprises have implemented an innovation strategy (65.7%). Several work processes are being automated, creating new safety risks and the need to increasingly address occupational safety and health (Tamers et al. 2020).

A possible direction of development for the agricultural enterprises surveyed is the formulation and subsequent implementation of an environmental strategy by which the enterprise will focus on understanding its polluting processes, emphasising responsible treatment of the environment. In this way, it can achieve competitive advantages and at the same time, build the employer’s brand, both externally and internally. A responsible approach to the environment will be appreciated by all interest groups of agricultural enterprises and is also the originator of important innovations in today’s competitive environment.

One limitation of the paper can be seen in the focus of the research only on the agricultural enterprises. However, it is an important aspect that can help in drafting the CAP or other conceptual materials in the field of agriculture (it supports farmers and increases agricultural productivity. It can be said that strategic documents aimed at increasing the efficiency and competitiveness of agricultural enterprises). Another limit can be the low number of surveyed agricultural companies (however, with regard to the number of those in the Czech Republic, this sample is sufficient). The results were discussed in the focus group. Future research will focus on the use of Information and Communication Technologies (ICT) in agricultural enterprises (in the field of working with people) and the influence of ICT on organisational factors.

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