

Education and socially responsible management as an effective communication tool in local self-government

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Abstract

Education, training and knowledge have always been a basic prerequisite for social and economic development. Society - economic crises, shocks in the global economy, environmental problems constantly create greater pressure on public budgets. The limited range of available resources of the public sector, the increasing financial requirements of individual sectors such as health care, social affairs, the environment, internal and external security and, on the other hand, the insufficient ability of institutions and departments to objectively formulate their financial needs require a rational and, above all, qualified approach in meeting financial needs and distribution of limited resources. In the crisis conditions of uncertainty, risk, economic imbalance, education, permanent education, practical experience and the resulting knowledge play a major role in the management of not only a private but also a public sector. In addition to being an effective tool, they are also an important external communication tool. The aim of the scientific state is to point out the importance and influence of education and knowledge in managing and achieving economic, social and social effects.

The research sample consisted of a basic set of 2922 municipalities, which represents 99.83% of the total number of municipalities in the Slovak Republic. This file was divided into 10 size categories, in which 4 categories of achieved education of local government representatives were determined. Correlational regression analysis was used to analyze the influence of the achieved education of local government management and the economic results of the municipality. In the

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analysis of dependency in local self-government, the qualification structures of management, the size of the self-government were taken into account as independent variables, and individual performance parameters as dependent variables, namely the economic result per inhabitant as a key parameter. Chi-square test, Fisher's test, Spearman's coefficient were also used in the work.

The research results refuted the published knowledge presented in foreign as well as domestic studies, which confirm the positive impact of education on economies. This relationship was not confirmed in the 2922 examined municipalities of the Slovak Republic.

The output of the scientific report was to summarize the mutual influences of the pillars of social responsibility, where qualification prerequisites and required competences could contribute or influence the efficiency and responsible management of self-government. Many countries are faced with solving the question of what can and cannot be financed from public budgets and how to effectively use available public resources within individual levels and departments of the public sector.

Key words

education, local government, social responsibility, communication tool, Slovak Republic.

Introduction

Many countries are faced with solving the question of what can and cannot be financed from public budgets and how to effectively use available public resources within individual levels and departments of the public sector. Even in the case of local self-government, the financial needs incomparably exceed the total amount of funds that can be allocated annually from the municipal budget to ensure the performance of the transferred and original competences entrusted to them in accordance with the law. In order to ensure the qualitative development of local self-government and the environment in which its residents live, work and do business, it is necessary to create a financing system that supports the objective redistribution

and use of public funds. When deciding on their amount and method of allocation, it is necessary to take into account support for the fulfilment of individual and socio-economic goals, local government budget possibilities, social responsibility, principles of economic rationality based on relevant education, practical experience and knowledge of local government leaders.

1. Literature review

The positive effects of education and qualifications on human resources were discussed by many authors such as Mihályi G. (2019), who analyzed the relationships between knowledge, competences and self-government management, Romer

P.M. (1989) in his work “Economic growth and human development”, Odit, M. P., Dookhan, K., & Fauzel, S. (2010) in his work “The impact of education on economic growth: the case of Mauritius”, or Ndiyo, N. A. (2007) “A dynamic analysis of education and economic growth in Nigeria”. Other authors who investigated the positive effects of education and knowledge in relation to the achievement of economic effects were Lee C. G. (2010), Krueger, A., & Lindahl, M. (2001), Knowles, S., Lorgelly, P. K., & Owen, P.D. (2002), Keller, K.R.I. (2006), Kalaitzidakis, P., Mamuneas, T.P., Savvides, A., & Stengos, T. (2001) or Johnson, R.W. (1996). Temple J. (1999) investigated the positive impact of human capital on economic growth. The specific area of the impact of education on selected underdeveloped as well as developed regions was dealt with by the authors Siddiqui A. (2006), who examined the impact of education and the return on investment in education at the macroeconomic level in South Asia. ZENG J. (1997) also carried out similarly focused research, when he focused on the mutual effect of human and physical capital in relation to overall economic growth. Regional aspects of the influence of education, dual education (Papcunová, V. et al., 2022) and economic growth were also investigated by Ramos, R., Surinach, J., Artís, M. (2009) using the example of Catalonia and the mentioned authors Odit, M. P., Dookhan, K., & Fauzel, S. (2010), who investigated these relationships using the example of Mairícia.

1.1. Education, knowledge and human resources in local government

Authors who perceive education, knowledge and competence as the primary tool for solving regional problems of economic and social backwardness were Musila, J.W., & Belassi, W. (2004) with an analysis of the impact of education and its expenditure on economic growth in Uganda, as

well as Ndiyo, N.A. (2007) which focused on the dynamic analysis of education and economic growth in Nigeria, Gyimah-Brempong, K., Paddison, O., & Mitiku, W. (2006) examining the effects of higher education on economic growth in Africa. The effects of education on economic development in developed countries and regions were investigated by Kavanagh, C- Doyle, E. (2006) in the context of Ireland, Keller, K. R. I. (2006) the impact of education in the Asian area, or Knowles, S., Lorgelly, P. K., & Owen, P. D. (2002) in the developed countries of America, Europe and Asia. During the COVID-19 crisis, many countries experienced a large-scale drop in GDP, when the productivity of goods and services decreased, which was associated with a subsequent increase in unemployment. Within the issue of education and human capital, several authors focus their attention on examining financial aid for the educated as one of the pillars of educational policy. Given its scope, they seek to quantify the effects of policies designed to promote education and seek to understand the way in which they interact with private funding of education. (see e.g. Abbott et al. 2019). Several studies confirm that increasing the educational level of the population has a positive effect on GDP. (Marquez-Ramos & Mourelle, 2019, Lucas, 2015). The level of economic growth of a country varies depending on the development of its human capital, and thus also on the level of education achieved. Education has long been considered an important determinant of economic well-being. The theoretical literature on economic growth emphasizes at least three mechanisms through which education can affect economic growth. First, education can increase the human capital embodied in the labor force, which increases labor productivity and thus transitory growth toward a higher equilibrium level of output. Second, education can increase the innovation capacity

of the economy and new knowledge about new technologies, products and processes promotes growth (as in endogenous growth theories, see e.g. Lucas (1988), Romer (1990), Aghion and Howitt (1998)). Third, education can facilitate the dissemination and transfer of knowledge needed to understand, process new information and successfully implement new technologies developed by others, which in turn will stimulate economic growth (eg Nelson and Phelps, 1966; Benhabib and Spiegel, 1994). Empirical evidence on the impact of education on economic growth has long been highly controversial. Research over the last decade shows that ignoring differences in educational quality significantly distorts the picture of how educational and economic outcomes are related (Hanushek et al., 2007). In the framework of human capital research, several studies have also been carried out in recent years examining the role of investment in education, human capital as a channel through which specific human capital in the corporate sphere drives endogenous growth. The mentioned connections were tested e.g. as part of a survey conducted between 2002 and 2010 on a population sample in 63 countries (Ehrlich, et al., 2017). Other conducted studies focus on the response of income and the risk of poverty to increased investments in human capital in relation to demographic factors. The results suggest that investing in people is more cost-effective than investing in physical capital as a means of achieving stated income or poverty goals (Collin & Weil, 2020). The empirical research carried out thus partially confirms one of the hypotheses of the human capital theory, regarding the mutual link between higher education and income growth. (more in Heckman, James J., John Eric Humphries, A Gregory Veramendi, 2018). Responsible management includes the competencies and knowledge of management, which monitors, creates and

influences financial indicators and thus the fiscal health of the municipality. It is necessary to adapt knowledge, education and competences to the factor of time or to the time period - historical, current, developing, i.e. future (Ramsey, 2013). The environment of the public sector is influenced by factors that are absent in the private sector, namely civil control, public opinion, public interest and others. It is decision-making with the participation of the public in the so-called local self-governments. public choice connects two markets, the political and economic market, i.e. public and private (Potůček et al., 2005).

1.2. Education and social responsibility in local government

The local government, which works on its own social responsibility, tries to improve its own reputation and image towards all citizens as a whole, to improve its own ability to attract and retain educated employees, to maintain the motivation and commitment of its employees, to improve its own relations with companies, other public administration organizations, the media, suppliers, citizens/customers and the company in which it operates. Greater efficiency, accountability and transparency is just as important as in the private sector (Jaďudová & Repa, 2011). Public administration bodies influence three pillars with their activities - economic, social and environmental. Systematic application of the concept of social responsibility in local government strengthens its image, acts as an important means of communication, increases transparency and contributes to residents' interest in the management of public affairs. The advantage of applying the concept is also strengthening the responsibility of public administration bodies towards their residents (Pavlík & Bělčík, 2010). Socially and environmentally responsible organizations are often considered prestigious (Glavas and

Godwin 2013; Jones et al. 2014) and as such, external stakeholders distinguish them from non-socially and environmentally irresponsible companies (Brammer et al., 2014). In this context, self-government, which is perceived as different, provides employees with a sense of their own uniqueness, because working for a prestigious, different organization whose values are similar to their own promotes feelings of pride (Kim et al., 2010), increases employees' self-confidence (Brammer et al., 2014) and their self-esteem (Jones et al., 2014). The economic benefits in interaction with employees are primarily based on increased employee loyalty, which is linked to the possibility of attracting and retaining not only high-quality, but also top-notch employees, and the fact that employees whose needs are met within the organization are more likely to perceive their employer as a suitable place for self-realization (Kara et al., 2013). The competitive advantage itself as an economic benefit from the application of social responsibility can take the form of the social capital of the organization and the good reputation that the organization will acquire, the improvement of the good name in the local community, but also the mitigation of legal measures, e.g. direct financial savings associated with ecological (Zelený, 2010) and social practices.

2. Methodology

The main goal of the scientific state is, based on the analysis of theoretical approaches and socially responsible behaviour, primary research and secondary research, to identify the effects of education and on the results of local self-government management, as an element of

the economic and social pillar of socially responsible behaviour, as well as the real impact of education on selected indicators of economic performance self-government - an element of the economic pillar of social responsibility. The output of the scientific state is to summarize the mutual influences of the pillars of social competence, where qualification prerequisites and required competences would contribute or they affected the efficiency and responsible management of self-government. The results of the analysis of the scientific state must be subjected to a deeper confrontation of the results, as it is not entirely clear whether the achieved formal education or practical experience are the ones that bring economic benefits to the local government. However, we assume that from the point of view of management itself, if he has a higher education, he also has less practical experience equal to the number of years of study. With a higher education, however, a higher inclination towards social responsibility can be assumed, which represents an effort to constantly improve, to acquire new knowledge that can be applied in better management. The subject of the research of the scientific state is the education (theoretical as well as the practical component) of the statute holder and its influence on the basic economic indicator, namely the result of the economy per inhabitant. The subject was also the investigation of the influence of education, as an element of the social pillar of social responsibility, on another, economic pillar of social responsibility - efficient and responsible management. The research sample consisted of an almost basic set of 2922 (after statistical cleaning of the values). The structure of the investigated subjects was as follows.

Table 1. Size structure of the village in the basic set

Size group	number of municipalities
-199	388
200 - 499	741
500 - 999	768
1000 - 1999	580
2000 - 4999	290
5000 - 9999	65
10000 - 19999	36
20000 - 49999	43
50000 - 99999	9
100000 +	2

Source: own elaboration

From the point of view of the representation of individual levels of education, the most numerous groups of mayors and mayors were with secondary education (mainly

in the smallest municipalities) and university education II. degree in municipalities in the size group up to 2000 to 99999 inhabitants.

Table 2. Educational structure of mayors by size of municipalities

Size group	indicator	primary/ secondary	I. degree of higher education	II. degree of higher education	III. degree of higher education	together
- 199	count	286	15	80	7	388
	% in the group	73,7	3,9	20,6	1,8	100
200 - 499	count	501	14	217	9	741
	% in the group	67,6	1,9	29,3	1,2	100
500 - 999	count	428	19	302	19	768
	% in the group	55,7	2,5	39,3	2,5	100
1000 - 1999	count	237	14	289	40	580
	% in the group	40,9	2,4	49,8	6,9	100
2000 - 4999	count	96	9	163	22	290
	% in the group	33	3,1	56	7,6	99,7
5000 - 9999	count	16	1	42	6	68
	% in the group	24,6	1,5	64,6	9,2	100
10000 - 19999	count	5	0	23	8	36
	% in the group	13,9	0	63,9	22,2	100
20000 - 49999	count	9	0	24	10	43
	% in the group	20,9	0	55,8	23,3	100
50000 - 99999	count	3	0	5	1	9
	% in the group	33,3	0	55,6	11,1	100
100000+	count	2	0	0	0	2
	% in the group	100	0	0	0	100

Source: own elaboration

We used correlation and regression analysis to analyze the influence of the achieved level of education and the economic result of the municipality. Since the analysis will be applied to the entire basic set, we assume that the results will be sufficiently valid. Correlation analysis is applied in this case to assess the intensity (tightness) of free (statistical) dependence between performance

indicators - the result of management and education. We used regression functions to evaluate the intensity between these variables (correlation analysis was used to reveal mutual relationships between the mentioned parameters). The basis for determining this dependence in local governments was the Chi-square test (c2-test) on independence. If the conditions for using the Chi-square

test are not met, we will use Fisher's test (also referred to as Fisher's exact test in the PASW program) to test the dependence of two variables. The investigated dependence between the variables (e.g. the achieved education of local government management and local government management) takes on values from 0 (no relationship) to 1 (perfect relationship). When interpreting the contingency coefficient in our research, we used the scale introduced by Cohen (1988) for the correlation coefficient. A correlation of less than 0.1 is trivial; 0.1–0.3 small; 0.3–0.5 is medium and above 0.5 is large. Using the Spearman coefficient method, we determined the degree of dependence between

the selected indicators and qualification. We defined Spearman's correlation coefficient as a sample correlation coefficient calculated from pairs. Using the ordinal regression method, we defined the factors that have the strongest influence on the performance of local self-government. It is assumed that the trend $f(t)$ depends (linearly or non-linearly) on the unknown parameters $\beta_0, \beta_1, \dots, \beta_k$ and the known functions $\varphi_0(t), \varphi_1(t), \dots, \varphi_k(t)$, which no longer contain any unknown parameters, i.e. $f(t) = g(\beta_0, \beta_1, \dots, \beta_k; \varphi_0(t), \varphi_1(t), \dots, \varphi_k(t))$. We present the relations for regression and correlation analysis in the following form: for y dependent on x , the relation applies:

$$a = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sum (x - \bar{x})^2} \quad (1)$$

Construction method of scientific observation for y dependent on x constant b is in the form:

$$b = \bar{y} - a\bar{x} \quad (2)$$

For x dependent on y , the relation applies:

$$a = \frac{\sum (y - \bar{y})(x - \bar{x})}{\sum (y - \bar{y})^2}, \quad b = \bar{x} - a\bar{y} \quad (3)$$

Construction method of scientific observation for x dependent on y .

In the analysis of dependency in local self-government, the qualification structures of management, the size of the self-government were taken into account as independent variables, and as dependent variables individual performance parameters, namely the economic result per inhabitant as a key parameter. Based on domestic and foreign research, we assumed that education will have a positive effect on the positive result of the economy calculated per capita. The obtained results are presented in the results and discussion section.

3. Research results and discussion

The performed analysis was based on the basic set, thus providing a sufficiently relevant view of the investigated contexts. The following text of the scientific statement presents the summary results from partial regional analysis according to individual indicators. In the introductory part, we analysed the confirmation of the assumption that with the increasing size of the group of municipalities, the achieved level of education of the elected chief representative also increased. This assumption was only partially confirmed. In selected NUTS 3, a moderately strong direct linear dependence

was proven. Such regions included NUTS 3 Trnava, Trenčín, Žilina, Banská Bystrica and Prešov. This assumption was not confirmed in Bratislava, Nitra and Košice.

Table 3. Spearman's coefficient of educational attainment and village size

NUTS 3 Bratislava	Correlation Coefficient	1,000	0,109
	Sig. (2-tailed)		0,309
	N	90	89
NUTS 3 Trnava	Correlation Coefficient	1,000	,361**
	Sig. (2-tailed)		0,000
	N	276	276
NUTS 3 Trenčín	Correlation Coefficient	1,000	,335**
	Sig. (2-tailed)		0,000
	N	251	251
NUTS 3 Nitra	Correlation Coefficient	1,000	,244**
	Sig. (2-tailed)		0,000
	N	354	353
NUTS 3 Žilina	Correlation Coefficient	1,000	,366**
	Sig. (2-tailed)		0,000
	N	315	315
NUTS 3 B. Bystrica	Correlation Coefficient	1,000	,323**
	Sig. (2-tailed)		0,000
	N	515	514
NUTS 3 Prešov	Correlation Coefficient	1,000	,304**
	Sig. (2-tailed)		0,000
	N	665	663
NUTS 3 Košice	Correlation Coefficient	1,000	,237**
	Sig. (2-tailed)		0,000
	N	461	461

Source: own elaboration

The results of the correlation analysis were different in the case of examining this influence according to individual size groups in individual regions. The greatest impact of education and management was proven in the case of municipalities with a size from 10,000

to 19,999 in NUTS 3 Nitra, i.e. 0.962. The strongest relationship presenting an indirect linear dependence was achieved in municipalities from 10,000 to 19,999 inhabitants in NUTS 3 Bratislava (- 0.951) and from 5,000 to 9,999 in NUTS 3 Trenčín - 0.940.

Table 4. Analysis of the dependence of economic results according to the size of income and NUTS regions

NUTS 3 / size group	do 199	200 – 499	500 – 999	1000 – 1999	2000 – 4999	5000 – 9999	10000 – 19999	20000 – 49999
NUTS 3 Banská Bystrica	-0,057	0,061	0,002	-0,103	-0,029	-0,092	0,260	-0,580
NUTS 3 Bratislava			0,067	-0,135	0,238	-0,012	-0,951	-0,459
NUTS 3 Košice	-0,109	0,124	-0,083	0,052	0,089	-0,137		0,137
NUTS 3 Nitra	0,403	-0,018	-0,099	-0,079	0,132	-0,704	0,962	-0,923
NUTS 3 Prešov	-0,035	0,072	-0,029	-0,092	-0,217	-0,291	0,570	0,681
NUTS 3 Trenčín	-0,067	0,051	0,053	0,315	-0,120	-0,940	0,280	0,581
NUTS 3 Trnava		-0,127	0,183	0,172	-0,125	0,559	-0,089	-0,791
NUTS 3 Žilina	-0,099	0,005	0,095	-0,027	0,176	-0,020		-0,114

Source: own elaboration

The results are in contrast to the primary assumption of a positive correlation between education and economics. In this case, with a higher level of education, worse results in management were achieved. On the contrary, direct linear dependencies

prevailed in the largest municipalities (from 20000 to 49999) in NUTS 3 Prešov and Trenčín (0.581). With increasing education, the positive value of the economic result per inhabitant increased.

Table 5. Economic result per capita by level of education and NUTS regions

Economic result per inhabitant	NUTS 3 B. Bystrica	NUTS 3 Bratislava	NUTS 3 Košice	NUTS 3 Nitra	NUTS 3 Prešov	NUTS 3 Trenčín	NUTS 3 Trnava	NUTS 3 Žilina
Primary/secondary	46,8	54,1	25,2	39,2	53,5	32,0	24,0	67,9
I. degree of higher education	-5,2	18,9	30,0	47,8	19,4	-5,0	31,8	45,7
II. degree of higher education	26,6	27,6	24,8	23,6	15,4	44,3	48,4	58,7
III. degree of higher education	21,1	63,8	63,2	32,0	41,6	109,4	25,8	33,0

Source: own elaboration

The previous table shows the average values of economic results per inhabitant according to individual NUTS 3. The average values vary considerably. On the basis

of the analysis carried out, it is not possible to clearly prove the general positive influence of education on the overall management of local governments.

Conclusions

Public sector organizations do not apply the principles of social responsibility consciously and purposefully, but they still behave responsibly. All public sector organizations manage funds from public budgets and performance is subject to public control. Decision-making on management takes place by public election. For this reason, public sector organizations are obliged to behave economically, socially and environmentally responsibly towards all interested parties. In recent years, socially responsible behaviour has become an increasingly discussed topic, an important communication tool, and the number of organizations applying the principles of socially responsible behaviour is growing. These activities must correspond with the performance of the local self-government. The scientific study focused on the investigation of the relationship between education, as a basic element and factor affecting the tendency to act responsibly in local self-government and the achieved economic result in local self-government. As part of the research, the management results of all municipalities in the Slovak Republic were analysed. Although many foreign and domestic studies unequivocally confirm the positive influence of education and management, in the case of economic growth from a macroeconomic point of view, in our case this relationship was not confirmed in all cases. From the point of view of social responsibility, emphasizing education is key, but in this case, the synergy of formally acquired knowledge and practical experience must be used. By combining the above variables, each representative of the local self-government acquires a knowledge base that enables responsible and effective management with the provision of sustainable growth.

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