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Article

The Influence of Perceived Macro Environment on the Competitiveness of Internationalized Medium-Sized and Large Enterprises

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Abstract: Firm competitiveness is a crucial trait of companies which managers strive to improve, and even policy makers focus on it regarding economic development. As companies are embedded into different layers of the environment, this study aims to identify the influence of top managerial perception about the external environment on the firm-level competitiveness of medium-sized and large internationalized companies. The investigation is based on the 6th round of the Competitiveness Survey conducted in Hungary between October 2018 and July 2019 from which $n = 107$ medium-sized or large companies qualified for this study. The institution-based view from the strategic management literature was chosen to differentiate the variables in the macroeconomic environment of the firm while the FCI index was used to measure firm-level competitiveness. After conducting factor and regression analyses, the results show that the perceived macro environment is positively related to the competitiveness of internationalized medium-sized and large companies. Managerial perceptions on civil service and education had the strongest significant positive association with firm-level competitiveness, whereas perceptions on social and ecological expectations had a significant positive association with the Adaptivity of the firm. This study contributes to the existing body of literature by demonstrating that, even within contentious institutional contexts, the perceptions of internationalized medium and large companies' top managers regarding education, civil service, and social and ecological expectations have a discernible influence on the competitiveness of these companies.



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Keywords: institution-based view; macroeconomic environment; firm-level competitiveness; medium-sized and large enterprises; internationalization; strategic management

1. Introduction

Several studies show the impact of firm resources (Andersén 2011; Lin and Wu 2014; Protogerou et al. 2011; Zhang and Li 2008;) and industry forces (Derfus et al. 2008; Müller et al. 2018; Teeratansirikool et al. 2013) on company-level performance; however, there is significantly less research about the impact of the institutional environment (Dabla-Norris et al. 2020; Gaganis et al. 2019). The reason behind this is that the institutions of the macroeconomic environment only served as background variables in the resource-based view and in the industry-based view (Peng et al. 2008). To fill the gap, Peng proposed an institution-based view which relies specifically on these institutions when analyzing the performance of firms (Peng et al. 2009). Scholars using this view to understand the difference in performance between firms achieved promising results, especially for firms operating in (or from) developing countries.

This study focuses on this research gap to answer the following question: what is the impact of the perceived macro environment on the competitiveness of internationalized Hungarian medium-sized and large enterprises? The examination of Hungary as a contextual framework for the perceived macro environment, particularly in relation to firm-level

competitiveness, is a topic of significant academic interest. This is primarily owing to the actions of the Hungarian Government, which diverge from the mainstream practices observed within the European Union. The literature review relies on the foundations of organizational environment research (the works of Bourgeois 1980; Child 1972; Miles et al. 1974; and the institution-based view Peng 2002; Peng et al. 2009; Peng et al. 2008). For understanding and measuring competitiveness, the Firm Competitiveness Index (Chikán 2006; Losonci and Borsos 2015; Chikán et al. 2022; Stocker and Várkonyi 2022) is used.

This study contributes to the existing body of literature by demonstrating that, even within contentious institutional contexts, the perceptions of internationalized medium and large companies' top managers regarding education, civil service, and social and ecological expectations have a discernible influence on the competitiveness of these companies. In this study, a complex competitiveness measure that indicates long-term success in a multidimensional and detailed way (which is also in accordance with Chikán et al. 2022 or Laufente et al. 2020b) is used, and a representative sample of internationalized medium-sized and large companies from Hungary is obtained. Although several studies in the literature focus on SMEs (Gaganis et al. 2019; Donbesuur et al. 2020), medium-sized and large enterprises are significantly less visible in the literature and representative sample studies on them are especially rare.

First, a brief literature review is provided about the institutional context of organizations and the foundations of firm-level competitiveness. After the elaboration on the research method and the sample used, the key findings of this paper will be presented, followed by a detailed discussion.

2. Literature Review

2.1. The External Environment of Organizations and Its Influence on Companies

The fundamental literature on the organizational environment was laid down in the last 60 years by authors like Miles et al. (1974); Child (1972); Thompson and McEwen (1958) and Bourgeois (1980). They stated that everything that occurs in the external environment influences the organization, typically through constraints, and "an organization cannot evolve or develop in ways which merely reflect the goals, motives or needs of its members or of its leadership since it must always bow to the constraints imposed on it by the nature of its relationship with the environment" (Child 1972, p. 3). Emery and Trist (1965) highlight that besides this direct relationship, the casual texture of the environment also influences the organization. Regarding environmental control, Thompson and McEwen (1958) state that an organization is somewhere between being totally controlled by its environment and being completely in control of its environment.

Organizational decision-makers have an option of choosing—up to a certain level—the environment they would like to operate in, as they are both environment-dependent and environment-serving (Emery and Trist 1965; Child 1972; and Miles et al. 1974).

Nowadays, research on the influence of the external organizational environment has become more focused. Xu (2023) explored the external environment's influence on CSR activities and found that an uncertain external environment will reduce the CSR activities of firms. Morales-Solis et al. (2023) analyzed the effects of corruption and political uncertainty on emerging market SMEs and found that high levels of country corruption and political instability significantly accelerate decline in SME performance. Keig and Brouthers (2022) provided empirical support that according to financial performance MNEs can both gain and lose by investing in corrupt institutional environments. Sheng et al. (2023) found that institutional support negatively moderates the relation between CSR and entrepreneurial orientation.

Research on the external environment has also focused on recent years' major events' impact on firm performance (like the COVID-19 pandemic or the Ukrainian war) and found a direct impact on performance. Shen et al. (2020) found a direct negative impact of COVID-19 on the performance of listed Chinese companies. Stojčić (2020) analyzed the effect of the pandemic on the export competitiveness of Croatian manufacturing firms.

2.2. The Institution-Based View and the Influence of Institutions on Firm Performance

Peng et al. (2008) argue that the resource-based approach and the industry-based view primarily consider macroenvironmental elements at the task environment level, relegating the larger external environment to a background condition. In the context of the “residual environment,” it has been demonstrated that institutions play a crucial role in determining the strategic options available to a corporation and its ability to establish a competitive advantage. According to Felsmann (2016), the inclusion of the institution-based view in mainstream theories has the potential to enhance the analytical framework of strategic management.

Peng et al. (2009) rely on the work of North (1990) and Scott (1995), arguing that institutions matter when describing the factors that affect firm-level strategy-making and firm-level performance, and center around the dynamic interactions that firms and institutions have between each other and the resulting strategic choices happening because of these interactions (Peng et al. 2009).

Many authors used the institutional context in their research: Haseeb et al. (2019) investigated how social and technological challenges impact sustainable business performance; Prokop et al. (2018) analyzed the relationship between Czech and Slovakian firms, the government, and universities; Mertzanis and Said (2019) studied the effect of access to skilled labor on business performance; Ramadani et al. (2017) investigated the impact of knowledge spillovers; De Jong and Van Witteloostuijn (2015) researched the effect of red tape on firm performance in the Netherlands; Tan and Tran (2017) analyzed the effect of the quality of provincial administration on firm productivity in Vietnam; Wong and Hooy (2018) found political connectedness to be a valuable asset in minimizing external risk; Chen et al. (2017) and Jackowicz et al. (2014) investigated the connection between political connectedness and operational performance; Troilo et al. (2024) investigated firms and their institutional setting; Sadeghi et al. (2019) used sociocultural, political, legal, and economic factors to analyze the internationalization of SMEs; Ruzekova et al. (2020) analyzed the effect of the institutional environment on export performance; Javernick-Will and Scott (2010) identified certain institutional factors companies working on international construction projects need to know to reduce uncertainty and liability; Fuentelsaz et al. (2015) concluded that the improvement of formal institutions is beneficial for opportunity entrepreneurship; García-Ramos et al. (2017) investigated the relationship between the institutional environment and entrepreneurial failure; Eesley et al. (2018) and Escandón-Barbosa et al. (2019) analyzed the effect of formal and informal institutions on entrepreneurial activity. Moreover the institution-based view proved especially useful when describing firms operating in/from emerging economies: Ding and Ding (2022) used the institution-based view to study 136 Chinese firms and found that certain institutional factors (legal inadequacy and environmental turbulence) have a significant effect on market and technological innovativeness and thus on new product performance; Yamakawa et al. (2008) used the institution-based view to construct a framework around the internationalization of firms in emerging economies in the direction of developed economies; Gao et al. (2010) used the strategy tripod method to analyze the export activity of more than 15,000 Chinese firms between 2001 and 2005 and found that the institutional variables have a strong connection with both export propensity and export intensity; Lahiri et al. (2020) used the strategy tripod framework to synthesize the literature on family SMEs’ internationalization behaviors.

Regarding its influence related to firm performance, there are two main lines of research: the direct relationship research and the indirect (moderating) relationship research. For direct relationship research, the measures commonly used for firm performance are sales growth/profitability (Dabla-Norris et al. 2020) and ROA (Gaganis et al. 2019). Dabla-Norris et al. (2020) found a significant, inversely proportional relationship between the level of tax compliance burden (using a Tax Administration Quality Index) and the performance of SMEs in 21 emerging economies and developing countries. Gaganis et al. (2019) undertook cross-country research on 40 000 EU28 manufacturing SMEs between 2006

and 2014, studying the regulation of the doing business environment (BUSFR index), the credit acquisition opportunities (GETCR index), the effect of culture (using the framework of Hofstede 1980), and corruption (CORFX index). Their results show that both BUSFR and GETCR indices have a positive effect on profitability; regarding the cultural dimensions, power distance and uncertainty avoidance have a negative impact while individualism and masculinity have a positive impact on profitability. Regarding corruption, the authors found that higher levels of corruption impact profitability negatively.

For indirect relationship research, authors investigated the relationship between firm performance measured by ROA, ROS, labor productivity, etc. (Xiong et al. 2020; López-Zapata et al. 2019; Forcadell et al. 2020; Donbesuur et al. 2020 with an international aspect), or turnover, added value, growth of employment in the short-run (Cainelli et al. 2022) and factors affecting the organization/business, such as a re-innovation attempt after a failed innovation (Xiong et al. 2020), being a member of a national or international business group (Cainelli et al. 2022), technological and organizational innovation (Donbesuur et al. 2020), the effect of diversification strategy (López-Zapata et al. 2019), and the effect of business portfolio restructuring (BPR) (Forcadell et al. 2020) where institutional factors were treated as having an indirect or moderating effect.

In this study, we follow the direct relationship stream and investigate whether the managerial perceptions of the institutional factors have a direct positive influence on the competitiveness of the given firm.

2.3. Firm-Level Competitiveness

Competitiveness on the firm level is essential as companies try to outperform their competitors. According to Chikán (2008), firm-level competitiveness is "... a capability of a firm to sustainably fulfil its double purpose: meeting customer requirements at profit. This capability is realized through offering on the market goods and services which customers value higher than those offered by competitors. Achieving competitiveness requires the firm's continuing adaptation to changing social and economic norms and conditions" (pp. 24–25).

According to Cerrato and Depperu (2011), for firm-level competitiveness, the factors of the external environment serve as enablers, while the internal resources and capabilities are the drivers. These are divided into ordinary capabilities responsible for an efficient day-to-day operation and dynamic capabilities serving as sources of innovation; and the level of competitiveness—as the result of this process—will be rewarded in some way by the market. Falciola et al. (2020) share that if a firm would like to stay competitive for an extended period of time, then besides the static variables, the dynamic variables need to be taken into consideration as well. To measure firm-level competitiveness, Chikán (2006) created the Firm Competitiveness Index (heretofore: Firm Competitiveness Index, FCI), which is shown in Figure 1.

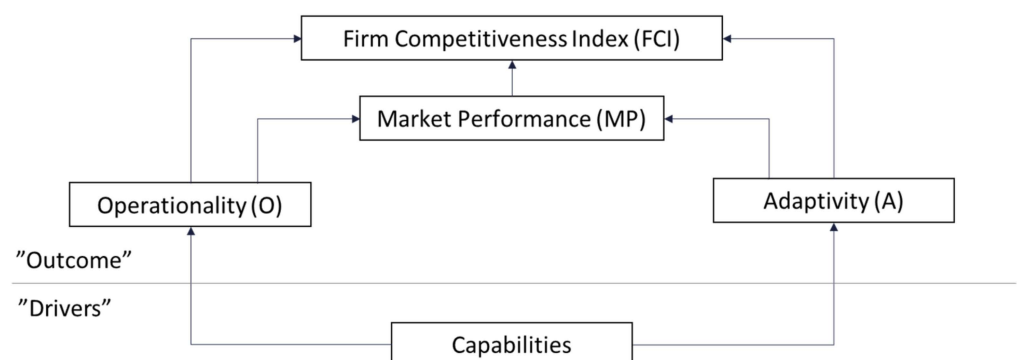


Figure 1. The Firm Competitiveness Index. Source: Authors' Edition based on (Chikán 2006).

In the FCI, Operationality and Adaptivity together include the capabilities required to be competitive. Operationality can be paired with ordinary capabilities, and Adaptivity can be paired with dynamic capabilities (Chikán et al. 2022). Market performance is conceived as the reward for the correct combination of firm capabilities. It is particularly important as a firm can have high Adaptability and Operationality scores but if it cannot convert them to revenue, it will not be competitive (Chikán 2006). The Firm Competitiveness Index is widely used in research focused on medium-sized or large companies (Chikán 2006; Losonci and Borsos 2015; Chikán et al. 2022; Stocker and Várkonyi 2022).

Szerb (2010) states that although the definition of Chikán can be used effectively, it is rather applicable for medium-sized and large enterprises. Thus, Szerb constructed another competitiveness measurement based around mainly the SME sector. However, the two indices are not competing with, but rather complementing each other (Szerb 2010). In Szerb's stream, "competitiveness is the mutually dependent bundle of ten pillars—human capital, product, domestic market, networks, technology, decision-making, strategy, marketing, internationalization and online presence—that allow a firm to effectively compete with other firms and serve customers with valued goods/services." (Laufente et al. 2020b, p. 560). The constructed Competitiveness Index (CI) is widely used in SME research: Laufente et al. (2020a) used the index on 103 knowledge-intensive business service firms to construct implications for optimizing business competitiveness; Márkus and Rideg (2021) studied the relationship between the competitiveness and the financial performance of Hungarian SME-s; Lányi et al. (2021) investigated the effect of online presence and activity on SME business performance and competitiveness; Dvouletý and Blažková (2021) used the index to determine the drivers of competitiveness for Czech SMEs; De Montreuil Carmona and Gomes (2021) used this framework to determine the level of competitiveness of Brazilian firms.

3. Materials and Methods

The aim of this study is to identify the influence of top managerial perception about the external environment on the firm-level competitiveness of medium-sized and large internationalized companies. We selected Hungary as the context of our study as in the last decade it has contentious institutional contexts, and we posed the research question of whether top managerial perception of the external environment has a detrimental influence on their company's competitiveness or not. We selected internationalized medium and large enterprises, as these companies are competing in the international market (mostly European markets but overseas as well) and therefore their managers have a broader perspective and these companies have a significant share in the country's GDP.

As the population of this study is medium-sized and large companies, the literature shows (Szerb 2010; Chikán et al. 2022; Stocker and Várkonyi 2022) that the usage of FCI will be adequate to measure firm-level competitiveness. Based on the research question and on the literature review we hypothesized the following:

Hypothesis 1 (H1): The perceived macro environment has a positive association with the firm-level competitiveness of internationalized medium-sized and large companies.

Hypothesis 2 (H2): The perceived macro environment has a positive association with the Operationality of internationalized medium-sized and large companies.

Hypothesis 3 (H3): The perceived macro environment has a positive association with the Adaptivity of internationalized medium-sized and large companies.

Hypothesis 4 (H4): The perceived macro environment has a positive association with the market performance of internationalized medium-sized and large companies.

For data collection, the survey method was selected and the already established Enterprise Competitiveness Survey was conducted in 2019 in Hungary (for the sixth time

after 1996, 1999, 2004, 2009, and 2013). The survey assessed the perceptions of top managers of Hungarian companies which employ at least 50 employees in selected industries and was complemented with the financial report of the given companies from 2013 to 2018. Perception-type questions were mostly measured in the Likert scale. After data cleansing, the database consisted of 209 valid company entries.

As this paper focuses on internationalized medium-sized and large companies, statistical definitions were used as the basis to include only medium-sized and large companies, and those companies which realized export sales were perceived as internationalized as this proxy could be compared with the statistical data of the population. After these selection criteria, the sample was narrowed to $n = 119$ firms. Extreme scores were screened with Mahalanobis distance (multivariate) calculation and those cases were deleted which had a chi square distribution probability of less than 0.001 according to Hair (2018). With these method 12 multivariate outliers excluded from the analysis, 107 medium and large internationalized companies remained in the final sample. The descriptive statistics of the used variables and the industry and sector distribution can be seen in Tables A1 and A2 in Appendix A.

The required sample size was determined with GPower 3.1.9.7 according to Faul et al. (2009). The following parameters were used in the calculation: Effect size: 0.15, α error probability: 0.05, Power ($1-\beta$): 0.80 and the number of predictors was set to 5 as the factor model converged into five factors. According to GPower calculation, the required sample size is 92 with an actual power of 0.8041921.

As the sample size is higher than the expected sample size and the distribution of the sample based on size and export is very similar to the population (see Table 1), the sample can be conceived as sizeable enough and representative for the size of the firm.

Table 1. The distribution of the sample and the population based on firm size. Source: Authors' Edition based on survey data and on (Hungarian Central Statistical Office 2022).

	Sample		Population	
	Amount	%	Amount	%
Internationalized medium-sized firms	78	73%	2587	78%
Internationalized large-sized firms	29	27%	723	22%
Sum:	107	100%	3310	100%

For statistical calculations, SPSS 29 was used, combined with Omega expansion package from Hayes (Hayes and Coutts 2020), and the significance level was set to $p < 0.05$. For independent variables, 20 variables were selected and tested for correlation (correlation matrix can be seen in Table A3 of Appendix A) with promising results, thus making them favorable for factor analysis, widely used in this area of research to merge macroeconomic indicators for better analysis.

The normality of the sample was analyzed by the Shapiro–Wilk test, which showed that the independent variables in the dataset are not normally distributed; therefore, for the factor analysis, we used the principal axis factoring (PAF) method, the criteria for making a factor was an eigenvalue of 1, and varimax rotation was used to avoid multicollinearity. The factor model included 5 factors, which explain 70.965% of the total variance, the KMO measure was 0.771 ($p < 0.001$), and all factors had very high reliability, based on their ω scores (see in Table 2 for each factor). The threshold for the factor loading was set to 0.5 (based on Hair 2018), and factor loadings can be seen in Table 2. Communalities of the extraction were high or medium with 0.861 as the highest and 0.425 the lowest communality.

Table 2. Factors of the perceived macro environment. Source: Authors' Edition based on SPSS calculations.

Items of Survey Influence of ...	Civil Service and Education ($\omega = 0.850$)	Domestic Political Environment ($\omega = 0.788$)	Factor Market Trends and Advancements ($\omega = 0.842$)	Price Level ($\omega = 0.785$)	Social and Ecological Expectations ($\omega = 0.809$)
legal regulation and policy expectation	0.915	0.010	0.133	−0.074	0.016
central administration	0.732	0.108	0.038	0.106	−0.002
local administration	0.627	0.087	0.005	0.311	0.053
vocational education	0.615	0.172	0.033	0.376	0.160
higher education	0.592	0.112	−0.076	0.247	0.044
economic policy	−0.021	0.789	0.133	0.072	0.114
general operation of the current government	0.150	0.696	0.094	−0.078	0.030
general political environment	0.200	0.641	0.229	−0.064	0.048
general economic environment	0.079	0.510	0.324	0.210	0.096
international market trends	0.036	0.297	0.804	0.090	0.139
technological advancements	0.046	0.219	0.804	0.020	0.169
domestic market trends	−0.002	0.478	0.561	0.174	−0.062
inflation	0.151	0.032	0.055	0.774	0.005
wage rate	0.314	0.018	0.126	0.615	0.190
exchange rate volatility	0.429	−0.073	0.125	0.608	0.095
ecological environment	0.034	0.072	0.155	0.038	0.857
social expectations	0.169	0.049	0.194	0.090	0.840
customer expectations	−0.075	0.214	−0.299	0.416	0.535

Extraction Method: principal axis factoring. Rotation Method: Varimax with Kaiser Normalization.

In the factor analysis, the following factors were identified: Civil service and education ($\omega = 0.850$), Domestic political environment ($\omega = 0.788$), Market trends and advancements ($\omega = 0.842$), Price level ($\omega = 0.785$), Social and ecological expectations ($\omega = 0.809$). The factors are well differentiated from each other while the variables in the certain groups belong together not only statistically but in meaning as well, thus validating the consistency of the responses given. These factors were later used as independent variables in the (OLS) linear regression analysis (enter method) for which the statistical requirements were met for each model.

4. Results

The established perceived macroenvironmental factors' influence on firm-level competitiveness and its sub-indices can be seen in Table 3.

Regarding the firm competitiveness index, the influence of the perceived macro environment is significant ($p = 0.025$); however, the explanatory power of the model ($R^2 = 0.139$) is quite weak. Inside the model, civil service and education has a significant, strong (2.452) positive association with FCI, which means that the more influence managers perceive civil service and the education system to have, the more competitive their companies are, most likely because the higher the educational level is, the higher the added value of their employees is.

According to the results, H1 is supported; the perceived macro environment is positively associated with the firm-level competitiveness of internationalized medium-sized and large companies, and civil service and education has a strong, significant association with firm-level competitiveness.

For the Operability component, the regression model is significant ($p = 0.012$) and the explanatory power of the model is $R^2 = 0.149$. Inside the model, civil service and education has a significant positive association (0.143) with the Operability of the firms. It is interesting to see, however, that if the significance level would have been set to >0.1 , then price level would have had a slight positive association as well. We can interpret these results as the more influence managers perceive civil service and the education system to have, the better their Operability is; this factor's association is significantly weaker

than with FCI, most likely because the education leg of the factor influences Operability and the civil service leg much less. We tried to build a factor model without either the civil sector or the educational variables to be able to differentiate their impact, but neither of the models were valid; in the first model, the factor extraction was not successful, and in the second model, the variables had cross-loadings. It is understandable, however, that education and civil service variables are connected as in Hungary both higher and vocational education is strongly governed by the given ministry of the government.

Table 3. Regression models. Source: Authors' Edition based on SPSS calculations.

Variable/Measure	Model 1—Firm Competitiveness Index (FCI)	Model 2—Operability (O)	Model 3—Adaptivity (A)	Model 4—Market Performance (MP)
const.	28.301 ***	3.735 ***	3.740 ***	3.748 ***
Civil service and education	2.452 **	0.143 **	0.168 **	0.193 **
Domestic political environment	−0.575	−0.044	−0.047	−0.038
Market trends and advancements	0.095	−0.036	−0.044	0.070
Price level	0.186	0.089,	0.092,	−0.071
Social and ecological expectations	0.690	0.070	0.174 **	−0.014
R ²	0.139	0.149	0.242	0.105
F statistics	F = 2.873 p = 0.020 *	F = 3.146 p = 0.012 *	F = 5.750 p = 0.001 ***	F = 2.070 p = 0.077,
Durbin–Watson	2.021	1.876	1.978	1.865

Significance codes: 0 '***' 0.01 '**' 0.05 '*' 0.1 '.'.

According to the results, H2 is supported; the perceived macro environment has a positive association with the Operability of internationalized medium-sized and large companies, and civil service and education have a slight significant positive association with firm-level competitiveness.

Regarding Adaptivity, the regression model is significant ($p = 0.001$) and the explanatory power of the model is $R^2 = 0.242$, which is the strongest explanatory power under the investigated models. Inside the model, social and ecological expectations have a significant positive association (0.174) with the Adaptivity of firms, followed by the significant positive association with civil service and education (0.168), whereas the influence of price level would have been significant if the significance would have been set to 0.10. These results show that the more influence managers perceive social and ecological expectations, as well as education and civil service to have, the more adaptive their companies are.

According to the results, H3 is supported; the perceived macro environment has a positive association with the Adaptivity of internationalized medium-sized and large companies, and both social and ecological expectations and civil service and education have a positive association with firm Adaptivity.

In the case of market performance, the regression model would have only been significant if the significance level would have been set to <0.1 ($p = 0.077$); therefore, H4 is rejected; the perceived macro environment does not have a positive association with the market performance of internationalized medium-sized and large companies.

The results of the regression models were in line with our expectations. The perceived macro environment influences firm-level competitiveness, but not all of its sub-indices, as market performance was not significantly associated. The more importance managers have placed on civil service and education, the better their companies' Adaptivity, Operability, and competitiveness were, most likely because of the greater skilled labor they employed,

whereas the more importance managers have placed on social and ecological expectations, the more adaptive their companies were. It is also interesting that price level would have been a significant factor in the Operationality and the Adaptivity models if the significance level would have been set to <0.1 .

5. Discussion

We compared the results of the study with existing research results from similar countries based on the World Economic Forum 2017–2018 Global Competitiveness report which categorized the countries of the world into three stages of development: Factor-driven, Efficiency-driven, and Innovation-driven, and in between there are two transition phases from stage 1 to stage 2 and from stage 2 to stage 3 (Schwab 2017).

Hungary is in transition from stage 2 to stage 3 and the countries used in the benchmark can be seen in Table 4. A close comparison can be done within same-staged countries; however, a cautious comparison can also be done with countries in different stages.

Table 4. Benchmark countries and their stage of economic development. Source: Authors' Edition based on Schwab (2017).

Author	Country	Stage of Economic Development
Prokop et al. (2018)	Czech Republic	Innovation-driven
De Jong and Van Witteloostuijn (2015)	The Netherlands	Innovation-driven
Prokop et al. (2018)	Slovak Republic	Transition from 2 to 3
Jackowicz et al. (2014)	Poland	Transition from 2 to 3
Wong and Hooy (2018)	Malaysia	Transition from 2 to 3
Current study	Hungary	Transition from 2 to 3
Tan and Tran (2017)	Vietnam	Transition from 1 to 2

The results of the analysis can be compared to benchmark country research, including research presented in the theoretical background along with the works of Mertzanis and Said (2019); Jackowicz et al. (2014); Chen et al. (2017); Wong and Hooy (2018); De Jong and Van Witteloostuijn (2015); Tan and Tran (2017); and Prokop et al. (2018).

The civil service and education factor had a strong, significant positive association with firm-level competitiveness, which is in line with research in benchmark countries. Regarding higher education, Prokop et al. (2018) came to a similar conclusion by analyzing the relationship between 3980 Czech and Slovakian firms, the government, and universities, stating that in both countries companies rely heavily on their relationship with universities, especially in research matters which boost their innovative performance. The current analysis adds to this conclusion by extending the significant positive relationship to the whole FCI index.

Mertzanis and Said (2019) investigated the effect of access to skilled labor on firm performance in 138 developing countries, while Ramadan et al. (2017) investigated the impact of knowledge spillovers on firm performance in 11 Balkan countries, and they both found that a skilled workforce contributes to firm-level competitiveness, which also suggests that in our results, the strong positive influence of the educational system is important because better results are delivered by more skilled labor.

The important role of the public administration regarding firm competitiveness resonates with the findings of De Jong and Van Witteloostuijn (2015) and Tan and Tran (2017), who researched the effect of red tape on firm performance in the Netherlands and the effect of the quality of provincial administration on firm productivity in Vietnam, respectively. Both state that a better administrative environment and less cost associated with red tape results in better performance. As Vietnam is classified as a transition economy going from stage 1 to stage 2 and the Netherlands is an innovation-driven economy, coupled with

the findings of this study in Hungary, we can regard the result as not dependent on the economic development of the country.

Wong and Hooy (2018) cite past literature which regards political connectedness as a valuable asset minimizing external risk. However, analyzing the status quo in Malaysia, they found that from the four types of political connectedness identified (government-linked companies, board of directors, businessmen, family members), only the first two produced a positive effect on firm performance. Chen et al. (2017) also revealed that the connection between firms and the political environment can act as a double-edged sword when talking about firm performance and operations. Their analysis of Chinese firms showed a negative connection between political connection and firm value. Jackowicz et al. (2014) concluded that regarding Polish firms, there is a negative connection between political connectedness and operational performance.

Troilo et al. (2024) investigated firms from 31 European countries with their respective institutional setting and found a positive and significant relationship between a greater emphasis on strategy in Corporate Governance codes and return on assets (ROA), investing in research and development (R&D), and spending on capital expenditures (CAPEX). Our model reflects on legal regulations and policy expectations and although we did not find a positive association with short-term market performance, which includes return measures, we found a significant positive association with the Adaptivity of the firm, which consists of R&D and capital expenditure.

6. Conclusions

The institution-based view sheds light on the importance of the macro environment and its institutions when analyzing the performance and the competitiveness of a firm. This study used this view to investigate how the perceived macro environment influences firm-level competitiveness. The results show that the perceived macro environment has a positive association with the firm-level competitiveness of Hungarian internationalized medium-sized and large enterprises. Among the factors of the perceived macro environment, civil service and education had the strongest significant positive association with firm competitiveness, Operationality, and Adaptivity, whereas social and ecological expectations had a significant positive association with the Adaptivity of the firms. We can state that this contributed massively to the success of the participating firms between 2016 and 2018. The perceived macro environment did not have a significant association with short-term market performance on its own; however, its positive association with Operationality and Adaptivity overcompensated for this, and became embedded in the positive association with firm-level competitiveness. Results on market performance could have been very different if we examined the shock of the COVID-19 pandemic or war-related value chain disruptions, where we would assume a strong negative impact by the perceived macro environment on market performance. This suggests excellent future research possibilities, and the impact of firm-level competitiveness on the resiliency of the firm in crisis periods can be interesting too.

This study contributes to the existing body of literature by demonstrating that, even within contentious institutional contexts, the perceptions of internationalized medium and large companies' top managers regarding education, civil service, and social and ecological expectations have a discernible influence on the competitiveness of these companies.

Our results show to Hungarian policy makers that their impact on legal regulations and policies as well as the educational system affects the competitiveness of the internationalized medium and large enterprises, which contributes the most to the GDP of the country.

The results suggest that top managers of internationalized medium and large enterprises should reap the benefits of the educational system or act if they perceive its deterioration and should also monitor relevant legal regulations and lobby for policy improvements. We also suggest that fostering sensitivity for social and ecological expectations is very important as it is positively associated with the Adaptivity of the firm significantly.

The main limitations of this study are the low explanatory power of the regression models, but the literature review highlights that the institution-based view should not explain company performance alone; therefore, this limitation was expected and the support for the hypotheses of the positive associations is valuable. The survey method also has limitations as it can result in a certain amount of bias in the responses, which can affect the results. We tried to overcome this limitation by focusing on the perceived macro environment instead of trying to objectify it. Further research can also include an in-depth analysis of the factors and the variables related to the FCI index using advanced, multidimensional statistical modelling as well as the changes in the perceived macro environment in time.

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Appendix A. Descriptive Statistics and Frequences

Table A1. Descriptive statistics of the variables. Source: Authors’ Edition based on SPSS calculations.

	<i>n</i>	Descriptive Statistics					
		Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
legal regulation and policy expectation	101	1	5	308	3.05	1.043	1.088
customer expectations	102	1	5	324	3.18	1.085	1.176
ecological environment	102	1	5	331	3.25	1.164	1.355
social expectations	102	1	5	325	3.19	1.097	1.203
general operation of the current government	101	1	5	332	3.29	0.766	0.587
economic policy	102	1	5	329	3.23	0.819	0.671
general political environment	100	1	5	312	3.12	0.700	0.491
general economic environment	102	2	5	344	3.37	0.783	0.612
domestic market trends	102	2	5	360	3.53	0.699	0.489
international market trends	102	1	5	371	3.64	0.842	0.709
technological advancements	102	1	5	385	3.77	0.878	0.770
exchange rate volatility	101	1	5	307	3.04	0.859	0.738

Table A1. Cont.

	<i>n</i>	Descriptive Statistics					
		Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
inflation	101	1	5	315	3.12	0.909	0.826
wage rate	101	2	5	305	3.02	0.860	0.740
central administration	101	1	5	299	2.96	1.067	1.138
local administration	102	2	5	335	3.28	0.801	0.641
higher education	102	1	5	324	3.18	0.801	0.642
vocational education	102	1	5	309	3.03	0.873	0.762
Number of employees	107	50	2206	28,975	270.79	429.512	184,480.221
Adaptivity—A	101	2.56	5.00	377.28	3.7354	0.51287	0.263
Operationality—O	101	2.63	5.00	377.43	3.7370	0.46178	0.213
Market Performance—MP	99	2.00	5.00	371.00	3.7475	0.65611	0.430
Firm Competitiveness Index—FCI	99	11.52	50.00	2802.41	28.3072	6.81039	46.381
Valid N (listwise)	94						

Table A2. Frequencies of number of employee categories and main activity. Source: Authors' Edition based on SPSS calculations.

		Number of Employees (cat.)		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	50–99 employees	45	42.1	42.1	42.1
	100–249 employees	36	33.6	33.6	75.7
	250+ employees	26	24.3	24.3	100.0
	Total	107	100.0	100.0	
		Main activity		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	Construction	3	2.8	2.8	2.8
	Manufacturing	61	57.0	57.0	59.8
	Commerce and service	43	40.2	40.2	100.0
	Total	107	100.0	100.0	
		Main activity (detailed)		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	Manufacturing	61	57.0	57.0	57.0
	Construction	3	2.8	2.8	59.8
	Commerce, Car repair	30	28.0	28.0	87.9
	Transportation, Storage	8	7.5	7.5	95.3
	Accommodation, Hospitality	1	0.9	0.9	96.3
	Info-communication	3	2.8	2.8	99.1
	Professional, scientific, and technical activities	1	0.9	0.9	100.0
	Total	107	100.0	100.0	

Table A3. Correlation matrix. Source: Authors' Edition based on SPSS calculations.

			Correlation Matrix																	
			V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18
Correlation	V1	legal regulation and policy expectation	1.000	−0.132	0.079	0.190	0.167	−0.007	0.229	0.133	0.077	0.122	0.131	0.376	0.110	0.274	0.778	0.515	0.438	0.503
	V2	customer expectations	−0.132	1.000	0.459	0.416	0.097	0.204	0.004	0.205	0.002	−0.054	−0.142	0.197	0.290	0.313	0.047	0.123	0.109	0.217
	V3	ecological environment	0.079	0.459	1.000	0.760	0.099	0.160	0.116	0.174	0.109	0.277	0.274	0.116	0.047	0.226	0.036	0.080	0.077	0.178
	V4	social expectations	0.190	0.416	0.760	1.000	0.090	0.187	0.161	0.202	0.048	0.294	0.343	0.248	0.132	0.274	0.147	0.189	0.120	0.288
	V5	general operation of the current government	0.167	0.097	0.099	0.090	1.000	0.583	0.472	0.383	0.373	0.280	0.245	0.048	−0.007	−0.035	0.218	0.025	0.157	0.233
	V6	economic policy	−0.007	0.204	0.160	0.187	0.583	1.000	0.602	0.413	0.404	0.363	0.323	0.035	0.118	0.101	0.076	0.084	0.092	0.126
	V7	general political environment	0.229	0.004	0.116	0.161	0.472	0.602	1.000	0.396	0.388	0.361	0.359	0.011	−0.006	0.134	0.154	0.205	0.161	0.245
	V8	general economic environment	0.133	0.205	0.174	0.202	0.383	0.413	0.396	1.000	0.546	0.416	0.402	0.106	0.240	0.195	0.182	0.217	0.076	0.231
	V9	domestic market trends	0.077	0.002	0.109	0.048	0.373	0.404	0.388	0.546	1.000	0.648	0.495	0.076	0.175	0.198	0.134	0.100	0.019	0.151
	V10	international market trends	0.122	−0.054	0.277	0.294	0.280	0.363	0.361	0.416	0.648	1.000	0.743	0.155	0.109	0.187	0.088	0.109	0.070	0.160
	V11	technological advancements	0.131	−0.142	0.274	0.343	0.245	0.323	0.359	0.402	0.495	0.743	1.000	0.185	0.059	0.166	0.064	0.054	0.016	0.139
	V12	exchange rate volatility	0.376	0.197	0.116	0.248	0.048	0.035	0.011	0.106	0.076	0.155	0.185	1.000	0.609	0.534	0.393	0.363	0.389	0.537
	V13	inflation	0.110	0.290	0.047	0.132	−0.007	0.118	−0.006	0.240	0.175	0.109	0.059	0.609	1.000	0.520	0.236	0.325	0.233	0.329
	V14	wage rate	0.274	0.313	0.226	0.274	−0.035	0.101	0.134	0.195	0.198	0.187	0.166	0.534	0.520	1.000	0.269	0.430	0.306	0.497
	V15	central administration	0.778	0.047	0.036	0.147	0.218	0.076	0.154	0.182	0.134	0.088	0.064	0.393	0.236	0.269	1.000	0.494	0.376	0.451
	V16	local administration	0.515	0.123	0.080	0.189	0.025	0.084	0.205	0.217	0.100	0.109	0.054	0.363	0.325	0.430	0.494	1.000	0.610	0.506
	V17	higher education	0.438	0.109	0.077	0.120	0.157	0.092	0.161	0.076	0.019	0.070	0.016	0.389	0.233	0.306	0.376	0.610	1.000	0.586
	V18	vocational education	0.503	0.217	0.178	0.288	0.233	0.126	0.245	0.231	0.151	0.160	0.139	0.537	0.329	0.497	0.451	0.506	0.586	1.000

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