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The Interplay of Restaurant SMEs' Entrepreneurial and Environmental Characteristics, Management of the Requisite Assets, and Operational Efficiency

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Background/Purpose: SMEs are subject to different factors in the business environments that influence their business performance. Considering the importance of restaurants' environmental characteristics, entrepreneurs can also, through their entrepreneurial characteristics, influence SMEs' management of the requisite assets (MRA). Accordingly, this study examines the influence of restaurant SMEs' entrepreneurial (self-efficacy, orientation, and demographics) and environmental (location, size, and competition) characteristics on MRA and, consequently, on SMEs' operational efficiency.
Methods: Primary data relating to the environmental (location, size, and competition) and entrepreneurial (self-efficacy, orientation, and demographic) characteristics were obtained using a survey questionnaire, while the secondary data were obtained from SMEs' official financial reports. The sample consists of 266 restaurant SMEs in the Republic of Slovenia. Efficiency was analysed using data envelopment analysis (DEA), and structural equation modelling (SEM) was used to test the research model.
Results: The results indicate that environmental characteristics have a much more significant impact on MRA than entrepreneurial characteristics. Entrepreneurial self-efficacy and most demographic characteristics (age, gender, education, and experience) proved not to influence significantly MRA and, consequently, SMEs' operational efficiency.
Conclusion: SMEs' external environment is generally not directly influenced by managerial decisions. Therefore, it is critical to strengthen the influence of the internal environment through an active development of entrepreneurial characteristics, which could result in a more effective MRA and higher efficiency. The conclusion provides suggestions for future research and valuable information for entrepreneurs, academia, and policymakers.

Keywords: *SMEs, Restaurant industry, Slovenia, Efficiency, Environmental and entrepreneurial characteristics, Requisite assets*

1 Introduction

Tourism, and therefore the restaurant industry, is an important economic activity. Until 2019 (before the outbreak of the Covid-19 pandemic), the growth rates of gross domestic product (GDP) in tourism were higher than in the global economy (WTTC, 2020). The restaurant industry has also achieved strong growth in sales volumes and prof-

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itability in this context. Globally, tourism accounted for 10.4% of GDP in 2019, while in the Republic of Slovenia, a small European economy, tourism contributed 10.6% to GDP. At the same time, the restaurant industry has offered numerous opportunities for the development of micro, small, and medium-sized enterprises (SMEs), which are a hallmark of the tourism and restaurant industry (Morrison et al., 2010). SMEs represent 99.8% of all enterprises in the European Union (EU). Similarly, SMEs represent 99.8% of all business entities in the Republic of Slovenia (a totally of 206.220 enterprises), among which approximately 4% (8,266) operate in the restaurant sector (SURS, 2021). Statistical data (Ajpes, 2021) show that most restaurant businesses are micro SMEs employing less than ten employees, which are mostly registered as sole proprietorship businesses (5,840) (see also Section 4.1 Sample Characteristics).

Apart from being mainly represented by micro SMEs, the restaurant industry has several other industry-specific characteristics, such as labour intensives, volatility of demand, intense competition, combined ownership and managerial (entrepreneurial) function and active involvement of family members in the operational process, the importance of the location for business success, monopolistic competition, and many others (Hallak et al., 2018). According to Peters and Kallmuenzer (2018), SMEs can be characterised as a complex system of personal and business dimensions, which have advantages (e.g. flexibility) and disadvantages (e.g. lack of strategic planning) regarding their business performance.

The characteristics mentioned above belong to the internal business environment (within managerial purview - controllable) and external business environment (beyond managerial (direct) purview - uncontrollable). Restaurant industry characteristics significantly affect restaurant firms' financial performance, generally characterised by low revenue profitability and low survival rates (Lee et al., 2016). Despite its unique context, the restaurant industry is the most significant sector and the largest employer within the tourism industry (Dube et al., 2020).

All restaurant businesses strive to operate efficiently and effectively. Efficiency refers to the relationship between the observed and optimal values of inputs and outputs (Fried et al., 2008), while effectiveness primarily refers to financial performance. Research on efficiency in tourism has mainly focused on the hotel (lodging) industry, while the restaurant sector has been analysed to a lesser extent (Kukanja & Planinc, 2018). This finding was also supported by Assaf and Josiassen (2016), who conducted a literature review on efficiency measurement in tourism. Their findings also revealed a lack of a standardised set of efficiency measurement variables within the tourism industry. Accordingly, studies on efficiency analysis provide a set of heterogeneous variables, making the comparability of research virtually impossible.

In terms of restaurant efficiency measurement, many researchers have tried to measure restaurant efficiency using many input and output variables (studies are presented in Table 1). Input variables mainly include the different internal (e.g. the number of employees, cost of salaries, cost of goods and materials) and external (e.g. size, location, competition) restaurant business characteristics. On the contrary, sales revenues were most often used as the output variable. Interestingly, few studies (e.g. Kukanja & Planinc, 2020, 2019, 2018; Planinc & Kukanja, 2020, 2019) implemented a generic approach to restaurant efficiency measurement. The authors mentioned above used the requisite assets (labour costs, cost of goods and materials sold, depreciation, and cost of services) as inputs into the business process and sales revenues as outputs (see Table 1). Namely, both dependant variables (requisite assets and sales revenues) present the base of any business process regardless of the business activity, enabling the comparison of research results and presenting a solid base for benchmarking and efficiency improvement. Interestingly, to the best of our knowledge, no efficiency studies using requisite assets and sales revenues as research variables were performed for other tourism sectors (e.g. hotels and tourist agencies). Consequently, the influence of the internal (entrepreneurial) and external (environmental) business characteristics on the management of the requisite assets (MRA), and consequently their (potential) influence on efficiency performance, remains unanswered.

However, previous research confirmed the importance of the different environmental characteristics such as location (Giménez-García et al., 2007) and competition (Reynolds, 2004) for restaurant efficiency performance. To the extent of our knowledge, there is no empirical evidence exploring the relationship between entrepreneurial characteristics and efficiency performance in restaurant SMEs so far. Nevertheless, very few studies from other (non-restaurant) service sectors confirmed the importance of the different entrepreneurial characteristics for SMEs' efficiency performance. For example, Tajeddini et al. (2013) proved the importance of entrepreneurial orientation (EO) for the efficient performance of small retailers and Tajeddini (2015) confirmed a positive correlation between EO and the efficiency of hotels in Switzerland. In this view, it is essential to highlight that these results have to be interpreted with caution, as the authors presented above used financial performance indicators (e.g. profitability achievement), which are considered measures of effectiveness (Turk, 2006), which further contribute to the inability of comparing research results. However, in terms of EO, Haber and Reichel (2007) reported the importance of education for small tourism ventures' business performance (profit growth) in Israel. Similarly, Bujan (2020) confirmed the importance of business-related education, risk preference, and proactivity for the financial and non-financial business performance of small family hotels in the nearby Republic

of Croatia. Although we can substantially learn about the importance of entrepreneurial characteristics from previous research outside the restaurant sector, it is impossible to compare research findings due to the differences in methodological approaches.

As a result, the authors wanted to overcome this shortcoming in the literature by developing a generic efficiency measurement model for the restaurant industry that puts the requisite assets at its centre (see Figure 1). We also wanted to examine the impact of the environmental (external) and entrepreneurial (internal) characteristics on MRA and, consequently, analyse their impact on restaurant SMEs' operational efficiency. The external environmental characteristics refer to the size and location of the facility and the number of competitors, while the internal entrepreneurial characteristics are represented by EO, entrepreneurial self-efficacy (ESE), and demographic characteristics of entrepreneurs (DC) (Mhlanga, 2018; Roh & Choi, 2010; Tajeddini, 2015).

Accordingly, the aim of this paper is to (1) analyse the impact of the external (environmental) and internal (entrepreneurial) characteristics on MRA, (2) investigate the impact of MRA on efficiency, with (3) the goal of designing and testing a generic measurement model that could apply to the rest of the tourism and service sectors since it is based on generic and comparable business characteristics (Figure 1).

This study employs a mixed methodological approach. After the literature review, primary data were collected from managers and secondary data were obtained from restaurant SMEs' official financial reports. For the empirical analysis, different statistical techniques were applied (see Section 3).

This paper is divided into several sections. First, a theoretical background of efficiency analysis, entrepreneurial, and demographic characteristics is provided. Next, the research methodology is presented, followed by a presentation and discussion of the results. In conclusion, suggestions for future research and valuable information for restaurant managers are provided.

2 Theoretical background

2.1 Efficiency Analysis in the Restaurant Industry

Efficiency refers to the relationship between the observed and optimal values of inputs and outputs (Fried et al., 2008). The most commonly used econometric method for restaurant efficiency measurement is the data envelopment analysis (DEA) (Kukanja & Planinc, 2020). DEA analyses the efficiency of firms (units) in a sample based on a linear programming method. The most efficient units in the sample represent the frontier, while the inefficient units are positioned below the frontier according to their efficiency score (Coelli et al., 2005). There are two DEA models for evaluating firms' efficiency: the constant returns to scale (CCR) model and the variable returns to scale (BCC) model. The CCR model assumes that all units in the sample perform optimally. In contrast, the BCC model assumes that the production possibilities frontier is convex and fits the most efficient units in the sample (Assaf & Josiassen, 2016).

DEA enables the simultaneous analysis of a larger number of variables. The selected variables can either be influenced by the management and are considered controllable (e.g., food costs) or outside managerial influence and are considered uncontrollable (e.g., number of competitors). Despite its flexibility, the main disadvantage of DEA is its sensitivity to measurement errors, meaning that any deviation from the frontier is treated as a consequence of a firm's inefficiency (Assaf & Josiassen, 2016).

The origins of efficiency analysis using DEA in the restaurant industry date back to the 1980s. In Table 1, DEA studies in the restaurant industry are presented in chronological order.

As shown in Table 1, in previous DEA studies, authors used different input and output variables to analyse restaurant efficiency with the different research goals, which hinders the comparison of research results. For example, Banker and Morey (1986) focused on the impact of fixed uncontrollable inputs. Taylor et al. (2009) employed efficiency analysis to develop a multidimensional methodology for menu analysis in the USA. Giokas et al. (2015) used panel data to determine the efficiency of Greece's pre-recession and recessionary periods. In their study, Mhlanga (2018) used panel data to identify factors impacting restaurant efficiency in South Africa.

The literature review also reveals that researchers are heterogeneous in selecting input variables. Input variables predominately include the following restaurant characteristics: number of employees, the cost of goods and materials sold, labour cost, rent, taxes and insurance, employee satisfaction, restaurant size, and the number of competitors. On the contrary, scholars are relatively homogeneous in selecting the output variables as sales revenue is the predominant output variable in most studies (twenty-one out of twenty-eight).

Analysis of previous studies has also revealed that some of the input variables, such as the number of employees (Assaf et al., 2011), labour costs (Fang & Hsu, 2014), operating expenses (Giokas et al., 2015), and the value of assets (Parte & Alberca, 2019) were considered as controllable. On the contrary, other input variables, such as size (Hadad et al., 2007), the number of competitors (Giménez-García et al., 2007), and location (Donthu & Yoo, 1998) were treated as uncontrollable.

To our best knowledge, the only studies that applied a systematic approach to efficiency measurement were those

Table 1: Efficiency analysis in the restaurant industry using DEA (1986-2020) – selection of variables

Authors	Inputs	Outputs
Hruschka (1986)	no. of seats, labour costs, cost of goods and materials sold, other operating expenses	sales revenue
Banker & Morey (1986)	cost of goods and materials sold, labour costs, age of the facility, advertising costs, location, presence of a drive-in counter	sales revenue
Andersson & Hartman (1995)	no. of seats, no. of employees, fixed costs, labour costs	no. of guests, contribution margin
Donthu & Yoo (1998)	size of the facility, years of experience as a manager, location, advertising costs	sales revenue, guest satisfaction
Reynolds (2003)	labour hours	sales revenue
Reynolds (2004)	labour hours, the average salary of employees, no. of seats, no. of competitors	sales revenue, tips
Lan et al. (2006)	salary of employees, cost of social insurance, cost of water, electricity and gas	income, no. of guests, cash flow
Reynolds & Thompson (2007)	salary of employees, no. of seats	sales revenue, tips
Reynolds & Biel (2007)	cost of goods and materials sold, labour costs, employee satisfaction, no. of seats, tax and insurance costs	income, retention equity
Hadad et al. (2007)	no. of seats, average no. of total employees, average no. of employees per shift, size of the facility	average no. of guests per day, average selling price
Giménez-García et al. (2007)	no. of employees, no. of seats and counters, location, no. of competitors, average consumption per guest	sales revenue, service quality
Taylor et al. (2009)	meal preparation method, no. of suppliers, number of kitchen stations	gross profit, meal popularity
Roh & Choi (2010)	size of the facility, size of the dining room, size of the kitchen, no. of seats and tables, no. of all employees, no. of kitchen and dining room staff, the salary of employees, rent, overheads	sales revenue, net income
Assaf et al. (2011)	no. of employees, food and beverage costs, no. of seats	sales revenue (separate for food and beverage)
Joo et al. (2012)	labour costs and hours	sales revenue, no. of guests, no. of receipts
Gharakhani et al. (2012)	labour hours, size of the facility, years of experience as a manager	no. of guests, sales revenue
Fang & Hsu (2014)	labour costs, cost of goods and materials sold, no. of suppliers	gross profit, meal popularity
Giokas et al. (2015)	operating expenses (excluding the cost of goods and materials sold), the value of assets	sales revenue
Mhlanga (2018)	no. of employees, no. of seats, labour costs, other operating expenses	sales revenue, total covers
Alberca & Parte (2018)	labour costs, other operating expenses, the value of assets	sales revenue
Kukanja & Planinc (2018)	requisite assets	sales revenue
Parte & Alberca (2019)	no. of employees, labour costs, other operating expenses, the value of assets	sales revenue

Table 1: Efficiency analysis in the restaurant industry using DEA (1986-2020) – selection of variables (continues)

Authors	Inputs	Outputs
Planinc & Kukanja (2019)	requisite assets	sales revenue
Kukanja & Planinc (2019)	requisite assets	sales revenue
Karakitsiou et al. (2020)	no. of local units, number of employees and investments	turnover
Kukanja & Planinc (2020)	requisite assets	sales revenue
Planinc & Kukanja (2020)	requisite assets	sales revenue
Hodžić et al., (2020)	no. of entrepreneurs in the restaurant sector, average no. of employees, expenses for employee wages and contributions	total revenues, net profits, tourist overnights

performed by Kukanja and Planinc (2020, 2019, 2018) and Planinc and Kukanja (2020, 2019). The authors stressed the necessity of a standardised approach to efficiency measurement and proposed a standardised set of inputs (the requisite assets) and output (sales revenue). Moreover, we found no previous studies investigating the importance of entrepreneurial characteristics (as indicators of the internal environment) for restaurant efficiency performance (see Table 1).

Another critical finding is that in previous DEA studies, all input variables (despite controllable or uncontrollable) were equally treated as direct inputs into the DEA. Specifically, the prerequisite assets should be considered as a dependent variable since their management is influenced by the different factors arising from the internal and external business environment. Accordingly, we intend to close the gap in the literature by systematically analysing the impact of entrepreneurial (internal) and environmental (external) characteristics on MRA and restaurant efficiency. For this study, variables were selected based on the literature review (Table 1). The identified environmental characteristics are size, location of the facility, and the number of competitors, while the identified entrepreneurial characteristics are EO, ESE, and DC (see also Section 3.1 – Instrument design).

2.2 Entrepreneurial Characteristics

2.2.1 Entrepreneurial Orientation (EO)

EO is often referred to as a precursor of competitive advantage, growth and business performance and refers to the policies and practices that form the basis for entrepreneurial decision-making and action. Three main dimensions (constructs) best explain EO: innovativeness, proactiveness, and risk-taking (Kraus et al., 2012).

Innovativeness refers to creativity and is most evident in developing and implementing new business ideas. The risk-taking dimension refers to how entrepreneurs are willing to take risky and bold decisions, while proactiveness refers to taking business initiatives or exploiting market opportunities (Rauch et al., 2009).

In terms of analysing the influence of EO on efficiency, the review of the literature (Kallmuenzer et al., 2019; Tajeddini, 2015; Tajeddini et al., 2013) has confirmed the correlation between the two concepts. In this view, we have to point out that the authors mentioned above have equated efficiency with effectiveness (financial performance), which further contributes to the inability to carry out comparative analyses.

2.2.2 Entrepreneurial Self-efficacy (ESE)

The ESE dimension encompasses an individual's belief that he or she can successfully perform a variety of entrepreneurial tasks. ESE mainly refers to developing new products or services and market opportunities, creating an innovative environment, finding potential investors, developing a clear business concept, coping with unexpected challenges and developing human resources (Hallak et al., 2018). In reviewing the literature, we found that researchers have studied ESE relating to financial performance (Bratkovič Kregar et al., 2019; Hallak et al., 2014; Lee & Hallak, 2018). Previous research mostly confirms a positive correlation between ESE and financial performance. Moreover, the authors mentioned above highlighted the

importance of training and education, which significantly contribute to higher levels of ESE. Interestingly, no studies were found on efficiency. Interestingly, no studies were found on efficiency.

2.2.3 Demographic Characteristics of Entrepreneurs (DC)

In the efficiency analysis of restaurant SMEs, it is also essential to underscore the importance of entrepreneurs' DC. Previous studies mainly analysed the importance of DC for business decision-making (Goll & Rasheed, 2005; Tavitiyaman et al., 2014). However, research findings do not provide a clear-cut answer on the importance of DC for SMEs' financial performance. For example, Mazzarol et al. (1999) found that women are less likely to enter the world of business, Kristiansen et al. (2003) found that DCs were only marginally related to financial performance, and Bujan (2020) reported a positive relationship between business-related education and business performance. Again, no studies were found on efficiency.

In previous research (Kallmuenzer et al., 2019; Lee & Hallak, 2018; Tajeddini, 2015), entrepreneurial characteristics significantly influenced business performance. According to the characteristics of the restaurant industry presented in Section 1, the manager is actively involved in the operational process. Therefore, we can assume that his EO, ESE, and DC can (hypothetically) directly influence MRA and, consequently, restaurant efficiency performance.

2.3 Environmental Characteristics

Entrepreneurs mostly have no (direct) influence on environmental factors. Authors who studied the impact of the external environment on restaurant efficiency have come to different conclusions. For example, Gharakhani et al. (2012) found that larger restaurants are more efficient, while Gimenez (2004) reported higher efficiency in smaller restaurants. Sanjeev (2007) also confirmed a weak, positive correlation between size and efficiency.

In contrast, research examining the correlation between location and efficiency is relatively scarce. Reynolds (2000) and Sanjeev (2007) found that restaurants located in/or near cities achieve higher efficiency. Regarding the number of competitors, Giménez-García et al. (2007) confirmed a positive relationship between market competition and efficiency.

Based on the theoretical findings presented above, we can conclude that entrepreneurial and environmental characteristics are important determinants of restaurant performance. Nevertheless, the two characteristics do not present direct inputs into an operational process. However, they should be considered as internal and external factors that (hypothetically) influence restaurant MRA and, consequently, restaurant efficiency performance.

Accordingly, we propose a research model (Figure 1) in which we investigate the influence of environmental and entrepreneurial characteristics (independent variables) on MRA (dependent variable), which are considered as an input into the efficiency analysis model. Since we are interested in operational efficiency, operational sales are a dependent output variable.

Accordingly, we propose two main hypotheses:

RH1: Environmental characteristics (size, location, and the number of competitors) impact MRA and, consequently, efficiency.

RH2: Entrepreneurial characteristics (ESE, DC (gender, age, education, work experience, ownership, and EO) impact MRA and, consequently, efficiency.

3 Methods

3.1 Research process, instrument design, and data analyses

Environmental and entrepreneurial characteristics were analysed based on instruments collected from previous research. For measuring EO, we adopted a 12-item scale from a study by Kostanjevec and Gomezelj Omerzel (2013), while for measuring ESE, we applied a 23-item scale developed by De Noble et al. (1999). The importance of entrepreneur DC was measured based on the following variables: age, formal education, years of experience, ownership, and work experience (Goll & Rasheed, 2005; Reynolds, 2000; Tavitiyaman et al., 2014). Since the theory does not provide a clear answer about the importance of DC, each DC variable was measured only at the individual level (see Figure 1). Environmental characteristics were assessed based on the following variables: restaurant size (Gharakhani et al., 2012), location (Reynolds, 2000; Sanjeev, 2007), and the number of competitors (Giménez-García et al., 2007). Additionally, we collected some basic physical information about the restaurant facilities, such as the number of employees and years of business activity. Financial (secondary) data for the efficiency analysis were obtained from the Agency of the Republic of Slovenia for Public Legal Records and Related Services (Ajpes, 2021).

For this study, various statistical approaches were applied. Efficiency was analysed using DEA; factor structure was investigated with exploratory factor analysis (EFA), and the measurement model was validated using confirmatory factor analysis (CFA). Finally, the relationships between the observed variables were tested using structural equation modelling (SEM).

3.2 Sample description and data collection

The sample consists of restaurant SMEs in the Republic of Slovenia classified according to the EU standard classification of activities (NACE) as I56.101 (Restaurants and inns) and I56.102 (Snack bars and similar). In 2019, there were 3,226 business entities in both classifications (Ajpes, 2021), representing almost 50% of the Food and Beverage (F&B) sector (6,496 business entities) in Slovenia. The unavailability of information regarding the characteristics of restaurant SMEs included in our model led us to use a convenience sampling method.

The survey took place between October and the end of December 2019 and was conducted by ten interviewers. Only those SMEs generating operating revenue from restaurant sales were included in the survey. Accordingly, to verify that SMEs are appropriate for inclusion in the analysis, respondents were asked to confirm that they have no other sources of revenue. At the end of the data collection, the sample consisted of 266 restaurant SMEs, representing slightly over 8% of the I56.102 and I56.101 populations.

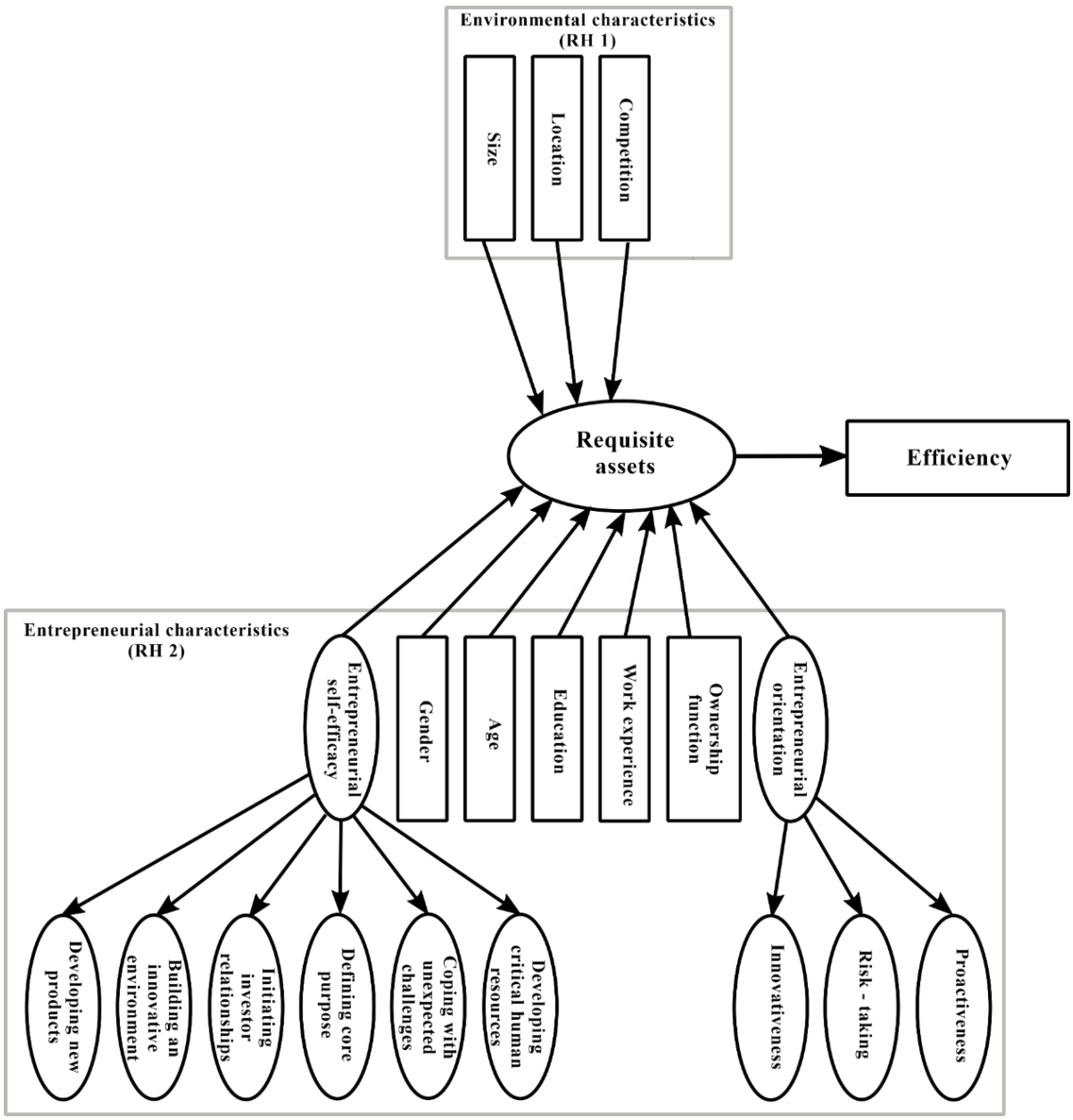


Figure 1: Theoretical Model

4 Results

4.1 Sample Characteristics

Characteristics of restaurants included in the research are presented in Table 2.

The physical and environmental characteristics presented in Table 2 indicate that slightly over half of restaurants (50,8%) are located in cities. Their average size is just over 270 square metres. On average, they have 119 seats. The largest proportion of restaurants employs up to ten employees (80.5%). On average, restaurants have 22.7 years of business activity, and respondents reported approximately four competing restaurants in their vicinity. The sample was mainly composed of male respondents (59.4%), whose average age was 43. The majority of respondents (67.3%) had completed vocational or secondary

Table 2: Restaurants' and respondents' characteristics

Variables		**Frequency**
Restaurants' physical and environmental characteristics		
Location	city	135
	suburban areas	99
	rural areas	32
Restaurant size (number of seats)	up to 50	25
	over 50 up to 100	90
	more than 100	151
Number of employees	up to 10	214
	over 10 up to 20	41
	more than 20	11
Years of business activity	up to 10	96
	over 10 up to 20	67
	more than 20	103
Number of competitors (within a 1 km radius)	up to 5	202
	over 5 up to 10	46
	more than 10	18
Respondents' demographic characteristics (DCs)		
Gender	male	158
	female	108
Age	up to 35	63
	over 35 up to 45	87
	over 45 up to 55	95
	more than 55	21
Level of education	primary school	3
	vocational or secondary school	179
	higher education	84
Years of experience	up to 10	59
	over 10 up to 20	87
	over 20 up to 30	82
	more than 30	38
Ownership structure	owner and manager	205
	manager	61

Table 3: Entrepreneurial Self-Efficacy (ESE)

ESE	Variables	M	SD
Developing new product and market opportunities			
1	I can see new market opportunities for new products and services.	4.02	0.789
2	I can discover new ways to improve existing products.	4.09	0.779
3	I can identify new areas for potential growth.	4.11	0.810
4	I can design products that solve current problems.	4.06	0.919
5	I can create products that fulfil customers' unmet needs.	3.97	0.931
6	I can bring product concepts to market in a timely manner.	3.95	0.886
7	I can determine what the business will look like.	3.66	0.886
Building an innovative environment			
8	I can create a working environment that lets people be their own boss more.	3.79	0.951
9	I can develop a working environment that encourages people to try out something new.	4.05	0.876
10	I can encourage people to take initiative and responsibility for their ideas and decisions, regardless of outcome.	3.92	0.970
11	I can form partner or alliance relationships with others.	3.92	0.991
Initiating investor relationships			
12	I can develop and maintain favourable relationships with potential investors.	3.70	1.197
13	I can develop relationships with key people who are connected to capital sources.	3.67	1.173
14	I can identify potential sources of funding for investment.	3.65	1.036
Defining core purpose			
15	I can articulate vision and values of the organisation.	4.25	0.771
16	I can inspire others to embrace the vision and values of the firm.	3.98	0.864
17	I can formulate a set of actions in pursuit of opportunities.	3.94	0.894
Coping with unexpected challenges			
18	I can work productively under continuous stress, pressure, and conflict.	4.05	0.956
19	I can tolerate unexpected changes in business conditions.	4.02	0.829
20	I can persist in the face of adversity.	4.30	0.727
Developing critical human resources			
21	I can recruit and train key employees.	4.12	0.885
22	I can develop contingency plans to backfill key technical staff.	3.81	0.987
23	I can identify and build management teams.	4.12	0.930

education. In terms of their work experience, respondents have, on average, 20 years of experience in the restaurant sector, and the majority of them (77.1%) reported owning their restaurants.

Results of secondary data reveal that the average value of labour cost is €116,986.74, depreciation is €11,738.61, the cost of goods and materials sold is €175,131.54, the cost of services is €73,571.34, and sales revenue is €401,896.76.

Next, ESE was analysed. In Table 3, results indicating ESE using mean values (M) and standard deviations (SD) are presented.

Table 4: Entrepreneurial Orientation (EO)

EO	Variables	M	SD
Innovation			
1	Since the firm was founded, we have not introduced many new products and services to the market.	2.76	1.327
2	Changes in our products and services are usually minor.	3.10	1.203
3	There is not a strong focus on the development of new products and services.	2.73	1.221
4	The firm does not have a strong focus on introducing new technologies that emerge on the market.	2.83	1.222
5	From the time the firm was founded until today, there have not been many improvements in products and services.	2.41	1.254
6	There is no emphasis on developing in-house solutions, both technological and administrative.	2.47	1.188
Risk Orientation			
7	Preference is given to products and services that are risk-neutral and have an average return.	3.03	1.210
8	In our competitive environment, it is wiser to make conservative and incremental decisions.	3.06	1.156
9	We prefer to thoroughly investigate the opportunity first and then make a decision.	3.70	1.009
Proactivity			
10	Our firm usually only reacts to actions triggered by other competitors in the market.	2.43	1.171
11	Compared to competitors, we are very rarely the first to introduce new products and services, process technologies and other business practices.	2.57	1.212
12	We usually wait for the leading competitor to enter the market first with new products and services before we follow.	2.15	1.175

As shown in Table 3, the highest-rated indicator was ESE-20, indicating their ability to cope with difficult situations (M=4.30). The lowest-rated indicator was ESE-14, indicating entrepreneurs' ability to find financial sources (M=3.65).

Next, EFA (principal axis factoring method was used) was employed to examine the factor structure of ESE (oblimin rotation was used). Based on the correlation coefficient values (showing no multicollinearity issues), all 23 indicators were included in the analysis. Results of the KMO test value (0.878) as well as the value of the Bartlett's test ($p = 0.000 < 0.05$; approximate $\chi2 = 2970.126$; $df = 253$) indicate the suitability of the data for performing EFA. We followed Kaiser's rule when determining the number of factors, suggesting that eigenvalues should be above one and at least 50% of variance should be explained with the obtained factors. Based on the results of EFA, six factors (ESE dimensions) were obtained. The final model explains 56.67% of the total variance.

In the next step, respondents' opinion on EO was investigated.

The results in Table 4 show that the highest-rated indicator was EO-9, indicating that managers generally prefer to explore business opportunities and then decide (M=3.70). The lowest scores relate to EO-12 (M=2.15), meaning that they usually do not wait for the leading competitors to enter the market first and then follow.

Next, EFA (principal axis factoring method was used) with oblimin rotation was used to examine the factor structure of EO. All 12 indicators were included in the analysis based on the correlation coefficient values. Results of the KMO test value (0.886) as well as the value of the Bartlett's test ($p = 0.000 < 0.05$; approximate $\chi2 = 1564.739$; $df = 66$) indicate the suitability of the data for performing EFA. Results show that three dimensions of EO explain 57.83% of the total variance.

4.2 Efficiency Analysis

Next, we proceeded with DEA. Before performing DEA (the CCR model was used), we first checked whether

there is a correlation between inputs and outputs, which was established using the Pearson correlation coefficient. Results show that the average efficiency for all restaurants is 65.8%, 19 restaurants achieve 100% efficiency, 122 restaurants achieve efficiency scores above the average, and 144 restaurants perform below the average. The results also suggest that restaurants that performed below the average could reduce their inputs by 34% and still achieve the same level of sales revenue. The analysis of the requisite assets shows that restaurants have the most place for efficiency improvement in terms of optimising their depreciation costs, which could be, on average, reduced by 37%. Restaurants performing below the average could therefore reduce their depreciation costs, on average, by 46%.

4.3 Validation of the model (CFA)

After EFA, we conducted CFA on both constructs (ESE and EO) to justify the appropriateness of the obtained dimensions or latent variables for inclusion in the measurement model. We excluded three indicators based on the low values of their standardised factor loadings (below 0.5). These indicators are ESE-7 (I can determine what the business will look like), ESE-11 (I can form partner or alliance relationships with others), and EO-9 (We prefer to thoroughly investigate the opportunity first and then make a decision). We could not confirm discriminant validity in both cases, so we decided to introduce a second-order latent variable. ESE is measured with six latent variables referring to its six dimensions, while EO is measured by the three latent variables (Tables 3 and 4). The latent variables (obtained in EFA) can be defined as first-order latent variables. Consequently, both ESE and EO can be defined as second-order latent variables. In the case of the second-order latent variable, the first-order latent variables act as independent variables. Therefore, they are expected to be more strongly correlated, and consequently, discriminant validity has no significant meaning in determining the model (Koufteros et al., 2009).

In the case of ESE, the proposed measurement model shows a good model fit. The $\chi 2$ ratio with respect to degrees of freedom is appropriate ($\chi 2/df = 1.90 < 3$) and goodness-of-fit indices (CFI = 0.91 > 0.9; SRMR = 0.059 < 0.08) show appropriate fit. The value of RMSEA is also satisfactory (0.068). Only the value of TLI (0.898) is slightly below 0.90. Nevertheless, the indicators point to a good fit of the model. The standardised factor loadings related to the second-order latent variables have values between 0.528 and 0.884, all statistically significant. This indicates a strong correlation between the second-order latent variable and the first-order latent variables. Consequently, the convergent validity of the second-order latent variable ESE is confirmed.

In the case of EO, the fit indices also show a good model fit. The $\chi 2$ ratio with respect to degrees of freedom is appropriate ($\chi 2/df = 2.65 < 3$), while fit indices are above the recommended threshold (CFI = 0.937 > 0.9; SRMR = 0.047 < 0.08). RMSEA (0.092) and TLI (0.916) also have satisfactory values. The standardised factor loadings relating to the second-order latent variable have values between 0.725 and 0.904 and are all statistically significant. This indicates a strong association between the second-order latent variable EO and the six first-order latent variables. Consequently, the convergent validity of the second-order latent variable EO is confirmed.

Next, we checked fit indices for the overall measurement model (ESE and EO). All standardised factor weights are above 0.5, all AVE values are above 0.5, and all CR values are above 0.7. Consequently, we can confirm the construct validity of the measurement model.

In the analysis of the initial SEM, we were unable to confirm some hypotheses. In order to find the most parsimonious model, the nested model approach was applied. By comparing the so-called nested models, we simplified the model to a form in which only variables connected with statistically significant paths were retained. The path with the weakest influence was removed in each step, and the resulting model was compared with the previous one (Kline, 2011). In subsequent steps, five paths were removed. The final model has satisfactory goodness-of-fit indicators ($\chi 2/df = 1.59 < 3$; SRMR = 0.061; RMSEA = 0.049). The CFI (0.880) and TLI (0.873) are slightly below the 0.9 thresholds; however, when all indicators are considered together, the final model fits the data reasonably well.

The location variable was measured as a nominal variable with three categories: rural area, suburban area, and urban (city) area. To include this variable in the research model, we formed two dichotomous variables (Location-suburban area and Location-rural area). The urban area was selected as the reference category. A summary of the final model results is presented in Table 5.

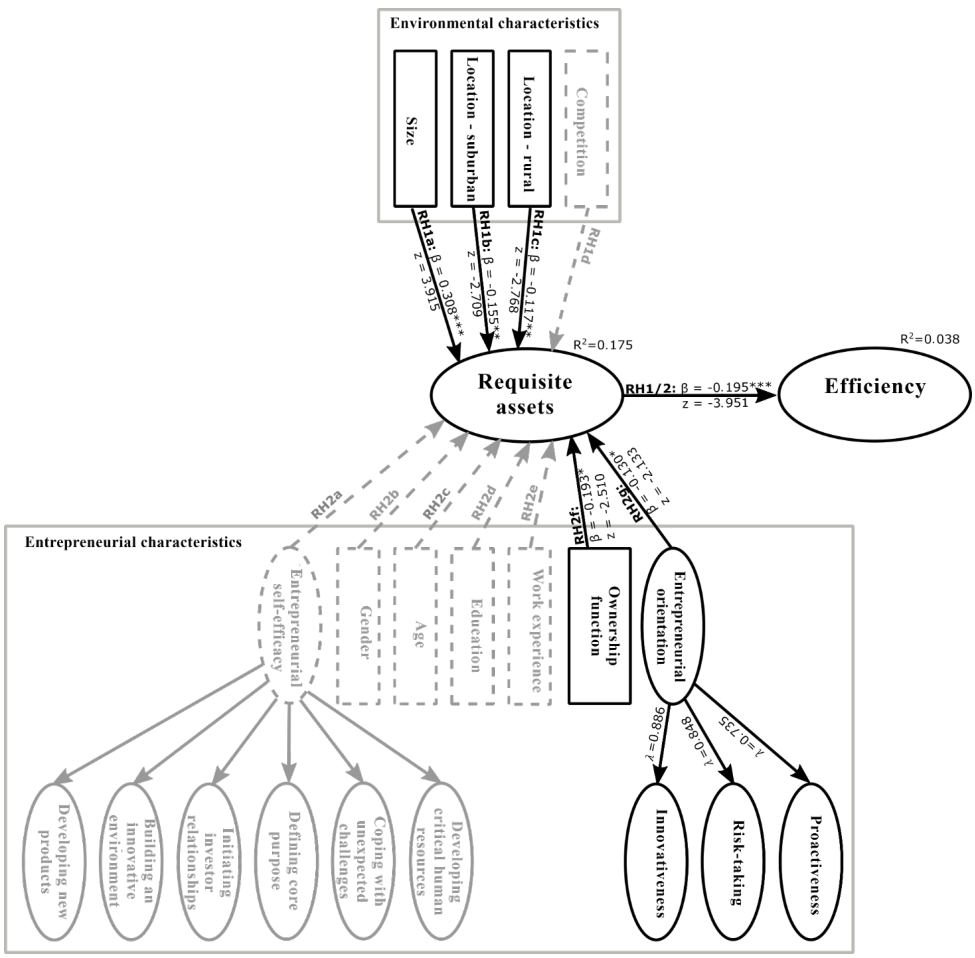
Based on the results of SEM, we cannot confirm the influence of all environmental variables. Specifically, competition (RH1d) proved not to be significant for MRA. Since we employed the nested model procedure, only significant impacts will be discussed in detail. Size (RH1a; $\beta = 0.3108$) and location – suburban (RH1b; $\beta = -0.155$), and rural (RH1c; $\beta = -0.117$) have a significant impact on MRA. As emphasised before, the location was a nominal variable with three categories, and two dichotomous variables were composed, selecting urban as a reference category. Negative coefficients for both dichotomous variables indicate that values of MRA are lower in suburban and rural areas than the urban ones.

In terms of entrepreneurial characteristics, we cannot confirm the correlations in the cases of the entire ESE dimension (RH2a) and for most DCs (RH2b, RH2c, RH2d, and RH2e.) A statistically significant correlation was confirmed only for ownership function (RH2f; $\beta = -0.193$). In contrast and interestingly, the entire EO dimension (RH2g)

Table 5: Summary of hypothesis testing for SEM

Hypothesis	Path	Standardised Path Coefficient	z-Value	Hypothesis Supported?
RH1a	Size → RA	0.308	3.915***	Yes
RH1b	Location – suburban area → RA	- 0.155	- 2.709**	Yes
RH1c	Location – rural → RA	- 0.117	- 2.768**	Yes
RH1d	Competition → RA			No
RH2a	ESE→ RA			No
RH2b	Gender → RA			No
RH2c	Age → RA			No
RH2d	Education → RA			No
RH2e	Work experience → RA			No
RH2f	Managerial-ownership function → RA	-0.193	-2.510*	Yes
RH2g	OE → RA	-0.130	-2.133*	Yes
RH1/2	RA → Efficiency	-0.195	3.951***	Yes

Note: *** p < 0,001; ** p < 0,01; * p < 0,05; RA = requisite assets



Note: Non-significant paths between variables are indicated with a grey dashed line

Figure 2: SEM

has a statistically negative impact on the values of the requisite assets (β = -0.130).

The identified five characteristics explain 17.5% of the variability for the requisite assets' variable (R2 = 0.175). As hypothesised in RH1/2, the requisite assets have a statistically negative impact on efficiency (β = -0.195). Accordingly, we can confirm RH1/2. The predictor variables explain 3.8% of variability for the efficiency variable (R2 = 0.038).

5 Discussion

Our analysis has led us to some interesting conclusions. The analysis of the hypotheses revealed that RH1 (environmental characteristics) could be mostly confirmed, while RH2 (entrepreneurial characteristics) can only be partially confirmed. In terms of size, larger restaurants consume more assets in their business processes and, as expected, have higher values of requisite assets compared to smaller restaurants. In contrast, results show that restaurants located in rural areas have lower requisite assets values than restaurants located in cities. A possible explanation for this might be that restaurants in rural areas may have more possibilities to produce their ingredients or buy them directly from producers at lower prices. Additionally, in urban areas, restaurants are more likely to offer high-end interiors (as an element of competitiveness), requiring higher values of requisite assets.

Interestingly, in our case, the number of competitors has no impact on MRA and consequently on efficiency. This finding is not in line with the literature (Giménez-García et al., 2007; Reynolds, 2004), which reported a correlation between the number of competitors and efficiency. Nevertheless, in comparing the results of our study with previous research, we have to be cautious. For example, the study by Giménez-García et al. (2007) was performed in a specific environment (on restaurants operating in shopping malls), while Reynolds (2004) did not report on testing the correlation between variables before performing DEA.

Next, the importance of entrepreneurial characteristics for assuring restaurant efficiency was analysed. Research results confirmed only the importance of EO in managing SMEs' requisite assets and efficiency. Previous studies (e. g. Bujan, 2020; Haber & Reichel, 2007; Hallak et al., 2014; Lee & Hallak, 2018) confirmed the importance of EO for SMEs' effectiveness. However, due to the differences in methodological approaches (efficiency ≠ effectiveness), the results of our study cannot be compared to previous research.

Our study found that those SMEs whose managers have a more pronounced EO have lower values of requisite assets. Specifically, innovativeness, proactivity and risk-taking proved to be important determinants of efficiency performance. Another interesting finding relates to the highest and the lowest rated EO indicators (see Table 4). In terms of entrepreneurs' risk orientation (EO-9), managers prefer to thoroughly investigate the opportunity first and then make a decision (M=3.70). On the contrary, in terms of proactivity (EO-12), they are less likely to wait for the leading competitor to enter the market first before they follow (M=2.15). Research results indicate that managers are relatively cautious when making decisions, although they do not like to follow the competition before launching new products and services. This result might be somehow related to the monopolistic characteristics of the restaurant industry (e.g. excess supply, many competitors offering slightly differentiated products and services, the decision regarding price or product of any firm does not significantly affect the competitive behaviour of other firms, low entry conditions to enter the market) (Hallak, 2018). Nevertheless, it is relatively difficult to explain these results due to the lack of comparative research. We might only assume that, based on their EO, managers have developed some entrepreneurial abilities that enable them to manage their business more efficiently.

Interestingly, the analysis did not confirm the impact of ESE on MRA and efficiency. Again, it is relatively difficult to explain these results since the literature (Lee et al., 2016; Lee & Hallak, 2018) only provides evidence related to the influence of ESE on effectiveness.

The results also reveal that DCs (except for the ownership function) do not influence MRA. In cases in which the manager is also the restaurant owner, the values of the requisite assets are lower. This finding implies that the owner-manager is more careful (and efficient) in managing the SME's requisite assets than the manager.

However, DC and ESE might be somehow intercorrelated since ESE could also be gained through education, mentorship, and work experience (Lee et al., 2016). In our study, the average age of managers was 43 years, and most of them (67.3%) reported having vocational or secondary education. Accordingly, we might assume that they did not gain any (formal) entrepreneurial education since, more than twenty years ago, entrepreneurship was not taught in schools in Slovenia. Interestingly, concerning the importance of education for business performance, Bujan (2020) reported that entrepreneurs of small family hotels in Croatia who had participated in business-related education performed better.

An absence of correlation was also evident in work experience. The result is surprising, but possible reasons may stem from the fact that there is no intergenerational transfer of mentoring skills (especially tacit knowledge) due to the deregulation of catering professions. Consequently, we might assume that managers are mostly self (incorrectly) taught. At the same time, respondents may have gained previous work experience at not necessarily managerial positions. Another possibility for these results could also be the relatively late start of strategic development of en-

trepreneurship in Slovenia, which only started in the late 1990s due to the transition process.

Based on research results, we can conclude that environmental characteristics significantly impact MRA and restaurant efficiency compared to entrepreneurial characteristics. In this respect, the analysis also confirmed a weak negative impact of MRA on efficiency. This result was expected, as we had already reported that managers could have achieved the same level of efficiency with lower values of requisite assets (on average: 34%).

6 Conclusion

In this paper, we aimed to (1) analyse the impact of the environmental and entrepreneurial characteristics on MRA, (2) investigate the impact of MRA on efficiency, with (3) the goal of designing and testing a measurement model for efficiency analysis, which is based on generic SMEs and entrepreneurial variables. The present study is thus the first to comprehensively address and examine the relationship among environmental and entrepreneurial characteristics, MRA, and restaurant efficiency. The selection of generic variables significantly contributes to our research and efficiency literature since it enables comparative analyses of efficiency measurement.

Based on the literature review, we formulated two main research hypotheses. The results indicate that environmental (RH1) and entrepreneurial (RH2) characteristics influence MRA and restaurant efficiency. Specifically, the following characteristics influence MRA and efficiency: size and location (environmental characteristics), and ownership and EO (entrepreneurial characteristics).

Based on the analysis, we conclude that SMEs' external environment on MRA and efficiency is much stronger than the influence of the internal environment. The external environment is generally not directly influenced by managerial decisions. This fact leads to the practical conclusion that it makes sense to strengthen the influence of the internal environment through the active development of entrepreneurial characteristics, which could consequently result in a more effective MRA and higher efficiency.

In terms of managerial application, managers could improve the potential of ESE and EO through active lifelong learning. Another recommendation refers to the improvement of restaurant efficiency. Results of DEA show that there is most potential for efficiency improvement in terms of depreciation costs. Nevertheless, according to Kukanja and Planinc (2018), this practice must be interpreted with caution. Namely, managers could use restaurants' physical (tangible) elements (e.g. interior design, layout, restaurant equipment) as critical elements of differentiation strategy. As a result, this practice might lead to higher depreciation costs since the use of the physical elements may not (yet) be reflected in higher sales revenues. Additionally, managers have also several (other) opportunities for improving SMEs' efficiency by networking and collaborating with other restaurant providers, which can also lead to economies of scale and cost optimisation (e.g. joint procurement).

Regarding other recommendations for policymakers, we also suggest the introduction of entrepreneurial skills in curricula at all education levels. Organising educational events might also present a challenge for restaurant associations. Moreover, academia should be more actively included in disseminating research results among restaurant managers.

Finally, we faced some limitations in conducting our research. The main limitations were the unwillingness of restaurant managers to participate in the study and the unavailability of industry-specific information related to the characteristics of restaurant SMEs. Specifically, restaurants are classified following their primary business activity, which means that they might also generate revenue from other businesses and report their financial data at an aggregated level. Accordingly, based on official reports, it is impossible to identify the entire population of restaurant SMEs that generate revenue solely from restaurant sales. Consequently, the sample design of our study was based on a convenience sampling method, the main limitation of which is the inability to draw statistical inferences from a sample to the population. A potential limitation could also present the research location, as Slovenia is one of the smallest economies within the EU. Therefore, it remains unclear whether research findings could be similar for other service industries and cultures. Another limitation refers to the time frame of the survey since it was carried out just before the outbreak of the Covid-19 pandemic. Finally, the lack of research on restaurant efficiency can also be considered a limitation.

We have also identified several opportunities for future research. The present study may represent an initial step in a longitudinal and cross-national (EU) comparative analysis of restaurant efficiency, providing valuable insights into the dynamics of assuring restaurant efficiency.

Another possible aspect for future research is the efficiency analysis related to the business life cycle. In the initial stages of the life cycle, the owner is also the restaurant manager; however, over time, there is often a need to reorganise or separate the managerial function by employing a manager (Lester et al., 2003). Further studies could also analyse the importance of managers' overconfidence and emotional unfitness for restaurant efficiency performance, as their significance for restaurant business failure was already reported by Camillo et al. (2008). Additional (state-of-the-art) variables such as green EO (Habib et al., 2020), characteristics of migrant restaurant entrepreneurs (Farrer, 2021), restaurant crowdfunding (Yang & Koh, 2022), or introduction of service robots (Seo & Lee, 2021) could also be introduced into the analysis. Finally, interviews with entrepreneurs could lead to valuable information in understanding restaurant efficiency management.

Literature

Ajpes. (2021). *Fi=Po Financial Analysis Toolkit*. https://www.ajpes.si/fipo/ag_default.asp

Alberca, P., & Parte, L. (2018). Operational efficiency evaluation of restaurant firms. *International Journal of Contemporary Hospitality Management*, *30*(3), 1959–1977. https://doi.org/10.1108/IJCHM-09-2016-0547

Andersson, T. D., & Hartman, T. E. (1995). Productivity and Efficiency in Restaurants A Data Envelopment Approach. *The Journal of Hospitality Financial Management*, *4*(1), 1–20. https://doi.org/10.1080/10913211.1995.10653667

Assaf, A. G., Deery, M., & Jago, L. (2011). Evaluating the Performance and Scale Characteristics of the Australian Restaurant Industry. *Journal of Hospitality & Tourism Research*, *35*(4), 419–436. https://doi.org/10.1177/1096348010380598

Assaf, A. G., & Josiassen, A. (2016). Frontier Analysis: A State-of-the-Art Review and Meta-Analysis. *Journal of Travel Research*, *55*(5), 612–627. https://doi.org/10.1177/0047287515569776

Banker, R. D., & Morey, R. C. (1986). Efficiency analysis for exogenously fixed inputs and outputs. *Operations Research*, *34*(4), 513–521. https://doi.org/10.1287/opre.34.4.513

Bratkovič Kregar, T., Antončič, B., & Ruzzier, M. (2019). Linking a multidimensional construct of networking self-efficacy to firm growth. *Economic Research-Ekonomska Istraživanja*, *32*(1), 17–32. https://doi.org/10.1080/1331677X.2018.1545594

Bujan, I. (2020). Entrepreneurial orientation and socioemotional dimensions in small family hotels: do they impact business performance?. *Economic research-Ekonomska istraživanja*, *33*(1), 1925-1942. https://doi.org/10.1080/1331677X.2020.1763824

Camillo, A. A., Connolly, D. J., & Kim, W. G. (2008). Success and failure in Northern California: Critical success factors for independent restaurants. *Cornell Hospitality Quarterly*, *49*(4), 364-380. https://doi.org/10.1177/1938965508317712

Coelli, T. J., Rao, D. S. P., O'Donnell, C. J., & Battese, G. E. (2005). *An Introduction to Efficiency and Productivity Analysis*. Springer Science & Business Media.

De Noble, A. F., Jung, D., & Ehrlich, S. B. (1999). Entrepreneurial Self-Efficacy: The Development of a Measure and Its Relationship to Entrepreneurial Action. *Frontiers for Entrepreneurship Research*. Babson College Entrepreneurship Research Conference, Massachusetts.

Donthu, N., & Yoo, B. (1998). Retail productivity assessment using data envelopment analysis. *Journal of Retailing*, *74*(1), 89–105. https://doi.org/10.1016/S0022-4359(99)80089-X

Dube, K., Nhamo, G., & Chikodzi, D. (2020). COVID-19 cripples global restaurant and hospitality industry. *Current Issues in Tourism*, *24*(11), 1487–1490. https://doi.org/10.1080/13683500.2020.1773416

Farrer, J. (2021). From cooks to chefs: Skilled migrants in a globalising culinary field. *Journal of Ethnic and Migration Studies*, *47*(10), 2359–2375. https://doi.org/10.1080/1369183X.2020.1731990

Fang, C.-Y., & Hsu, F.-S. (2014). An Efficiency-Based Metafrontier Approach To Menu Analysis. *Journal of Hospitality & Tourism Research*, *38*(2), 199–221. https://doi.org/10.1177/1096348012451461

Fried, H. O., Knox Lovell, C. A., & Schmidt, S. S. (Eds.). (2008). *The measurement of productive efficiency and productivity growth*. Oxford University Press, USA.

Gharakhani, D., Maghferati, A. P., & Jalalifar, S. (2012). Evaluation of the efficiency of restaurants using DEA method (the case of Iran). *Life Science Journal*, *9*(4), 530–534.

Gímenez, V. M. (2004). Improving efficiency in fast food restaurants: A frontier approach. *Revista Turismo & Desenvolvimento*, *2*, 55–67. https://doi.org/10.34624/rtd.v0i2.14107

Giménez-García, V. M., Martínez-Parra, J. L., & Buffa, F. P. (2007). Improving resource utilization in multi-unit networked organizations: The case of a Spanish restaurant chain. *Tourism Management*, *28*(1), 262–270. https://doi.org/10.1016/j.tourman.2005.12.021

Giokas, D., Eriotis, N., & Dokas, I. (2015). Efficiency and productivity of the food and beverage listed firms in the pre-recession and recessionary periods in Greece. *Applied Economics*, *47*(19), 1927–1941. https://doi.org/10.1080/00036846.2014.1002886

Goll, I., & Rasheed, A. A. (2005). The Relationships between Top Management Demographic Characteristics, Rational Decision Making, Environmental Munificence, and Firm Performance. *Organisation Studies*, *26*(7), 999–1023. https://doi.org/10.1177/0170840605053538

Haber, S., & Reichel, A. (2007). The cumulative nature of the entrepreneurial process: The contribution of human capital, planning and environment resources to small venture performance. *Journal of business venturing*, *22*(1), 119-145. https://doi.org/10.1016/j.jbusvent.2005.09.005

Habib, Md. A., Bao, Y., & Ilmudeen, A. (2020). The impact of green entrepreneurial orientation, market orientation and green supply chain management practices on sustainable firm performance. *Cogent Business & Management*, *7*(1), 1-26. https://doi.org/10.1080/23311975.2020.1743616

Hadad, Y., Friedman, L., & Hanani, M. Z. (2007). Measuring efficiency of restaurants using the data envelopment analysis methodology. *Computer Modelling and New Technologies*, *11*(4), 25–35.

Hallak, R., Assaker, G., & O'Connor, P. (2014). Are Fam-

ily and Nonfamily Tourism Businesses Different? An Examination of the Entrepreneurial Self-Efficacy–Entrepreneurial Performance Relationship. *Journal of Hospitality & Tourism Research*, *38*(3), 388–413. https://doi.org/10.1177/1096348012461545

Hallak, R., Assaker, G., O'Connor, P., & Lee, C. (2018). Firm performance in the upscale restaurant sector: The effects of resilience, creative self-efficacy, innovation and industry experience. *Journal of Retailing and Consumer Services*, *40*, 229–240. https://doi.org/10.1016/j.jretconser.2017.10.014

Hruschka, H. (1986). Ansätze der effizienzmessung von betrieben. *Journal Für Betriebswirtschaft*, *36*(2), 76–85.

Joo, S. J., Billington, P. J., & Stoeberl, P. A. (2012). Labour management for a restaurant using data envelopment analysis. *International Journal of Services and Operations Management*, *11*(1), 1–12. https://doi.org/10.1504/IJSOM.2012.044796

Kallmuenzer, A., Kraus, S., Peters, M., Steiner, J., & Cheng, C.-F. (2019). Entrepreneurship in tourism firms: A mixed-methods analysis of performance driver configurations. *Tourism Management*, *74*, 319–330. https://doi.org/10.1016/j.tourman.2019.04.002

Karakitsiou, A., Kourgiantakis, M., Mavrommati, A., & Migdalas, A. (2020). Regional efficiency evaluation by input-oriented data envelopment analysis of hotel and restaurant sector. *Operational Research*, *20*(4), 2041-2058. https://doi.org/10.1007/s12351-018-0406-1

Kline, R. B. (2011). Convergence of Structural Equation Modeling and Multilevel Modeling. In M. Williams & W. P. Vogt (Eds.), *The SAGE Handbook of Innovation in Social Research Methods* (pp. 562–589). SAGE Publications Ltd.

Kostanjevec, B., & Gomezelj Omerzel, D. (2013). *Podjetniška usmerjenost v družinskih podjetjih*. Fakulteta za management in Založba Univerze na Primorskem.

Koufteros, X., Babbar, S., & Kaighobadi, M. (2009). A paradigm for examining second-order factor models employing structural equation modeling. *International Journal of Production Economics*, *120*(2), 633–652. https://doi.org/10.1016/j.ijpe.2009.04.010

Kraus, S., Rigtering, J. P. C., Hughes, M., & Hosman, V. (2012). Entrepreneurial orientation and the business performance of SMEs: A quantitative study from the Netherlands. *Review of Managerial Science*, *6*(2), 161–182. https://doi.org/10.1007/s11846-011-0062-9

Kristiansen, S., Furuholt, B., & Wahid, F. (2003). Internet cafe entrepreneurs: Pioneers in information dissemination in Indonesia. *The International Journal of Entrepreneurship and Innovation*, *4*(4), 251–263. https://doi.org/10.5367%2F000000003129574315

Kukanja, M., & Planinc, T. (2018). Efficiency analysis of restaurants in a small economy after the implementation of fiscal cash registers: The case of Slovenia. *Organizacija 51*(4), 239–253. https://doi.org/10.2478/orga-2018-0022

Kukanja, M., & Planinc, T. (2019). Cost-Effective Service Excellence: Exploring the Relationships Among Restaurants' Operational Efficiency, Size and Service Quality. *South East European Journal of Economics and Business*, *14*(2), 67–81. https://doi.org/10.2478/jeb-2019-0014

Kukanja, M., & Planinc, T. (2020). Toward cost-effective service excellence: Exploring the relationship between managers' perceptions of quality and the operational efficiency and profitability of restaurants. *Quality Management Journal*, *27*(2), 95-105. https://doi.org/10.1080/10686967.2020.1722046

Lan, C.-H., Lan, Y.-H., Chang, C.-C., & Chuang, L.-L. (2006). Efficiency-based recruitment plan for chained quick-service enterprise. *Human Systems Management*, *25*(3), 197–209. https://doi.org/10.3233/HSM-2006-25304

Lee, C., & Hallak, R. (2018). Investigating the moderating role of education on a structural model of restaurant performance using multi-group PLS-SEM analysis. *Journal of Business Research*, *88*, 298–305. https://doi.org/10.1016/j.jbusres.2017.12.004

Lee, C., Hallak, R., & Sardeshmukh, S. R. (2016). Innovation, entrepreneurship, and restaurant performance: A higher-order structural model. *Tourism Management*, *53*, 215–228. https://doi.org/10.1016/j.tourman.2015.09.017

Lester, D. L., Parnell, J. A., & Carraher, S. (2003). Organisational life cycle: A five-stage empirical scale. *The International Journal of Organizational Analysis*. https://doi.org/10.1108/eb028979

Mazzarol, T., Volery, T., Doss, N., & Thein, V. (1999). Factors influencing small business start-ups. *International Journal of Entrepreneurial Behavior and Research*, *5*(2), 48–63. https://doi.org/10.1108/13552559910274499

Mhlanga, O. (2018). Factors impacting restaurant efficiency: A data envelopment analysis. *Tourism Review*, *73*(1), 82–93. https://doi.org/10.1108/TR-07-2017-0109

Morrison, A., Carlsen, J., & Weber, P. (2010). Small tourism business research change and evolution. *International Journal of Tourism Research*, *12*(6), 739–749. https://doi.org/10.1002/jtr.789

Parte, L., & Alberca, P. (2019). A multistage model to evaluate the efficiency the bar industry. *International Journal of Hospitality Management*, *77*, 512–522. https://doi.org/10.1016/j.ijhm.2018.08.015

Peters, M., & Kallmuenzer, A. (2018). Entrepreneurial orientation in family firms: The case of the hospitality industry. *Current Issues in Tourism*, *21*(1), 21-40. https://doi.org/10.1080/13683500.2015.1053849

Planinc, T., & Kukanja, M. (2019). Efficiency Analysis of Restaurants Operating in the Rural Areas: The Case

of Slovenia. *Academica Turistica*, *12*(2), 133–145. https://doi.org/10.26493/2335-4194.12.133-145

Planinc, T., & Kukanja, M. (2020). Efficiency Analysis of Restaurants Operating in the Rural Areas: The Case of Slovenia. *Academica Turistica-Tourism and Innovation Journal*, *12*(2). https://doi.org/10.26493/2335-4194.12.133-145

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial Orientation and Business Performance: An Assessment of Past Research and Suggestions for the Future. *Entrepreneurship Theory and Practice*, *33*(3), 761–787. https://doi.org/10.1111/j.1540-6520.2009.00308.x

Reynolds, D. (2000). An Exploratory Investigation into Behaviorally Based Success Characteristics of Foodservice Managers. *Journal of Hospitality & Tourism Research*, *24*(1), 92–103. https://doi.org/10.1177/109634800002400106

Reynolds, D. (2003). Hospitality-Productivity Assessment: Using Data-envelopment Analysis. *Cornell Hotel and Restaurant Administration Quarterly*, *44*(2), 130–137. https://doi.org/10.1177/0010880403442012

Reynolds, D. (2004). An Exploratory Investigation of Multiunit Restaurant Productivity Assessment Using Data Envelopment Analysis. *Journal of Travel & Tourism Marketing*, *16*(2–3), 19–26. https://doi.org/10.1300/J073v16n02_02

Reynolds, D., & Biel, D. (2007). Incorporating satisfaction measures into a restaurant productivity index. *International Journal of Hospitality Management*, *26*(2), 352–361. https://doi.org/10.1016/j.ijhm.2006.01.003

Reynolds, D., & Thompson, G. M. (2007). Multiunit restaurant productivity assessment using three-phase data envelopment analysis. *International Journal of Hospitality Management*, *26*(1), 20–32. https://doi.org/10.1016/j.ijhm.2005.08.004

Roh, E. Y., & Choi, K. (2010). Efficiency comparison of multiple brands within the same franchise: Data envelopment analysis approach. *International Journal of Hospitality Management*, *29*(1), 92–98. https://doi.org/10.1016/j.ijhm.2009.06.004

Sanjeev, G. M. (2007). Measuring efficiency of the hotel and restaurant sector: The case of India. *International Journal of Contemporary Hospitality Management*, *19*(5), 378–387. https://doi.org/10.1108/09596110710757543

Seo, K. H., & Lee, J. H. (2021). The emergence of service robots at restaurants: Integrating trust, perceived risk, and satisfaction. *Sustainability*, *13*(8), 1-16. https://doi.org/10.3390/su13084431

Statistični urad Republike Slovenije (SURS). (2021). *Podjetja po dejavnosti (SKD 2008) in velikosti glede na število oseb [Companies by activity (SKD 2008) and size by number of persons]*. https://pxweb.stat.si/SiStatDb/pxweb/sl/20_Ekonomsko/20_Ekonomsko__14_poslovni_subjekti__01_14188_podjetja/1418801S.px/table/tableViewLayout2

Tajeddini, K. (2015). Exploring the antecedents of effectiveness and efficiency. *International Journal of Hospitality Management*, *49*, 125–135. https://doi.org/10.1016/j.ijhm.2015.06.007

Tajeddini, K., Elg, U., & Trueman, M. (2013). Efficiency and effectiveness of small retailers: The role of customer and entrepreneurial orientation. *Journal of Retailing and Consumer Services*, *20*(5), 453–462. https://doi.org/10.1016/j.jretconser.2013.05.004

Tavitiyaman, P., Weerakit, N., & Ryan, B. (2014). Leadership Competencies for Hotel General Managers: The Differences in Age, Education, and Hotel Characteristics. *International Journal of Hospitality & Tourism Administration*, *15*(2), 191–216. https://doi.org/10.1080/15256480.2014.901069

Taylor, J., Reynolds, D., & Brown, D. M. (2009). Multifactor menu analysis using data envelopment analysis. *International Journal of Contemporary Hospitality Management*, *21*(2), 213–225. https://doi.org/10.1108/09596110910935705

Turk, A. (2006). The Predictive Nature of Financial Ratios. *The Park Place Economist*, *14*, 96–104.

Yang, Y. (Yvonne), & Koh, Y. (2022). Is restaurant crowdfunding immune to the COVID-19 pandemic? *International Journal of Contemporary Hospitality Management*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/IJCHM-06-2021-0817

WTTC. (2020). *Travel & Tourism Global Economic Impact and Trends 2020* (p. 20).

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Vpliv podjetniških in okoljskih značilnosti na upravljanje s prvinami poslovnega procesa ter učinkovitost v prehrambnem gostinstvu

Ozadje/namen: Mikro, mala in srednje velika podjetja so v poslovnem okolju podvržena različnim dejavnikom, ki vplivajo na njihovo poslovno uspešnost. V slovenskem prehrambnem gostinstvu je manager pogosto tudi lastnik obrata in posledično lahko s svojimi podjetniškimi lastnostmi neposredno vpliva na upravljanje s prvinami poslovnega procesa. V prispevku tako preučujemo vpliv podjetniških (samoučinkovitost in orientiranost) in demografskih lastnosti ter vpliv okoljskih oz. zunanjih (kraj in lokacija obrata in število konkurentov) značilnosti na upravljanje s prvinami poslovnega procesa in posledično na učinkovitost poslovanja.
Metodologija: Primarni podatki, ki se nanašajo na podjetniške, demografske lastnosti ter zunanje okolje, so bili pridobljeni z uporabo anketnega vprašalnika. Sekundarni podatki, ki zajemajo finančne podatke, so bili pridobljeni iz uradnih računovodskih izkazov. V analizo je vključenih 266 prehrambno gostinskih obratov, ki poslujejo na območju Republike Slovenije. Učinkovitost je bila analizirana z analizo ovojnice podatkov (DEA), za preverjanje raziskovalnega modela pa je bilo uporabljeno modeliranje strukturnih enačb (SEM).
Rezultati: Rezultati kažejo, da ima zunanje okolje večji vpliv na upravljanje s prvinami poslovnega procesa v primerjavi s podjetniškimi in demografskimi lastnostmi. Izkazalo se je namreč, da podjetniška samoučinkovitost in večina demografskih lastnosti (starost, spol, izobrazba in delovne izkušnje) ne vplivajo na upravljanje s prvinami poslovnega procesa in posledično na učinkovitost poslovanja.
Zaključek: Na zunanje okolje manager praviloma nima vpliva, zato je ključnega pomena, da se z aktivnim razvojem podjetniških lastnosti okrepi vpliv notranjega okolja, kar bi lahko privedlo do učinkovitejšega upravljanja s prvinami poslovnega procesa in posledično do višje učinkovitosti. V prispevku so podani predlogi za učinkovitejši izkoristek potenciala vpliva notranjega okolja, izboljšanje učinkovitosti ter smernice za nadaljnje raziskovanje.

Ključne besede: *Mikro, Mala in srednje velika podjetja, Prehrambno gostinstvo, Slovenija, Učinkovitost, Okoljske in podjetniške značilnosti, Prvine poslovnega procesa*