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Innovative approaches to management with emphasis on soft factors and their impact on the efficiency of agribusiness companies

Nadežda Jankelová, Katarína Remeňová, Zuzana Skorková, Ildikó Némethová*

University of Economics in Bratislava, Bratislava, Slovak Republic

**Corresponding author: nadezda.jankelova@euba.sk*

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Abstract: This paper represents a wider research aimed at the examination of innovative approaches to management and their impact on the competitiveness and success of companies in a globalised world economy. Its main objective is to evaluate perceived importance of these approaches with emphasis on soft factors in agribusiness companies in Slovakia in terms of methods and tools used in the implementation of individual management functions, as well as in terms of the frequency of their applications, and their impact on the efficiency of these companies. However, a research gap has been identified in the existing literature on primary agribusiness companies. To improve their position, farmers should not only passively respond to many external factors that are of course important in this sector but should also be proactive and innovative in their management methods and practices. A questionnaire research has been conducted in agribusiness companies in Slovakia. The obtained results highlight the significance of hard factors in the utilisation of management tools. Moreover, soft factors have positively affected economic results. Innovativeness has been identified in leadership functions, where a significant link has been found between the transformation style of leadership and the importance of soft factors in transformational management.

Keywords: agribusiness company; efficiency; hard factors in management; innovative approaches to management; soft factors in management

Agribusiness entities, allocated to rural settlements and associated with agriculture and land management, have always played an indispensable role in the development of rural areas. Their importance and impact on rural development depends on their economic strength, the ongoing entrepreneurial restructuring of agribusiness, the strengthening of rural economies, the development of social and human capital in rural areas, and innovative approaches to management (Grznár and Szabo 2017; Jankelová et al. 2017b). The interest of management of these organisations should not only be to survive and passively react to the environment, but to be proactive and innovative in their management methods and procedures.

Scientific and professional literature is dominated by articles and studies on the impact of various factors on the prosperity of agribusiness companies as compared to agribusinesses in the EU (structural changes in agriculture, institutional factors, lack of competitive advantage in terms of size and scale). On the other hand, a large research gap is witnessed in literature on the utilisation of various management methods and techniques, the application of innovative approaches to agribusiness management

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and their impact on the efficiency and prosperity of these businesses. This paper aims to partially fill in the existing research gap.

LITERATURE REVIEW

Contemporary theory of management is overwhelmed by various ideas, trends, methods, techniques, or recommendations of how to manage a business in an innovative way. Nevertheless, managers in small and medium-sized enterprises and agribusiness companies are unaware of these innovative approaches.

Effective management in agribusiness companies should (Jankelova et al. 2017a): i) focus on such hard factors of management that can be designed, formally defined and implemented in an organisation; ii) focus on such soft factors of management that are predominantly related to the human factor and social relationships in an organisation.

The authors differ in their views on the predominant approaches to organisational management. More and more importance has been attached to soft factors in management on both the practical and theoretical levels (Beer 2009; Breene and Nunes 2011). Many enterprises focused on the analysis of hard factors only, such as the evaluation and controlling of financial key data and disregard soft factors (Egner 2009). According to several researches such as studies carried out by IBM and McKinsey in 2008, soft factors are usually evaluated as being more important in transforming an organisation than hard factors (Fritzenschaft 2013). Soft factors have a significant direct impact on quality improvement (Psomas et al. 2014). The findings of the study of Chan et al. (2017) revealed that all soft factors are correlated to the quality improvement in an organisation with a high significant value but their research confirmed that the supplier relationship and employee involvement has more significant impact on quality improvement as compared to other soft factors. Several researches are aimed on the influence of soft factors on performance (Abdullah et al. 2009; Nasim 2018). Their findings showed that the following soft factors have significant influence on firm performance: management commitment, customer focus and employee involvement. Their research shown as well that firm performance will increase when the organisations implement more quality improvement practices. Soft factors are significant determinants of economic performance in rural areas (Agarwal et al. 2009).

On the other side – the dominance of hard factors was confirmed in the research of Bóna and Lippert (2015). Based on their research strategic and structural instruments have the greatest influence on success as opposed to cultural and leadership factors.

Several studies point out the importance of combination of soft and hard factors. Overall performance appears to be favourably influenced by a combination of hard factors such as benchmarking and quality measurement, continuous improvement, and efficiency improvement; and the soft factors consisting of top management philosophy and supplier support, employee training and increased interaction with employees and customers (Gadenne and Sharma 2009). Calvo-Mora et al. (2013) investigated the relationships between soft and hard factors and analysed their influence on key business results. Combination of both factors were described in the research of Zeng et al. (2016), their results indicate that hard factors directly influence speed of new product introduction, while soft factors directly influence product innovativeness.

We can state the lack of literature and research studies for particularly agribusiness companies in this topic.

MATERIALS AND METHODS

The main research objective is to examine the importance of innovative approaches in soft factors of management in agribusiness companies in Slovakia in terms of methods and tools used in the implementation of individual management functions, as well as in terms of the frequency of their applications, and their impact on the efficiency of these companies.

A questionnaire research was conducted in 90 businesses of different legal forms in agribusiness companies. The selection of these companies allowed for the homogenisation of the sample in terms of production areas that significantly affect the management of agribusiness companies and in terms of size to assess the level of management in the surveyed companies. The questionnaire was split into following parts – identification and including the socio-economic data of the respondents, examination of perceived importance of hard and soft factors in management and assessing their importance on a scale ranging from 1 to 5 (where 1 is a very important factor and 5 is the least important factor), innovative approach based on individual management functions including strategy and planning, organisation, leadership, human resources management and training, control and quality. The last

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part of the questionnaire contained questions about specific innovative methods and techniques to map cognitive awareness. Measured on a scale of satisfaction ranging from 1 to 5 (1 – very satisfied, 2 – satisfied, 3 – OK, 4 – dissatisfied, 5 – very dissatisfied).

The researchers have ensured the measurement objectivity by using data collection tools in electronic form to prevent influencing the research subject. The participants were instructed in writing by one researcher. The results of the Levene's test for analyzing the sphericity and homogenity of variance does not confirm the violation of this assumption because $p = 0.19$.

The characteristics of respondents were examined by descriptive statistics and are shown in Table 1.

The efficiency of managing agribusiness companies varies across businesses. Even though businesses did not reveal their operating results, they acknowledged whether they had gained profits of losses over the last five years. The variable of operating costs was transferred into the variable of management; and 6 categories were created based on the results of five years in Table 2. Thus, a new variable was introduced with a scale of 0–5 ranging from the worst to the best economic results over the entire period. The number of businesses in each category is shown in Table 2.

The following research questions have been raised to achieve the main goal of research:

i) What tools are the most important by managers to manage their businesses – do they focus more on hard factors or on the soft factors of management?

ii) Is the perceived importance of soft factors in the management of agribusiness companies associated with their efficiency? Which other characteristics of businesses are associated with soft factors?

iii) What kind of leadership and which innovative tools in human resources management are related to soft factors?

The collected data were analysed in MS Excel extended by a package of analytical tools (arithmetic mean, modus, median, minimum value, maximum value, standard deviation) and in the IBM SPSS v.23 statistical programme. The methods of descriptive statistics, regression analysis and a paired *t*-test

Table 1. Frequency table for socio-economic characteristics of respondents

Variables	Category	Frequency	Percentage (%)	Median	Mean	Std. dev.
Legal form	AC	39	43.3	–	–	–
	Ltd.	48	53.3			
	Plc.	3	3.3			
Number of employees	51–50	84	93.3	157.6	–	–
	over 250	6	6.7			
Years in office	to 5	19	21.1	–	13.6	7.9
	6 to 10	15	16.7			
	11 to 20	36	40.0			
	over 20	20	22.2			
Education	secondary	43	47.8	–	–	–
	higher education 1st degree	45	50.0			
	higher education 2nd degree	2	2.2			
Cultivated land (ha)	6–100	6	6.7	–	1331	768
	101–500	15	16.7			
	501–1 000	19	21.1			
	over 1 000	50	55.6			
Production specialisation	plant	18	20.0	–	–	–
	plant and livestock	45	50.0			
	plant and livestock and services	23	25.6			
	livestock	4	4.4			

legal forms: AC – association, Ltd. – limited company, Plc. – public limited company

Source: authors' own processing

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Table 2. Number of businesses in categories by economic results

Category		Content of category	Frequency	Percent (%)
	0	5 × loss and 0 × profit	8	8.9
	1	4 × loss and 1 × profit	16	17.8
	2	3 × loss and 2 × profit	21	23.3
Valid	3	2 × loss and 3 × profit	16	17.8
	4	1 × loss and 4 × profit	10	11.1
	5	0 × loss and 5 × profit	19	21.1
	total		90	100.0

Source: authors' own processing

Table 3. Paired samples statistics (number of observations = 90)

Traditional tools of management		Mean	Std. dev.	Std. error mean
Pair 1	*hard_factors*	2.56	0.739	0.078
	soft_factors	3.00	0.690	0.073

Source: authors' own processing

to compare the averages were used for data analysis. The aggregate variables by averaging the values of individual items were created from a set of hard and soft factors. The hypotheses were tested at a significance level of α = 0.05. The following methods were used to verify the hypotheses: paired *t*-tests of the average matches – the significance level was 5% on both sides, linear regression of the dependent variable on a set of independent explanatory variables – on a 5% significance level on both sides. In the paired *t*-test of the average matches, the effect size to determine the magnitude of the effect was based on the formula:

$$r = \sqrt{\frac{t^2}{t^2 + df}}$$

where *r* stands for effect size, *t* presents *t*-statistics and *df* stands for degree of freedom.

RESULTS AND DISCUSSION

The first research question aimed to examine the focus of managers in agribusiness companies on the perceived importance of hard and soft factors of management. The null hypothesis was as follows.

H_0: There is no significant difference in the perceived importance of hard and soft factors of management. The alternative hypothesis claimed:

H_1: There is a significant difference in the perceived importance of hard and soft factors of management. Respondents rated the importance of each hard and soft factor on a scale of 1 to 5 (1 – a very important factor and 5 – the least important factor). The average scores of each hard and soft factor were calculated. The results are presented in Figure 1.

The hypotheses were statistically verified by the following procedure: the average scores of hard factors for each respondent were calculated. The same method was applied for a set of soft factors. To compare the total scores of both types of factors, a paired *t*-test of the average matches was applied. The significance level was 5% on both sides. It is evident from Table 3 that the scores of hard factors are lower, which means that respondents have ascribed greater importance to them. Table 4 points to the fact that the test is significant ($t = -4.607$, $p = 0.000$) with mean effect size $r = 0.439$ (a formula defined in the methodology).

Table 4. Paired samples test

		Paired differences					*t*	*df*	Sig. (2-tailed)
		mean	std. deviation	std. error mean	95% conf. interval of the difference				
					lower	upper			
Pair 1	*hard_factors* *soft_factors*	–0.435	0.895	0.094	–0.622	–0.247	–4.607	89	0.000

conf. interval – confidence interval; *df* – degree of freedom; Sig. (2-tailed) – two-tailed *p*-value; *t* = Student's *T* test

Source: authors' own processing

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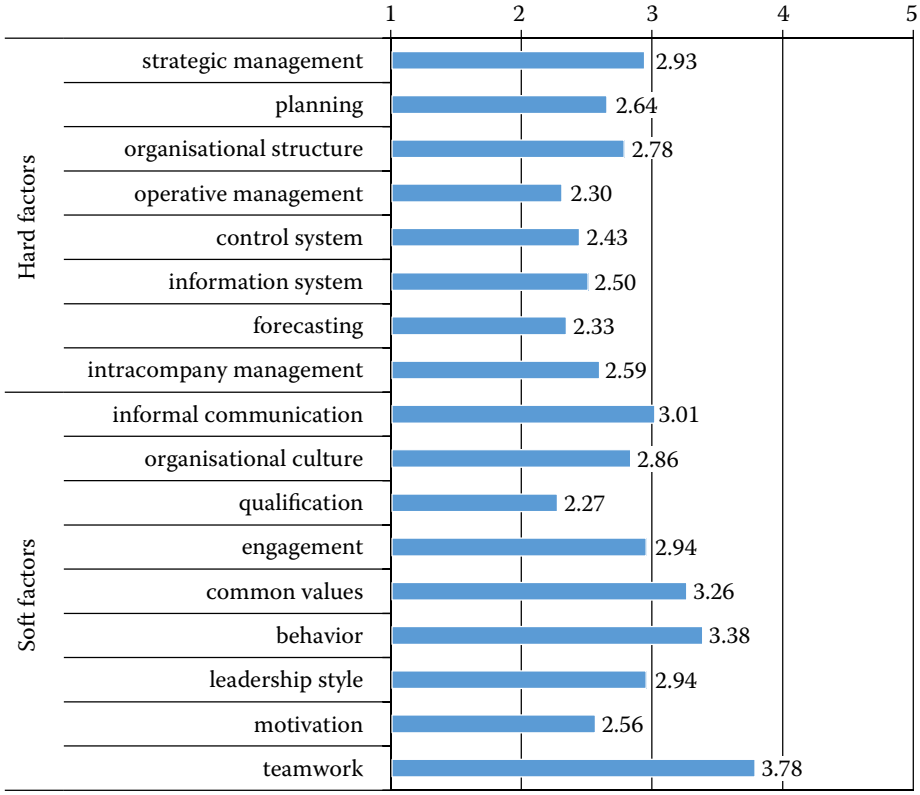

Figure 1. Scores of hard and soft factors of management in the surveyed agribusiness companies (1 – very important factor and 5 – the least important factor)

Source: authors' own processing

The test dismisses the null hypothesis, which means the acceptance of the alternative hypothesis. The importance of hard factors of management is perceived as significant. The dependence of the per-

Table 5. Regression ANOVA table – tests of between-subjects effects (dependent variable – soft factors)

Source	Type III sum of squares	*df*	Mean square	*F*	Sig.
Corrected model	23.450[a]	10	2.345	9.799	0.000
Intercept	58.960	1	58.960	246.362	0.000
Legal_form	0.672	2	0.336	1.405	0.251
Production_ specialisation	0.191	3	0.064	0.2660	0.850
Number_employees	0.121	1	0.121	0.506	0.479
Management	20.699	1	20.699	86.489	0.000
Years_position	0.115	1	0.115	0.481	0.490
Land	0.005	1	0.005	0.019	0.891
Education	0.007	1	0.007	0.030	0.862
Error	18.906	79	0.239	–	–
Total	851.679	90	–	–	–
Corrected total	42.357	89	–	–	–

[a]R^2 = 0.554 (adjusted R^2 = 0.49); *df* – degree of freedom; Sig. – significance level; *F* – *F* test statistic

Source: authors' own processing

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Table 6. Parameter estimates for a significant parameter – management (dependent variable: soft factors)

Parameter	*B*	Std. error	*t*	Sig.	95% confidence interval	
					lower bound	upper bound
Intercept	4.013	0.381	10.523	0.000	3.254	4.772
Management	–0.323	0.035	–9.300	0.000	–0.392	–0.254

B – beta coefficient; *t* – Student's *T* test; Sig. – significance level

Source: authors' own processing

ceived importance of soft factors on age, education, economic outcomes and other identification data of respondents was also examined. The overall scores of the importance of soft factors were regarded as dependent variables. Independent variables included years in position, education, legal form, production specialisation, land, number of employees and management over the examined period. The significance level of all tests was 5%. The results are shown in Table 5.

Table 5 shows that the effect of management is significant (F = 86.489, p = 0.000). Other effects are not significant (p > 0.05). Table 6 gives estimates for a significant parameter, i.e. management (other parameters are insignificant, i.e. zero).

Table 6 indicates that effect works in a negative direction (B = –0.323, t = –9.3, p = 0.000). The selected explanatory variables have revealed the significance of the variable management, i.e. economic results over the monitored period (t = –9.3, p = 0.000). This dependence is negative (B = –0.323), i.e. higher business success is associated with greater emphasis on soft factors (i.e. lower scores).

The realised research also focused on the examination of the influence of importance of soft factors on individual management functions. This paper focuses on the dependence of soft factors on the type of management and tools in human resources management. The overall scores of the perceived importance of soft factors were processed. These scores were regarded as dependent variables. Independent variables included the type of management and human resources management tools. A linear regression of dependent vari-

Table 7. Regression ANOVA table – tests of between-subjects effects (dependent variable: soft factors)

Source	Type III sum of squares	*df*	Mean square	*F*	Sig.
Corrected model	28.236[a]	10	2.824	15.797	0.000
Intercept	281.249	1	281.249	1573.482	0.000
Leadership	13.189	2	6.594	36.893	0.000
Personnel administration	0.887	1	0.887	4.965	0.029
Talent management	0.088	1	0.088	0.495	0.484
Performance remuneration	0.058	1	0.058	0.322	0.572
Flexible working time	0.072	1	0.072	0.400	0.529
Employee benefit management	0.319	1	0.319	1.786	0.185
Employee participation in the creation of organisational values	0.195	1	0.195	1.091	0.299
Human resources department as initiator of change	0.607	1	0.607	3.396	0.069
Human resources department as strategic partner of management	0.006	1	0.006	0.034	0.854
Error	14.121	79	0.179	–	–
Total	851.679	90	–	–	–
Corrected total	42.357	89	–	–	–

[a]R^2 = 0.667 (adjusted R^2 = 0.624); Sig. – significance level; *df* – degree of freedom; *F* – *F* test statistic

Source: authors' own processing

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Table 8. Parameter estimates for significant parameters – type of leadership and human resources administration – parameter estimates (dependent variable: soft factors)

Parameter	*B*	Std. error	*t*	Sig.	95% confidence interval	
					lower bound	upper bound
Intercept	4.008	0.147	27.256	0.000	3.715	4.300
Leadership_flexible	–0.944	0.194	–4.876	0.000	–1.330	–0.559
Leadership_trans	–1.547	0.192	–8.047	0.000	–1.930	–1.164
Leadership_no	0.000	–	–	–	–	–
Human resources administration	–0.267	0.120	–2.228	0.029	–0.505	–0.028

Sig. – significance level; *B* – beta coefficient; *t* – Student's T test; *leadership_no* – leadership number; *leadership_trans* – transformation leadership

Source: authors' own processing

ables on selected independent variables was applied. The significance level of all tests was 5% and less.

It is evident from Table 7 that effect is significant in leadership ($F = 36.893$, $p = 0.000$), as well as in human resources administration ($F = 4.965$, $p = 0.029$). In the factor of human resources department as initiator of change, effect is at the limit of significance, but it does not exceed it ($p = 0.069 > 0.05$). Variables talent management, performance remuneration, flexible working time, employee benefit management and employee participation in the creation of organisational values show statistically no significance ($p > 0.05$). Variable human resources department as initiator of change shows limit value because of $p = 0.69$.

In flexible leadership, as mentioned in Table 8, effect acts in a negative direction ($B = -0.944$, $t = -4.876$, $p = 0.000$). In transformation leadership, effect also acts in a negative direction ($B = -1.547$, $t = -8.047$, $p = 0.000$). The answer no is a starting point to compare the other two types, that is why, it is zero. Even in the case of human resources administration, effect is negative ($B = -0.267$, $t = -2.228$, $p = 0.029$).

The selected explanatory variables have revealed a significant influence of the variable type of leadership. Businesses that apply a flexible and transformation type of leadership strongly emphasise the importance of soft factors. Interestingly, managers with a transformation style of leadership are more influenced than managers with a flexible style of management ($t = -8.047$ or $t = -4.876$). Both influences were statistically significant ($p = 0.000$). Moreover, the importance of human resources administration is statistically often associated with soft factors ($t = -2.228$, $p = 0.029$). Approximately 62.4% variability of the variable (adjusted $R^2 = 0.624$) was explained by the model.

CONCLUSION

Three research questions have been raised to meet the objectives. The first question examines the focus of agribusiness managers on hard or soft factors of management. The conducted test has dismissed the null hypothesis and led to the adoption of an alternative hypothesis, namely that the perceived importance of hard factors is more significant in management. The most important hard tools include operational management, budgeting, control system, and information system. Focus in these businesses is rather short-term, since strategic management tools such as vision, mission, and strategy have been rated as the least important hard factors of management. The most underestimated soft factors involve informal communication, common values, employee behaviour, and teamwork. These factors are very important, and it is obvious that managers consider them as obvious factors for their improvement. On the contrary, qualifications and skills of employees, motivation, organisational culture, employee involvement and leadership style are regarded as important. These are positive features and indicate a shift in the management of agribusiness companies. This sector has become greatly associated with intellectual, emotional and social engagement (Contò et al. 2012). Successful agri-managers use the organisational culture as an inconspicuous but very effective tool that often affects the behaviour and performance of employees more than formal guidelines in an organisation. Changes in corporate culture can be achieved through targeted education and training of all employees and effective remuneration of desirable manifestations and employees' attitudes. Other soft management tools such

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as motivation, employee involvement and leadership style also greatly contribute to these changes.

The interrelatedness between the characteristics of businesses and the perceived importance of soft factors has contributed to the significant influence of economic output, which points to the fact that businesses that have achieved profits in the past 5 years, place a greater emphasis on soft factors in management and they recognise their importance in achieving success.

The second research question is related to whether the use of soft factors in the management of agribusiness companies is linked to their performance. Innovative approaches to soft tools have shown a significant influence of the variable economic outcome, which means that higher corporate success is associated with greater emphasis on innovative soft factors.

The third research question is aimed at identifying which type of management and which innovative human resources management tools are related to soft factors.

Innovativeness has made a significant impact on human resources management, where a significant link has been found between the transformation style of leadership and the importance of soft factors in managers applying this style. No significant innovative tools have been identified as part of the human resources management function. However, the role of a human resources expert, which coincides with the results found in the conducted survey on human resources management in agribusiness companies (Jankelová et al. 2017a), has been greatly emphasised. A significant interrelatedness has been identified between the acceptance of this role and the importance of soft factors. This is explained by the fact that there is a strong focus of human resources units in the surveyed agribusiness companies on building a human resources infrastructure, and the role of human resources management is dominant. This survey has shown a shift towards linking the traditional administrative role with other activities such as informal communication, organisational culture, emphasis on qualifications and skills, employee involvement, shared values, employee behaviour, leadership style, motivation and teamwork.

It should be emphasised that many agribusiness companies have considerable problems with maintaining their own existence, and thus, it is necessary to examine innovative approaches to management. A comprehensive view on agribusiness companies does not only include external reform changes within the Common Agricultural Policy but also internal changes where special emphasis is placed on professional training of managers in agriculture to acquire and develop their managerial skills at all levels of management. Sustainability, efficiency, success or competitiveness of the agribusiness company, as well as the efficiency of employees, are at the centre of attention. These cannot only be stimulated by traditional tools of management.

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