How to increase production performance of Slovak agricultural companies: The key task of supporting innovative work behavior and information sharing

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Abstract: The goal of this paper is to test the hypothesis of positive correlation between the innovative work behavior (IWB) support on the part of agricultural managers and the production performance of agricultural companies, mediated through information sharing in the companies. The research was performed on a sample of 175 companies of primary agricultural production in Slovakia. All data was analysed using the SPSS version 22.0 software package. The Cronbach's alpha coefficient was used to assess the internal consistency of scales reliability. The Baron and Kenny mediator model was also used. The hypothesis was confirmed by the research. Complete mediation was identified where up to 91.6% of the overall effect is mediated through the sharing of the information variable. The practical implications of the research point out that the transparency of communication and support of innovations introduce positive effects in relation to the performance of agricultural companies. The IWB support is a predictor of production performance of agricultural companies. However, it does not have a clear effect; the effects of other factors are important. The IWB support positively affects the production performance of companies through the sharing of information between the managers and the employees, which becomes an important tool of innovative management. Agricultural cooperatives and joint stock companies can profit less significantly from the IWB support through the sharing of information than limited liability companies. The effect of IWB support on the production performance of cooperatives in natural expression shows statistically less significant impact.

Keywords: agricultural companies; information; innovation; management; performance; Slovak Republic

Compared to research in other agricultural areas, research in agricultural management is limited. It is often underestimated due to constant excessive concentration of focus on sufficient policy and risk factors, especially weather and related compensatory payments in damages caused by its impact. The scientific community says that Slovak agricultural managers are not capable of thinking proactively, they are conservative, without business and management skills, and that they lack strategic innovative thinking and focus on creation of added value. Furthermore, there persists a historic perception of agriculture as a complex of large agricultural cooperatives with rigid management. It is true that Slovak agriculture, in the context of the EU, is characterized by its large average size of companies. On the other hand, the large size of companies accompanied by Industry 4.0 processes provide opportunities for innovation and de-

velopment due to lower fixed area costs (Urbancová and Vrabcová 2020); however, they also place higher demands on management skills of agricultural managers. The need for innovation as well as innovative approaches to management is becoming a necessity for all entities, and agriculture is no exception. Innovation is now seen as a source of cross-sectoral competitiveness linked to rapid technological development to which companies must respond flexibly. The basis is to create conditions for establishment of an innovative environment in agricultural enterprises through support of employee innovative behavior in an environment of information saturation. It is therefore necessary to document in studies the positive effects of the implementation of management tools on output of agricultural companies. The aim of this study is to examine the impact of support for innovation activity within farms on their production performance. Due to societal trends of technological development and Industry 4.0, the topic is significant and can bring new implications to the specific working environment of agriculture for its further development, oriented at strengthening more easily the internal factors affected.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Current studies focused on the management of agricultural enterprises only partially map selected managerial problems in this sector, and due to technological development and other related trends it is necessary to direct research to the possibilities of innovative potential of employees and its support by managers in relation to company performance. Innovative approaches are partly captured in the study of Urbancová and Vrabcová (2020) who point out the benefits of implementing age management in the agricultural sector of the Czech Republic. Jankelová et al. (2017) deal with management of human resources and its readiness for implementation of new roles of human resource professionals. Lorga and Dobre (2018) describe the trends of agricultural management in Romania and Jankelová et al. (2019) examine the innovative approaches to management with an emphasis on soft factors. All studies operate on the description level and as primary studies they provide a basis for a deeper examination and possible shifts of research in the field of agricultural management.

The ongoing industrial revolution and current Covid-19 pandemic have pointed out other facts as well; specifically, that in the times of a crisis it is necessary to search for new procedures and innovative so-

lutions, sustainable also in the post-crisis period and also reflecting the new conditions in which current agricultural companies operate. These are technological developments (Min et al. 2019; Lezoche et al. 2020), e-environment, use of social media (Thakur and Chander 2018), demographic structure of employees (Chand and Markova 2019) linked to the limited workforce fund (Lähdesmäki and Suutari 2020), its different views of the working world and approaches to it, way of life, and efforts to balance professional and personal life (Urbancová and Vrabcová 2020), as well as many others. The crisis accelerated adaptation of Industry 4.0 and it appears that smart farming is the way of the future, with the potential of ensuring sustainable agricultural production. Therefore, we assume that the results obtained in the environment of Slovak agricultural sector can be considered generally valid. The research gap, which is starting point of the shaping of the research model of this study is the support of the innovative work behavior (IWB) and its impact on the productive performance of enterprises, through the sharing of information about the mission, policies, goals and innovative changes towards employees.

Due to constant innovations and improvements at the corporate level, innovative activity of individuals is of fundamental importance. IWB is defined as the behavior of employees focused on creating ideas, but also as the behavior of the leadership linked to support in their implementation (De Jong and Den Hartog 2010; De Spiegelaere et al. 2015). IWB includes 3 items – idea generation, idea promotion, and idea implementation (Anderson et al. 2014). The managers who can use innovative ideas of employees to acquire a wide range of possibilities for improving production capabilities of the companies and improve competitiveness in the agricultural market will be the most successful.

Based on the above, the main hypothesis is formulated as follows:

H_1: We assume that the *IWB* support is related to the production performance of agricultural companies (*CP*).

Many studies have dealt with IWB and the factors that affect it. Most common factors include job autonomy (De Spiegelaere et al. 2016), work ethics (Mussner et al. 2017), self-efficacy (Nisula and Kianto 2016), motivation (Radaelli et al. 2014), culture (Tsegaye et al. 2019), and information sharing (Radaelli et al. 2014). Information sharing is related to the level at which the company distributes information about its financial situation, policies, goals, and changes with its employees (Aragon-Correa et al. 2013). Informa-
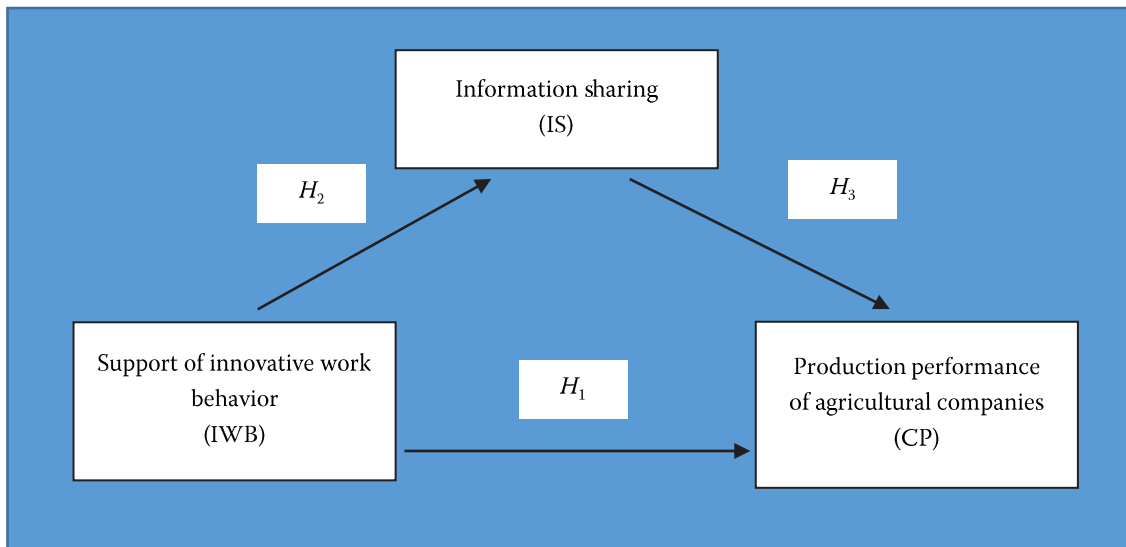
Figure 1. The mediation model and the three tested hypotheses

Source: Own processing

tion sharing in a company is a critical process because if information is not shared and adapted in teams, then the cognitive resources of employees are underutilized, which is related to the risk of performance decline of individuals and teams (Srivastava et al. 2006). Only informed employees can contribute to implementation of changes related to introduction of innovations in the company (Pfeffer 2010). Aragon-Correa et al. (2013) even state a direct link between practices supporting information sharing and company innovations.

H_2: We assume that the *IWB* support is related to information sharing (*IS*).

Information sharing (IS) is a tool which ensures individual and team performance by informing the employees about the vision, mission, and corporate goals through clear, timely, and regular information about the current issues and facts (Vos and Buckner 2015). Gibson et al. (2007) point out the significant contribution of IS to CP. In their research they also confirmed that IS has a unique place among the different management practices. Some studies have presented negative effects of IS on CP; however, in the opinions of the authors, the reason for this was combining various practices into a single variable, negating the positive effect of IS. Aragon-Correa et al. (2013) even point out the positive effects of IS especially in uncertain environment and in environmentally focused companies, which has a significant connection to the agricultural sector.

H_3: We assume that information sharing (*IS*) is related to the production performance of agricultural companies (*CP*).

The goal of this paper is to test the hypothesis on the relation between innovative work behavior (IWB) support on part of the agricultural managers and production performance of agricultural companies (CP), mediated through the sharing of information (IS) towards employees of the agricultural business.

Figure 1 shows the model used to test the relations between the IWB support, IS, and CP. The model takes into consideration the mediating role of IS in the relation between IWB support and production performance of agricultural companies (CP).

MATERIAL AND METHODS

Sample and data collection. The data necessary to verify the hypotheses was acquired using a quantitative survey in the form of an online questionnaire. We have addressed 1 266 companies operating in Slovakia in the field of primary agricultural production included in the database of the INFORMA Business Trading Company. The return rate was 13.82%, which means that the size of the research sample was 175 respondents of different structure in terms of their legal form, production focus, number of employees, cultivated land, region, and achieved production performance. The questionnaire was divided into 4 sections. The first section contained company identification data, the second determined the production performance of the company, the third contained items related to the IWB support and the fourth contained items related to information sharing.

The structure of the respondents sample is presented in Table 1.

All data was analysed using the SPSS version 22.0 software package. Cronbach's alpha coefficient was used to assess the internal consistency of the scale's reliability.

Based on Hofmann's (1997) suggestion, we conducted a hierarchical regression analysis to test the mediating effect of the sharing of information (*IS*) towards

Table 1. Characteristics of the examined sample of respondents

Variable	Category	Frequency (number of respondents)	Percentage (%)
Legal form	AC	127	72.6
	LtD	43	24.6
	JSC	5	2.9
	total	175	100.0
Number of companies based on the number of employees	10–50	55	31.4
	51–249	120	68.6
	over 250	0	0.0
	total	175	100.0
Production focus	combined production	112	64.0
	crop production	33	18.9
	animal production	30	17.1
	total	175	100.0
Cultivated land (ha)	101–500	25	14.3
	501–1 000	56	32.0
	over 1 001	94	53.7
	total	175	100.0
Region			
Banská Bystrica		22	12.6
Bratislava		25	14.3
Košice		21	12.0
Nitra		23	13.1
Prešov		23	13.1
Trenčín		22	12.6
Trnava		24	13.7
Žilina		15	8.6
Total		175	100.0

AC – agricultural cooperative; JSC – join stock company; LtD – limited company
Source: Own survey

employees of the agricultural business between the innovative work behavior (*IWB*) support on part of the agricultural managers and the production performance of agricultural companies (*CP*). Additionally, we followed the Baron and Kenny (1986) procedure to test the stated mediating effect. The mediation model can be described as a mechanism or process that seeks to explain, name, or describe the identified relationship between an independent and a dependent variable through the inclusion of a third explanatory variable. The mediator variable is used to explain the relationship between independent and dependent variables where the independent variable is the cause of the mediator and the latter then acts on the dependent variable. For this reason, mediating effect is also referred to as indirect effect.

The Baron and Kenny (1986) mediator model was also used. The Freedman-Schatzkin test was used to test the mediator effect. A series of regression analyses was used to identify the proposed hypotheses. Partial R^2 (ΔR^2), *F*-test, and standardized regression coefficient (*b*) and their test statistics (*t*-value) were reported in all regression analyses. Company legal form, its production focus, company size, size of cultivated land, and region of operation were the control variables. The ANOVA variance analysis was used to analyse multiple dependencies. We worked with a 5% significance level.

Measures. A mediator model was used to test the relations between the *IWB* support, production performance of agricultural companies (*CP*), and information sharing (*IS*), which was based on the mediating role of *IS* in the relation between *IWB* support and *CP*. We consider mediation to be a suitable tool to examine the causal relations between the variables with engagement of a third variable in the basic relation, which will allow for a deeper examination of their mutual relations.

The *IWB* support represents an independent explanatory variable. This variable is operationalized as a score created on the basis of answers by managers to questions related to supporting *IWB* of their employees. The scale for innovative work behavior was adopted from the study of De Jong and Den Hartog (2010). Overall, the *IWB* independent variable contains 10 items (Table 2) which are scaled using 5-point Likert-type scales (1 – almost never to 5 – almost always). After the reliability analysis, the Cronbach's alpha of the *IWB* support was 0.984 (10 items). Our measures include items for all three dimensions – idea generation, idea championing, and idea implementation.

Table 2. Contextual definition of the examined variables

Examined variables	Contextual definition
Innovative work behavior (*IWB*) (1 – almost never to 5 – almost always)	• How often do your subordinates pay attention to activities, which are not part of their everyday work? • How often are your subordinates interested in how they can improve things? • How often do your subordinates look for new work methods, techniques or tools? • How often do your subordinates generate original problem solutions? • How often do your subordinates examine new approaches to doing tasks? • How often are your subordinates excited about innovations in your teams? • How often do your subordinates try to convince their colleagues to support an innovative idea? • How often do your subordinates implement innovative ideas in work procedures? • How often do your subordinates contribute to the implementation of new things? • How often do your subordinates put effort in developing new things?
Information sharing (*IS*) (1 – completely disagree to 5 – completely agree)	• The leadership of the company regularly informs its employees about important changes. • The leadership of the company regularly informs its employees about overall policies and goals. • The leadership of the company regularly informs its employees about the method of evaluating company performance and about the achieved results. • The leadership of the company regularly informs its employees about the plans for its units. • The leadership of the company regularly informs its employees about the requirements related to their work performance.

Source: Ketokivi and Castañer (2004), De Jong and Den Hartog (2010)

The second dependent variable representing the consequence is the natural production performance of agricultural companies. This indicator was chosen for several reasons. First, in order to exclude the effect of pricing, additional policies, and other objective factors. The second reason is the high variability of agricultural results of the companies. In our opinion, the economic result in agriculture (as of December 31) is not objectively comparable between companies with different production focus. The third reason is the possibility of distortion of agricultural results (profit or loss) in accounting statements of the businesses, which in the end would also affect the research results and conclusions. The natural indicator of production performance of the businesses for the years 2017 to 2019 was calculated as the average of partial annual natural indicators. The natural results of individual agricultural subjects achieved between 2017 and 2019, in crop production the average yields per hectare, in animal production indicators of performance and reproductive characteristics of livestock, were used as the basis for the calculation. The managers of the companies stated the achieved values of selected categories based on the structure of their production. For each value stated by them the partial natural coefficient was calculated. The partial natural coefficients for individual companies were calculated as the ratio of values achieved by the company in the examined indicator to the value of the national average for a given year (if in 2018 the company achieved an average wheat yield of 3.6 t/ha and the national average in this year was 4.78 t/ha, the partial natural coefficient has a value of 0.75, calculated as 3.6/4.78). These values express the ratio of the indicator of a specific company to the national average for given commodity. Subsequently, the obtained partial annual natural coefficients for each company were averaged and the annual natural indicator of the company was calculated. The resulting summary natural indicator of the company is the average of the annual natural coefficients for the years 2017–2019. Indicators calculated in this way may be used as a criterion for mutual comparison of companies in terms of their performance.

The third variable is the information sharing (*IS*) mediation variable, a bridge between the dependent and the independent variables. It is directly inserted in the relation between these two variables and affects the whole model. The *IS* variable is operationalized as a score created based on the statements of the managers for individual items in Table 2. The scale for *IS* was adopted from the study of Ketokivi and Castañer (2004) who measured the sharing of general information and communication about corporate priorities with employees.

The *IS* mediating variable contains a total of 5 items (Table 2) which are scaled using the 5-point Likert-type scales (1 – completely disagree, 5 – completely agree). After the reliability analysis, the Cronbach's alpha of the *IS* was 0.985 (5 items). The internal consistency of the used variables is very good.

The relation between the three variables may also be affected by external, so-called control variables. For control variables, we have subsequently tested their effect on the course of the basic modelled relation.

RESULTS AND DISCUSSION

We examined the relations between the individual variables using a correlation matrix. We have created summary variables – *IWB*, *IS*, and *CP* and calculated the overall average score using the relevant items. The matrix also includes control variables from which we use only the numeric variables.

The descriptive statistics and the correlation matrix itself are presented in Table 3.

It is clear from the correlation matrix that there are significant positive correlations between all three examined variables, indicating the use of a mediator model. The set main hypothesis was used as the basis for the mediation.

H: The dependency between supporting *IWB* by agricultural managers and the production performance of agricultural companies is mediated through sharing of information about the companies.

The hypothesis is true if the indirect effect is significant (use of the Freedman-Schatzkin test). The legal form, production focus, business region, number of employees, and size of cultivated land control variables were added in the modeling of the overall effect. The ANOVA variance analysis was used to analyse multiple dependencies. We have worked with a 5% significance level and the obtained results are presented in Table 4.

The displacement of the variance for the overall dependency for the initial model showed that out of the control variables, only the legal form (agricul-

Table 3. Correlation matrix (*n* = 175)

Variable	Mean	SD	Number of employees	Cultivated land	*IWB*	*IS*
Number of employees	89	41	–	–	–	–
Cultivated land	2 726	1 163	0.307**	–	–	–
IWB	4	1	–0.369**	0.216**	–	–
IS	4	1	–0.296**	0.215**	0.941**	–
CP	1	0.40	–0.345**	0.131	0.803**	0.832**

**$P > 0.05$; *CP* – company production performance; *IS* – information sharing; *IWB* – support of innovative work behavior
Source: Own results

Table 4. Displacement of the variance for the initial model (dependent variable *CP*)

Source	Type III (sum of squares)	d*f*	Mean^2	*F*	Significance
Corrected model	19.931	7	2.847	53.156	0.000
Intercept	0.080	1	0.080	1.487	0.224
Legal form**	0.621	2	0.311	5.799	0.004
Focus	0.140	1	0.140	2.606	0.108
Region	0.073	1	0.073	1.355	0.246
Number of employees	0.037	1	0.037	0.691	0.407
Land	0.012	1	0.012	0.227	0.635
*IWB***	9.512	1	9.512	177.577	0.000
Error	8.945	167	0.054	–	–
Total	201.942	175	–	–	–
Corrected total	28.877	174	–	–	–

**$P > 0.05$; *CP* – company production performance; *IWB* – support of innovative work behavior
Source: Own results

tural cooperative, limited liability company, joint stock company) was significant. Other variables were not significant (P-value < 0.05).

Subsequently, we proceeded in three steps (*A, B, C*), in which we tested the partial hypotheses by calculating three regressions. The steps examine the following relations, expressed by the models 1 to 3, shown in the summary Table 5:

C) There is a relation between the *CP* (*Y*) and *IWB* support (*X*).

A) There is a relation between the mediator variable (*M*) in the form of *IS* and *IWB* support (*X*).

B) There is a relation between the *CP* (*Y*) and the mediator variable (*M*) in the form of *IS*, on which *X* (*IWB* support) does not participate.

The value of *C* represents the overall effect. The multiplication of $A \times B$ is mediated through the (indirect) effect of *X* on *Y* to *M*. The difference of $C' = C - A \times B$ is the net (direct) effect of *X* on *Y*, without participation of *M*. The hypothesis is true if the indirect effect is significant. This means if $A \times B = C - C'$ is significant. Using the Freedman-Schatzkin test ($A \times B = 0.273$, $z = 5.948$, significance = 0.000) we discovered that the overall indirect effect is significant in the positive direction.

The results in Table 5 show that the overall effect (*C*) is significant and that the dependency is positive (model 1; coefficient = 0.298, significance = 0.000), indicating the existence of a relationship between production performance and *IWB*. Step *A* is significant, meaning there is a relation between the mediator variable (*IS*) and *IWB* support (model 2; coefficient = 1.021, significance = 0.000). The direct effect (*C'*) is not significant (model 3; coefficient = 0.025, significance = 0.605). Step *B*, expressing the relation between the production performance of the company (*Y*) and the mediator variable (*M*) in the form of *IS*, on which *X* (*IWB* support) does not participate, is significant (model 3; coefficient = 0.267, significance = 0.000). The results show that on-farm information sharing plays a key role in the relationship between increasing their performance and supporting the *IWB*. Therefore, if corporate managers want IWB support to have a positive effect, it is necessary to ensure that information is shared with employees. Information sharing gives meaning to innovation activity and directs it to results. It is important for the company managers to find that sharing information and communicating should be one of its key activities.

In percentage expression of the size of individual effect, based on the coefficients found, it can be stated that the size of the direct effect is 8.4% (coefficient 0.025) and the size of the indirect effect is 91.6% (coefficient 0.273). Since the direct effect is not significant

Table 5. Regression results for the main effects and the mediation analysis

Variable dependent	Model 0 CP		Model 1 CP		Model 2 IS		Model 3 CP	
	coefficient	SE	coefficient	SE	coefficient	SE	coefficient	SE
Constant	0.005	0.139	0.051	0.088	−0.077	0.139	0.072	0.080
Main effects								
IWB	0.309**	0.023	0.298**	0.019	1.021**	0.030	0.025	0.048
IS	–	–	–	–	–	–	0.267**	0.044
Controls								
JSC	−0.144**	0.121	−0.157**	0.114	0.221	0.179	−0.216**	0.104
AC	−0.179	0.053	−0.192	0.044	0.047	0.069	−0.204**	0.040
Combined production	−0.141	0.087	–	–	–	–	–	–
Region outside of Bratislava	0.066	0.057	–	–	–	–	–	–
Number of employees	0.000	0.001	–	–	–	–	–	–
Land	0.000	0.000	–	–	–	–	–	–
Adjusted R^2	0.677	–	0.681	–	0.885	–	0.731	–

**$P > 0.05$; AC – agricultural cooperative; adjusted R^2 – adjusted coefficient of determination; *CP* – company production performance; *IS* – information sharing; *IWB* – innovative work behavior; JSC – joint stock company; SE – standard error of the estimate

Source: Own results

and the indirect effect is significant in the same direction and its size is larger than 80% of the overall effect, it can be stated that this is a complete mediation relation through which it was determined that the relation of *IWB* support and *CP* is completely mediated through *IS*. This finding clearly supports the thesis of importance of information sharing for increasing performance based on employee innovation activity.

The data presented in Table 5 indicate that agricultural cooperatives and joint stock companies can profit less by supporting *IWB* through information sharing than limited liability companies. The effect of *IWB* support on the production performance of cooperatives in natural expression shows a statistically less significant impact. This may have its origin in the persisting differences in management practices as well as economic results between agricultural cooperatives and commercial companies. Business companies, which in the context of the Slovak Republic mostly emerged from creditworthy parts of the assets of agricultural cooperatives, achieve a lower cost of production without assuming adequate liabilities to banks and business partners. Like start-ups, they use more progressive management methods. As the research sample included joint stock companies (a.s.), which is not the minimum legal form typical in agriculture, companies were predominantly limited to limited liability companies, which, thanks to the above, can use the innovative potential of their employees more efficiently than cooperatives.

The hypothesis on the dependency of *IWB* support and *CP*, which is mediated through *IS*, was confirmed by this research. Complete mediation was identified where up to 91.6% of the overall effect is realized through the mediating variable. This is a significant finding, specifically that the company results are affected by the support of *IWB* and its positive effect is transferred to a large degree by the leadership sharing information with the employees in their performance of work. Regular sharing of information to employees by the company managers about the method of evaluating company performance, achieved results, and requirements related to the performance of their work have been highlighted among the attributes of information sharing. We are aware of a possible limitation of our chosen procedure, resulting from the fact that in the modelled relationships we assume a one-way direction and standard mistakes of coefficients can be influenced by the fact that the product of coefficients ($A \times B$ – which we tested) does not have a normal distribution.

Our findings are in line with many studies and findings presented in scientific literature and they add new context to the theory of supporting innovative behavior in the field of agriculture. Direct effects of supporting innovative behavior towards organizational outputs were confirmed by many authors (Anderson et al. 2014). They do exist in agriculture; however, they are not significant and other variables enter in this relation to improve its effect. Our research confirmed the mediating effect of information sharing, following the existing research (Aragon-Correa et al. 2013; Hoch 2014; Radaelli et al. 2014) and verifying its validity in the conditions of primary agricultural production. Focusing on supporting innovative behavior of employees is not enough. The employee must know where the company is heading, what its goals are, what the financial situation is, what changes the company is planning, and this information should be constantly shared throughout the company. Information sharing becomes an important part of innovative management. These findings are in line with the results of the study of Pfeffer (2010) who confirmed that only informed employees can contribute to implementation of changes related to introduction of innovations in the company. Information sharing together with IWB support creates the preconditions for the use of shared leadership where a positive effect on individual and organization performance has been identified (Carson et al. 2007; Hoch 2014).

CONCLUSION

High demands related to performance of management work in a highly specific environment are placed on agricultural managers. The production process is closely linked to natural phenomena and directly depends on climatic conditions in individual regions where the risk-rates differ. Several types of risks affect the size of production which may lead to adverse effects and subsequently loss of agricultural production. The risk in agriculture is extremely high because, given the natural character of their activity, farmers face unpredictable effects of weather throughout the year. In addition to the biological character of production and effect of climate changes, liberalization of the world food trade (increasing competitive pressure, falling prices, retail chains, high volatility of agricultural markets) is another important factor, just like the political decisions of the EU which react to current worldwide events. Despite these facts, the managers of agricultural companies have to look for ideas to sustain and develop their

businesses. At the present time this encourages scientific research in management with emphasis on topics also valuable from the perspective of agricultural business practices. We consider it important to deal with the relation between implementation of management tools and performance of agricultural companies, and we consider it beneficial for the management of these companies to learn about the relations between specific resources in order to maintain competitiveness. The applied mediator model pointed out the need to support the innovative behavior of employees under concurrent sharing of information within companies.

The practical implication of our research is as follows: (*i*) Pro-management behavior introduces positive effects in relation to company performance. IWB support is a predictor of production performance of agricultural companies. However, it does not have a clear effect and the effect of other factors is important. (*ii*) IWB support positively affects the production performance of companies through information sharing by the managers to the employees. (*iii*) Information sharing is becoming an important tool of innovative management and creates preconditions for the implementation of shared leadership, which transforms the classically structured company into a team organization with constant mutual exchange of information.

The conducted research has several limitations. The first is the sample of companies, which was not selected by random selection. All respondents were addressed based on their inclusion in the database with the assumption of a low response rate. Nevertheless, the sample contained companies of different legal forms, different sizes, and from all regions of Slovakia. The second limitation of interpretation of the research results is the local nature of the research, which was conducted in Slovakia. The results are relevant from regional perspective; their generalization would require a larger sample.

Another limitation is the possible overvaluation of the positive responses on the part of the managers, which might have been partially different if employees were asked the questions.

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