
THE ROLE OF PROFESSIONAL COMPETENCE TO INCREASE PRODUCTION EFFICIENCY IN FARMS OF THE AGRICULTURAL SECTOR

Milena Tepavicharova

Higher School of security and economy - Plovdiv, Bulgaria m_ivanova_zlatanova@abv.bg

Abstract: At present, in the farms of the agricultural sector, the issue of the management of a lifelong career, which requires a broader set of skills and knowledge, is becoming more urgent. Those qualities provide the opportunity for a successful job placement, adaptation and development of the workplace, handling of professional tasks and obtaining satisfaction and adequate remuneration for one's labor.

In this regard, the study of farms which declared profit can help to clarify the relationship between the development and improvement of professional skills and the final economic result.

The purpose of this article is to analyze the status and development of professional competencies by assessing their role in increasing production and economic efficiency in different in size, status and ownership holdings in the agricultural sector.

The article is structured in two main sections. The first involves analysis of the production competencies, explores the relationships and their links with the production and economic performance. The second section presents a model of professional competencies that are particularly important to achieve high economic performance in the farms of the agricultural sector.

From the data shown, it can be concluded that in the study of the relations and interactions of the professional competencies with the production and economic performance in the three types of farms according to their business structure, a number of similar results can be observed. Adaptability, Professional skills, Readiness and willingness to learn, Self-management skills and Motivation are competencies that are essential to making a profit in both the capital companies and the holdings of SL type.

Some difference in the level of influence is observed in the Work in a team skills, Communication skills and Multilingual abilities. They are assessed as particularly significant in the farms and capital holdings, while in Sole Proprietor /SL/ their effect is weaker.

The SL companies the relationship between Self-presentation skills and Creativity with the realized profit is statistically proven for $\alpha = 0,05$. In the capital companies these competencies are not placed in the foreground.

Ability to work with clients is an important professional competence to companies with limited liability. Efficiency in SL and LLC is particularly essential for improving economic performance of the human resources.

The analysis showed the relationship and the strength of the impact of the professional competencies presented on the economic situation of the farms in the agricultural sector. On the basis of this analysis we can offer a combination of skills which have the greatest impact on the economic performance of the farms

Modeling of professional competencies, which positively influence the economic situation, help build a comprehensive system for the selection, training and professional development of managers and employees on the farms in the agricultural sector.

Keywords: professional competencies, human resource management, efficiency, business organizations, agricultural sector

INTRODUCTION

Sophistication of technology, globalization and the extension of the period of labour activity in recent decades, require continuous adaptation of personal skills and professional competencies of employees. This is associated with many changes and challenges in the professional development. At present, in the farms of the agricultural sector, the issue of the management of a lifelong career, which requires a broader set of skills and knowledge, is becoming more urgent. Those qualities provide the opportunity for a successful job placement, adaptation and development of the workplace, handling of professional tasks and obtaining satisfaction and adequate remuneration for one's labour.

The creation of a set of competencies requires focused activity to improve certain knowledge, skills and abilities. Their development has a direct or indirect impact on the results of the production and business operation of the agricultural holdings in the sector. Therefore, it is essential to examine the levels of development of professional competencies and to reveal opportunities for their effective management.

In this regard, the study of farms which declared profit can help to clarify the relationship between the development and improvement of professional skills and the final economic result.

The purpose of this article is to analyse the status and development of professional competencies by assessing their role in increasing production and economic efficiency in different in size, status and ownership holdings in the agricultural sector.

The article is structured in two main sections. The first involves analysis of the production competencies, explores the relationships and their links with the production and economic performance. The second section presents a model of professional competencies that are particularly important to achieve high economic performance in the farms of the agricultural sector.

MATERIAL AND METHOD

To assess the state of the professional competencies of the human resources, which affect and interact with the production and economic performance, we studied and analyzed the opinions of the owners, managers and professionals in Human Resources Management / HRM / in 156 varying in size, status and ownership farms in the agricultural sector. The majority of the surveyed farms are located in the South Central region / SCR /, where, at the start of the study, the farms represent 27.76% of the total nationwide .

Depending on the size, the surveyed farms are grouped into four groups, namely:

- From 1 to 10 employees - 46.79%
- From 11 to 50 employees - 35.89%
- From 51 to 100 employees - 10.11%
- More than 101 employees - 7.21%

The selection of the farms is based on the positive economic results achieved by them, i.e. those which realized profit for the last five years preceding the survey. The influence and interaction of the professional competencies affecting the profit of the farms in the agricultural sector is examined using the correlation analysis according to the method of Pearson. For analytical purposes the farms are considered according to their organization and business structure.

The first type includes farms - Sole proprietors /SL/. These are mainly small farms where the bulk of the production is for the domestic market. The second and third types are the capital companies. These include single member limited liability /Ltd./ and limited liability companies /LLC/. In these farms, the main factors to achieve good economic results are the vocational education, training and production experience.

The participants in the study had previously received a list of 20 major groups of professional competence as well as their concise definition and description. /Table 1./. They were asked to rank them in a five-point scale, namely: 1 - not important, 2 - somewhat important, 3 - important 4 - very important, 5 - extremely important.

Table 1. Description of the main groups of professional competencies

№	Competence	Description
1	Adaptability	Ability to adapt to the corporate culture, flexibility, quick orientation to the demands of the changing environment, including the ability to work under pressure and tight deadlines
2	Readiness and willingness to learn	Receptivity, curiosity, desire for self-improvement, seeking and receiving feedback
3	Loyalty	Ethical attitude, honesty, integrity
4	Efficiency	Ability to cope with work tasks with good results
5	Computer skills	Using word processors, spreadsheets, Internet applications
6	Leadership skills	Skills in planning, managing and motivating people, skills in decision-making, negotiation, etc..
7	Mathematical skills	Working with numbers, accuracy, methodical skills, precision
8	Ability to work in a team	Cooperation, conflict resolution, good interpersonal relations, sociability, ability to build relationships
9	Motivation	Positive work attitude, enthusiasm
10	Professional skills	Specific skills and knowledge of the professional field, an adequate idea of the work

11	Communication skills	Clear, convincing and literate expression in oral and written form
12	Critical attitude	Analytical skills, logic, impartiality, accuracy
13	Office skills	Finding and organizing information, documents, data; work habits and use of office equipment
14	Entrepreneurial skills	Initiative, entrepreneurship, business knowledge and insight, determination, ability to make decisions and take risks
15	Self-presentation skills	Skills for successful performance (including in a job application and interview), confidence in one's own skills, positivity, conviction, knowledge of business communication
16	Creativity	Creativity, initiative, ingenuity, lateral thinking
17	Technical skills	Specific skills to use specialized software programs and equipment
18	Client attention skills	Responsiveness, empathy, positive attitude, tact, tolerance, patience, attentiveness
19	Self-management skills	Responsibility, independence, organization of time and work tasks
20	Multilingual abilities	Use (written and spoken) of a foreign language, intercultural experience and knowledge

The actual list has been prepared for the purposes of the study, in which the following were taken into account:

- *Key competencies* formulated by the European Commission (*The Definition And Selection Of Key Competencies, 2005*);
- *Preliminary analysis* of similar studies in Europe and around the world in recent years (*Employers' perception of graduate employability, Flash Eurobarometer, 2010, Ready to grow: business priorities for education and skills. Education and skills survey, 2010*);
- Overview of the most frequently mentioned skills and qualities that are required from applicants in *job advertisements*.
- *Consultations with employers*, educational experts and counselors who helped summarizing the skills in 20 groups.

The second section presents a model of the professional competencies of the human resources. It identifies those which are particularly important to achieve high economic performance in the farms of the agricultural sector. To build this model, we implemented the Path-coefficient analysis. In this method, it is possible to combine the correlation, regression and structural analysis. This makes it one of the most appropriate methods for the study of relationships as Path-analysis examines not only direct but also indirect links between the state of the professional competencies of the human resources and the economic performance of the farms. Thus, those which have the greatest impact are evaluated and those with little impact are discarded.

The study covers the period between January - November 2017. The data and information are collected through direct contacts and filling questionnaires specifically developed for the analysis. To further clarify the information, we use the method of the interview. In processing and data analysis, we use the statistical package SPSS 13.0 and Microsoft Office (Word, Excel, Power Point).

RESULTS AND DISCUSSION

Exploration of the professional competencies of the human resources, influencing and interacting with the economic performance of the farms in the agricultural sector.

Analysis of the data shows that in the holdings in the agricultural sector the *Professional training* / $R = 0,876$ at $\alpha = 0,01$ / has the most influence on the economic performance. /Table 2./ Its impact is particularly strong in companies with limited liability. They show a very high correlation coefficient of 0.897, statistically proven at $\alpha = 0,01$. The importance of professional training is also demonstrated in Sole Proprietor /SL/ $R = 0,716$ at $\alpha = 0,01$ / and Single member limited liability /Ltd./ - / $R = 0,883$ at $\alpha = 0,01$ /.

Table 2. Influence of professional competence on the economic situation of the farms in the agricultural sector

Correlation coefficients Professional competence	Farm Types			
	Total	SL	Ltd.	LLC
Adaptability	0,694**	0,509**	0,736**	0,674**
Readiness and willingness to learn	0,799**	0,703**	0,814**	0,766**
Loyalty	0,411	0,376	0,306	0,360
Efficiency	0,611**	0,623**	0,489*	0,623**
Computer skills	0,449*	0,369	0,462*	0,436*
Leadership skills	0,278	0,296	0,278	0,274
Mathematical skills	0,193	0,104	0,253	0,111
Ability to work in a team	0,706**	0,506*	0,832**	0,667**
Motivation	0,576**	0,598**	0,596**	0,469*
Professional skills	0,876**	0,716**	0,883**	0,897**
Communication skills	0,524*	0,416	0,624**	0,508*
Critical attitude	0,304	0,229	0,294	0,216
Office skills	0,394	0,419	0,351	0,249
Entrepreneurial skills	0,235	0,264	0,261	0,286
Self-presentation skills	0,496*	0,457*	0,421	0,393
Creativity	0,389	0,471*	0,315	0,357
Technical skills	0,217	0,185	0,256	0,193
Client attention skills	0,417	0,423	0,455*	0,338
Self-management skills	0,663**	0,557*	0,728**	0,669**
Multilingual abilities	0,523*	0,426*	0,608**	0,597**
Respondents, %	100	41	29	30

Source: Own calculations; * Correlation is significant at the 0.05 level; **Correlation is significant at the 0.01 level

Of particular importance to the positive economic outcomes is *Readiness and willingness to learn*. The data show that this competence has the most significant impact in capital companies by correlation coefficients 0.814 and 0.766 at $\alpha = 0,01$. Similar results were seen in the holdings of “SL”.

The following professional skills have strong influence on the final economic results from the farms of the agricultural sector: *Ability to work in a team* /R = 0,706/; *Adaptability* /R = 0,694/; *Self-management skills* /R = 0,663/; *Efficiency* /R = 0,611/; *Motivation* /R = 0,576/. The high correlation coefficients statistically proven at $\alpha = 0,01$, reveal their role in achieving higher production and economic results of the agricultural farms. A strong correlation with the profit is observed in *Computer* /R = 0,449 at $\alpha = 0,05$ / and *Communication skills* /R = 0,524 at $\alpha = 0,05$ /, *Self-presentation skills* /R = 0,496 at $\alpha = 0,05$ / and *Multilingual abilities* /R = 0,523 at $\alpha = 0,05$ /.

For companies with limited liability, particularly important for the development of production and economic results stand *Adaptability* /R = 0,674/, *Ability to work in a team* /R = 0,667/, *Effectiveness* /R = 0,623/, *Self-management skills* /R = 0,669/ and *Multilingual abilities* /R = 0,597/. Their interaction with the realized gain shows high correlation coefficients statistically proven at $\alpha = 0,01$. *Computer skills*, *Motivation* and *Communication skills* also have an important role in enhancing the economic performance of these farms.

Similar results were seen in Single member limited liability companies /Ltd./.

There is a strong correlation between professional competencies *Adaptability* /R = 0,736 at $\alpha = 0,01$ /, *Ability to work in a team* /R = 0,832 at $\alpha = 0,01$ /, *Motivation* /R = 0,596 at $\alpha = 0,01$ /, *Communication Skills* /R = 0,624 at $\alpha = 0,01$ /, *Self-management skills* /R = 0,728 at $\alpha = 0,01$ / and *Multilingual skills* /R = 0,608 at $\alpha = 0,01$ / with higher production and economic performance of the farms in the agricultural sector.

In SL companies, the high economic results are highly dependent on the *Efficiency* /R = 0,623/, *Adaptability* /R = 0,509/, *Motivation* /R = 0,598/. The strength of the impact of these groups of professional competencies is statistically proven for $\alpha = 0,01$. *Ability to work in a team* /R = 0,506/, *Self-presentation skills* /R = 0,457/, *Self-management skills* /R = 0,557/, *Creativity* /R = 0,471/, and *Multilingual abilities* /R = 0,426 / also show a strong positive interdependence with good economic results. This is confirmed at $\alpha = 0,05$.

From the data shown, it can be concluded that in the study of the relations and interactions of the professional competencies with the production and economic performance in the three types of farms according to their business structure, a number of similar results can be observed. *Adaptability, Professional skills, Readiness and willingness to learn, Self-management skills and Motivation* are competencies that are essential to making a profit in both the capital companies and the holdings of SL type.

Some difference in the level of influence is observed in the *Work in a team skills, Communication skills and Multilingual abilities*. They are assessed as particularly significant in the farms and capital holdings, while in Sole Proprietor /SL/ their effect is weaker.

The SL companies the relationship between *Self-presentation skills* and *Creativity* with the realized profit is statistically proven for $\alpha = 0,05$. In the capital companies these competencies are not placed in the foreground.

Ability to work with clients is an important professional competence to companies with limited liability. *Efficiency* in SL and LLC is particularly essential for improving economic performance of the human resources.

In the analysis of the rest of the professional competencies we do not find statistically proven correlation between them and the realized profit for the period of study. Medium and low levels of correlations are reported to, as least significant to achieve positive economic results in the holdings of the agricultural sector are the *Technical skills* and *Mathematical skills*.

The analysis showed the relationship and the strength of the impact of the presented professional competencies on the economic situation of the farms in the agricultural sector. On the basis of this analysis we can offer a combination of skills, which have the greatest effect on the economic performance of the farms.

Modeling of professional competencies influencing directly or indirectly the economic results of the farms in agriculture.

To study the strength of the impact of both direct and indirect links of professional competencies on the economic situation of the farms in the agricultural sector we implement the method of Path-analysis. This method evaluates only these competencies which have the greatest impact on the economic performance and the less influential are removed. The obtained results of the Path-analysis are shown in Table 3.

The data in the table show that some of the professional competencies have positive direct and indirect impact on the economic situation of the farms of the agricultural sector. These competencies are assessed as very positive. They include Professional skills, Efficiency, Adaptability and Ability to work in a team. The Professional skills and Self-motivation are also strongly positive.

Table 3. Direct and indirect effects of professional competencies affecting the economic situation of the farms in the agricultural sector

<i>Professional competence</i>	<i>Path-coefficients</i>	<i>Direct effect</i>	<i>Indirect effect</i>
<i>Professional skills</i>		<i>0,624</i>	<i>0,252</i>
<i>Readiness and willingness to learn</i>		<i>0,956</i>	<i>-0,157</i>
<i>Creativity</i>		<i>-0,438</i>	<i>0,827</i>
<i>Efficiency</i>		<i>0,439</i>	<i>0,172</i>
<i>Self-presentation skills</i>		<i>0,724</i>	<i>-0,228</i>
<i>Adaptability</i>		<i>0,508</i>	<i>0,186</i>
<i>Multilingual abilities</i>		<i>0,839</i>	<i>-0,316</i>
<i>Ability to work in a team</i>		<i>0,497</i>	<i>0,209</i>
<i>Communication skills</i>		<i>0,890</i>	<i>-0,366</i>
<i>Motivation</i>		<i>0,507</i>	<i>0,069</i>
<i>Critical attitude</i>		<i>-0,369</i>	<i>0,673</i>
<i>Self-management skills</i>		<i>0,466</i>	<i>0,197</i>
<i>Entrepreneurial skills</i>		<i>-0,228</i>	<i>0,463</i>
<i>Loyalty</i>		<i>0,705</i>	<i>-0,294</i>

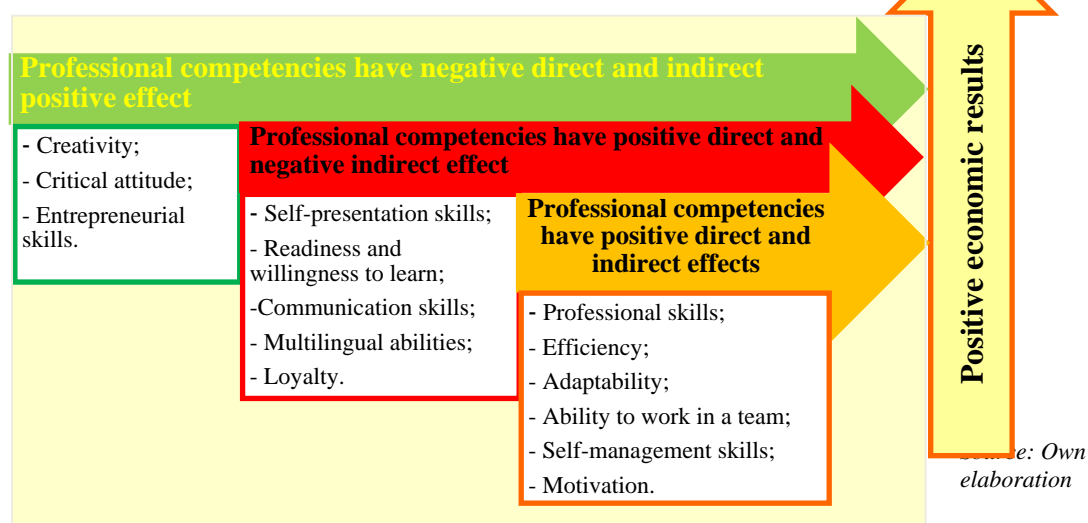
Source: Own calculations

Skills for Self-presentation, Readiness and willingness to learn, Communication skills, Multilingual abilities and Loyalty have a direct positive effect on the economic situation of the farms in the agricultural sector. The indirect effects of this group of professional competencies on the economic performance, however, is negative.

The third group of professional competencies which include Creativity, Critical thinking and Entrepreneurial skills have a direct negative impact on the economic performance of the farms in the agricultural sector. However, their indirect influence is very positive. The ratio of the indirect effect exceeds that of the direct and the ultimate impact of these competencies is also positive.

Modeling of professional competencies, which have a positive influence on the economic situation, help build a comprehensive system for the selection, training and professional development of managers and employees on the farms in the agricultural sector. /Figure 1./

Figure 1. Patterns of the professional competencies which have a direct and indirect effect on the economic situation of the farms in the agricultural sector



CONCLUSIONS

The construction of a set of competencies requires focused activities to improve certain knowledge, skills and abilities. They have a direct or indirect impact on the results of the production and business operations of the agricultural holdings in the sector. Therefore, it is essential to examine the condition of professional competencies by revealing opportunities for their effective use and management.

The analysis showed the relationship and the strength of the impact of the professional competencies presented on the economic situation of the farms in the agricultural sector. On the basis of this analysis we can offer a combination of skills which have the greatest impact on the economic performance of the farms

Modeling of professional competencies, which positively influence the economic situation, help build a comprehensive system for the selection, training and professional development of managers and employees on the farms in the agricultural sector.

LITERATURE

- [1] Exploring the role of professional competence in the farms of the agricultural sector, January - November 2017
- [2] Employers' perception of graduate employability, Flash Eurobarometer, 2010 (http://ec.europa.eu/public_opinion/flash/fl_304_en.pdf)
- [3] Graduate Employability: What do employers think and want? 2008 (http://ec.europa.eu/education/higher-education/doc/business/graduate_en.pdf);
- [4] Lisbon Council – “Europe 2020: Why Skills are Key for Europe's Future”, <http://www.lisboncouncil.net/publication/publication/54-skillseuropersfuture.html>
- [5] Ready to grow: business priorities for education and skills. Education and skills survey, 2010 (<http://www.cbi.org.uk/ndbs/content.nsf/802737AED3E3420580256706005390AE/C4393B860D00478E802576C6003B0679>)
- [6] The Definition And Selection Of Key Competencies <http://www.oecd.org/dataoecd/47/61/35070367.pdf>
- [7] Bencheva, N., M. Tepavicharova, (2011): A study of middle management's competences, CEA, Volume VIII, Plovdiv, Bulgaria, p. 90 – 102
- [8] Bencheva, N., M. Tepavicharova, (2011): Autodidactic instruments for increasing the expertise of managers and staff, National Conference “Learning from the crisis – lessons learned, recommendations and strategies”, CEA, 13 may 2011, Plovdiv, Bulgaria, p. 155 – 167

- [9] Tepavicharova, M., N. Bencheva, (2013): Comparative analysis of the evaluation of professional competence at a sectoral level, International Conference “Eastern European transition and socio-economic stratification”, CEA, 25 – 26 October 2013, Plovdiv, Bulgaria, p. 265 – 272
- [10] Tepavicharova, M., (2012): Competencies as an instrument for human resource management in small and medium-sized enterprises in the agricultural sector, article in the Proceedings of the Tenth National Youth Scientific and Practical Conference, Sofia, Bulgaria, p. 221 – 226