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Does Corporate Entrepreneurship Moderate the Relationship Between Top Management Team Heterogeneity and Company Performance?

Karolina KOKOT

University of Zagreb, Faculty of Organization and Informatics, Varaždin, Croatia, kkokot@foi.unizg.hr

Purpose: The importance of top management team (TMT) heterogeneity is increasingly recognized in strategic management. Despite numerous research studies, the results remain inconsistent. This research aims to address this gap by examining the moderating effect of the internal context in which TMT operates, specifically corporate entrepreneurship (CE). CE is an opportunity for modern companies to achieve a competitive advantage and has gained significant attention in both literature and practice over the past decade.
Methodology: The study seeks to determine whether CE moderates the relationship between TMT heterogeneity and company performance. The research was conducted using secondary and primary data with samples of 62 companies and 444 respondents. Moderated regression analysis was employed for hypothesis testing.
Findings: The results confirm CE's moderating effect and its positive, significant impact on company performance, as measured by return on assets and return on sales.
Implications for theory and practice: The paper contributes to the literature by addressing the identified research gap. The inclusion of moderating variables in research models is necessary, as existing research in upper-echelon theory requires improved methodology to achieve greater consistency in results. Furthermore, research results identified recommendations for improving CE implementation in companies.
Originality and value: Due to the limited prior research on this topic, this paper makes a meaningful contribution to the upper echelons' theory. The findings indicate that corporate entrepreneurship exerts a moderating effect on the relationship between TMT heterogeneity and company performance.

Keywords: Strategic management, Corporate entrepreneurship, Top management team heterogeneity, Moderating variables, Company performance

1 Introduction

Waldman et al. (2004) state that strategic management increasingly focuses on analyzing the top management team (TMT) and its impact on strategy formulation and company performance. The relationship between TMT and company performance is a prominent topic among scholars in the strategic management field and the business community, aiming to advise companies on success factors (Pitcher & Smith, 2001) to define TMT structures that lead to higher performance. The TMT is the decision-making entity involved in companies' competitive activities (Yoon et al., 2016). Top management consists of individuals with

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the authority to define strategic decisions in companies (Camelo-Ordaz et al., 2005; Yoon et al., 2016), making critical decisions regarding resource allocation, projects, and the objectives to be achieved (Ruiz-Jiménez et al., 2016). Thus, analyzing their operations is crucial. Managers are considered the most important resources of companies (Kamran, 2012), and company development hinges on the capabilities of the TMT (Wang et al., 2016).

Hambrick (2007) emphasizes that to understand how companies operate, the most powerful actors (the TMT) have to be observed. Within a company's structure, management is responsible for internal and external activities, albeit with some limitations on its power (Iqbal et al., 2021). According to this, present research highlights the significance of TMT for overall company operations, which has increased interest in understanding how and why TMTs function within companies. Carpenter (2002) notes that the heterogeneity of educational background, functional background, and tenure of the TMT is influenced by the strategic and social context in which the TMT operates. Consequently, the absence of moderating variables describing the strategic and social context in the analysis of the impact of TMT heterogeneity on companies' performance can lead to inconsistencies in previous research findings. Talke et al. (2010) argue that the relationship between heterogeneity and performance is dependent on moderating variables. Therefore, this research model includes corporate entrepreneurship (CE) as a moderating variable to examine its effect, as the topic is not adequately addressed in the existing literature.

The aforementioned points contribute to the literature by addressing the identified research gap. The inclusion of moderating variables in research models (Kokot et al., 2021; Talke et al., 2010) is necessary, as existing research in upper-echelon theory requires improved methodology (Díaz-Fernández et al., 2015; Neely et al., 2020) to achieve greater consistency in results. Recent studies have highlighted the significance of moderating variables in examining the relationship between TMT heterogeneity and company performance. This approach mitigates the issues arising from existing research models that overlook the internal context of TMT. CE can be observed as the internal context of companies. Research by Umrani et al. (2018), Dyduch (2008), and Zahra and Garvis (2000) demonstrates the positive impact of CE on company performance. Heterogeneity can also enhance performance, leading to the assumption that CE positively moderates the impact of TMT heterogeneity on company performance. Accordingly, the research questions are as follows: RQ1: Does CE moderate the relationship between TMT heterogeneity and company performance? RQ2: Does the CE positively impact company performance?

Literature Review

Certo (2006) states that TMT heterogeneity has numerous positive effects, but it may also generate conflicts among TMT members. Therefore, it is crucial to analyze the internal context in which TMT operates and its moderating effects, which can amplify the advantages or mitigate the disadvantages of heterogeneity. CE represents one aspect of this internal context, and increasing demographic heterogeneity within companies can create advantages by enabling diverse strategic approaches (Chatman & Flynn, 2001), thereby positively impacting company performance (Marimuthu & Kolandaisamy, 2009; Naranjo-Gil et al., 2008; Pfeffer, 1985). The level of CE can be assessed as a company's strategic approach. Glinyanova et al. (2021) claim that CE, as a scientific field, began developing in the 1980s, and that, in today's market conditions, it has become increasingly important for companies, particularly market leaders (Bau & Wagner, 2015). The theoretical and empirical aspects of CE have developed slowly over the past several decades, yet its importance continues to grow (Kuratko, 2017). Heavey and Simsek (2013) highlight that understanding CE is crucial for a company's ability to compete, adapt, and operate effectively.

Historically, the need for companies to change rapidly, innovate, and transform to meet market demands has been well-documented (Tseng & Tseng, 2019). Companies today are navigating significant technological changes that accelerate entrepreneurship and innovation; a lack of these activities can lead to company failure (Kuratko & Morris, 2018). Thus, fostering organizational activities that promote innovation, risk-taking, and competitiveness is essential for companies (Afshar Jahanshahi et al., 2018), making CE a necessity in today's market conditions (Tseng & Tseng, 2019). Over the past two decades, CE has garnered increasing attention from both scholars and the business community (Boukamcha, 2019). Kuratko et al. (1990) suggest that the growing interest in CE stems from its potential to enhance employee innovation and improve company performance through new entrepreneurial ventures. Afshar Jahanshahi et al. (2018) argue that CE enables companies to seize opportunities for operational improvement and is a term used to describe entrepreneurial behavior in medium- and large-sized companies (Kuratko & Morris, 2018). Consequently, Setiawan and Erdogan (2018) define CE as a tool for supporting successful business, while Urbano et al. (2022) claim that CE is vital for enhancing companies' competitive advantage and exploring new possibilities and competencies.

CE represents a strategic process for companies, which must create conditions that foster entrepreneurial behavior among employees (Elia & Margherita, 2018). Therefore, CE can be considered a strategic response for the company to opportunities in the environment (Kakapour et al.,

2016). Numerous definitions of CE exist, but they generally encompass similar constructs, including new entrepreneurial ventures (Abou-Moghli & Al-Abdallah, 2018; Zahra, 1991), entrepreneurial activities (Kuratko, 2017), and innovations (Ahmed et al., 2018; Shaw et al., 2005) aimed at achieving higher organizational performance. Thus, CE is a strategic approach that helps the company achieve higher performance. Sakhdari (2016) identifies CE factors as environment, networking, company, and TMT. The TMT, as an entity, underscores its role in defining and implementing CE activities.

Literature on TMT heterogeneity and company performance reveals inconsistencies in research findings (Carpenter, 2002; Díaz-Fernández et al., 2020; Nielsen, 2010; Patzelt et al., 2008). Consequently, new research aims to investigate moderating variables in the relationships between TMT characteristics and dependent variables (Patzelt et al., 2008). Scholars emphasize the importance of moderating variables in research models (Kokot et al., 2021; Lo et al., 2019; Long-Zeng et al., 2017; Yamak et al., 2014). Cannella et al. (2008) highlight the importance of the moderating effect of both internal and external contexts in which TMT operates on the relationship between TMT heterogeneity and company performance. Most current research focuses on the external context of the TMT environment, while the internal context remains largely unexamined (Nielsen, 2010; Tanikawa et al., 2017; Lo et al., 2019). He et al. (2016) note that the majority of studies included in the research model the mediator or moderating variables that describe external factors, such as competitive intensity (Su et al., 2022), while few researchers focus on internal contexts, such as team atmosphere, capital structure, and communication frequency.

Afshar Jahanshahi et al. (2018) indicate that recent studies have increasingly focused on internal factors of CE, particularly top management support for enhancing CE activities, based on the assumption of upper-echelon theory. Heavey and Simsek (2013) claim that initial research focused on institutional factors such as organizational structure, culture, resources, and initiatives, whereas today TMT is recognized as crucial for addressing challenges related to CE. The present research focuses on various aspects of TMT activities, roles, and processes, emphasizing the TMT's critical role in promoting CE (Heavey & Simsek, 2013). Top management is essential for CE (Lovrinčević, 2012). Heavey and Simsek (2013) argue that TMT characteristics impact the identification and response to entrepreneurial opportunities, as well as the ability to support CE activities. Therefore, TMT plays a vital role in the CE strategic process, and its impact on CE activities is not debatable.

Umrani et al. (2018) suggest that, according to resource theory, companies that adopt a strategy incorporating CE have better opportunities to create competitive advantages and achieve higher performance than those without CE. Ahmed et al. (2018) emphasize the positive impact of CE on company performance. Existing research supports the notion that CE influences company performance. Umrani et al. (2018) conducted a study on banks in Pakistan and found that CE positively impacts performance. Dyduch (2008) studied 308 companies in Poland and concluded that certain aspects of CE contribute to improving company performance, particularly in financial metrics such as ROA (return on assets) and ROS (return on sales). Zahra and Garvis (2000) researched 149 U.S. companies and identified a positive impact of CE on ROA and growth rates. Fis and Cetindamar (2021) highlight the role of TMT, which, following the acquisition of entrepreneurial orientation, establishes mechanisms that support CE. Bau and Wagner (2015) argue that TMT significantly enhances and promotes CE activities. The role of TMT in CE activities and the positive impact on company performance, as well as the moderating effect are identified in the relationship between TMT heterogeneity and company performance. CE is a critical aspect of company strategy, and thus, the internal context of companies can influence this relationship. Based on the preceding discussion, the following hypotheses are proposed:

H1. CE moderates the relationship between TMT heterogeneity and company performance.

- H1.a. CE will positively moderate the relationship between TMT Tenure Heterogeneity and company performance.
- H1.b. CE will positively moderate the relationship between TMT Functional Background Heterogeneity and company performance.
- H1.c. CE will positively moderate the relationship between TMT Educational Background Heterogeneity and company performance.
- H1.d. CE will positively moderate the relationship between TMT Gender Heterogeneity and company performance.
- H1.e. CE will positively moderate the relationship between TMT cultural heterogeneity and company performance.

H2. CE has a positive impact on company performance.

Research Methodology

Both primary and secondary research were conducted. TMT heterogeneity was defined using secondary data, while the variable CE was derived from primary data. The research sample consisted of large Croatian companies. According to the platform info.biz by the Financial Agency (FINA), a list of large, active companies was compiled. All economic activities were included. According to the research objectives, only companies with more than three managers in their TMT were included (Lo et al., 2019).

Additional criteria for inclusion in the sample were as follows: 1) the company was a limited (Ltd.) or joint-stock company; 2) the company had a dualistic governance model; and 3) the company continuously had three or more TMT members during the period.

After applying these criteria, 73 Croatian companies met all requirements, forming the secondary research sample. To validate the data collection and analysis, the managing board was defined as the TMT, as it included the highest level of management within the company. Following the secondary research, data on TMT heterogeneity for 62 companies were collected, resulting in the final research sample. For other companies, TMT data was not available. Invitations for participation in the primary research were sent to all 62 companies via email and post. The overall response rate for the primary research was 48.39%, with 30 companies participating. Each company provided an average of 15 responses, for a total of 444 responses.

The primary research utilized a questionnaire for employees. To ensure the validity of the results, a scale developed by Bau and Wagner (2015) for assessing CE was employed (Cronbach's alpha 0.961). This instrument measures the level of CE across four dimensions: leadership quality and effectiveness, collaboration, information, and innovativeness, as well as product tasks and limitations. Bau and Wagner (2015) developed this instrument to measure CE at the employee level, addressing the lack of scales that assess CE perceptions from multiple employee perspectives rather than within specific company groups, such as middle management. Kontić et al. (2017) emphasize the need to measure CE at the individual level, as it relies on individuals' innovative behaviors.

Research Models

$$ROA_i = \beta_0 + \beta_1 LOG(FSIZE_i) + \beta_2 ATENURE_i + \beta_3 TMT\ SIZE_i + \beta_4 INDUSTRY_i + \beta_5 HTENURE_{i,t} + \beta_6 HFBACKGROUND_{i,t} + \beta_7 HEBACKGROUND_{i,t} + \beta_8 GENDER_{i,t} + \beta_9 CULTURE_{i,t} + \beta_{10} CE_i + \beta_{11} HTENURE_i{*}CE_i + \beta_{12} HFBACKGROUND_i{*}CE_i + \beta_{13} HEBACKGROUND_i{*}CE_i + \beta_{14} GENDER_i{*}CE_i + \beta_{15} CULTURE{*}CE_i + \varepsilon_i$$

$$ROS_i = \beta_0 + \beta_1 LOG(FSIZE_i) + \beta_2 ATENURE_i + \beta_3 TMT\ SIZE_i + \beta_4 INDUSTRY_i + \beta_5 HTENURE_{i,t} + \beta_6 HFBACKGROUND_{i,t} + \beta_7 HEBACKGROUND_{i,t} + \beta_8 GENDER_{i,t} + \beta_9 CULTURE_{i,t} + \beta_{10} CE_i + \beta_{11} HTENURE_i{*}CE_i + \beta_{12} HFBACKGROUND_i{*}CE_i + \beta_{13} HEBACKGROUND_i{*}CE_i + \beta_{14} GENDER_i{*}CE_i + \beta_{15} CULTURE{*}CE_i + \varepsilon_i$$

ROAi,t = return on assets
ROSi,t = return on sales
HTENUREi,t = TMT's tenure heterogeneity
HFBACKGROUNDi,t = TMT's functional background heterogeneity
HEBACKGROUNDi,t = TMT's educational background heterogeneity
GENDERi,t = TMT's gender heterogeneity
CULTUREi,t = TMT's cultural heterogeneity
FSIZEi,t = company size
ATENUREi,t = average tenure
TMT SIZEi,t = TMT size
INDUSTRYi,t = economic activity
CE = level of CE in company i
Ui = random effect
εi,t = the observation error for the ith unit at time t
α0 = overall intercept term
β1…βk = beta coefficients
i = 1, …, 62; t = 1, …, 6

Based on the value of the variance inflation factor (VIF), it can be concluded that the problem of multicollinearity was not identified in the models, given that the VIF for all variables is significantly below the recommended level. Furthermore, autocorrelation and the potential problem of heteroscedasticity were identified, so the Newey-West correction was applied (Vučković, 2010). To test hypothesis H1, which examines the moderating effect of CE on the relationship between TMT heterogeneity and company performance in large Croatian companies, moderated multiple regression was applied (Cohen et al., 2003, according to Gil et al., 2019). Landis and Dunlap (2000) state that moderated multiple regression, a widely used method for testing moderating effects in organizational research, is a specialized form of hierarchical regression analysis (Tadi, 2005). This method has been employed in upper-echelon theory research and in testing moderating effects by Gil et al. (2019), Chen and Liu (2018), Lo et al. (2019), Rababah (2019), Tanikawa et al. (2016), and Uppal (2020), as well as in the CE field by Zahra and Garvis (2000). To test the moderating effect of CE on the relationship between TMT heterogeneity and company performance, an interactive term was created by multiplying all independent variables (heterogeneity of demographic characteristics) by the moderating variable (CE), followed by the analysis process (Cohen et al., 2014, according to Lo et al., 2019).

Heterogeneity across all five analyzed dimensions is treated as an independent variable. TMT Tenure Heterogeneity was calculated by collecting data on the number of years each team member spent in the TMT through the defined years. Heterogeneity was then calculated using the variation coefficient for year t (Naranjo-Gil et al., 2008; Ormiston et al., 2021; Talke et al., 2010). TMT Functional Background Heterogeneity was defined by categorizing each TMT member's field of specialization into the following categories: finance, marketing, human resource management, production, research and development, IT, law, and others (Kock & Talke, 2012; Talke et al., 2010). This variable was measured using the Blau index (Ormiston et al., 2021). TMT Educational Background Heterogeneity was defined by categorizing each TMT member's

educational field into one of the following eight categories: natural sciences, technical science, biomedicine and health, social science, humanities, arts, and others (Narodne novine, 2016, number 34/16), and the Blau index was calculated (Ormiston et al., 2021). TMT Gender Heterogeneity was calculated as the ratio of female members to total members (Byron & Post, 2016; Marimuthu & Kolandaisamy, 2009). TMT Cultural Heterogeneity was measured using a proxy variable, the nationality of TMT members (Cambrea et al., 2017; Lo et al., 2019; Nielsen & Nielsen, 2013), specifically the number of TMT members who were not Croatian nationals divided by the total number of TMT members (Marimuthu & Kolandaisamy, 2009).

The dependent variables were financial performance, measured by ROA and ROS. The model included four control variables: company size (Díaz-Fernández et al., 2020; Fung et al., 2020; Gil et al., 2019; Kolev & McNamara, 2020; Magnanelli et al., 2021; Mohr & Batsakis, 2019), average tenure of all team members in TMT (Hsieh et al., 2018; Lo et al., 2019; Mohr & Batsakis, 2019), economic activities (Pemer et al., 2020), and size of TMT (Díaz-Fernández et al., 2020; Gil et al., 2019; Jiang et al., 2020; Kolev & McNamara, 2020; Wrede & Dauth, 2020). Table 1 presents descriptive statistics for the variable CE. The average CE level in the research sample was 3.97, indicating that CE was recognized within the companies. The minimum was 2.89, and the maximum was 4.83, indicating a varied distribution of CE levels among the analyzed companies.

Analysis of research responses indicates that employees are most satisfied with the Tasks and Responsibilities category, with an average rating of 4.25. The Product category received the lowest average rating of 3.70. These results suggest that while employees are generally aware of their tasks and responsibilities, they need more information about the company's products, including their characteristics, customer feedback, and other essential details. Respondents rated the statement "I feel my responsibility for the success or failure of my tasks" the highest, with an average rating of 4.45. This suggests that employees in the analyzed companies believe they have individual accountability for their task outcomes. Conversely, the statement "Regularly, I get feedback about the satisfaction of our clients," received the lowest rating of 3.40, implying that employees do not receive sufficient feedback. Companies should consider improving the dissemination of client feedback to employees. The statement "Information that I need to do my tasks is always available to me" received a rating of 3.68, highlighting a potential lack of necessary information. Companies are encouraged to enhance their information dissemination processes to increase CE levels.

Two models were defined, each with a different dependent variable (ROA or ROS), while the independent, control, and moderating variables remained consistent. The first ROA model was tested. Model 1 includes control variables: company size, average tenure of All Team Members in the TMT, economic activities, and TMT Size. Model 2 incorporates the effects of independent variables: TMT Tenure Heterogeneity, TMT Functional Background Heterogeneity, TMT Educational Background Heterogeneity, TMT Gender Heterogeneity, TMT Cultural Heterogeneity and the moderating variable CE. Model 3 includes an interactive term (product), independent and moderating variables (CE).

Results for the ROA models are presented in Table 2. Model 3, which includes control, independent, and interactive term independent variables along with CE, is significant at the 5% level ($p<0.05$) and shows an increase in R2. A negative and significant moderating effect of CE on TMT Functional Background Heterogeneity was identified ($\beta = -0.489$, $p < 0.1$), contradicting H1.b. High levels of CE in large companies amplify the negative impact of TMT Functional Background Heterogeneity on company performance. In line with those results, hypothesis H1.b. is not accepted. Therefore, results identified a positive and significant moderating effect of CE on TMT Tenure Heterogeneity, leading to the acceptance of hypothesis H1.a. This indicates that the positive impact of TMT Tenure Heterogeneity on company performance is stronger at higher levels of CE. The moderating effect of CE on other variables was not identified. Model 3 also revealed a positive and significant impact of CE on ROA ($\beta=0.301$, $p<0.1$), supporting hypothesis H2 and aligning with findings from Kaya (2006), Abou-Moghli and Al-Abdallah (2018), and Umrani et al. (2018).

Table 1: Descriptive Statistics for Variable CE

	Mode	Median	Standard Deviation	Min	Max
CE	3.965487665	3.920944499	0.42748	2.894479167	4.823958333

Source: Author's calculations

Table 2: Results of Moderating Regression (ROA)

Variables	Model 1 ROA	Model 2 ROA	Model 3 ROA
C	-0.204	-0.349	-1.503*
Control Variables			
Company Size (LOG)	0.012	0.015	0.010
Average Tenure of All Team Members in TMT	0.002	0.004	0.004
Size of TMT	-0.007	-0.026	-0.046
Economic Activities	0.033	0.022	0.015
Independent Variables			
CE		0.006	0.301*
TMT Cultural Heterogeneity		-0.007	-0.535
TMT Educational Background Heterogeneity		0.049	1.293
TMT Gender Heterogeneity		0.024	0.048
TMT Functional Background Heterogeneity		0.135	2.263**
TMT Tenure Heterogeneity		0.051	-0.710
Moderating Variables			
CE TMT Cultural Heterogeneity*			0.124
CE TMT Educational Background Heterogeneity*			-0.298
CE TMT Gender Heterogeneity*			-0.009
CE TMT Functional Background Heterogeneity*			-0.489*
CE TMT Tenure Heterogeneity*			0.199*
F-Value	0.580	0.536	0.604
Adjusted R^2	-0.061	-0.190	-0.258
R^2	0.085	0.220	0.393
Significance	0.645	0.647	0.001

*p<0.1; **p<0.05; ***p<0.01; n=30
Source: Author's calculations

The results of the ROS models are presented in Table 3. Model 3, which includes control, independent, and interactive terms of independent variables with CE, is significant at the 1% level (p<0.001). Thus, R2 increases. In model 3, a negative and significant moderating effect of CE on TMT Functional Background Heterogeneity and company performance contradicts hypothesis H1.b, leading to its rejection. Conversely, a positive and significant moderating effect of CE on TMT Tenure Heterogeneity (β=0.324, p<0.001) was identified, supporting hypothesis H1.a. These results are consistent with those of the ROA model. The moderating effect of CE for other independent variables in the model ROS is not identified. Model 3 also identified a positive and significant impact of CE on ROS (β=0.528, p<0.001), consistent with the results of model ROA. Therefore, the hypothesis H2 is accepted.

According to the research results for both models, hypothesis H1.a is accepted, indicating that CE positively moderates the relationship between TMT Tenure Heterogeneity and company performance. Also, the moderating effect of CE in this relationship is indicated, supporting the idea that research on upper-echelon theory should include moderating variables. Consequently, H1 is partially supported. Furthermore, the results indicate a positive impact of CE on company performance in both models, thereby supporting H2. Those results are shown in Table 4.

Results and Discussion

The results indicate a positive impact of CE on the performance of large companies, as measured by ROA and ROS, consistent with existing research (Abou-Moghli & Al-Abdallah, 2018; Kaya, 2006; Umrani et al., 2018) and theoretical assumptions that higher levels of CE improve performance (Othman & Zakaria, 2012). CE encompasses activities that foster entrepreneurial thinking and innovation among all employees; thus, a higher level of CE positively affects employee performance, which in turn enhances overall company performance. According to those results, management can observe CE as a tool to improve overall company performance and gain a competitive advantage.

The results reveal a moderating effect of CE on the relationship between TMT Tenure Heterogeneity and company performance, indicating that higher levels of CE amplify the positive impact of TMT Tenure Heterogeneity. Those results can be explained by the fact that elevated levels of CE in companies enhance the innovation and creative thinking of younger TMT members, thereby strengthening the positive impact of TMT Tenure Heterogeneity. TMT Tenure Heterogeneity reflects the creativity and new ideas of younger members, combined with the experience of current members. To leverage the potential of new ideas, it is essential to cultivate an internal environment that supports them. To make innovative strategic decisions, TMT requires employees who exhibit entrepreneurial thinking and proactivity related to CE.

Table 3: Results of Moderating Regression (ROS)

Variables	Model 1 ROS	Model 2 ROS	Model 3 ROS
C	-0.810	-0.950	-2.994*
Control Variables			
Company Size (LOG)	0.043*	0.042*	0.034
Average Tenure of All Team Members in TMT	0.004	0.005	0.007
Size of TMT	-0.015	-0.045*	-0.076**
Economic Activities	0.028	0.004	-0.012
Independent Variables			
CE		0.009	0.528***
TMT Cultural Heterogeneity		-0.044	-0.621
TMT Educational Background Heterogeneity		0.087	2.233
TMT Gender Heterogeneity		-0.010	0.404
TMT Functional Background Heterogeneity		0.323	3.812***
TMT Tenure Heterogeneity		0.036	-1.209**
Moderating Variables			
CE TMT Cultural Heterogeneity*			0.132
CE TMT Educational Background Heterogeneity*			-0.519
CE TMT Gender Heterogeneity*			-0.110
CE TMT Functional Background Heterogeneity*			-0.807**
CE TMT Tenure Heterogeneity*			0.324***
F-Value	2.230	1.388	1.450
Adjusted R2	0.145	0.118	0.189
R2	0.263	0.422	0.608
Significance	0.141	0.308	0.000

*p<0.1; **p<0.05; ***p<0.01; n=30
Source: Author's calculations

Table 4: Hypotheses summary

Hypothesis	ROA	ROS
H1. CE moderates the relationship between TMT heterogeneity and company performance.	**Partially accepted**	**Partially accepted**
H1.a. CE will positively moderate the relationship between TMT Tenure Heterogeneity and company performance.	**Accepted**	**Accepted**
H1.b. CE will positively moderate the relationship between TMT Functional Background Heterogeneity and company performance.	**Rejected**	**Rejected**
H1.c. CE will positively moderate the relationship between TMT Educational Background Heterogeneity and company performance.	**Rejected**	**Rejected**
H1.d. CE will positively moderate the relationship between TMT Gender Heterogeneity and company performance.	**Rejected**	**Rejected**
H1.e. CE will positively moderate the relationship between TMT cultural heterogeneity and company performance.	**Rejected**	**Rejected**
H2. CE has a positive impact on company performance.	**Accepted**	**Accepted**

For TMT Functional Background Heterogeneity, the moderating effect of CE was identified, but the effect is negative. Due to the existing gap in previous studies regarding the moderating effect of CE, comparisons with another research cannot be made. Further research is recommended to investigate these unexpected findings. No significant moderating effect of CE was identified for other dimensions of heterogeneity. Given the lack of prior research, these results represent a significant scientific contribution to the upper-echelon theory. This research indicates that CE, as an internal context, moderates the impact of TMT heterogeneity on company performance, either amplifying or diminishing it. Internal context shapes TMT activities, reinforcing the idea that research models of TMT heterogeneity should include as many variables as possible, which describe the context in which TMT operates. This is a key recommendation for future research, as the moderating effect has been identified for certain dimensions of TMT heterogeneity. These results highlight the scientific contribution of this paper by addressing identified gaps in current research, emphasizing the importance of moderating variables. Furthermore, the inclusion of CE contributes to empirical evidence in the upper-echelon literature.

Consequently, the results support the assertion that CE enhances company performance and provide recommendations for companies on how to elevate their levels of CE. Analysis of responses indicates that employees are familiar with their tasks and responsibilities; however, the lack of information regarding company products and customer feedback is notable. These findings suggest that companies should enhance the dissemination of information to employees at all levels to foster a higher level of CE and, ultimately, improved company performance.

Conclusions

In recent years, CE has become imperative for numerous companies seeking to achieve a competitive advantage, and TMT is a crucial resource that significantly influences company performance. In line with this, the topic is relevant for both academic and business contexts. The results demonstrate that CE moderates the relationship between TMT heterogeneity and company performance. Today, given current market conditions, the need for CE is increasingly pronounced and is a significant aspect of a company's internal context. Overall, the moderating effect of CE is supported by the research results. Consequently, the research results confirm the positive impact of CE on the performance of large companies and underscore the importance of initiatives to increase CE levels. Companies that integrate CE into their organizational culture should prioritize disseminating product information and customer feedback to employees. By fostering new ventures and innovations at all levels, CE enables companies to achieve better performance.

A limitation of this research is the number of companies included in the primary research. The research sample is significantly limited by the research objectives and the defined criteria for companies that entered the sample. In the Republic of Croatia, 72 companies were identified that meet the research criteria, however, the number of potential primary research participants was limited to this number. Further research phases, including secondary research, identified 62 companies for which TMT data were available. Furthermore, companies' unwillingness to participate in the research resulted in a sample of only 30 companies. Many companies cited internal rules, time constraints, and other reasons for declining to participate. The total number

of companies included in the primary research was 30. Another limitation is the number of responses collected from each company. Participation in the research was voluntary, resulting in varying numbers of participants from each company. The average number of participants per company was 15.

Despite the aforementioned research limitations, the results provide valuable insights for the theory of the upper echelons and corporate entrepreneurship. Along with the obtained results, further recommendations for researchers are identified. Further research is needed on the moderating effect of CE on TMT heterogeneity and company performance. Also, it is recommended to increase the number of companies involved. Increasing the research sample and participants per company would certainly improve the statistical results. The recommendation is to include multiple research periods in the model. Moreover, including other internal moderating variables, such as group dynamics and job satisfaction, is also recommended.

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Karolina Kokot, PhD, is a senior teaching assistant at the University of Zagreb Faculty of Organization and Informatics. She earned a PhD from the University of Zagreb Faculty of Economics and Business. Her field of scientific interests is strategic management with a focus on the top management team and corporate governance. She is the author of numerous original scientific articles and papers presented at scientific conferences. She also participates in research projects.