
Attributes of Local Government Managers – What Matters in Local Entrepreneurship Context?

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Abstract:

Purpose: The objective of this paper is to explore how education and professional experience of local government (LG) managers corresponds with entrepreneurship development and local development processes in local administration units (LAU).

Approach/Methodology/Design: In research, that is representative for Poland, authors surveyed 477 LG managers (enabling to achieve 3,9% error rate with 95% level of confidence) and correlated the data on their education and experience with respected local entrepreneurship metrics to conclude on correspondence of investigated phenomena.

Findings: While endogenous local development theories indicate LGs and their attributes as intervening variable in entrepreneurship stimulation and local development process, local entrepreneurship metrics need to be taken into account to indicate their relevance for entrepreneurship environment and entrepreneurial ecosystems at local level.

Practical Implications: Education level of local government managers might be perceived as a mediating variable between quasi-independent local resource endowment and dependent entrepreneurial activity in local administrative units.

Originality/Value: Presented results extend perspective on local entrepreneurship ecosystem by outlining the role of trainings and continued education of local government managers in business activity creation.

Keywords: Local government, local development, entrepreneurship, public sector management, local government managers.

JEL classification: L26, P25, R11, H83.

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1. Introduction

The increasing importance of entrepreneurship stimulation in local policies drew the attention of researchers to the significance of attributes of local government (LG) managers in Poland. In order to create a supportive entrepreneurship environment, increasing the level of socio-economic development and the comparative attractiveness of the local administration unit (LAU), local governments undertake different initiatives and actions influencing entrepreneurial activities in their spatial area. LGs can perform themselves entrepreneurially by creating or leveraging bundles of capabilities, which may then shape subsequent entrepreneurial actions (Klein, Mahoney, McGahan, and Pitelis, 2013).

In this process, local government managers play a crucial role, including planning and the implementation of initiatives. Local government managers, often also perceived as local community leaders, set the course of actions for other LG managers and LG administration support staff (Mitchell, 2018). Moreover, LG managers play a key role in crisis situations by developing the necessary policies and specific procedures for an effective response in community emergencies (Henstra, 2010). Furthermore, scholars address the role LGs' pro-innovation attitude in enhancing innovation adoption, and their positive influence on organisational innovation by creating a favourable climate toward innovation (Kim and Yoon, 2015). Demircioglu and Chowdhury (2020), while discussing the effects of leadership behaviour on entrepreneurship in the public sector, noticed that despite increasing research on entrepreneurship in the private sector, still little is known about entrepreneurship in public organisations. Based on their distinctive role, it is important to find an answer to the question if attributes like education and professional experience of local government managers matter in local entrepreneurship context.

Pugh, Sorento, Jack, and Hamilton (2019) argue that entrepreneurship development requires placement of learning in the center of growing entrepreneurial ecosystems and entrepreneurial environment for companies within. In their research on the role of entrepreneurship in development of regions, Auserwald and Dani propose tools for management of a region as an entrepreneurial ecosystem, with interconnected roles of stakeholders and policymakers managing the ecosystem from ecologist's perspective (Auserwald and Dani, 2017). Entrepreneurial ecosystems are also investigated from the perspective of actors and resources critical in triggering emergence or re-emergence stage of such ecosystems (Cantner, Cunningham, Lehmann, and Menter, 2020), and from that standpoint our research brings new outlook on the role of local government managers' on educational and professional experience.

Stam and van de Ven (2019) propose a framework for researching entrepreneurial ecosystems, measuring their elements and comparing them on entrepreneurial ecosystem index. It includes human capital, measured with education level variable,

which is investigated in our research. In that context our paper fits into broader context and provides additional applicable insights for human capital management in local entrepreneurial ecosystems.

The aim of the article is to consider the educational and professional traits of LG managers to establish the relationships between attributes of LG managers and local entrepreneurship ecosystem development. To achieve the aim of the research, the paper is organized into two major parts. The first part of the paper, which enabled to formulate research hypotheses, is based on the literature review on the entrepreneurship at local level, the role of local government in development of entrepreneurship, and educational and professional attributes of LG managers.

The second part presents the materials, methods and analysis procedure performed on data collected. Authors have applied stepwise regression procedure. At each step of analysis, the independent variable, not yet in the equation, with the lowest probability corresponding to F value in regression, was added to the model, if the probability was sufficiently small in order to select the best predicting variables. The paper concludes with ultimate results of hypotheses verification, investigation limitations and further research recommendations.

2. Theoretical Background

2.1 Local Government Managers their Duties and Role in Administering Local Territorial Units

Since the 1990s, public administration has undergone changes, in connection with the altered socio-economic context of modern post-industrial societies. Organisational and managerial structure deriving from bureaucratic and hierarchy-oriented models did not reflect the necessary capacity to deal with the new needs of citizens and other local development stakeholders. It had to be changed. That context has triggered processes of modernisation of public administration management and related discourses. The most significant change relates to the incorporation of managerial perspectives and deployment of organisational perspective, professional methods, and tools of work (Marino, 2011).

The literature of the subject does not provide an unequivocal understanding of a public sector organisation manager, due to different public sector organisation models worldwide and diversified level of implementation for public sector management. European Group of Public Administration defines public sector organisation manager as a person that is professionally responsible for the execution of a programme, product, or service, directly or indirectly reports to a public institution, and is autonomous in the decision-making process in financial, organisational and human resources aspects (Barlow, Farnham, Horton, and Rodley, 1996). A broader definition of a public sector organisation manager defines them as managers at different organisational levels whose basic responsibilities include

effective management of organisations and delivery of high quality public services (Kozuch, 2004). Taking into account the above distinctions, we include in public sector organisation local government (LG) managers, whose responsibility relates to the execution of local government obligations oriented on the satisfaction of needs for a local community.

Our particular attention is dedicated to LG managers actively involved in the supply of the civil services that ensure participation of citizens in the society, which, in parallel to the elaboration of primary law, is indicated as a key activity of public administration at a local level (Pommer and Houweligen, 2016). In our article, we investigate local regions – Local Administrative Units (LAU) level 2 (formerly know as the NUTS level 5 for the European Union statistical reporting) which, in Poland, are represented by vogts, mayors or presidents depending on the LAU size and other local government managers such as heads of departments, heads of sections executing duties of LAU office.

According to the Polish Act of 8 March 1990 on Local Self-Government (Journal of Laws of 2020, item 713, as amended) LGs perform diversified tasks related to matters of local importance, not reserved by statute for other entities including spatial planning and publicly owned real estate management, provision of media, local mass transportation, healthcare and social assistance, communal housing and public education, nurturing activity of a civil society, local, regional and international cooperation and also promotion of LAU. In parallel to the execution of duties resulting from the law, LGs and their managers are increasing their dedication in supporting entrepreneurship and local development (Olsson, Westlund, and Larsson, 2015). Contemporary phenomena investigated in relation to the role of LG managers in local development are education and professionalisation of competences of LG managers, as well as a conscious facilitative role in local community building (Nalabadian, 1999; Lazenby 2010).

LGs have instruments to stimulate entrepreneurship by regulations and laws at a local level, organisational and institutional solutions, which might impact the location of existing enterprises in the area of LAU as well as the creation of new enterprises (Benites-Lazaro and Mello-Théry, 2019). The instruments at hand for LG managers and their purposeful usage result in the phenomenon of a perceived climate for developing entrepreneurially in a given location (Wołowiec and Skica, 2013; Godlewska and Pilewicz, 2020). According to Wołowiec and Skica (2013), the most important activities of LG managers in the local development process refer to local development planning (both strategic and operational), improvement of local infrastructure (social and technical), local development coordination, utilisation of local resources, local development-related spatial planning, local marketing activities (including the promotion of tax exemptions or other privileges in local taxes and fees), creation and execution of direct investments, organisation of guarantee funds or loan funds for local development and cooperation with local development actors (Wołowiec and Skica, 2013).

We conclude that LGs are perceived as a critical agent for trust, collaboration, and entrepreneurial attitudes at LAU, oriented on managing change and supporting the continued development of LAU.

2.2 Entrepreneurship Development in Local Administration Unit – Importance and Key Metrics

Local development theories discussed in 20th and 21st century have been exploiting aspects related to the role of endogenous resources which are endowed at LAU level, including location, natural resources, and also small and medium enterprises active in LAU (Ajobiewe, 2020). These theories are often explored from the perspective of generations or waves, where the first generation is attributed to a key role in the local development of phenomena such as industrial districts, clusters, and new spaces. In contrast, the second generation focuses on regional innovation systems, learning regions, and the third and most recent one, includes smart specialisation of locations and their local or regional resilience (Ajobiewe, 2020).

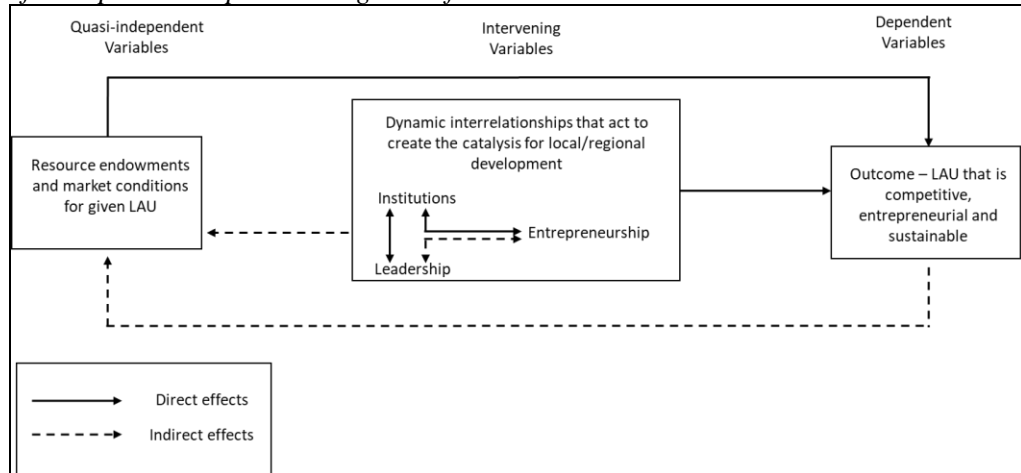
Endogenous development paradigm which outlines the role of bottom-up initiatives at the LAU level have been significantly contributed to by Stimson and Stough (2004). They proposed a framework incorporating entrepreneurship and institutional factors (including LG managers) as intervening variables hypothesised to stimulate local growth and development processes (Stimson and Stough, 2004; 2008). Recently, the role of technology increases in local government practices and entrepreneurship as a catalyst for creation of new industrial regions and regeneration of existing ones (Rees, 2001).

The manager's leadership behaviour, which affects public sector entrepreneurship, can be type-oriented, task-oriented, relations-oriented, and/or change-oriented (Demircioglu and Chowdhury, 2020). Characteristics of LG managers oriented on stimulation of entrepreneurship at a local level were indicated by Jessop, and include finding new sources for the enhancement of competitive advantage of LAU by attracting inward investments, reskilling the workforce, and encouraging community to undertake entrepreneurial initiatives at a local level (Jessop, 1998).

Ahmad and Seymour (2008) argue that entrepreneurial activities of local governments are expressed as enterprising human activities oriented on the pursuit of value generation, through the creation of new or the expansion of existing economic activity, identification and exploitation of products, processes, markets, and actions of economic, political, legal, social, cultural, and natural environment setting nature (Ahmad and Seymour, 2008). Stimulation of entrepreneurship at the local level might be triggered by LG managers who decide on local taxes, local tax exemptions and other incentives for setting up a new business activity. Flieger indicates financial and non-financial instruments available for LG managers who are oriented on entrepreneurship stimulation, such as offering local subsidies for a particular type of activities, building spaces with a wide range of services for

entrepreneurs (parks, incubators, accelerators), providing information and semi-advisory services for attracting external funding by local entrepreneurs (Flieger, 2013).

Figure 1. Framework model for the local development model emphasising the role of entrepreneurship and endogenous factors



Source: Adapted from Stimson and Stough, 2004, 2008.

Conventional entrepreneurship, includes idea recognition, organisation, and resource configuration. The creation of resource configurations within a local community contributes to increasing value-creation in the community, that originates not only from merged human resources, but also natural resources, history, local traditions, and culture (Borch, Forde, Ronning, Vestrum, and Alos, 2008; Stimson and Stough, 2004; 2008). Measuring entrepreneurship at a LAU level is complex and challenging, as not all entrepreneurial activities at a local community level (especially emerging ones) have a formal and legally traceable character (Giones and Fox, 2019). In our research, for the measurement of entrepreneurship development at a LAU level, we use one of the enterprise markers proposed by Katz and Gartner (1988), which is new enterprise registration or enterprises registered activity indicated in a respected business record (Katz and Gartner, 1988).

2.3 Role of Education and Professional Experience of LG Managers in the Local Entrepreneurship Context

Education positively affects organisational commitment, and individuals who have received an appropriate education, which prepares them for their duties, are more committed to the organisation and less likely to leave it. Also, they remain motivated to prove themselves by being able to work better (Risakotta and Akbar, 2018). Education and competences of LG managers are thoroughly researched in the USA, where this profession has been regulated, and is nurtured by respected education programmes and professional associations such as Master in Public Management

(MPA) programmes, International City/County Management Association (ICMA) founded in 1914, or the American Society for Public Administration (ASPA) founded in 1939. That research actively promotes good practices through professional training programmes, conferences and promotion of research published in *Public Administration Review* (Gabris, Davis, and Nelson, 2010; Nelson and Svava, 2014).

Based on research of city managers in the USA over the last 100 years, their educational profile had changed significantly in terms of their high school education as the highest education level (which dropped from 42% in 1935 to 1% in 2012), and degree in MPA (which raised from non-existing in 1935 to 43% in 2012) (Nelson and Svava, 2014). The USA professionalised practices of public sector managers, through the institutionalisation of continued learning programmes and identification of over 100 individual competencies important to effective management at a LG level, that were subsequently embedded in LG managers' education programmes (Lezenby, 2010). Competences outlined as particularly important for LG managers are budgeting and financial management, staff supervision, internal management, as well as ethics and integrity, interpersonal communication skills, teamwork, human relations, group processes, and community building (Lezenby, 2010).

According to Kets de Vries (2008), key competences for managers, which impact their efficiency, include personal competences (motivation, self-confidence, and individual effectiveness), social competences (empathy, persuasion, and impact on the others) and cognitive competences (conceptual thinking, reflection ability). Good governance phenomenon from a public administration perspective requires competent LG managers in place. It is defined through LG responsiveness, effectiveness, and the quality of service delivered (Pommer and Houwelingen, 2016). Researchers who investigated professional trainings of LG managers indicated that this form of education results in generation of intelligence and insights, which can be further disseminated among local development stakeholders (Kowalik, 2011).

The experience of developed economies, such as the USA and Western Europe, in the professionalisation of a LG manager's role is a valid reference in our research of LG managers of LAUs in Poland, a country transiting from developing to a developed economy with private sector enterprises, including small and medium ones, reintroduced in 1990. The Polish Regulation from the Council of Ministers as of 17 May 2018 on the remuneration of local government employees (*Journal of Laws of 2020, item 936, as amended*) defines the minimum education level and professional experience for deputies of vogds, mayors and presidents (but not for vogts, mayors and presidents themselves) and the minimum level of education for heads of departments and heads of sections executing duties of a LAU office. This can be perceived as progress toward professionalisation of public sector administration at the LG level, as the previous version of the mentioned regulation binding for almost a decade has not been defining these minimum education level

standards for candidates for LG managers (Polish Regulation from the Council of Ministers as of 18 March 2019 on the remuneration of local government employees, Journal of Laws of 2009, item 398, annulled).

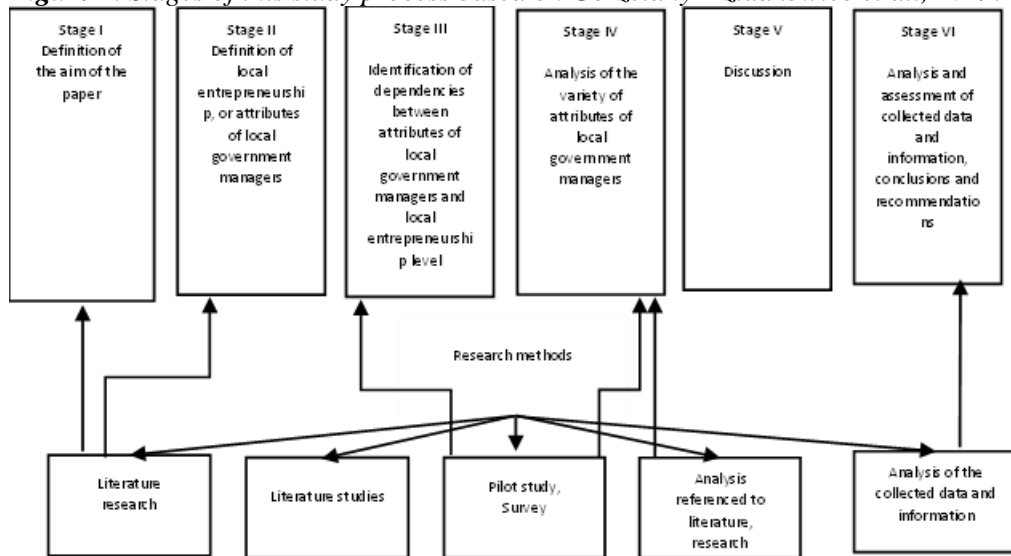
Recent literature on capabilities of public sector managers emphasizes the role of network-based models of public organization services delivery. Such model is enabled by networking of public sector managers with multiple, diverse groups of actors and stakeholders in order to enhance responsiveness to their needs. Proactive engagements, oriented on cultivation of collaborative relationships with diverse range of stakeholders, take place during public services delivery, meetings, and trainings (Andrews and Beyon, 2017). Participation in meetings with local development stakeholders can also have virtual format. Scholars emphasize growing role of digital platforms in interactions between public sector managers and local development stakeholders (Kowalik, 2021).

As the literature of the subject does not indicate how the education, professional experience and activities ensuing from those impact on entrepreneurship at the LAU level, the authors decided to have it examined. One of the key assumptions in our research is that economic activity at the LAU level measured by Statistics Poland (former Central Statistical Office in Poland) through a number of active entrepreneurs of a given LAU, corresponds with attributes of LG managers. As the attributes of LG managers might correspond with the stimulation of entrepreneurship at a LAU level, and therefore impact local development processes, we decided to investigate these phenomena through following hypothesis, verified through research elaborated on in the next section of our paper.

H1: The higher the attributes of local government managers (understood as level of education, professional business experience, own business experience, participation in meetings with entrepreneurs, conferences or trainings) the higher local entrepreneurship level (understood as the number of active entrepreneurs on LG territory in total).

3. Methodology and Methods

The theory of local development highlights the critical importance of the attributes of LG managers (Mitchell, 2018). In this paper, authors draw upon theories of local development, geography of entrepreneurship, public entrepreneurship or entrepreneurial ecosystem concept. Moreover, Henstra (2010), Olsson *et al.* (2015) and Mitchell (2018) highlight the critical importance of the attributes of LG managers to studying entrepreneurship at the local level. For this reason, in response to calls for research on public entrepreneurship (Klein *et al.*, 2013), especially on the interaction between attributes of LG managers and local entrepreneurship (Godlewska and Pilewicz, 2020; Demircioglu and Chowdhury, 2020) and to better understand the state of play or investigate research gaps, the authors chose a six-stage approach (Figure 2).

Figure 2. Stages of this study process based on Gorzelany-Dziadkowiec et al., 2019.

Source: Own elaboration.

Despite the widely held belief that attributes of LG managers matter when it comes to local entrepreneurship development, there were no studies that provided evidence of how the role of LG managers matters, and which attributes of managers determine the development of local entrepreneurship.

The analytical framework of the paper is based on Pope and Webster (1972), Thompson (1995), Agostinelli (2002), and Ing and Lai (2011) methodology of stepwise regression analysis. The basic procedures require identifying the initial model, using an iterative stepping procedure, i.e., changing the model from the previous step by adding or removing a predictor according to a specific stepping criterion, and stopping the investigation when the procedure is no longer feasible with a given stepping criterion, or if the maximum number of steps assumed has been reached.

To achieve the objectives of the paper, empirical research with Polish LGs managers was conducted, and data collected was statistically processed and interpreted. Literature review was conducted between March 25, 2020 to May 29 (Appendix 1).

Survey method research was carried out from July 3, 2020 to July 31, 2020. An electronic survey questionnaire was prepared based on the literature review and checked during the pilot study. Data was acquired using an electronic survey in Polish, containing quantitative and qualitative research questions, which was sent to all $n=2477$ LGs managers from local government units (LG, i.e., all rural, rural-urban and urban municipalities and cities with district rights, LAU level 2,

formerly the NUTS level 5). To achieve a high level of responses and automation in the answers' coding, the authors used the professional research platform Webankieta.pl, where the electronic survey questionnaire (Appendix 2) was deployed and then disseminated among the final research sample with an assumed 95% level of confidence parameter and a 5.0% level of expected error rate (requiring $n = \min. 333$), and the final response in the electronic survey was provided by 477 participants, which enabled lowering the error rate to 3.9%. Responses to the survey were gathered in 10.7% of represented LGs of an urban type, in 55% LGs of a rural type, 22% LGs of an urban-rural type and 12.3% LGs of a city type vs total population of LGUs in Poland with 12.2% LGs of an urban type, 59.2% LGs of a rural type, 25.9% of an urban-rural type and 2.7% LGs of a city type. In that aspect, the final research sample reflected a high degree of representativeness for the total structure of LGUs in Poland.

Dependent variable in our interactive research was the number of active entrepreneurs on LG territory in total. This data was collected from the Central Statistical Office of Poland, for year 2019. The independent variables were chosen from the above mentioned electronic survey of Polish LGs managers. The list of independent variables i.e. the attributes of local government managers was as follows:

- i) Education level of LG managers;
- ii) Previous business experience of LG managers;
- iii) Professional business experience of LG managers;
- iv) Participation of LG managers in scientific or industry conferences;
- v) Participation in meetings with entrepreneurs;
- vi) Participation of LG managers in trainings or postgraduate studies.

4. Results

Statistical results (Table 1) showed that 96% of all LG managers have a higher education and less than 1% of LG managers have vocational or secondary education. Moreover, surprisingly 31% of all LG managers own, or owned in the past, a company and 36% of LG managers had in the past some professional business experience. Furthermore, 64% of LG managers participate in meetings with entrepreneurs, 61% in trainings or postgraduate studies raising their professional qualifications, and 40% regularly participate in industry or scientific conferences. As dependent variable was chosen the number of active entrepreneurs on LG territory in total due to the fact that the distribution of the number of active entrepreneurs on LG territory in total (Table 2) was symmetrical (under 1).

The regression analysis was performed with stepwise procedure. At each step of analysis, the independent variable, not yet in the equation, with the lowest probability corresponding to F regression value, was added to the model, if the probability was sufficiently small (Tables 3, 4, 5, 6 and 7). Variables already

included in the regression equation were removed from it if the associated probability of F became sufficiently high. The procedure ended when no variable could be excluded or included.

Table 1. Descriptive statistics of survey research results

| Descriptive Statistics | | | | | | | | | | |
|--|-----|-----|-----|------|----------------|----------|-----------|------------|-----------|------------|
| | N | Min | Max | Mean | Std. Deviation | Variance | Skewness | | Kurtosis | |
| | | | | | | | Statistic | Std. Error | Statistic | Std. Error |
| Vocational / secondary education | 321 | 0 | 1 | 0.08 | 0.278 | 0.077 | 3.011 | 0.136 | 7.110 | 0.271 |
| Higher education | 430 | 0 | 1 | 0.96 | 0.206 | 0.042 | -4.452 | 0.118 | 17.899 | 0.235 |
| Professional business experience | 397 | 0 | 1 | 0.36 | 0.481 | 0.232 | 0.573 | 0.122 | -1.680 | 0.244 |
| Own business | 403 | 0 | 1 | 0.31 | 0.462 | 0.214 | 0.836 | 0.122 | -1.307 | 0.243 |
| Participation in meetings with entrepreneurs | 414 | 0 | 1 | 0.64 | 0.482 | 0.232 | -0.564 | 0.120 | -1.690 | 0.239 |
| Participation in training / postgraduate studies | 409 | 0 | 1 | 0.61 | 0.489 | 0.239 | -0.437 | 0.121 | -1.818 | 0.241 |
| Regular participation in industry / scientific conferences | 403 | 0 | 1 | 0.40 | 0.490 | 0.240 | 0.412 | 0.122 | -1.839 | 0.243 |
| Valid N (listwise) | 299 | | | | | | | | | |

Source: Authors own compilation.

Table 2. Skewness of dependent variables

| | Number of active entrepreneurs in total | Entities newly registered in the REGON register per 10,000 population | Newly registered entities of the national economy in the private sector per 10,000 residents | Newly registered entities for 10 thousand working age population | Natural persons running a business per 10,000 residents |
|--------------------|---|---|--|--|---|
| Valid N (listwise) | 408 | 445 | 445 | 445 | 445 |
| Skewness | 0.454 | -1.611 | 1.632 | 1.696 | 1.676 |
| Std. Error | 0.121 | 0.116 | 0.116 | 0.116 | 0.116 |

Source: Authors own compilation.

Moreover, stepwise regression analysis allows to enter into the model only those variables (the predictors), that significantly predict the dependent variable. Therefore, from the many unnecessary variables that do not contribute anything to the model, we obtained those variables that actually affect the prediction of the dependent variable. Moreover, the stepwise method allows us to eliminate the problem of collinearity. Successively introduced predictors also take into account the mutual correlation between them.

In order to verify which of the variables the best explain the number of entrepreneurs in total active on LG territory, a linear regression analysis was performed using the stepwise method. Participation in meetings with entrepreneurs by LG managers, running own business by LG managers or participation in training or postgraduate studies by LG managers raising their professional qualifications were introduced into the model in three steps, $F(3, 374) = 45.75$; $p < .001$. Together, these variables accounted for 26.3% of the variance of the dependent variable i.e. the number of active entrepreneurs in total on LG territory (Table 4).

Participation in meetings with entrepreneurs by LG managers turned out to be the strongest predictor. The second strongest predictor was having own business experience by LG managers and the third one was participation by LG managers in training or postgraduate studies to raise ones professional qualifications (Table 8). The number of entrepreneurs in total active on LG territory grew if all three of the above-mentioned predictors of attributes of LG managers were met (Table 8).

Table 3. *Variables entered/removed in stepwise regression procedure*

| Variables Entered/Removed ^a | | | |
|--|--|-------------------|---|
| Model | Variables Entered | Variables Removed | Method |
| 1 | Participation in meetings with entrepreneurs | | Stepwise (Criterion: Probability of F-insertion $\leq .050$, Probability of F-removal $\geq .100$). |
| 2 | Own business | | Stepwise (Criterion: Probability of F-insertion $\leq .050$, Probability of F-removal $\geq .100$). |
| 3 | Participation in training / postgraduate studies | | Stepwise (Criterion: Probability of F-insertion $\leq .050$, Probability of F-removal $\geq .100$). |

a. Dependent variable: number of active entrepreneurs in total

Source: Authors own compilation based on IBM SPSS Statistics 26.

Table 4. *Regression model summary*

| Model Summary | | | | |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | ,437 ^a | 0.191 | 0.189 | 0.43426 |
| 2 | ,493 ^b | 0.243 | 0.239 | 0.42051 |
| 3 | ,518 ^c | 0.268 | 0.263 | 0.41398 |

a. Predictors: (Constant), Participation in meetings with entrepreneurs

| |
|---|
| b. Predictors: (Constant), Participation in meetings with entrepreneurs, own business |
| c. Predictors: (Constant), Participation in meetings with entrepreneurs, own business, participation in training / postgraduate studies |

Source: Authors own compilation based on IBM SPSS Statistics 26.

Table 5. ANOVA analysis

| Anova | | | | | | |
|---|------------|----------------|-----|-------------|--------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 16.712 | 1 | 16.712 | 88.621 | ,000 ^b |
| | Residual | 70.907 | 376 | 0.189 | | |
| | Total | 87.619 | 377 | | | |
| 2 | Regression | 21.307 | 2 | 10.654 | 60.247 | ,000 ^c |
| | Residual | 66.312 | 375 | 0.177 | | |
| | Total | 87.619 | 377 | | | |
| 3 | Regression | 23.523 | 3 | 7.841 | 45.751 | ,000 ^d |
| | Residual | 64.096 | 374 | 0.171 | | |
| | Total | 87.619 | 377 | | | |
| a. Dependent variable: number of active entrepreneurs in total | | | | | | |
| b. Predictors: (Constant), Participation in meetings with entrepreneurs | | | | | | |
| c. Predictors: (Constant), Participation in meetings with entrepreneurs, own business | | | | | | |
| d. Predictors: (Constant), Participation in meetings with entrepreneurs, own business, participation in training / postgraduate studies | | | | | | |

Source: Authors own compilation based on IBM SPSS Statistics 26.

Table 6. Coefficients

| Coefficients ^a | | | | | | |
|--|--|-----------------------------|------------|---------------------------|-------|-------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 0.198 | 0.029 | | 6.954 | 0.000 |
| | Participation in meetings with entrepreneurs | 0.432 | 0.046 | 0.437 | 9.414 | 0.000 |
| 2 | (Constant) | 0.142 | 0.030 | | 4.759 | 0.000 |
| | Participation in meetings with entrepreneurs | 0.355 | 0.047 | 0.359 | 7.572 | 0.000 |
| | Own business | 0.243 | 0.048 | 0.242 | 5.097 | 0.000 |
| 3 | (Constant) | 0.014 | 0.046 | | 0.299 | 0.765 |
| | Participation in meetings with entrepreneurs | 0.319 | 0.047 | 0.322 | 6.739 | 0.000 |
| | Own business | 0.214 | 0.048 | 0.212 | 4.478 | 0.000 |
| | Participation in training / postgraduate studies | 0.195 | 0.054 | 0.168 | 3.595 | 0.000 |
| a. Dependent variable: number of active entrepreneurs in total | | | | | | |

Source: Authors own compilation based on IBM SPSS Statistics 26.

Table 7. Excluded variables

| Excluded Variables^a | | | | | | |
|---|--|-------------------|-------|-------|---------------------|--------------|
| Model | | Beta | t | Sig. | Partial Correlation | Collinearity |
| | | In | | | | Tolerance |
| 1 | Professional business experience | ,067 ^b | 1.431 | 0.153 | 0.074 | 0.990 |
| | Education | ,016 ^b | 0.345 | 0.731 | 0.018 | 0.982 |
| | Own business | ,242 ^b | 5.097 | 0.000 | 0.255 | 0.897 |
| | Participation in training / postgraduate studies | ,204 ^b | 4.328 | 0.000 | 0.218 | 0.924 |
| | Regular participation in industry / scientific conferences | ,134 ^b | 2.709 | 0.007 | 0.139 | 0.868 |
| 2 | Professional business experience | ,075 ^c | 1.662 | 0.097 | 0.086 | 0.989 |
| | Education | ,022 ^c | 0.486 | 0.627 | 0.025 | 0.982 |
| | Participation in training / postgraduate studies | ,168 ^c | 3.595 | 0.000 | 0.183 | 0.896 |
| | Regular participation in industry / scientific conferences | ,100 ^c | 2.052 | 0.041 | 0.106 | 0.849 |
| 3 | Professional business experience | ,051 ^d | 1.143 | 0.254 | 0.059 | 0.965 |
| | Education | ,009 ^d | 0.190 | 0.849 | 0.010 | 0.975 |
| | Regular participation in industry / scientific conferences | ,059 ^d | 1.181 | 0.238 | 0.061 | 0.792 |
| a. Dependent variable: number of active entrepreneurs in total | | | | | | |
| b. Predictors: (Constant), Participation in meetings with entrepreneurs | | | | | | |
| c. Predictors: (Constant), Participation in meetings with entrepreneurs, own business | | | | | | |
| d. Predictors: (Constant), Participation in meetings with entrepreneurs, own business, participation in training / postgraduate studies | | | | | | |

Source: Authors own compilation based on IBM SPSS Statistics 26.

Table 8. Variables explaining the number of entrepreneurs in total active on LG territory

| Model | | B | SE | Beta | t | p |
|-------|--|------|------|------|------|-------|
| 1 | (Constant) | 0,20 | 0,03 | | 6,95 | <.001 |
| | Participation in meetings with entrepreneurs | 0.43 | 0.05 | .44 | 9,41 | <.001 |
| 2 | (Constant) | 0.14 | 0.03 | | 4,76 | <.001 |
| | Participation in meetings with entrepreneurs | 0.36 | 0.05 | .36 | 7,57 | <.001 |
| | Own business | 0.24 | 0.05 | .24 | 5,10 | <.001 |
| 3 | (Constant) | 0.01 | 0.05 | | 0,30 | .765 |
| | Participation in meetings with entrepreneurs | 0.32 | 0.05 | .32 | 6,74 | <.001 |
| | Own business | 0.21 | 0.05 | .21 | 4,48 | <.001 |
| | Participation in training / postgraduate studies | 0.20 | 0.05 | .17 | 3,60 | <.001 |

Source: Authors own compilation based on IBM SPSS Statistics 26.

5. Discussion

This research has sought explanatory evidence on the role of LG managers' education experience and professional experience on local entrepreneurship metrics. Similar characteristics were used by Kearny, Feldman & Scavo (2000). They reported the results of a national survey conducted under the auspices of the International City Management Association (ICMA). They researched the local managers' support attitude and recommended the implementation of reinvention principles and programs by a prism of formal education and experience. They hypothesised that the greater the number of years of experience and the greater the number of years of formal education in local government management, the more likely local managers are to take actions that apply reinvention principles (Kearny, Feldman, and Scavo, 2000).

Professional experiences of LG managers, their skills and knowledge development influence their activities. (Crewson and Fisher, 1997). Research referring to the managers at local government level, in particular in the cities, indicates that more experienced, highly educated, professional city managers result in activities of a city development aspect (Morgan and Watson, 1995).

Additionally, the study performed by the Florida council showed that noninstitutionalised factors such as mayors' political experience and managers' professionalism, influence the likelihood that a council will allow a manager to exercise policy influence (Zhang and Feiock, 2010). In our research context, higher education and longer professional experience of LG managers are understood as enablers of activities for entrepreneurship development in LAU. Morten Balle Hansen and Anders R. Villadsen in research concerning a Danish municipality, provided examples that education and experience of local managers are important factors related to strong-tie networking (Hansen and Villadsen, 2017). Risakotta and Akbar, (2018) underline that public sector organisations need to pay greater attention to the accountability, organisational commitment, job motivation, and educational background of their staff, because all those attributes significantly improve their performance.

Recent research in China and Chile proves that LGs may also stimulate local economies by capturing entrepreneurial opportunities at a local level, and responding to the external environment through the mobilisation of local resources, therefore act as a institutional entrepreneurship stimulation and a leverage agent (Xing, Liu, and Cooper, 2018). According to Nelson and Svava (2014), the role of LG managers has been professionalised over the course of the last 100 years, and much in that domain can be attributed to the United States of America, which institutionalised and nurtured the development of education and experience for these professionals (Nelson and Svava, 2014).

The results of our research proved statistically significant, but a weak correlation between the education of LG managers and the number of entrepreneurs active in LAU. The higher the level of education of the LG manager, the higher number of entrepreneurs active in LAU⁵. Our findings, representative for Poland, also complement research on the level of education of LG managers elaborated in a theoretical background section (Nelson and Svava, 2014). However, a local government that have LG managers with previous professional business experiences higher than five years have the same tiers of entrepreneurs active on their territory or as many types of activities for entrepreneurship development undertaken at the LAU level, as a local government whose managers have previous professional business experiences lower than five years.

Surprisingly, the higher education and experience of LG managers have no influence on the number of types of activities for entrepreneurship development undertaken at the LAU level. This result is in line with Godlewska and Morawska (2020) who proved that not all Polish local governments demonstrate entrepreneurship behaviour and support local entrepreneurship by undertaken variety of actions.

6. Conclusions

Plenty of research underlines different competences of LG managers' in local development management. For example, Haupt, Kapucu, and Hu, (2017) emphasise leadership development skills along with a more thorough integration of policy and administration into curricula, and highlight critical thinking, problem-solving, and decision making as very important attributes of local government managers. In comparison, Kim and Yoon (2015) show the importance of transactional leadership skill in fostering a culture of innovation in the local government. Our research proves that the education of LG managers matters and is relevant for entrepreneurship in LAUs.

As we have measured trainings and continued education we broaden entrepreneurial ecosystem elements research of Stam and van de Ven (2019), who included human capital factor measured with education level variable. The investigated attributes for LG managers contribute to the local development of endogenous factors theories, and are intervening variables for explaining entrepreneurship levels in LAUs. LG managers employed in local government institutions and their education level may also contribute to the framework model for the local development emphasising the role of entrepreneurship and endogenous factors (Stimson and Stough, 2004; 2008). A LG managers education level might be perceived as a mediating variable between quasi-independent local resource endowments within given market conditions and

⁵*In our analyses number of active entrepreneurs on LG territory were reflected by typology with six tiers: Tier 1 - till 500 entrepreneurs; Tier 2 - from 501 to 1000 entrepreneurs; Tier 3 - from 1001 to 1500 entrepreneurs; Tier 4 - from 1501 to 2000 entrepreneurs; Tier 5 - from 2001 to 2500 entrepreneurs and Tier 6 above 2501 entrepreneurs.*

dependent entrepreneurial activity in LAU.

Local governments can foster entrepreneurship by local legal regulations, organisational and institutional solutions and influence the development of new companies. In our research, we concentrated on the role of local government managers in this process, and we aimed to check if the attributes of local government managers like knowledge and experience are relevant. LG's managers' in an entrepreneurship supporting role has drawn much attention in the public administration literature. Researchers have offered various patterns to describe how LG managers are managed in LAU, with little attention paid to the factors influencing their managerial capability.

Our research results also extended the list of activities undertaken by LG managers and indicated as relevant from a local development point of view (Wołowiec and Skica, 2013) by the promotion of entrepreneurs' offers; information activities on the official websites of LAUs on entrepreneurship development programs and external development funding opportunities, leading activities in social media; involving local development stakeholders in ideation for local problem-solving. The practical implication of this study is that experienced and better educated LG managers do not show a greater tendency to diversify activities resulting in a local entrepreneurship number of active entrepreneurs. That is why central government should consider supporting local government managers in order to take more diverse activities in local entrepreneurship.

As our research showed the participation in meetings with entrepreneurs by LG managers turned out to be the strongest predictor, thus it can be a great subject for further research and to check in detail what kind of meetings and what are the results of this kind of activity. This contributes research directions related to network-based model of public services delivery and networking of public sector managers (Andrews and Beyon, 2017; Kowalik, 2021). Our original research hypothesis was positively verified in partial manner. From further research perspective, it would be interesting to check what kind of own business activities LG managers were running and, if they continue to run own business activity or not. It's worth exploring details of LG managers participation in trainings or postgraduate studies to raise their professional qualifications in local entrepreneurship development context. Our research results are also the starting point for further research with inclusion type of data, also in order to address one of these research limitations, which relates to basing on the extended declarative character of responses received from LG managers and survey data collection process.

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