

# The Complexity of the Competitive Repertoire and Firm Performance

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## ABSTRACT

Complexity of competitive repertoire is the ability of a firm to undertake a wider range of diverse competitive moves than its competitors. Firm undertaking diverse competitive moves can enhance capabilities and potentially achieve competitive advantage and superior performance, especially in environment with uncertainty and volatility characteristics. Besides, complexity of competitive repertoire gives stakeholders a series of information on the firm characteristics, its resources and/or specific know-how for intense rivalry. The goal of this paper is to provide theoretical and practical overview on the construct of complexity of competitive repertoire and the method of its computing. In addition, relationship between complexity of the competitive repertoire and the firm performance on a sample of seventeen Croatian firm dyads are analyzed. Results show that the higher level of complexity in a competitive repertoire has a positive effect on firm performance.

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## 1. INTRODUCTION

The interaction of firms with their market rivals the focal point of competitive dynamics research perspectives in the field of strategic management, developed on the tenets of the Austrian School of Economic Thought (Schumpeter, 1942; Kirzner, 1973). The study of competitive dynamics in the context of strategic management began in 1980s (MacMillan, McCaffrey and Van Wijk, 1985 Bettis and Weeks, 1987; Smith et al., 1989) and significantly expanded in the past two decades in the works of Chen, Ferrier, Smith, Young, and others.

Model of competitive dynamics usually involves two competing firms (dyads) and their rivalry with the intention of achieving market advantages. The competitive rivalry is defined as a set of taken strategic actions and response to them (Chen and MacMillan, 1992). Strategic actions are taken with an intention to enhance the relative competitive position. Examples of the strategic actions are: changes in the prices and pricing policies, introduction of new products and services, entering a new market, new production and sales capacities, promotional campaign, signaling, etc.. If a firm implements the stated actions in a correct way, the likelihood that it will threaten the market position and performance of its direct rivals shall increase. This motivates the competitors to react and take competitive countermoves which could annul, offset or at least mitigate the strategic actions of the rivals, retaining or improving its own position.

The basis of the competitive activity in the market competition is comprised of behavioral drivers -Awareness, Motivation and Capability (AMC framework), which have a decisive influence on its decision to take strategic moves and countermoves to the actions of any of its rivals. *Awareness* is defined as identification and recognition of the environment and the challenges, arising from the competitive interdependence (moves between the firm and its rivals), *motivation* is related with the willingness of firm to undertake moves and respond to the moves taken by the competitors, and the *capability* is defined by cognitive and resource factors that influence the capacity of companies for taking strategic moves (Chen, 1996; Smith, Ferrier and Ndofor, 2001; Ferrier, 2001; Chen et al., 2007). AMC framework is important in the development of micro foundations of competitive dynamics.

The researchers pay attention to the analysis of competitive tension, by examining actions and reactions of the firms and the effects which competitive activity has on their performance (Chen and MacMillan, 1992; Young, Smith and Grimm, 1996; Ferrier, Smith and Grimm, 1999; Miller and Chen 1996; Ferrier, 2001; Chen, Su and Tsai, 2007; Chen and Miller, 2012). They wish to know, for example, how characteristics of certain strategic actions affect the likelihood and speed of competitive response (e.g. Chen, Smith and Grimm, 1992), and how operating results and market position depend on competitive moves and characteristics of strategic interaction between companies (e.g. D`Aveni, 1994; Miller and Chen, 2012).

Next characteristics are of special interest: (1) radicalism in taking moves (level of deviation from the industry norms and the usual way of business operations), (2) complexity of the moves (the necessary resources for the implementation of the move) and the difficulties in responding to rival moves, (3) an area that affects strategic actions (number of competitors in that the move could affect), (4) intensity of threat the move represent to the rivals; as well as (5) frequency and number of the moves (number of the moves in a certain time period), (6) timeliness and speed of response to the taken moves (the time in which firms react to the actions of their rivals) and (7) competitive repertoire and diversity of the moves (range in taking various and different strategic activities) and their correlation with the performance and various performance criteria (Chen, Smith and Grimm, 1992; Smith, Grimm and Gannon, 1992; Chen and Hambrick, 1995; Miller and Chen, 1996; Young, Smith and Grimm, 1996; Gimeno, 1999; Ferrier, Smith and Grimm, 1999; Lee et al., 2000; Ferrier, 2001; Smith, Ferrier and Ndofor, 2001; Chen and Miller, 2012).

In this paper special attention is given on exploring the relationship between the complexity of the competition repertoire and firm's performance on a sample of firms operating on the Croatian market.

## **2. COMPLEXITY OF COMPETITIVE REPERTOIRE**

Firms are taking a diverse range of competitive moves which are defined as the complexity of competitive repertoire. Diversity is defined as the total number of all types of competitive moves observed which a firm undertakes in relation to its competitors in the relevant market within a specific period. Complexity is high in cases where firms undertake competitive activities within many categories and the wide dispersion of moves, which includes research and development, marketing, distribution, new services, manufacturing, etc. (Ferrier, 2001; Gnayawali, Fan and Penner, 2010).

Results of recent studies also suggest that firms that take complex repertoire of competitive moves create difficulties to competitors in understanding of complex set of actions, but also in

the potential response to them (Smith et al., 2001; Ferrier et al., 1999). Also, the studies led to the conclusion that if there is a positive correlation between the complexity of competitive repertoire and performance companies, this indicates an experienced team of top managers leading a firm (Basdeo et al., 2006). In general, the complexity of competitive repertoire is in function of the motivation for finding new ways of competition. Precisely the motivation for alternative competitive activity and approaches leads to learning, gaining experience and competence, whereby making the firms better and more competitive (Miller and Chen, 1996).

Firms taking a broader repertoire of competitive moves are considered to be more aggressive and more competitive. Their competitive repertoire is seen less predictable, and consequently, more complicated to predict and prepare any possible counter-responses. Thus, competitors have less possibility to react while providing defensive ability and competitive advantage for the firm undertaking the complex repertoire (Miller and Chen 1996). As an example of the range of competitive repertoire, D`Aveni (1994), in his "7S categorization" of competition, states characteristics of moves such as, surprise, speed, signaling, shifting the rules, sequential and simultaneous strategic thrusts, as extremely important elements in competitive war.

The complexity of the competitive repertoire represents the range of competitive moves undertaken by a firm. There are many factors shaping the competitive repertoire i.e. the diversity of competitive moves taken by the firms in the mutual competition. The positive business results may lead to inert behavior and decline in diversity of competitive moves (Miller and Chen, 1999). In the opposite circumstances, negative business results motivate firms to find alternative competitive opportunities and new solutions (Lant and Montgomery, 1987). Industrial growth can potentially be demotivating for a firm in terms of undertaking of diverse moves. Market conditions in which demand is increasing also discourages competitors for additional investments and improvement of the competitive repertoire (Miller and Chen, 1996). The level of rivalry also regulates the competitive repertoire of moves, whereat the rivalry and variety of moves are in proportion, or, in other words, the higher the rivalry and the competitive pressure, the greater is the motivation of companies for finding new options, moves and vice versa (Walsh, 1995).

Competitive moves differ depending on the type of actual move undertaken. As the most common categories which stand out are pricing, marketing, new products, new services, increase capacity and signaling moves (Ferrier and Lyon 2004). It is believed that a complex repertoire of competitive moves can have a crucial impact on the ability of firms to adapt to market threats and challenges (Miller and Chen, 1996).

Analysis of the complexity of competitive repertoire is based on annual averages of the diversity in performed moves and is optimized in accordance with the best practices of previous papers in research stream of competitive dynamics that operationalize this variable using the Herfindahl index of concentrations (Ferrier et al., 1999; Miller and Chen, 1996; Basdeo et al., 2006). Firms with high scores Herfindahl index spend narrow and simple competition repertoire and have low complexity of competitive moves. The low score of index however indicates that firms undertake a wide repertoire of various competitive moves, thanks to the relative uniformity in the conduct of all types of moves.

Mathematically expressed it can be illustrated as follows:

$$1 - \text{SUM}_a(N_a/NT)^2$$

In this mathematical equation  $N_a/NT$  represents the share of moves within all categories of moves. A higher score indicates a greater diversity of competitive moves. The measure of the complexity of repertoire very sophisticatedly displays differences and changes in the competitive activities of each firm. Thus, regardless of the total number of categories of performed competitive moves, results also significantly depend on the distribution of the number of competitive moves for each category and the range of the repertoire. Therefore a measure of complexity can differ significantly also for the firms that seemingly have a similar complexity. The complexity of the competitive repertoire is calculated on the basis of the data on diversity of undertaken competitive moves in a given period.

Measuring the complexity of competitive moves carried out, taking into account the pondered diversity between all possible types of moves, is used to determine whose competitive repertoire consists of the widest range of different competitive moves. Later, the methodology of measuring complexity for this study it is explained in detail.

### **3. METHODOLOGY**

#### **3.1 Sample**

The study was conducted on a sample of dyads representing firms characterized by a huge rivalry which were leaders of the market and their most aggressive challengers in the Croatian market during the period of 2009-2013. The sample was selected by carefully identifying the biggest competitors in wide range of industries in the Croatian market. Final selection of the specific companies was carried out on the basis of a previous analysis of their competitive behavior and the relevant parameters (size, revenues, market share, investment in research and development, market growth), which classified them as leaders or the most aggressive challengers.

Although originally planned sample had been formed at the level of 20 dyads, i.e. 40 firms operating in the Croatian market, during the research process, it was realized that for certain firms there was a lack of relevant available data and were therefore eliminated from the research sample. All other firms having available and relevant information were left in the research. According to predefined criteria and knowledge of the basic set, we intentionally singled out a representative sample consisting of 17 market leaders and 17 challengers, jointly representing a research sample of 34 firms. In the dyads of firms, the competitors were classified from the equivalent industries while the sample of the firms derives from a total of 17 industries.

The average number of employees in the firms in 2013 sample was 1,983, while the lowest headcount was 122 and the highest was 11,130. Pursuant to the provisions of the Accounting Act, 33 of 34 firms in the sample (97.1%) could be defined as big, while only one (2.9%) firm was medium-sized business.

Size of the firms, or the number of employees is particularly emphasized as important considering the results obtained by a variety of econometric tests, which implied that the size should be determined differently from the standard accounting practices, and thus for the purposes of this research firms were classified into two groups: the limits for smaller firms was set up to 1000 employees and for equal or more than 1,000 employees for larger firms. This led to a distribution in which 15 companies (44.1%) had less than 1,000 employees, while 19 companies (55.9%) had 1,000 or more employees.

### **3.2 Data collection**

The empirical data intended for analysis was collected by a long-term detailed monitoring and recording media releases detected and stored in a research database. The observed period is from 2009 to 2013, and the data were collected from the beginning of 2013 to the end of 2014. The study was conducted on the basis of specific recommendations and practices, taking into account the best practices of world renowned authors in the field.

Also in accordance with past experience of well-known authors in research of competitive dynamics (Ferrier, 1999, 2001, Young et al., 1996; Smith et al., 1992), structured content analysis was used in this study as a research method, by means collected media data extracted and classified relevant competitive moves taken by the firms.

Data of taken competitive moves was collected through the systematic recording of media reports related to each firm published in the 5 most read business portals in Croatia. During the implementation of research, competitive moves were classified in different categories according to the type of move taken by the observed firm (set of 9 categories, later explained in detail).

By daily monitoring and recording competitive moves, the research database was formed, containing all visible competitive activities undertaken by a firm in the context of its business strategies. Further processing and detailed analysis, the database was filtered and "purified" from a certain number of potentially irrelevant records, duplicates etc. Thereby we gained an insight into the competitive behavior of the diversity of moves taken by each particular firm.

When a comprehensive database was created for each firm, as a basis for further analysis, calculating the rate of complexity could begin. Also, in further empirical analysis it was possible to show the impact of the complexity of the achieved performance. Data of the firm's business operation, its performance and other characteristics (number of employees, management, etc.) are based on the annual reports of the selected firms and official databases and one part of the data was collected directly during the interviews with the management representatives of each firm.

### **3.3 Calculating the complexity of competitive repertoire**

This section explains in detail the process of calculating the complexity on the data example derived from the mentioned sample. In the analysis, the maximum number of moves was unlimited, while the number of categories in which competitive moves were taken was limited to nine.

The analysis was based on nine possible categories of moves the observed firm could take. These were respectively: (1) pricing, (2) marketing, (3) new services, (4) new products, (5) new capacity (6), mergers and acquisitions, (7) legal, (8) technological and (9) signaling.

The selected categories of moves and keywords by which competitive moves were encoded are presented in the following table:

<b>Table 1: Coding and categorizing the competitive moves and the keywords</b>		
CATEGORY OF COMPETITIVE MOVE	KEYWORDS	EXAMPLES OF HEADLINES FROM MEDIA RELEASES
Pricing	Price, rebate, discount, sale...	Huge sale on fresh fruit in Lidl
Marketing	Commercial, promotion, campaign...	Zagrebačka pivovara organize Beckperience party
New services	New service, online channel distribution, loyalty programs, financing...	Konzum now offers online shopping
New products	New devices, extension of product range, new packaging...	New type of life insurance in Allianz
New capacities	New shop, enlargement of capacity, new production line...	Ina opens new petrol station in Pula
Mergers and acquisitions	Merger, acquisition, strategic partnership, consolidation...	T-mobile takes over small cable operator
Legal	Lawsuit, contest, regulatory conditions...	Tele2 is suing competitors to the regulatory agency
Technology	Development of new technology, building of processes, new IT solutions, implementation of BI system...	Tisak has implemented new CRM system
Signaling	Intent, announcement, prior information...	PBZ bank has intention to make special proposals for big clients in next year

After processing all the media releases and categorization of selected competitive moves, overall results were given for the each firm separately which served as the basis for calculating the complexity of repertoire. The following demonstrates the results obtained in the complexity examples of the sample firms.

<b>Table 2: The actual example of differences in the complexity of the moves of a firm within two years, regardless of seemingly similar features of competitive behavior</b>											
$X_{i,1}$	$X_{i,2}$	$X_{i,3}$	$X_{i,4}$	$X_{i,5}$	$X_{i,6}$	$X_{i,7}$	$X_{i,8}$	$X_{i,9}$	$B_i$	$j$	$C_i$
0	0	11	1	3	0	0	0	1	16	4	0.48
0	0	7	0	5	0	0	1	3	16	4	0.67

The same firm was observed in two particular years. In the two observed years this particular firm performed the same number of competitive moves (16) related to the four types of nine ( $j = 1, 2, 3, \dots, k$ ). Although the number of competitive moves was the same and both companies related to four different types, the complexity was significantly different in the two

observed years. The complexity was significantly higher in the second year of observation (0.67). It can be concluded that if the number of moves are more concentrated on one type, the result is the less complex repertoire. Also, if there are less different types of moves, the complexity will be lower, as can be seen from the following example.

**Table 3:** Hypothetical example of the differences in the complexity of the firm's moves within two years, regardless of seemingly similar features in competitive behavior

$X_{i,1}$	$X_{i,2}$	$X_{i,3}$	$X_{i,4}$	$X_{i,5}$	$X_{i,6}$	$X_{i,7}$	$X_{i,8}$	$X_{i,9}$	$B_i$	$j_i$	$C_i$
0	0	4	4	4	0	0	0	4	16	4	0.75
2	0	2	2	2	2	2	2	2	16	8	0.88

From the above table (hypothetical example) it is evident that, if the 16 moves were to be equally distributed across four representation types (regardless of what categories it is), the complexity would be even higher (0.75). If their representation by type (e.g. from 4 to 8) would also increase with the same number of moves and with the same distribution, the complexity would additionally increase (0.88). These results justify the use of formula for calculating the complexity of each firm (taken from Ferrier, 2001):

$$C_i = 1 - \frac{\sum_{j=1}^k X_{i,j}^2}{\left(\sum_{j=1}^k X_{i,j}\right)^2} = 1 - \frac{\sum_{j=1}^k X_{i,j}^2}{B_i^2} \quad i = 1, 2, 3, \dots, n \quad j = 1, 2, 3, \dots, k,$$

$$B_i = \left(\sum_{j=1}^k X_{i,j}\right)^2.$$

### 3.4 Performance

Business performances from the aspect of competitive dynamics appear as the ultimate indicator of the effects of the competitive behavior taking place in unstable, turbulent and uncertain business conditions and forces firms to different approaches to business in order to successfully operate and create value for all stakeholders.

Since the return on sales (ROS) and return on assets (ROA) frequently stand out as benchmarks of performance in the research in the field of corporate entrepreneurship and strategic management (Ferrier, 2001; Murphy, Trailer and Hill, 1996; Boyd and Bresser, 2008) in this paper the impact of the characteristics of competitive moves is shown undertaken on the basis of these two key indicators.

Financial indicators are calculated from the official data provided by the Finance Agency (FINA) and then compared with the complexity of the competitive repertoire. The results are essential for the validation of the assumed thesis on complexity relations of the competitive repertoire and the actual performance.

### 3.5 Variable operationalization

Data containing cross-section and time-series components can be characterized as the panel data, and models that can adequately assess the impact of one or more independent variables on the observed dependent variable are panel models. There are several panel more models that can be used, such as Pooled panel, static panel model (fixed or random effect) or dynamic panel model (Baltagi, 2009).

Empirical studies have shown that the justification of the use of the appropriate panel model is based on the relative cross and time components while the appropriateness of the model is based on the diagnostic tests such as Hausman test, Sargan test and the like (Wooldridge, 2010). Additionally, it is common to previously transform values of all variables on the base of the natural logarithm (ln) whereby achieving stability of time series and reduces the impact of outliers (Bahovec and Erjavec, 2009).

It is important to stress that the time series component in this research refers to five years of observation, from 2009 to 2013 ( $T = 5$ ), and a total of 34 firms ( $N = 34$ ). Number of the firms in the sample derives from 17 dyads selected in the quota sample (17 challengers and 17 leaders). Using longitudinal study, the huge amount of data was aggregated on the competitive behavior of the firms from different industries on the Croatian market with a total of 170 observations.

The quota sample is intentional sample, whose elements were chosen by the researcher in its sole discretion. It is appropriate approach when the researcher has sufficient information on the characteristics of the entire population, and when the researcher believes that this set of elements should be explored, just as is the case in this study.

In the interpretation is the always necessary to emphasize whether the sign of the estimated coefficient is appropriate and which variables are statistically significant at the empirical significance level below 10%, which are statistically significant in the empirical significance level of less than 5%, or below 1%. While using one-way testing, t-test will be conducted at the lower limit if the sign of the negative variables or the upper limit if the sign of the variable positive.

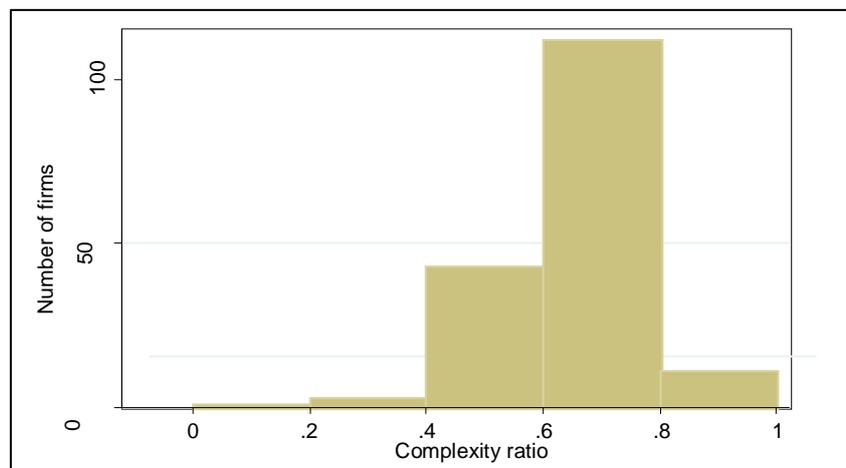
#### **4. RESEARCH RESULTS**

After clustering of numerical variables values in the intervals of equal size, the common statistical and analytical indicators were calculated, such as the minimum and maximum value, the mean and standard deviation. Figure 1 shows that the average number of moves taken in a sample of companies was 16,26 ( $\approx 16$ ) with an average level of complexity of 0.65.

Average level of complexity at 0.65 is moderately high since it can take values from 0 to 1. From the following histogram, it is also evident that the distribution of the firms is not symmetrical, it is more asymmetric on left side (there are a few companies with very low complexity). Dominating firms are those performing an average of 10-20 competitive moves with the complexity of between 0.6 and 0.8. This is evident from the following tabular and graphical display. For this purpose, the value of the variable is grouped into five categories, i.e. of same 0.2. size interval

Value	Count	Percent	Cumulative	Cumulative
			Count	Percent
[0, 0.2)	1	0.59	1	0.59
[0.2, 0.4)	3	1.76	4	2.35
[0.4, 0.6)	43	25.29	47	27.65
[0.6, 0.8)	112	65.88	159	93.53
[0.8, 1)	11	6.47	170	100.00
<b>Total</b>	<b>170</b>	<b>100.00</b>		

**Figure 1:** Distribution of firms according to the complexity of competitive moves taken in the period of 5 years



**Figure 2:** Histogram distribution firms according to the complexity of competitive moves taken in the period of 5 years

Furthermore, empirical analysis based on a series of different panel models and supported by a number of tests, in order to obtain the most appropriate model in a specific analysis and in order to acquire the most relevant results in the research.

The main thesis of the study is that there is a positive impact of the complexity of competing firms' repertoire on the performance level. The assumption of positive relationship was based on the fact that firms taking more complex and diverse repertoire gain a competitive advantage in terms of innovation, non-imitativeness etc., thanks to which they are achieving better performance. As previously mentioned, the complexity of the competition repertoire was measured on the basis of diversity undertaken competitive moves while the performance was expressed by ROA and ROS indicators.

After preliminary calculations, the obtained results primarily pointed out the necessity of classification of firms with less than 1,000 employees and companies with 1,000 or more employees. This conclusion was imposed after inspecting the B-P diagrams, whereby it was shown that less atypical data values was when the firms were classified into two categories depending on their size. Therefore it was decided that the firms in the sample would be classified exactly as described above.

The collected data were analyzed using the software package Microsoft Excel and using the software program package for statistical data analysis STATA. Statistical analysis was based on descriptive statistics, correlation and analysis of the panel models. A series of diagnostic tests were performed: F-test, Hausmann test, chi-square test, analysis of variance (ANOVA) and nonparametric correlation. Also, methods of tabular and graphical presentation of the results were used. Through statistical analysis and conducted tests, the suitability of a particular model was shown, and it was decided on the usage of suitable fixed and random effects models whose results are presented below.

According to the results of panel models with fixed effects (proven to be the most appropriate in the performed part of the research during the analysis of indicator ROA), it is evident that the complexity of competitive repertory of the firm has a positive and significant impact on ROA only in firms with 1,000 or more employees, while a significant and positive impact of the "overall competitive activities of the firm," exists only for indicator ROS, regardless of the firm size.

Fixed-effects (within) regression				Number of obs	=	93
Group variable: id				Number of groups	=	20
R-sq: within	=	0.0310	Obs per group: min	=	1	
between	=	0.1658	avg	=	4.7	
overall	=	0.0199	max	=	5	
corr(u_i, Xb) = -0.2801				F(2,71)	=	1.14
				Prob > F	=	0.3268
-----						
roa		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
-----						
broj		-.0417265	.0559504	-0.75	0.229	-.1532883 .0698354
kompleksnost		5.585227	4.259532	1.31	0.097	-2.908038 14.07849
_cons		.7523529	3.081579	0.24	0.404	-5.392141 6.896847
-----						
sigma_u		5.9559814				
sigma_e		2.6790004				
rho		.8317253	(fraction of variance due to u_i)			
-----						
F test that all u_i=0:		F(19, 71) =	15.53		Prob > F =	0.0000

**Figure 3:** Results of panel model with fixed effect for firms with 1,000 or more employees; the dependent variable ROA

From the results of the assessment of panel model with fixed effect for firms with 1,000 or more employees shown in the table above, with the dependent variable ROA, it is evident that the complexity holds statistical significance at the 10% of significance rate, with a positive effect at ROA.

According to the results from a panel model with the random effect (which proved to be the most appropriate in analyzing indicator ROS), it was concluded that the firm's complexity of competitive repertory has a significant and positive effect on ROS exclusively in firms with more than 1,000 employees.

Random-effects GLS regression		Number of obs	=	93		
Group variable: id		Number of groups	=	20		
R-sq: within	= 0.0555	Obs per group: min	=	1		
between	= 0.0000	avg	=	4.7		
overall	= 0.0055	max	=	5		
corr(u_i, X) = 0 (assumed)		Wald chi2(2)	=	3.79		
		Prob > chi2	=	0.1507		
-----						
ros		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
-----						
broj		.1448103	.0842536	1.72	0.043	-.3099444 .5993237
kompleksnost		6.432379	3.818542	1.69	0.045	-6.343728 19.20849
_cons		4.624413	4.893356	0.95	0.172	-4.966389 14.21521
-----						
sigma_u		7.6481306				
sigma_e		4.3563093				
rho		.75503932	(fraction of variance due to u_i)			

**Figure 4:** Results of the panel model with random effect for companies with 1,000 or more employees; the dependent variable ROS

From the results of the assessment of panel model with random effect for firms with 1,000 or more employees shown in the table above, with the dependent variable ROS, it is evident that complexity holds statistically significant significance at 5% significance rate, having positive affect to ROS indicator.

The connection was partly dependent on the number of employees in the firm, so it is evident that complexity of the competition repertoire was significant only in the observed firms having 1,000 or more employees. This supports the thesis and further supports the conclusion that the complexity (complexity) in a competitive repertoire has a strong impact and a positive effect on the performance of large firms.

A summary of the results, impact of complexity of competitive repertoire to firm performance is given in the table below.

<b>Table 4: Comparison of the appropriate panel models and model result</b>		
Indicators	ROA	ROS
Panel model	FIXED	RANDOM
No. of employees <= 1000	/	/
No. of employees > 1000	Complexity (+)	Complexity (+)

From the above table it can be concluded that the analysis of the research results show that the complexity of firms’ competitive repertory significantly affected their business performance in the sample of large firms (with more than 1000 employees) observed within the five-year period. Also, there is a positive correlation of moderate intensity being statistically significant at a significance level of 10%.

**5. CONCLUSION**

Subject study in this paper was the competitive dynamics among 34 observed firms, characterized by business strategy that define the management teams of firms and their competitive moves performed on the market. Depending on preferences, experience, management beliefs, available resources, etc., some of the firms in the sample implemented a complex repertoire of competitive moves, some simple, and some combined, depending on the estimated position, with the aim of improving the competitive position and performance. It should be pointed that it was confirmed that complexity of competitive repertoire is the very important construct in the competitive behavior of companies and its efforts for the achievement of competitive advantages.

The main connection observed in this study was between the complexity of competitive repertoire and performance of observed firms. Based on the results of quantitative and qualitative analysis, it can be concluded that the higher level of complexity in a competitive repertoire has a positive effect on performance and it is certainly preferable for the firms to have diverse and creative business policy in their competitive activities.

Certainly, it should be noted that the connection was partly dependent on the size of the firms (defined by the number of employees). Based on the obtained results it was concluded that the relationship between the complexity of competitive repertoire and performance was significant only for large companies or those companies with 1,000 or more employees, which confirmed the assumptions of the set thesis. Bearing this in mind, in the context of the sample, a positive impact of a complex repertoire on the performance has proven the connection only when it comes to large firms. This insight represents additional contribution deriving from the research. Surely in future efforts an additional contribution can be given by researching a detailed link between the size of the firms, its competitive behavior and the consequential effects on performance.

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