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ENTREPRENEURIAL ORIENTATION AND LOCAL PUBLIC ADMINISTRATION PERFORMANCE

For several decades the policymakers and academics stressed out the necessity of increasing the effectiveness, efficiency, quality and availability of public services. Recent times of public austerity during the global financial crisis and economic damages caused by Covid-19 crisis even furtherly stretched the quest for an appropriate response from public managers. The entrepreneurial orientation (EO) concept, which has been already proven in the profit sector may represent a valuable solution for the public sector to cope with the lack of funding and additional costly demands. The purpose of this study was to empirically prove that the EO of the city administrations may be a way to accomplish these tasks, in an innovative, proactive and (acceptable) risk-taking manner. These three components represent the salient components of the EO construct based on Miller's (1983)/Covin & Slevin (1989) conceptualization, used in this research. A survey of mayors and public servants in city administrations in Croatia proved that a medium level of EO exists. The results of a correlation and multiple regression analysis revealed that there is a statistically significant and positive link between more entrepreneurially oriented city administrations and their self-reported performance. However, the influence of the EO on city administration performance measured objectively only partially repeated this conclusion.

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Furthermore, cluster analysis determined the difference between the salience of the EO dimensions among entrepreneurially 'non-oriented' and 'oriented' city administrations. This study contributes to modest research opus on EO implementation within the local public sector.

Keywords: *City administration, Entrepreneurial orientation, Performance, Multivariate analysis*

1. INTRODUCTION

The entrepreneurial orientation (EO) concept and the relationship between EO and performance represents one of the most researched topics in the field of entrepreneurship (e.g. meta-analysis by Soares & Perin, 2019, p. 144). Although conceived over 30 years ago, it attracts even more attention of scholars worldwide in recent years (e.g. Wales, Gupta, Marino & Shirokova, 2019, p. 95).

Anderson, Covin & Slevin (2009, p. 220) defined EO as a strategic construct that captures a "firm's strategy-making practices, management philosophies, and firm-level behaviours that are entrepreneurial in nature". Zerbinati & Souitaris (2005, p. 61) proposed an 'inclusive' definition of entrepreneurship in a public sector environment as "the discovery and exploitation of rewarding opportunities (and not only profit-making opportunities), without current control of the required resources".

Numerous studies confirmed the positive influence of EO on performance in the different profit sector industries and countries (e.g. meta-analyses by Rauch, Wicklund, Lumpkin & Frese, 2009, p. 775; Rosenbusch, Rauch & Bausch, 2013, p. 645; Soares & Perin, 2019, p. 151). However, the public sector research encompasses a relatively modest opus with limited opus of empirical (quantitative) studies (e.g. Teske & Schneider, 1994, Moon, 1999, Borins, 2000, Currie et al., 2008, cited in Diefenbach, 2011, p. 53; Teixeira & Silva, 2012, p. 346, Smith, 2012, p. 181, Nkhumishe, 2015, p. 146-147, Naldi, Larsson & Westlund, 2020, p. 8-9).

The purpose of this study is to corroborate the value of EO concept and its impact on city administration performance. Such practice is implemented voluntarily in some instances and legally prescribed in others (mostly as a part of comprehensive public sector reforms). The Republic of Croatia has refrained from this type of reforms. Consequently, it does not prescribe legal obligation, nor does it directly encourage the application of the EO in the (local) public sector or monitoring users' satisfaction, and the city performance (with some changes underway, as elaborated in chapter 2).

This study employed the traditional Miller's (1983)/Covin & Slevin (1989) conceptualization of EO with three dimensions (innovativeness, risk-taking and proactiveness). This construct may be considered as dominant among scholars (e.g. meta-analyses of Wales, Gupta & Mousa, 2011, p. 366, observed that almost 80%, while Soares & Perin, 2019, p. 149, that 81% of analyzed studies used this construct). Other scholars researched the EO concept with additional dimensions, usually autonomy and competitive aggressiveness. In this study, the EO construct was researched both unidimensionally, and multidimensionally, i.e. the analysis included the influence of each dimension on subjectively and objectively measured city administration performance.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Applying the entrepreneurial orientation concept in the public sector context

It is considered that the activities in the profit sector aim at satisfying the users' needs and expectations, and improving organizational performance, as well. In contrast, the public administration is functioning in a predominantly monopolistic environment and is primarily focussed on its social mission and mandatory provision of public services. However, the quest for improvements in public sector effectiveness, efficiency, and quality of public services go back for several decades. Public austerity during the recent global financial crisis and the Covid-19 crisis emphasized those requests. This situation further enhanced the necessity for the (local) public administration to address the issues of increased public demands, tightening budgets and political scrutiny. Simultaneously, the entrepreneurial behaviour has become an advisable organizational response to increasing complexity and level of turbulences in the public sector environment like changes in demographic, socio-economic, legal and cultural factors, cutbacks, privatizations and pressure for enhancing effectiveness and efficiency in public services delivery (Cervera, Molla & Sanchez, 2001, p. 1280).

The application of EO in the (local) public administration encounters different barriers, such as legal restrictions, political philosophy, lack of physical and financial resources and competition, and dominantly a monopolistic position. These barriers justify the limited ability and propensity of public entities to apply the entrepreneurial approach (Mahmoud & Hinson, 2012, p. 90). Consequently, some scholars and practitioners still review the compatibility of public administration and entrepreneurship comparing the notion of public entrepreneurship and

innovations with the oxymoron (e.g. Terry, 1993 cited in Zerbinati & Souitaris, 2005, p. 45, deLeon & Denhardt, 2000, Terry, 1998, Du Gay, 2000, cited in Diefenbach 2011, p. 40.). Those who have questioned entrepreneurship limits in the public sphere argued that central entrepreneurship assumptions and activities rarely match a public service conception (Cervera, 2001, p. 1267).

In contrast, the scholars who advocate for public entrepreneurship acknowledged the differences between the private and public sector (e.g. incremental *vs* radical innovation, calculated or organizational *vs* significant personal risk in the private sector), but consider entrepreneurship concept applicable to public ethos (e.g. Kearney, Hisrich & Roche, 2009, p. 29). Despite the notorious monopolistic position of public sector entities, these authors found no suggestions that the so-called 'quasi-markets' of today's public sector should be any different from traditional markets. So they both need entrepreneurial activities to reach their maximum level of efficiency (Boyett, 1996, p. 36).

The EO topic research encompasses a vast number of theoretical and empirical studies, mostly from the private sector environment. For instance, meta-analyses of Rauch et al., 2009, p.762 (53 studies), Rosenbusch et al., 2013 p. 654-655 (184 studies), Soares & Perin, 2019, p. 149 (78 studies); or literature review of Wales et al., 2011, p 362 (with a sample of 158 articles). The topic induced interest among Croatian scholars, as well. Over 30 papers and dissertations were found, dominantly based on the profit settings (e.g. dissertations of Pureta 2019, Šlogar 2018, Obuljen 2017, Morić Milovanović 2012).

Above mentioned meta-analyses determined the moderately high correlation between EO and performance (corrected mean r from 0.242 to 0.299). However, the range of the results analyzed points out to a somewhat different conclusion. Rosenbush et al. (2013, p. 648) found a range of corrected r of EO-performance relation from 0.15 for profitability up to 0.29 for subjective measurement. Soares & Perin (2019, p. 150) found that correlations ranged from – 0.330 to 0.690. These ambiguous results induced numerous scholars to research the possible moderators and mediators of the EO – performance relation. For instance, Wales et al. (2011, p. 367) meta-analysis found 64 studies (out of 158 analyzed) which inquired the impact of 44 different moderators.

Croatian scholars also found positive results in the business sector. E.g. the doctoral research of Obuljen (2017, p. 170) determined that a positive correlation between EO and different performance indicators vary from 0.308 to 0.451 (sample of 58 companies), while Šlogar (2018, p. 142) found a positive impact of EO on performance and innovativeness (sample of 303 companies). Morić Milovanović (2012, p. 17) analyzed the sample of 105 Croatian companies and found positive, statistically significant correlations between EO and performance indicators ($r = 0.371$, $p < 0.01$).

However, the public entrepreneurship and EO of the public sector entities are still considerably under-researched (worldwide and domestic), possibly because of the mentioned opponents of its use in the public sector. The public sector research encompasses a relatively modest opus with limited opus of empirical (quantitative) studies (e.g. Moon, 1999, Teske & Schneider, 1994, Borins, 2000, Lewis, 1980, Moore, 1995, Currie et al., 2008, cited in Diefenbach 2011, p. 53).

Regarding the local public administration, only a few empirical studies of the EO construct were found. For instance, Nkhumishe (2015) studied the city administrations (n = 150) in South Africa. Smith (2012) analyzed the Swedish local public sector and proved the statistically significant difference between the level of EO of 76 city administrations compared with 37 local utility companies. Meynhardt & Diefenbach (2012, p. 778) researched the antecedents of EO on the sample of local public entities (agencies) in Germany. Teixeira & Silva (2012, p. 346) analyzed the sample of 108 Portuguese municipalities and established that around 57% could be classified as entrepreneurially led. Finally, Naldi, Larsson & Westlund (2020, p. 9), applied multidimensional view of the EO construct in their study of 222 Swedish municipalities and found that risk-taking represent the most salient dimension.

The available results confirmed the applicability of three traditional components of EO construct (innovativeness, proactiveness, and risk-taking), in the public sector. For instance, several groups of researchers (e.g. Morris & Jones, 1999; Morris et al., 2008; Currie, Humphreys, Ucbasaran & McManus, 2008, cited in Diefenbach, 2011, p. 36) hold that this traditional concept does generally apply in the public sector, but with different foci – especially in risk-taking. Distinguishing characteristics of the three components of the EO construct are:

Innovativeness is at the "heart" of the entrepreneurship, but not all innovations come as a consequence of the higher (stronger) EO. In the profit sector, routine innovations (such as brand or line extensions) occurs as a response to competitor actions or the needs of the consumers. In the public sector, the focus of innovativeness is mostly on new processes, rather than on services or organizational forms (Diefenbach, 2011, p. 36).

Proactiveness is concerned with the implementation of the entrepreneurial concept into practice. Proactiveness refers to anticipating and acting on future wants and needs in the marketplace and entails an emphasis on anticipating and preventing public sector problems before they occur. This action-orientation includes creative interpretation of rules, skills at networking and leveraging of resources, and a high level of persistence and patience in affecting change (Kearney, Hisrich & Roche, 2007, p. 284). A proactive (local) administration consider the socio-economic environment controllable and intend to make it more acceptable for its needs, as opposed to the reactive (local) administration which holds the

socio-economic situation uncontrollable and strives to adapt its actions (Meler, 2003, p. 360).

Risk-taking in the public sector refers to the willingness to take a moderate risk in committing resources to address opportunities or pursuing initiatives with a calculated likelihood of loss or failure (Currie et al., 2008, cited in Diefenbach, 2011, p. 36). Risk-taking component of the EO construct is clearly distinguished from its profit sector equivalent. In the public sector, failure does not imply bankruptcy or liquidation. Still, the public programmes could be cancelled, budgets reduced, and services delivered poorly or none. Morris et al. (2008, cited in Diefenbach, 2011, p. 37) suggested that the public scrutiny or the public's intolerance of failure and lack of rewards for risky ventures might explain the risk-aversion in the public sector.

The scholars dominantly researched the EO concept as a unidimensional construct. E.g. meta-analysis by Wales et al. (2011, p. 366), found that almost 80% of 158 studies used a unidimensional approach. However, more recent studies often employed a multidimensional approach. As a result, following the multidimensional approach, the H1 hypothesis has been proposed (with three sub-hypotheses):

H1: Innovativeness, risk-taking and proactiveness are the salient dimensions of EO construct, which has a positive impact on self-reported city administration performance.

H1a: Innovativeness has a positive impact on self-reported city administration performance.

H1b: Risk-taking has a positive impact on self-reported city administration performance.

H1c: Proactiveness has a positive impact on self-reported city administration performance.

Although widely accepted, the self-reported (subjective) approach to performance measurement has certain drawbacks that limit their general applicability. That happens, especially when the respondents are responsible for implementing the performance system and even achieving and/or reporting on perceived performance (in the survey instrument), so there may be a positive response bias (Gerrish, 2016, p. 49). However, considering the high level of correlation determined between the subjective and objective performance indicators in the series of empirical research, it can be concluded that the subjective approach is valid, especially in the cases when available objective indicators are inadequate (Cervera et al. 2001: 1273-1274).

2.2. Main characteristics of city development management

Socio-economic development has been governed through the development of regions and cities in contemporary democratic countries over the past decades. It follows the obligation to realize the citizens' rights and satisfy their needs, primarily on a local and regional level where their needs are most efficiently recognized and economically met (European Council, 1985. Charter of Local Self-Government, Art. 4 para. 3).

This study employed the research of the EO among city administrations, though counties or municipalities are eligible, too. The significance of the cities in the modern economy and society was one of the underlying reasons for choosing cities and city administrations. The cities concentrate the economic power, employment opportunities, expertise, innovation, education and culture. Concurrently, the development of cities is accompanied by social instabilities like exclusion, segregation, housing issues, insecurity, addictions, pollution, unemployment, poverty, etc. Hence, the issue of competent city management becomes crucial, and the cities become the backbone of polycentric functioning of European countries (Koprić, 2018, p. 27).

The local administration system has several vital characteristics: monopolistic position, budget financing approach, social mission, multiple stakeholders with different needs and expectations, quite challenging performance measurement and outcomes often visible in the long run (e.g. Kearsey & Varey 1998, p. 53-55). Besides these general characteristics of local administration, Croatian local administration is additionally burdened by the limited scope of jobs defined by the Act on Local and Regional Self-Government, and a series of specific characteristics often emphasized by the researchers in this area (Koprić 2010: 372-377, Koprić & Đulabić, 2018, p. 249):

- *Extensive territorial fragmentation*. For instance, from 1993 to 2016, the number of self-government entities increased by six times concerning the pre-war period. The EU Council has regularly criticized such extensive fragmentation in their yearly recommendations; however, numerous improvement recommendations have yet to be adopted.[1]
- *Insufficient administrative and fiscal decentralization*, along with excessive fragmentation, creates inequality in service provision. Consequently, small municipalities and cities with little fiscal capacity cannot

[1] List of Country Specific Recommendations issued by EU Council from 2014 till 2018, available in Koprić, 2019: 26. The identical recommendation has been issued in 2019 and 2020 European Commission Recommendations (2020: 11).

provide residents with the same range and quality of public services as larger cities.

These characteristics of the Croatian local administration caused inadequate effectiveness and efficiency (one of the critical complaints of entrepreneurs and analysts, which refers to central and local government efficiency),[2] low level of fiscal and institutional independence (Ministry of Administration 2016: 6-13), and finally, reduced development potential.

Regarding the EO – performance relationship, many authors have recognized the complexity of public performance measurement. The complexity derives from the multiple stakeholders with different expectations, mismatch of the mission and the programme, impaired harmonization of outputs and outcomes, or due of the fact that success or lack thereof cannot be measured only with financial indicators (e.g. Duque-Zuluaga & Schneider, 2008, p. 27).

The adoption of development plans has become obligatory for the Croatian local administration since 2009. However, the inception of long-term, medium-term and short-term planning for central and local administration, along with coordinative entity (Ministry of regional development and EU funds), and establishing the information system for monitoring the achievements, was set to become legally binding from 2020. Hence, the analysis of the effects has yet to be seen. Although local and regional administrations are bound to prepare different reports (e.g. semiannual reports), there is no public interest for the application of the information given in those reports (often descriptive and formal without obligatory structure and specific results tracking). Consequently, that impedes the broader effects of the performance measurement system introduction (Manojlović Toman, 2019: 613-615).

The lack of official statistical data due to the lack of official monitoring of local administration performance and satisfaction of local public services users',[3] and the drawbacks mentioned above about self-reported performance measurement, suggests that the inclusion of objective measures may offer better insight. The organizational performance of the city administrations was measured with ten objective indicators chosen following the previous work of Croatian authors (e.g.

[2] According to the Global Competitiveness Report 2019 (WEF 2019: 174-175), the inefficiency of the public administration presents a substantial obstacle to entrepreneurial business transactions, with the burden of government regulation ranked as the 139th of the total of 141 analyzed countries; and efficiency of the legal framework in settling disputes ranked as the 140th of the total of 141 analyzed countries.

[3] Except the fundamental economic values, like budget revenues and expenses, planned policies and procedures, i.e. mostly the quantitative side, rarely the qualitative side – the outcomes (Vitezić, 2007, 12).

Rašić Bakarić, Šimović & Vizek, 2014, p. 124-125, Jurlina Alibegović & Kordej de Vila 2008, p. 74-78). Hence, the following hypothesis (with three sub-hypotheses) were proposed:

H2: Innovativeness, risk-taking and proactiveness are the salient dimensions of EO construct, which has a positive impact on objectively measured city administration performance.

H2a: Innovativeness has a positive impact on objectively measured city administration performance.

H2b: Risk-taking has a positive impact on objectively measured city administration performance.

H2c: Proactiveness has a positive impact on objectively measured city administration performance.

The indicators of organizational performance are transparency; revenue per employee; profit/loss per employee; city administration revenue per citizen; the number of departments in city administration; the level of surtax compared with legal maximum; points for development strategy first implementation; index of total tourist arrivals and overnight stay *vs* average in Croatia; SWC (Service Workload Capacity) = number of employees *vs* the number of citizens; and FWC (Financial Workload Capacity) = the level of workload (measured by expenses) every employee has to endure. The indicators were calculated from the available official data issued by the Ministry of Finance, Ministry of Tourism and the Croatian Bureau of Statistics, for the 2013 – 2015 period (which was investigated subjectively, as well).

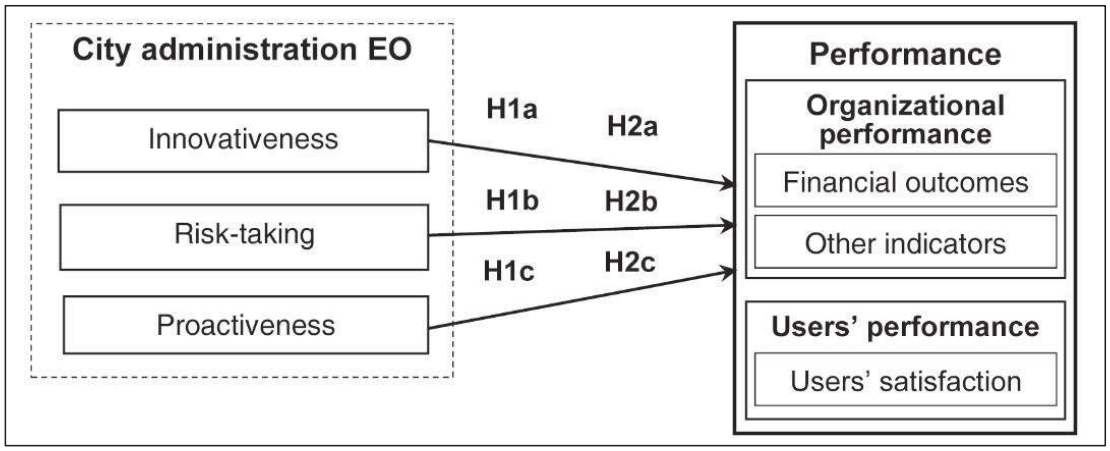
3. EMPIRICAL RESEARCH

3.1. Research model

The EO has been researched mostly as a unidimensional construct. However, the research adopting a multidimensional approach has been increasing in recent years, indicating greater acceptance of the notion that EO dimensions may manifest unique contributions to outcomes. This study examined the construct, both unidimensionally and multidimensionally. The research model was conceptualized to scrutinize the significance of each dimension of Miller's/Covin & Slevin approach to EO construct (Diagram 1).

Diagram 1.

CONCEPTUAL RESEARCH MODEL



Source: Authors

3.2. Research methodology

A questionnaire comprising the constructs presented in the conceptual model is the instrument used in this research. The criteria used for choosing the measurement scale for EO were satisfactory reliability, the prevalence in previous examinations, and possible previous adaptation or testing for the nonprofit and public sector. This study employed the traditional Miller's (1983)/Covin & Slevin (1989) conceptualization of EO.

The instrument involves the statements from the scale developed by Morris & Paul (1987) adapted for the nonprofit sector in Diefenbach, 2011, p. 98), Covin & Slevin (1989) Kuratko and Hornsby (2013) adapted for the local public sector in Nkhumishe (2015, p. 81-85). The original statements were partially adapted and translated for the local public sector (Širola, 2017, p. 305).

The statements for organizational performance were implemented and partly adapted based on the variables that Padanyi & Gainer (2004, p. 51) had previously modified for the nonprofit sector and Cervera (1999, p. 57) for the local public sector. The translation of the items partly followed Mihanović (2010, p. 221), instrument adapted for the higher education sector. All constructs were measured on Likert five-point scale.

The items for all constructs were formulated to allow the informants to assess the situation in the past three years (2013-2015), the period since the previous elections, so the same city administration had been in power for three consecutive years in the majority of city administrations. This approach captured the fact that EO should represent the strategic, long-term options and it takes time to make the effects of today actions visible, which is also called the "lag effect" (Stritch, 2016, p. 352).

The population of cities in the Republic of Croatia consists of 128 cities (and city administrations). To reach the appropriate sample size considering the targeted statistical method, utility and business companies founded and owned by the city administration entities, were included (population of 167 entities). Within each city administration, a multi-informant sample consisting of mayors and other public servants was selected to avoid the shortcomings of the survey using a single-informant sample, which is usually a mayor (Kaur & Gupta 2010, p. 91). Finally, 129 complete questionnaires from 79 cities located in all Croatian counties, were collected. That represents a 62% response rate from the 128 city administrations.

The methods of descriptive and inferential statistics were used for data analysis. The multiple regression and cluster analysis were selected among the multivariate methods, whereas the correlation and analysis of variance (ANOVA) were chosen among the univariate statistical analyses.

The reliability analysis determined that the value of the Cronbach alpha coefficient for each concept in the measurement instrument is between 0.69 and 0.88. The value of the coefficient for the concept of organizational performance (0.69) and proactiveness (0.73), still represents eligible reliability.[4] Cronbach alpha coefficients for all other concepts are above 0.80, which shows a high level of internal stability and instrument consistency.

The eventual differences between the results regarding the eight demographic (control) variables were tested, but the statistically significant differences were found only for the city size (t-test and analysis of variance were employed). For instance, the average age of the 129 respondents was 45,5 years, almost 63% females; 70,5% with the faculty degree; 82% respondents from city administrations *vs* 18% from utility organizations; 61% with previous employment in the private sector (6,56 on average); 82% managerial *vs* 18% non-managerial respondents in the sample; and 13 so-called 'large' cities (> 35.000 citizens) in the sample of 79 cities. T-test showed that 'large' cities have a statistically significant difference of results for innovativeness and EO variables (t value = -2.24, $p < 0.05$ and -2.37, $p < 0.05$ respectively).

[4] In general, reliabilities less than 0.60 are considered to be poor, those in the 0.70 range, acceptable, and those over 0.80 good (Sekaran 2003: 311).

3.3. Research findings

A correlation and multiple regression analyses were conducted to verify the first (H1) hypothesis. The results are presented in Table 1.

Table 1.

CORRELATION ANALYSIS OF THE EO DIMENSIONS AND PERFORMANCE FOR THREE GROUPS OF ANALYZED CITY ADMINISTRATIONS (ABBREVIATED FORM)

	All city administrations (n = 79)						**Small cities (< 35.000 citizens) n = 66**		**Large cities (> 35.000 citizens) n = 13**	
Variables	**INNO**	**RISK**	**PRO**	**EO**	**USERS' PERF**	**ORG PERF**	**INNO**	**EO**	**INNO**	**EO**
INNO	1.0						1.0		1.0	
RISK	0.46**	1.0					0.40**	0.87**	0.69**	0.94**
PRO	0.37**	0.66**	1.0				0.33**	0.82**	0.39	0.83**
EO	0.73**	0.89**	0.83**	1.0			0.71**	1.0	0.76**	1.0
USERS' PERF	0.44**	0.54**	0.42**	0.58**	1.0		0.39**	0.54**	0.65*	0.66*
ORG PERF	0.38**	0.39**	0.38**	0.47**	0.55**	1.0	0.33**	0.43**	0.63*	0.55*
TOTAL PERF	0.46**	0.52**	0.45**	0.58**	0.84**	0.92**	0.41**	0.55**	0.70**	0.66*

Notes: INNO = innovativeness, RISK = risk-taking, PRO = proactiveness, EO = entrepreneurial orientation, ORG PERF = organizational performance; TOTAL PERF = total performance

** – significant correlation at level 0.01; * – significant correlation at level 0.05

Source: Authors' research

The results indicate positive, strong and significant correlations between each EO dimension and EO construct (range between 0.73 and 0.89, $p < 0.01$), but a low or medium level of statistically significant correlations[5] between EO dimensions and performance for the whole sample (79 cities). The results (shown on the right

[5] Correlation coefficients (r) are interpreted based on the recommendations of Cohen and Holliday (1982, cited in Bryman & Cramer, 2005, p. 219): very low level of correlation < 0.19, low

side of Table 1) also proved that 13 'large' cities have a medium to a high level of correlation (0.55 to 0.70, $p < 0.05$) between innovativeness and EO and the performance measures. Other 66 small city administrations displayed low to medium level of correlation (range from 0.33 to 0.55, $p < 0.01$). **The results of correlation analysis entirely support the H1 hypothesis and all sub-hypotheses (H1a, H1b and H1c).**

A multiple regression analysis was conducted on a sample of 129 informants to determine the intensity of these correlations. The representativeness requirement of the multiple regression analysis results was verified by performing a distribution normality analysis. The results pointed out that all skewness coefficients are within the acceptable referential limits for normal distribution. The values of the kurtosis coefficient indicate a "steeper" distribution in both variables.

To determine the nature of intercorrelations between research constructs, and to examine possible multicollinearity, the correlation analysis was performed. Correlation coefficients were all significant and range between 0.323 and 0.623, showing positive, moderate, and statistically significant intercorrelations among research constructs. Besides, as recommended by Bryman and Cramer (2005), correlation coefficients did not exceed the cut-off value of 0.80; thus, the multicollinearity problem does not exist.

The multiple regression revealed the multiple correlation coefficient R (0.67), which implies that there is a high (strong) correlation between EO and performance (correlation coefficients R are interpreted similarly to correlation coefficients r, Leech, Barett & Morgan, 2005, 56). According to the determination coefficient ($R^2 = 0.46$), which means that 46% of the variance (information) of total performance may be predicted (explained) with EO variable. The analysis of the variance examined the prediction capability of the regression model, and determined statistically significant results, $F(3, 125) = 34.81$, $p < 0.01$. It means that this independent variable can considerably predict the dependent variable, i.e., that EO can successfully account for the total performance. Table 2 presents the regression coefficients and their significance in the regression model.

correlation ≥ 0.20 < 0.39, medium level ≥ 0.40 < 0.69, high level ≥ 0.70 < 0.89 and very high-level ≥ 0.90.

Table 2.

REGRESSION COEFFICIENTS IN THE REGRESSION MODEL

Coefficients[a]							
Model	**Non-standardized coefficients**		**Standardized coefficients**	**t**	**Signifi-cance**	**Collinearity Statistics**	
	B	**Standard error**	**β**			**Tolerance**	**VIF**
(*Constant*)	1.29	0.22	0.00	5.86	0.000		
Innovativeness	0.19	0.05	0.28	3.55	0.001	0,683	1,465
Risk-taking	0.28	0.07	0.39	4.29	0.000	0,558	1,792
Proactiveness	0.09	0.05	0.13	1.64	0.103	0,692	1,445

Notes: a. Dependent variable: Total performance

Source: Authors' research

The values of t-test (Table 2) imply that innovativeness and risk-taking variables significantly ($p < 0.01$) contribute to the total performance. Furthermore, the values of β coefficients show a proportional significance of independent variables in the regression model. The value of β for the innovativeness variable is 0.28 and for risk-taking 0.39, which means that they have a substantial influence on the total performance. Besides, the risk-taking effect on total performance was found to be the highest, followed by innovativeness. Proactiveness has the smallest impact on total performance and is not statistically significant ($\beta = 0.130$, $p > 0.05$). Finally, to assess the possible multicollinearity problems, tolerance values are provided. As recommended by Leech et al., (2005, p. 95), multicollinearity exists if tolerance values are lower than 1- R^2 value. Thus, in this research, the cut-off value is 0.54. As reported in Table 2, all tolerance values are above the recommended cut-off value, i.e. there is no multicollinearity.

Given the above, it may be concluded that the observed regression model yields satisfactory results, so innovativeness and risk-taking as independent variables may be used for the assessment of total performance. The proactiveness variable shows positive, but a week and statistically not significant impact. The results additionally **confirm the H1a and H1b sub-hypotheses**, i.e., it determines the extent to which these components of the EO directly, positively and significantly influence the total performance of city administrations. (The H1c sub-hypothesis was not confirmed).

The K-Means cluster analysis was performed, to differentiate the city administrations, by the level of their EO components and self-reported performance. The number of clusters was chosen following the mathematical approach developed by Lawton and Parasuraman (1980, revised by Nwankwo 1995 and Bathgate et al. 2006, cited in Kowalik, 2011, p. 64 and 66). As Likert five-point scale was employed, all values below three represent week (non-entrepreneurial) city administrations, values between three and four medium, and values above four high levels of EO of the city administrations. The results are shown in Table 3.

Table 3.

CLUSTER ANALYSIS RESULTS

Construct	**Cluster**			**ANOVA**
	1	2	3	*F*
Innovativeness	2.92	3.75	4.12	127.03**
Risk-taking	3.00	3.80	4.10	16.50**
Proactiveness	2.97	3.82	4.23	9.65**
EO	3.00	3.80	4.10	48.40**
Users' Satisfaction	3.07	3.01	3.54	8.66**
Organizational Performance	3.00	3.20	3.70	0.86
Total Performance	3.01	3.30	3.82	8.34**
No. of items (City Administrations)	12	39	28	11.53**

** – significant correlation at level 0.01; * – significant correlation at level 0.05

Source: Authors' research

The analysis of variance (ANOVA) confirms that the differences between the constructs for each cluster are statistically significant, except the organizational performance (Table 3). Cluster analysis confirmed the hypothesized connection between a certain level of EO and aligned level of performance. It also suggested that the more entrepreneurially oriented groups of city administrations emphasize the proactiveness component. Simultaneously, the entrepreneurially non-oriented city administration mildly favours the risk-taking dimension. The results justify the multidimensional approach to EO concept and **additionally confirm sub-hypotheses H1a, H1b and H1c**, i.e. that all dimensions of EO have a positive impact on city administration performance. It also indicates that the implementation of the EO in city administrations can be justified with better organizational per-

formance (better effectiveness and efficiency of the city administration), as well as with better users' satisfaction.

As previously accentuated, the self-reported (subjective) approach to performance measurement may have a positive bias as the respondents evaluate the level of EO and performance within the same instrument. To verify the results of subjective measurement, the influence of EO construct on the performance was tested by objective indicators, chosen and calculated, as explained in chapter 2.2. The second set of sub-hypothesis (H2 a, b and c), was examined by performing a correlation analysis (results in Table 4).

Table 4.

CORRELATION ANALYSIS OF THE EO AND OBJECTIVELY MEASURED PERFORMANCE (ABBREVIATED FORM)

Correlations											
		Tran*	**RpE**	**P/LpE**	**RpC**	**Dept**	**Surtax**	**Strat**	**Tour**	**SWC**	**FWC**
INNO	Pearson Coeff.	**0.29***	0.20	0.10	0.06	0.21	0.20	0.14	0.01	0.05	0.18
	Sig. (2-tailed)	**0.010**	0.079	0.382	0.576	0.058	0.077	0.220	0.905	0.682	0.111
RISK	Pearson Coeff.	0.15	0.02	0.07	0.06	0.11	0.10	-0.07	-0.08	-0.07	0.00
	Sig. (2-tailed)	0.194	0.869	0.521	0.619	0.328	0.373	0.549	0.485	0.554	0.967
PRO	Pearson Coeff.	0.09	0.00	0.02	-0.07	0.07	0.09	-0.01	-0.09	-0.02	0.00
	Sig. (2-tailed)	0.452	0.997	0.838	0.511	0.545	0.445	0.901	0.439	0.852	0.971
EO	Pearson Coeff.	0.21	0.08	0.08	0.02	0.16	0.16	0.02	-0.07	-0.02	0.07
	Sig. (2-tailed)	0.064	0.468	0.484	0.856	0.164	0.172	0.894	0.565	0.849	0.552
	N	79	79	79	79	79	79	78	79	79	79

Notes: INNO = innovativeness; RISK = risk-taking; PRO = proactiveness; EO = entrepreneurial orientation; Tran = Transparency; RpE = Revenue per Employee; P/LpE = profit/loss per employee; RpC = revenue per citizen; Dept = no. of department; Surtax = the level of surtax compared with legal max.; Strat = points for development strategy first implementation; Tour = Index of total tourist arrivals and overnight stay compared to average in Croatia; SWC (Service Workload Capacity) = no. of employees vs no. of citizens; FWC (Financial Workload Capacity) = i.e. the level of workload (measured by expenses) every employee has to endure. * Correlation significant at $p < 0,05$ (2-tailed).

Source: Authors' research

Based on the results of the analysis, a week, positive and statistically significant correlation ($p < 0,05$) was found between innovativeness dimension of EO construct and the indicator of transparency; **thus, it partly confirms the H2a**

sub-hypothesis, while H2b and H2c should be rejected. This analysis points out that the subjective performance measurement approach might be inappropriate in this environment and/or that chosen objective indicators was not affected by the EO of city administrations.

4. CONCLUDING REMARKS

The monopolistic position, the legal obligation to provide most of the local public services, budgetary financing, social mission and perception of inherent inefficiency and inertness, characterizes the public sector domain. These features possibly harm the process of convergence between public administration and public entrepreneurship. Additionally, the city administrations in the Republic of Croatia are over fragmented with low fiscal and financial capacity and consequently reduced development potential. The Croatian legal framework still does not impose nor directly foster the adoption of EO or continuous monitoring of the key performance. Moreover, the complexity of the local public administration environment with numerous stakeholders with different jurisdiction and resources potentially alienates the concept of EO away from the local administrations. Therefore, the implementation of the entrepreneurship concept in the local public sector environment could be considered challenging, which possibly accounted for the sparse studies of the EO concept in this context.

Despite the unfavourable environment, this study revealed that city administrations and local utility companies in Croatia use specific activities and behaviours embodied in the EO strategic concept at the medium level (mean 3.79 or 75.8% of the maximum grade). It may seem inadequate, but the similar or lower results were found in the research conducted in the local public sector outside of Croatia. For instance, 3.65 or 73.1% in South Africa (Nkhumishe, 2015, p. 81-86), or low 29.4% of the maximum grade in local public administration in Sweden (Smith, 2012, p. 177). Croatian results are partly comparable with the research of Swedish municipalities (Naldi et al., 2019, p. 12). The mean values for the risk-taking component are almost identical (3.79 in this research *vs* 3.80). Still, the values for proactiveness and innovativeness displayed considerable differences; i.e. this study 3.84 *vs* 3.58 in Naldi et al., and 3.79 *vs* 3.00, respectively.

The results of this study also proved low to medium level of correlations (range from 0.38 to 0.55, $p < 0.01$), between each dimension of the EO construct and performance (measured subjectively), except the group of 13 large cities in the sample with a high level of correlation (range between 0.63 and 0.70, $p < 0.05$). Large city administrations (like large companies in the profit sector) showed a higher

level of correlation between EO and performance (e.g., a meta-analysis by Rauch et al., 2009, p. 776). The results of our study somewhat differ from the previous studies (in the profit sector) regarding the relevance of the three dimensions of the EO construct. The correlation analysis revealed the highest scores for risk-taking, proactiveness and finally innovativeness dimension. For instance, a meta-analysis of Rauch et al. (2009, p. 775) found the highest (but still low) level of correlation for innovativeness than risk-taking and proactiveness. Multiple regression analysis pointed out that innovativeness and risk-taking are the statistically significant components of the EO construct, which have a positive (strong) impact on performance.

However, considering the objective measurement of performance, the only positive (week), statistically significant correlation was found between innovativeness and the indicator of transparency. So the results of the EO-(self-reported) performance relation was not confirmed. Hence, these results strengthen the quest for the inception of the public performance measurement system with appropriate indicators.

This paper contributes to the modest opus of empirical research of EO in the local public sector, as well as to the research methodology by a further adaptation and development of the original Miller/Covin & Slevin conceptualization for the local public sector environment. It also contributes to the promotion of the EO concept in the public environment, which formally argues for better effectiveness, efficiency, quality and availability of public services.

Some of the possible paths for future researchers in the field should tackle the comparison between EO and accompanied performance in local administrations *vs* local utility companies (although the small share of respondents from utility companies in this study did not reveal a significant difference in results). Furthermore, pursuing the multi-informant approach may be a way to obtain a better insight into the local administration entrepreneurial behaviour (in this study, only 25 city administration had more than one respondent). Finally, the inception of the mandatory performance measurement system will provide an opportunity to avoid ambiguous results gained from the self-reported performance.

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PODUZETNIČKA ORIJENTACIJA I PERFORMANSE LOKALNIH JAVNIH UPRAVA

Sažetak

Kreatori javnih politika i akademici više desetljeća ističu potrebu povećanja učinkovitosti, djelotvornosti, kvalitete i dostupnosti javnih usluga. Zahtjevi za odgovarajućim odgovorom javnog sektora su dodatno naglašeni tijekom posljednje globalne financijske krize praćene politikom javne štednje, te utjecaja ekonomskih šteta izazvanih Covid-19 krizom. Koncept poduzetničke orijentacije čija su prednosti dokazane u profitnom sektoru, potencijalno može postati rješenje za javni sektor da se nosi s nedostatkom javnog financiranja i skupim zahtjevima za dodatnim javnim uslugama. Svrhu ovog rada predstavlja empirijsko dokazivanje da poduzetnička orijentacija lokalnog javnog sektora može donijeti inovativnost, proaktivnost i prihvatljivu razinu preuzimanja rizika koja će ispuniti dodatne zadatke i traženja. Upravo ove tri komponente predstavljaju ključne sastavnice konstrukta poduzetničke orijentacije temeljenog na Miller (1983)/Covin i Slevin (1989) konceptualizaciji, korištenoj u ovom istraživanju. Anketnim ispitivanjem gradonačelnika i drugih javnih službenika, utvrđena je srednja razina poduzetničke orijentiranosti gradskih uprava u Hrvatskoj. Rezultati korelacijske i regresijske analize pokazali su da postoji pozitivan i statistički značajan utjecaj poduzetničke orijentacije gradskih uprava na subjektivno mjerene performanse. Ipak, istraživanje utjecaja poduzetničke orijentacije gradskih uprava na objektivno mjerene performanse samo je djelomično potvrdilo rezultate subjektivnog mjerenja performansi. Pored toga klaster analizom je utvrđeno da postoje statistički značajne razlike između najvažnijih komponenti poduzetničke orijentacije između poduzetnički orijentiranih gradskih uprava nasuprot onih koje to nisu. Ovaj rad doprinosi skromnom opusu istraživanja primjene poduzetničke orijentacije u lokalnom javnom sektoru.

Ključne riječi: gradske uprave, poduzetnička orijentacija, performanse, multivarijantna analiza