

Article

Entrepreneurial Orientation and Networking as Enablers of Firm Performance: A Fuzzy-Set Based Comparative Analysis of Micro, Small and Medium-Sized Enterprises

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Abstract

This study examines entrepreneurial networking and offers a new perspective on how micro-, small-, and medium-sized enterprises (MSMEs) enhance firm performance. The primary aim is to identify combinations of factors—namely, innovativeness, risk-taking, proactiveness, and networking—that contribute to improved firm performance. Using fuzzy-set qualitative comparative analysis (fsQCA), the study analyses survey data from a sample of 426 MSMEs. The findings reveal that networking, when combined with innovativeness, proactiveness, and risk-taking, can lead to an increase in firm performance. However, the effective combinations of factors vary by enterprise size. Among micro and small enterprises, either risk-taking alone or the combination of innovativeness and networking is sufficient to improve performance. In medium-sized enterprises, firm performance improves through combinations such as innovativeness with networking, proactiveness with networking, or risk-taking with proactiveness. This study contributes to an understanding of how entrepreneurial traits and networking strategies interact across different types of enterprises, offering practical insights into the strategic configurations that drive firm performance.

Keywords: entrepreneurial orientation (EO); networking; micro-, small-, and medium-sized enterprises (MSMEs); fuzzy-set qualitative comparative analysis (fsQCA)

JEL: L25, L26, M21

1. Introduction

The concept of entrepreneurial orientation (EO) assumes that the entrepreneurial mindset, characterised by a firm's ability to take risk, innovate, and proactively improve competitive positioning in the market (Miller, 1983) is associated with opportunities, which in return affect the performance of the enterprise (Arzubiaga et al, 2018; Craig et al, 2014; Presutti and Odorici, 2019). To this end, it is not surprising that EO and firm performance are the subject of numerous studies, also within the small and medium-sized enterprise (SME) sector (e.g., Kumar et al, 2021; Covin and Wales, 2019; Galbreath et al, 2020; Liu and Wang, 2022; Wales, 2016). Similar to EO, firm performance is influenced by various factors. This study evaluates performance through metrics of firm growth and financial outcomes, also in comparison with competitors.

The relationship between EO and performance may be complex (Andersen, 2010), as the positive impact of EO on performance is not always present. While contemporary discussions present various viewpoints regarding the impact of EO on firm performance, including EO's moderating effects (Urban and Maphumulo, 2022), the underlying reasons driving performance are still underexplored.

Several studies indicate that the impact of EO on firm performance can be influenced by additional underlying factors beyond EO itself. These factors include firm strategy (Moreno and Casillas, 2008), dynamic capabilities (Abu-Rumman et al, 2021), knowledge management (Kusa et al, 2024), and managerial practices, such as partnership philosophy (Messersmith and Wales, 2013). In the past decade, two new elements have emerged in the discussion: networks and networking (Borgatti and Halgin, 2011; Burt, 2019; Karami and Tang, 2019; Klyver and Schenkel, 2013; Rodrigo-Alarcón et al, 2018; Udimal et al, 2021). Networks are viewed as inevitably important and understood as common place in which entrepreneurial activities take place. Entrepreneurial activities, such as proactively developing relationships or taking risks by investing in new relationships, ultimately lead to greater innovation through these new investments. These activities, aimed at improving and fostering networks, are understood as networking. The goal of networking is to build, utilise, and exploit networks for the benefit of the firm. The agency in matters of networking activities seems to intentionally support micro-, small-, and mid-sized firm's access to resources and entrepreneurial capabilities (Borgatti and Halgin, 2011; Burt, 2019). Inter-



organisational networking is defined in this study as external networking in a business-to-business setting.

This study aims to identify combinations of dimensions of EO, as well as inter-organisational networking, that lead to an increase in firm performance in micro-, small-, and medium-sized enterprises. This study aims to provide a new perspective on entrepreneurial networking by laying open the various combinations that support firm performance.

In summary, this paper contributes to the discussion of EO by introducing the concept of the ‘networking entrepreneur’ (Borgatti and Halgin, 2011; Elfring et al, 2021; Rodrigo-Alarcón et al, 2018). Additionally, it employs fuzzy-set Qualitative Comparative Analysis (fsQCA) as a novel approach to examining firm performance, allowing for the differentiation of various factor bundles across micro, small, and mid-sized firms. Analyzing these three types of firms separately constitutes an additional contribution. The remainder of the article is structured as follows: First, the concept of entrepreneurial orientation, along with inter-organisational networking is presented. Second, the research methodology is described. Third, the study’s results are presented. Fourth, the results in relation to previous studies are discussed and the study’s limitations and implications are shown. The paper ends with the conclusions and recommendations for future studies.

2. Theoretical Background

2.1 Entrepreneurial Orientation

EO is regarded as “the processes, practices and decision-making activities that lead to new entry” (Lumpkin and Dess, 1996, p. 136). EO is pegged at the organisational level and is regarded as integral to the strategy-making process that manifests itself in the processes, practices, and culture of an organisation, in pursuit of a refined strategic intent and competitive advantage (Kiyabo and Isaga, 2020; Miller, 1983; Rauch et al, 2009). According to Miller’s (1983) original conceptualisation of EO, it manifests itself in the overall levels of innovativeness, risk-taking and proactiveness. While other authors suggest the inclusion of autonomy and competitive aggressiveness as dimensions of EO, these are less commonly used in empirical studies (Covin and Lumpkin, 2011; Lumpkin and Dess, 1996). Possessing an EO is particularly important for SMEs, as the ability to identify market gaps, develop innovative products, and thereby increase competitiveness is critical for long-term survival. The interplay between internal adaptability and an external orientation is therefore of importance (Oberholzer et al, 2014). Authors such as Morris et al (2010), Kocjančič and Bojnec (2013), as well as Isichei et al (2020), suggest that performance gains can be achieved by means of fostering an entrepreneurial mind-set in an organisation, as this is directly linked to an improvement in innovation capability. Covin and Slevin (1986) also established a direct positive relationship between EO

and organisational performance, particularly in the context of small businesses operating in hostile environments. Beneke et al (2016) furthermore found a positive relationship among SMEs with a strong market orientation and organisational performance. Landmark studies by Covin and Slevin (1991) and Wiklund (1999) have shown EO to be a predictor and driver of internal performance, particularly in the areas of autonomy, proactiveness, and innovativeness (Matchaba-Hove and Goliath, 2016). Drawing from the above discussion, a performance link to EO emerges in literature.

According to the formative view of EO, particular dimensions can vary, resulting in different profiles of EO (e.g., a firm can be recognized as having a relatively high EO overall while presenting some dimensions at a low level). EO dimensions can have different associations with one another (Tang et al, 2009). EO dimensions can also have a unique and direct effect on performance (Lomborg et al, 2017). Thus, this study also investigates the role of particular dimensions of EO in increasing a firm’s performance. This study focuses on the three-dimensional concept of EO, represented through risk-taking, innovativeness and proactiveness. Another common conceptualization of EO includes competitive aggressiveness as a dimension; however, competitive aggressiveness is the opposite of networking which is to be tested as a performance-driver in this study.

Risk-taking is considered to be one of the fundamental components of entrepreneurship in turning an idea into innovation (Azami, 2013; Kuratko, 2017). Risk-taking reflects the managerial willingness “to make large and risky resource commitments—i.e., those that have a reasonable chance of costly failures” (Miller and Friesen, 1978, p. 923). Research has indicated that employees who are given the freedom to take risks and innovate are more likely to create commercially successful products (Toftoy and Chatterjee, 2004). While high-risk projects have a greater chance of failing, allowing internal risk-taking is associated with the pursuit of higher returns (Khandwalla, 1977). It is, however, noteworthy that other studies have found risk-taking to be associated with a drop in short-term financial performance (Zahra and Covin, 1995). Studies in the SME context, such as those by Castillo-Vergara and Garcia-Perez-de-Lam (2020), have shown that risk-taking enables an SME to translate creativity into product innovation, which leads to enhanced internal performance. Thus, we propose that risk-taking (separately or combined with other factors) can lead to an increase in firm performance.

Morris et al. (2010, p. 8) define innovativeness as “a continuous priority placed on developing and launching new products, services, processes, markets and technologies and on leading the marketplace”. It is through innovation that a first-mover advantage can be created. While internal innovation is also associated with entrepreneurial efforts of employees, a paradox exists in that “levels of in-

novation and productivity are traced specifically to the relevant SBU, rather than viewed as a reflection on the organization as a whole” (Luke et al, 2007, p. 316). In the SME context, Roach et al (2016) argue that innovation orientation and product/service innovation can lead to increased firm performance. Exposito and Sanchis-Llopis (2019) found innovation exerting a positive impact on performance indicators, depending on the type of innovation. It is therefore crucial that the right type of innovation is secured and linked to sought performance outcomes in SMEs. Paradoxically, other authors such as Ndesaulwa and Kikula (2016), using a desktop methodology to review the results of empirical studies, did not find consistent results on the impact of innovation on organisational performance of SMEs, thereby establishing a call for further investigation. This gives rise to the assumption that innovativeness (separately or combined with other factors) can lead to an increase in firm performance.

Proactiveness is defined by Rauch et al. (2009, p. 763) as “an opportunity-seeking, forward-looking perspective characterized by the introduction of new products and services ahead of the competition and acting in anticipation of future demand”. Including an element of proactiveness in organisational strategy therefore has the potential to create a first-mover advantage by setting the organisation apart from its competitors and offering products and services to the market that are perceived as being useful. Covin and Slevin (1991) however, note that an organisation should not only act proactively, but also boldly and aggressively, in order to pursue new opportunities through internal innovation. In the SME context, authors such as Wambugu et al (2015) found a significant relationship between proactiveness and firm performance. This is confirmed in other studies that also discovered a positive relationship between proactiveness and SME success and outperformance (Bakar and Zainol, 2015).

Thus, we assume that proactiveness (separately or combined with other factors) can lead to an increase in firm performance.

2.2 Networking and the Entrepreneurial Process of Micro-firms and SMEs

For this investigation, business networks are understood as networks that consist of business actors, relational ties, and resources, but also of rules, norms, and sanctions that orchestrate interaction and exchange towards new ideas and/or valuable solutions (Burt, 2019; Coleman, 1990; Nahapiet and Ghoshal, 1998). Networking is defined as a process of screening, accessing, developing, using and exploiting internal as well as external overlapping networks that embed valuable resources such as knowledge and/or creativity (Burt, 2019; Leick and Gretzinger, 2020). In contemporary discussions on the impact of the exploitation of external networks on SME performance, several studies have brought up findings that support the relevance of external networking for SMEs. Almeida and Kogut (1999) dis-

covered, in an American small business context, that small firms were more closely linked to regional knowledge networks, when compared to large firms. In a large sample of British manufacturing firms, Love and Roper (1999) found that “network intensity” had a positive effect on the quantity of innovations generated. Similarly, other studies have shown that support for external linkages raises innovation, indicating that internal R&D efforts appeared to be most impactful, when combined with external linkages (Tomlinson, 2011). Finally, Hilmersson and Hilmersson (2021) found that SME that lack innovation capabilities can compensate for that by using networking.

Conceptually, networking is associated with the network theory of range (Borgatti and Halgin, 2011; Burt, 1992; Coleman, 1990), which incorporates the approaches of competitive advantage, namely brokerage in line with Burt (1992; 2000) and closure in line with Coleman (1990). Through its contradictory both approaches complement each other (see also Doney and Cannon, 1997, Inkpen and Tsang, 2005, Tomlinson, 2011). While the first associates’ entrepreneurial advantage with conquering new and mainly weak ties (Burt, 1992, 2000, 2019), the second views trust as advantage and focuses on the strength of strong ties (Anderson and Jack, 2002; Coleman, 1990; Doney and Cannon, 1997; Inkpen and Tsang, 2005).

2.3 Entrepreneurial Advantage and Weak Ties

From Burt’s (1992; 2000; 2019) perspective, the leveraging of new ties enables entrepreneurs to access new valuable intangible resources. This access can happen directly but also indirectly through a central actor, who acts as bridge builder by connecting the entrepreneur with formerly loose or not connected networks. Burt (1992) termed the lacking connections within and among networks “structural holes”. These holes indicate where (inter-organizational) relationships are missing and where information does not flow, but probably differs from one side to the other (Burt, 2019). Information gathered through new, formerly unconnected relationships (weak ties) is particularly valuable due to its newness but also due to its multiplicity, making the acquisition of plenty of new valuable information more likely. This compares favourably to networking within internal networks characterized by higher levels of closure (Burt, 2019; Granovetter, 1973). Accordingly, in an entrepreneurial context, activities in networking in the form of accessing new ties from outer circles results in information advantages due to the access to complementary and less redundant information from diverse sources (Anderson and Jack, 2002; Burt, 2019; Leick and Gretzinger, 2020; Soetanto et al, 2018). In this vein, Expósito-Langa and Molina-Morales (2010) highlight that from an entrepreneurial perspective, a focus on new—in particular weak—ties would prevent blindness and myopia (see also Inkpen and Tsang, 2005). Furthermore, connecting with plenty of new actors (external organisations) and/or net-

works is not just associated with the exploration of new opportunities, but also with proactiveness and higher levels of risk-taking (Atuahene-Gima et al, 2006; Love and Roper, 1999; Rodrigo-Alarcón et al, 2018).

Following Burt's (1992; 2000) reasoning, the focus on dense and strong networks (as proposed by Coleman (1990) and Jones et al (1997)) is considered a hindrance from an entrepreneurial perspective as it does not make one receptive to new opportunities but would instead lead to lock-in effects (Burt, 2000, 2019). From this stance, focusing solely on strong ties would decrease the entrepreneurial chance to acquire new knowledge (Ahuja, 2000), as a focus on inner circles is associated with rigidity and barriers against new opportunities, and new information to innovate is limited (Burt, 2019; Koka and Prescott, 2002; Noteboom, 2006; Rodrigo-Alarcón et al, 2018).

2.4 Entrepreneurial Advantage and Strong Ties

Bearing in mind the disadvantages of purely focusing on strong ties (as proposed by Burt, 2019), Coleman's (1990) arguments are vital for understanding how networking can support innovativeness of micro-firms and SMEs. However, even Burt (2019) argues that entrepreneurial activities in fostering and improving strong ties would also have some advantages. The existing knowledge and the channels through which it flows would be understood better (Burt, 2019), and thereby, resource integration across firm boundaries becomes more likely (Baraldi et al, 2012). Touching upon what Baraldi et al (2012) accentuates, close interaction within trustful relationships (entrepreneurs) would make the discovery of innovation within these relationships more likely. Doney and Cannon (1997) point to the fact that trustful relationships would furthermore improve the reputation of firms and increase their chances of making new relationships and thereby identifying new opportunities. Tomlinson (2011) found that trustful relationships and close interaction along the supply chain with external network partners could facilitate knowledge transfer and thus the translation of ideas (opportunities) into innovative solutions. To this end, both weak and strong ties support entrepreneurial advantage. In summation, the notion of the strength of strong ties (Baraldi et al, 2012; Coleman, 1990; Doney and Cannon, 1997) supports the assertion that coalition among trustful actors facilitates knowledge transfer, enables the co-creation of exclusive valuable resource bundles in and across organisations, and subsequently, based on trust, the protection of new innovative products from imitation by competitors (Leick and Gretzinger, 2020). While Burt's (1992; 2000) reasoning is focused on external networking and the identification of new opportunities, Coleman's (1990) arguments are primarily focused on intra-networking and protecting the competitive edge.

However, networking behaviours are diverse and influenced by prior experience (Zheng et al, 2020). A greater

awareness of the interactions between the factors of entrepreneurial Orientation (EO) and the two types of networking can enhance our understanding of how to effectively work with these elements.

Against the background, some conclusions regarding the interaction of networking, EO and firm performance can be drawn. From an entrepreneurial perspective, external networking can be understood as a factor impacting the innovativeness of micro-firms and SMEs (Mohannak, 2007). The better an entrepreneur is at external networking (as described above), the more likely they are to act proactively, take risks, and exhibit innovation (Atuahene-Gima et al, 2006; Rodrigo-Alarcón et al, 2018). The more intensive the external networking activities of an entrepreneur, the more likely it is that their performance will increase (Love and Roper, 1999).

In conclusion, while external networking focused on weak ties increases the likelihood of forming new relationships and accessing new entrepreneurial resources or opportunities, fostering strong relationships supports entrepreneurial processes embedded within existing connections. The key takeaway is that networking opens up new entrepreneurial opportunities, whether in unexplored areas or within already discovered spaces. Therefore, we expect that inter-organizational networking, either alone or combined with other factors, can enhance a firm's performance. However, some combinations of external networking and entrepreneurial orientation may bear some uncertainties, as well as the risk of losing a competitive edge. For instance, behavioural uncertainties, due to lacking trust within weak ties, can hardly be calculated, not even within the frame of risk-taking (Hmieleski et al, 2015). It is therefore worth exploring the combinations of networking and EO dimensions (i.e., risk-taking, innovativeness, and proactiveness) that can lead to an increase in firm performance. Such an exploration can help explain some ambiguities of the impact EO and networking have on firm performance. To achieve this, the study proposes a new index that reflects various aspects of networking, including initiating and creating networks, participating in networks, exploiting the potential of networks, and the resources and revenues gained through networking. These details are elaborated in the sub-section 'Operationalisation of Variables'.

Based on above consideration, we propose the model wherein dimensions of EO are associated with networking and lead to performance in micro-, small-, and medium-sized enterprises. This model is depicted in Fig. 1.

Previous studies indicate that the size of a firm can affect the relationships leading to increased performance (Real et al, 2014; Wales et al, 2013). Thus, we assume that the role of networking and dimensions of EO can vary depending on firm size. Consequently, the model proposed above in Fig. 1 will be investigated separately for micro, small, and medium enterprises.

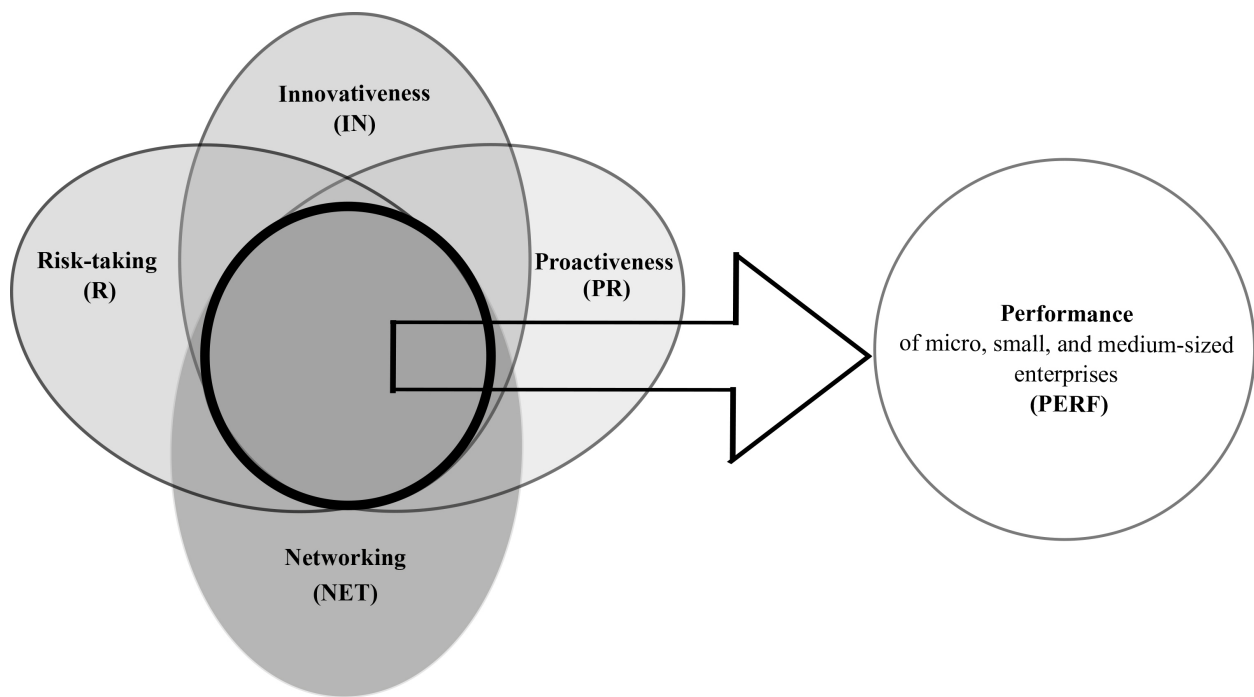


Fig. 1. Configurations of dimensions of entrepreneurial orientation (EO) and networking leading to firm performance.

3. Research Methodology

3.1 Method

For exploring interactions between EO and networking and for identifying combinations of factors leading to an increase in firm performance, this study followed a configurational approach (Furnari et al, 2021) and employed a fuzzy-set qualitative comparative analysis (fsQCA). FsQCA as a research method is one of the data analysis techniques which, using Boolean algebra, makes it possible to determine which logical conclusions a data set supports (Ragin, 2008). In particular, this method makes it possible to determine, on the basis of a selected set of conditions, what configurations of these conditions lead to the indicated outcome (result). This method significantly differs from the methods based on correlation and regression analysis more commonly known in statistics, due to its asymmetric and equivalent nature (Rihoux and Ragin, 2009; Schneider and Wagemann, 2012). The possibility of analysing small and medium-sized samples was an added advantage of the method (Fiss, 2011), albeit fsQCA can be used for examinations within large samples as well (Vis, 2012; Woodside, 2012). In recent years, this method has become popular among researchers and scientists who search for the complex essence of causality (Roig-Tierno et al, 2017), mainly in the field of social sciences (e.g., Del Sarto et al, 2021, Kusa et al, 2021). There are two specific premises for using fsQCA in this study. First, the ambiguity of the EO-performance relationship, as some studies suggest this relationship can be non-linear (Morić Milovanović, 2022; Wales et al, 2013). Second, this examination also includes networking as a factor affecting performance;

its interactions with the dimensions of EO can make their impact more complex. Consequently, methods dedicated to analysing linear relationships seem unsuitable in this case. The analysis consists of several stages. Following the indications of Rihoux and Ragin (2009), this examination was conducted in several stages, i.e., calibration of data, analysis of necessity and analysis of sufficiency (which consists of building a truth table and logical minimization). In this study, the results of the fsQCA are presented. The detailed presentation of the conducted procedure (which is described by Schneider and Wagemann (2012)) is omitted. All analyses were performed using the fsQCA 3.0 software (University of California, Irvine, CA, USA) (Ragin and Sean, 2016).

3.2 Sample and Data Collection

The sample consisted of 426 micro, small, and medium-sized enterprises operating in five (out of 16) voivodships in Poland, namely, Dolnoslaskie, Mazowieckie, Opolskie, Pomorskie, and Wielkopolskie. The enterprises were selected by means of convenience sampling. These enterprises were classified based on their numbers of employees and divided into three sub-samples (micro being 5–9; small, 10–49; and medium, 50–249). In the case of micro enterprises, the smallest ones (employing 1–4 workers) were excluded from the examination due to their low level of organizational formality as well as predominance of self-employment in Polish business. The companies in the sample represent different industries (high- and low-tech manufacturing [electronics and clothing, respectively] and educational and recreational

services) and are located in both urban and rural areas. The sub-samples are similar in terms of their industry and location structure. The data were collected with the paper-and-pencil interviewing (PAPI) method from December 2019 through March 2020.

3.3 Operationalisation of Variables

This study's variables are risk-taking, innovativeness, and proactiveness, commonly regarded as the three dimensions of EO, as well as inter-organisational networking and firm performance. All variables are indices; each is calculated on the basis of several questions. Some items employed to measure the EO dimensions and firm performance were proposed by [Hughes and Morgan \(2007\)](#); some of these items were modified. In particular, the performance index consists of 9 items which refer to firm growth and financial performance, and some items are a comparison with competitors; all of them reflect subjective assessment of interviewed managers. Operationalisation of networking focuses on external networking (as internal interaction is assumed to take place anyway). The inter-organisational networking dimension required us to create an index. Based on a literature review, this study included five items in the networking index, namely, (a) "We participate in many business networks (i.e., long-term and relatively constant formal or informal relationships that occur between at least three separate entities)"; (b) "We initiate cooperation between our partners and the creation of business networks"; (c) "Our company uses resources—both tangible (e.g., material, human, financial) and intangible (e.g., knowledge, skills)—of other entities from the business network in which we participate"; (d) "Our company fully exploits the potential of inter-organisational networks"; and (e) "Our company has above-average revenues, which are achieved thanks to mutual exchange within inter-organisational networks". Each item was assessed by the respondents on a seven-point scale. In total, the questionnaire consisted of 28 items measuring five variables. Because QCA refers to observable (not latent) variables, the overall value of each index is counted as an average of the items included in the index; in the case of observable variables usually average, sometimes multiplication of the items is used ([Palacios-Marques et al, 2017](#)). The basic statistics (average and standard deviation) are presented in Table 1 and the correlations among variables are presented in Table 2.

The reliability of each indicator (variable) was tested with Cronbach's alpha coefficients. The results of this analysis are presented in Table 1. Cronbach's alpha coefficients for risk-taking, innovativeness, proactiveness, networking, and firm performance were all above 0.7 in the case of each sub-sample, which represents satisfactory strengths of the associations regarding its sub-items ([Nunnally and Bernstein, 1967](#)). This indicates that the variables were internally consistent and that they measured the same construct.

After defining and specifying individual variables, their values were calibrated, i.e., they were scaled to values from the range between 0 to 1. In order to unequivocally define the calibration, this study uses the direct method for calibration (see [Ragin, 2008](#)) and relies on investigator-defined qualitative threshold anchors to determine full membership (upper threshold), full non-membership (lower threshold), and maximum ambiguity. Specifically, in this study, the 90th percentile is established as the full group inclusion point, the 50th percentile (or median) as the cut-off or maximum ambiguity, and the 10th percentile as the "completely excluded" point ([Beynon et al, 2016](#); [Dul, 2016](#)).

4. Results

Two models were verified for each group of enterprises in the analysis. In the first model, the presence of performance (PERF) was assumed as a result, while in the second—the absence of performance (~PERF). The results of the analysis of the necessary conditions are presented in Table 3. It shows that all consistency values are less than 0.9 what indicates that none of the examined conditions is necessary for both presence and absence of the outcome (performance) (see [Schneider and Wagemann, 2012](#)). To ascertain sufficient conditions for PERF and ~PERF, truth tables were created. The choice of the configuration of factors to be considered for determining the final solution depends on the cut-off thresholds adopted for frequency and consistency. In our analyses, we used the indications of [Pappas and Woodside \(2021\)](#) who provided guidelines for applying the fsQCA method. In particular, the cut-off point for frequency was chosen so that, as far as possible, the remaining configurations contain approximately 80% of the truth table cases ([Greckhamer et al, 2013](#)). In turn, the cut-off points for consistency were determined by sorting (in descending order) the consistency values for all combinations and identifying the largest gaps between coherences ([Dul, 2016](#); [Ragin, 2008](#)); whereby, if no such gaps were identified or the analysis involved a dataset with low abundance, then the threshold was set at 0.8 ([Schneider and Wagemann, 2012](#)). The cut-off values for frequency and consistency are included in the tables presenting the final results of the fsQCA analysis (i.e., Tables 4,5). All these values confirm validity of obtained results.

The configurations of conditions leading to the outcomes in each examined group of enterprises are presented in Tables 4,5. The results of the analysis included both the parsimonious solution (that contains only the core conditions) and the intermediate solution (that additionally includes contributing conditions) ([Álamos-Concha et al, 2022](#); [Douglas et al, 2020](#); [Rihoux and Ragin, 2009](#)).

The results presented in Table 4 show that each condition (i.e., risk-taking, innovativeness, proactiveness, and networking) belongs to at least one combination (solution) that leads to an outcome (performance); however, proac-

Table 1. Internal reliability and descriptive statistics.

Conditions/ Outcome	Abbrev- iation	No. of items	Characteristic/Statistic	Type (size) of firm			Total (N = 426)
				Micro (N = 180)	Small (N = 217)	Medium (N = 29)	
Risk-taking	R	4	Cronbach's alpha	0.82	0.85	0.70	0.83
			average	4.01	4.00	4.28	4.02
			standard deviation	1.18	1.26	0.84	1.20
Innovativeness	IN	5	Cronbach's alpha	0.82	0.80	0.84	0.81
			average	4.30	4.50	4.92	4.45
			standard deviation	1.02	0.94	1.00	0.99
Proactiveness	PR	5	Cronbach's alpha	0.76	0.81	0.81	0.80
			average	4.30	4.63	4.85	4.51
			standard deviation	0.93	0.90	0.92	0.93
Networking	NET	5	Cronbach's alpha	0.87	0.92	0.92	0.90
			average	3.56	3.48	3.35	3.51
			standard deviation	1.22	1.38	1.52	1.32
Performance	PERF	9	Cronbach's alpha	0.85	0.86	0.88	0.86
			average	4.07	4.31	4.38	4.21
			standard deviation	0.90	0.88	0.96	0.90

R, Risk-taking; IN, Innovativeness; PR, Proactiveness; NET, Networking; PERF, Performance.

Table 2. Correlation matrix.

Conditions/Outcome	Risk-taking	Innovativeness	Proactiveness	Networking	Performance
Risk-taking					
Innovativeness	0.527 -0.621 <i>0.511</i> <u>0.078</u>				
Proactiveness	0.445 0.566 <i>0.410</i> <u>-0.111</u>	0.638 0.662 <i>0.619</i> <u>0.490</u>			
Networking	0.330 0.368 <i>0.362</i> <u>-0.169</u>	0.205 0.273 <i>0.217</i> <u>-0.081</u>	0.157 0.255 <i>0.112</i> <u>0.112</u>		
Performance	0.520 0.479 <i>0.621</i> <u>-0.060</u>	0.482 0.467 <i>0.471</i> <u>0.538</u>	0.547 0.526 <i>0.525</i> <u>0.673</u>	0.324 0.345 <i>0.353</i> <u>0.162</u>	

Note. Bold = total, normal = micro, italic = small, underline = medium.

tiveness appears as a core condition only in medium-sized enterprises (and as a supporting condition in small-sized and micro-enterprises).

This analysis was conducted for micro-, small-, and medium-sized enterprises separately. In each group, three combinations (solutions) leading to increase in firm performance were identified. In the group of micro-enterprises, Solutions 1a and 1b indicate that the presence of risk-taking, accompanied by the presence of innovativeness and proactiveness (A1a) or the presence of innovativeness and net-

working (A1b) as contributing factors leads to a firm's increased performance. Solution A2 indicates that the presence of innovativeness and networking, accompanied by the presence of proactiveness (as contributing factor), leads to an increase in firm performance.

Among small-sized enterprises, the presence of risk-taking, accompanied by the contributing presence of innovativeness and the absence of networking (B1a) or the contributing presence of proactiveness and networking (B1b), leads to a firm's increased performance. Similar to micro-

Table 3. Analysis of necessary conditions (presence/absence of performance).

Conditions	Micro-sized enterprises				Small-sized enterprises				Medium-sized enterprise			
	PERF		~PERF		PERF		~PERF		PERF		~PERF	
	Cons.	Cov.	Cons.	Cov.	Cons.	Cov.	Cons.	Cov.	Cons.	Cov.	Cons.	Cov.
R	0.775	0.731	0.563	0.588	0.777	0.832	0.545	0.550	0.640	0.711	0.660	0.586
~R	0.563	0.538	0.742	0.785	0.580	0.575	0.834	0.779	0.628	0.698	0.674	0.600
IN	0.784	0.718	0.587	0.595	0.747	0.767	0.553	0.536	0.736	0.790	0.552	0.473
~IN	0.557	0.549	0.721	0.787	0.548	0.565	0.759	0.739	0.509	0.587	0.755	0.696
PR	0.785	0.734	0.551	0.570	0.772	0.780	0.556	0.530	0.793	0.830	0.531	0.445
~PR	0.539	0.520	0.743	0.793	0.535	0.561	0.769	0.761	0.469	0.556	0.797	0.755
NET	0.755	0.708	0.574	0.596	0.721	0.768	0.588	0.591	0.690	0.751	0.582	0.507
~NET	0.569	0.547	0.719	0.765	0.617	0.614	0.770	0.722	0.547	0.621	0.715	0.648

Note. R, Risk-taking; IN, Innovativeness; PR, Proactiveness; NET, Networking; PERF, Performance; ~PERF, absence of Performance; Cons., Consistency; Cov., Coverage.

Table 4. Combinations leading to increase in firm performance (PERF).

Variables (factors)	Micro-sized enterprises (n = 180)			Small-sized enterprises (n = 217)			Medium-sized enterprises (n = 29)		
	A1a	A1b	A2	B1a	B1b	B2	C1	C2	C3
R	●	●		●	●		○	○	●
IN	•	•	●	•		●	●		•
PR	•		•		•	•		●	●
NET		•	●	○	•	●	●	●	
Consistency	0.833	0.844	0.848	0.874	0.911	0.903	0.874	0.889	0.905
Raw coverage	0.618	0.571	0.562	0.399	0.506	0.509	0.427	0.456	0.456
Solution consistency		0.805			0.871			0.880	
Solution coverage		0.723			0.701			0.737	
Frequency cut-off		5			8			1	
Consistency cut-off		0.8			0.85			0.8	

Note. ● = core causal condition (present); • = contributing causal condition (present); ○ = contributing causal condition (absent); the blank represents the “don’t care” condition; R, Risk-taking; IN, Innovativeness; PR, Proactiveness; NET, Networking.

enterprises, Solution B2 indicates that the presence of innovativeness and networking, accompanied by the contributing presence of proactiveness, leads to an increase in firm performance.

Finally, in the group of medium-sized enterprises, an increase in firm performance can be led by the presence of innovativeness and networking, accompanied by the contributing absence of risk-taking (C1); the presence of proactiveness and networking, accompanied by the contributing absence of risk-taking (C2); or the presence of risk-taking and proactiveness, accompanied by the contributing presence of innovativeness (C3). Thus, contrary to micro- and small-sized enterprises, proactiveness appears as a core condition leading to an increase in medium-sized firm performance, as well as the absence of risk-taking as an accompanying contributing factor.

The number of identified combinations indicates that there are many ways to increase a firm’s performance. In medium enterprises, each of the proposed factors (i.e., risk-taking, innovativeness, proactiveness, and networking) can be a cause of performance increase; in micro- and small-sized enterprises, three of the proposed factors (i.e., risk-

taking, innovativeness, and networking) can be a source of performance increase. However, roles of the proposed factors depend on accompanying factors. Moreover, depending on the accompanying factors, the absence of some factors (i.e., risk-taking and networking) can support other factors in leading to an increase in the performance of a firm.

The results presented above enables to formulate the following general proposition:

P1: The presence of particular dimensions of entrepreneurial orientation combined with the presence of networking can lead to increased firm performance.

This study’s novelty lies in combining existing dimensions of EO with the newly associated concept of networking. Thus, it is worth highlighting that the results of the analysis indicate several combinations in which networking plays a role; in four of them networking is a core condition. The most common combination, present in each examined group of enterprises, is networking accompanied by innovativeness. Additionally, networking is accompanied by proactiveness in medium-sized enterprises. Following recommendation of [Furnari et al \(2021\)](#), the identified configurations that include networking as a core condition can

Table 5. Combinations leading to lack of increase in firm performance (~PERF).

Variables (factors)	Micro-sized enterprises (n = 180)			Small-sized enterprises (n = 217)			Medium-sized enterprises (n = 29)			
	D1a	D1b	D2	E1a	E1b	E2	F1a	F1b	F1c	F2
R	○	●	○			○	●	○		○
IN	○	●		●	○	○			●	○
PR	○	○	●	○	○		○	○	○	●
NET		●	○	○	○	○	○	●	○	○
Consistency	0.881	0.882	0.880	0.917	0.890	0.895	0.908	0.871	0.892	0.860
Raw coverage	0.582	0.333	0.373	0.392	0.612	0.590	0.497	0.454	0.398	0.448
Solution consistency		0.839			0.857			0.820		
Solution coverage		0.716			0.754			0.789		
Frequency cut-off		5			8			1		
Consistency cut-off		0.85			0.9			0.85		

Note. ○ = core causal condition (absent); ● = contributing causal condition (present); ○ = contributing causal condition (absent); the blank represents the “don’t care” condition; R, Risk-taking; IN, Innovativeness; PR, Proactiveness; NET, Networking.

be named as ‘networking entrepreneurship’, or more specifically, ‘networking innovativeness’ and ‘networking proactiveness’ in medium-sized enterprises.

The solutions presented above can be interpreted as specific propositions regarding each examined type of enterprises (namely, micro, small, and medium enterprises) as well as networking and each dimension of EO (namely, risk-taking, innovativeness, and proactiveness).

In addition to analysing combinations of factors leading to increase in firm performance (PERF), this study analysed combinations leading to lack of increase in firm performance (~PERF). These results are presented in Table 5.

The results presented in Table 5 show combinations of conditions (i.e., risk-taking, innovativeness, proactiveness, and networking) that lead to lack of outcome. In this case, the lack of outcome means the opposite to an increase in firm performance; thus, it can be understood as the decrease in performance (or low performance). The most common factor that leads (with its absence) to the lack of increase in firm performance is proactiveness; the absence of proactiveness appears in seven (out of 10) combinations as a core factor leading to lack of outcome (performance). The above observations lead to the following proposition:

P2: The absence of specific dimensions of entrepreneurial orientation, coupled with a lack of networking, can result in stagnant firm performance.

Combinations presented in Tables 4,5 somehow confirm one another. While the presence of some factors (in combination with others) leads to outcome, their absence leads to lack of outcome. With reference to the combinations where the absence of networking is a core conditions, they are also among those leading to a lack of firm performance (~PERF). In particular, the absence of networking and risk-taking in micro-enterprises, and the absence of networking and innovativeness in small and medium-sized enterprises can lead to a lack of the intended outcome.

Similar to the previous analysis, the examination of combinations leading to lack of increase in firm perfor-

mance was conducted for micro-, small-, and medium-sized enterprises separately. Among micro- and small-sized enterprises, this study identified three combinations (solutions) leading to lack of outcome, and among medium-sized enterprises four solutions (combinations of factors) were identified. The results of the previous analysis (of conditions leading to increase in firm performance; see Table 4) also unveil differences in sets of combinations specific for these groups; these differences are clearly visible when comparing medium enterprises *versus* small and micro ones. These observations enable to posit the following proposition:

P3: Combinations of networking and dimensions of entrepreneurial orientation leading to an increase, as well as decrease, in firm performance differs depending on the size of an enterprise.

The observed differences which are behind the proposition P3 confirm differences within MSME sector in terms of business behaviours and their dependence on firm size. These differences confirm pertinence of examining micro, small and medium enterprises separately.

5. Discussion and Theoretical Contribution

According to the findings of this study, risk-taking, innovativeness, proactiveness, and networking can lead to an increase in a firm’s performance, though in different combinations and in different degrees (depending on a firm’s size). For example, the presence of proactiveness and risk-taking, supported by innovativeness, can lead to increased performance in medium-sized firms. This combination supports the previous observations suggesting that EO dimensions can interact (Tang et al, 2009). In terms of EO, the revealed combinations of factors determining a firm’s performance are also in line with the previous observation that the components of EO contribute to performance, but in different ways (Lumpkin and Dess, 1996; Putniņš and Sauka, 2020). The existence of these combinations supports the results of numerous studies indicating the positive impact of

EO on the performance of SMEs (e.g., [Mason et al, 2015](#)). In parallel, this study's results somehow confirm the ambiguity of the impact of EO on firm performance; namely, a relationship between EO or its dimensions and performance may also be negative (e.g., [Avlonitis and Salavou, 2007](#), [Hughes and Morgan, 2007](#)). In this line of research, the current examination supports previous studies by explaining different combinations of factors, as well as differentiation among different size groups within the SME sector. Additionally, the results offer explanations related to the role of particular dimensions, which supports the findings of [Expósito and Sanchis-Llopis \(2019\)](#) pertaining to innovativeness, and [Bakar and Zainol \(2015\)](#) regarding proactiveness.

This finding gives evidence to the paradox of the combination of Burt's (1992; 2019) and Coleman's (1990) reasoning. On the one hand, companies—particularly very small firms—depend on access to new ideas, which are mostly prevalent in external weak ties, but on the other hand, firms strive to manage risk (even if they are willing to take risk) and to guard against uncertainties inherent in weak ties.

Beyond being a driver or a supporter for firm performance, a lack of innovativeness can result in a decrease in performance when accompanied with absence of external networking (see Table 5, small- and medium-sized enterprises). The reasoning behind this could be that the complete absence of external networking can lead to blindness and myopia and result in a firm's lacking innovativeness ([Expósito-Langa and Molina-Morales, 2010](#); [Inkpen and Tsang, 2005](#)).

Proactiveness, particularly for micro- and small-sized firms, is not a core causal condition for firm performance, but inversely, the absence of proactiveness can be a core causal condition for a decrease in firm performance. Apparently, proactiveness can be understood as a requirement for firm performance, but not as a driver. In contrary, in the cases of medium-sized enterprises, proactiveness can affect performance as a driver (see Table 4, C2 and C3), or the absence of proactiveness can impact the decrease of performance of medium-sized enterprises (Table 5, F1a, F1b, and F1c). These findings contribute to the literature on entrepreneurship (in particular EO), as well as the literature on SME. In overall, this study confirms the role of entrepreneurial orientation and its dimensions (i.e., risk-taking, innovativeness, and proactiveness) in strengthening firm performance. Specifically, this examination reveals new configurations leading to an increase in a firm's performance, which combines EO dimensions with networking.

External networking appears twice for medium-sized enterprises as a core causal condition (driver) and once each for micro- and small-sized enterprises. To this end, external networking can be used for supporting firm performance (see Table 4). However, inversely, absence of external networking can be driver of negative performance. This is true for all three types of enterprises in one of the deduced

combinations (see Table 5). It seems to be that on the one hand, enterprises can use specific combinations to attain fruitful combinations that include networking, but on the other hand, there are very few combinations with absence of external networking that do not lead to a negative impact on firm performance. To this end, it can be assumed that the existence of external networking can be understood as a requirement for a firm's performance not being negatively impacted. Combining the arguments from [Burt \(1992, 2019\)](#) and [Coleman \(1990\)](#), this could mean, for example, that external networking activities that strive for acquiring new information and resources would serve only at the level of preventing negative effects on firm performance by excluding behavioural uncertainties, whereas external networking as a driver of firm performance would require risk-taking and innovativeness. This study contributes to the literature on inter-organisational relationships and networking, and SMEs. In particular, revealing the positive role of networking confirms the significance of research into inter-organisational relationships in the context of entrepreneurship and supports that networking can indeed be integrated as a significant determinant of the EO construct. Additionally, this study joins the discussion about the role of competitive versus collaborative behaviours of SMEs. This study shows that networking can lead, along with entrepreneurial behaviours, to an increase in a firm's performance. Moreover, in some configurations, the absence of networking can lead to a decrease in performance.

Results regarding coexistence of networking and dimensions of EO also provide meaningful arguments. In the case of micro and small enterprises, combination of innovativeness and networking (supported by proactiveness) leads to increased performance; in the case of medium firms, innovativeness and networking is supported by the absence of risk-taking. For medium-sized firms, the presence of proactiveness and networking, which are supported by the absence of risk-taking, can lead to increased performance. In general, the revealed combinations of EO and networking support previous argumentation that networking can support entrepreneurial activities in enhancing market performance ([Borgatti and Halgin, 2011](#); [Miller, 1983](#)), as well as the opposite relation, that is, that EO can affect networking ([Borgatti and Halgin, 2011](#); [Rodrigo-Alarcón et al, 2018](#)). To some extent, the combination of networking and dimensions of EO underscores the need for research that integrates EO with other variables (as suggested by [Galbreath et al, 2020](#), [Huang et al, 2021](#), [Simsek et al, 2010](#)). This also legitimizes considering networking as an entrepreneurial activity ([Klyver and Schenkel, 2013](#)) or as a determinant of EO ([Borgatti and Halgin, 2011](#); [Rodrigo-Alarcón et al, 2018](#)). These findings contribute to SME literature and our understanding of the association between SMEs' performance, entrepreneurship, and inter-organisational networking.

Additionally, the study shows differences among micro, small, and medium-sized enterprises. This confirms previous reports regarding the impact of firm size on entrepreneurial behaviours and performance (Real et al, 2014; Wales et al, 2013). Identifying these differences can help explain the process of organizational development. and also constitutes the contribution to the literature on entrepreneurship and SMEs.

6. Conclusions

This study explored the determinants of performance of micro, small, and medium-sized enterprises. The factors investigated were risk-taking, innovativeness, proactiveness, and networking. In relevance to each group of enterprises, several combinations of factors that lead to performance were identified. In particular, this examination revealed that networking in combinations with different EO dimensions can lead to performance in every group of enterprises. This evidence is the main finding and contribution of this study. However, the role of each factor varies, depending on accompanying factors.

This study's results are a source of meaningful managerial implications. In particular, they indicate that entrepreneurs and SME managers can use different combinations of factors to increase the performance of their firm; some combinations comprising risk-taking, innovativeness, proactiveness, and networking were indicated in the paper. Entrepreneurs managing micro and small firms should prioritize risk-taking or a combination of innovativeness and networking, with other entrepreneurial behaviors playing supporting roles. In medium-sized firms, entrepreneurs should combine innovativeness and networking, proactiveness and networking, or proactiveness and risk-taking, with other entrepreneurial behaviours also playing supporting roles. This study highlights that the role of a particular factor depends on the accompanying determinants; thus, it is important to combine the right factors that lead to performance improvement. Additionally, the results show that entrepreneurial behaviours can be successfully accompanied by inter-organisational networking. This suggests that inter-organisational collaborations can be effective, instead of a competitive approach (which is sometimes presented as typical entrepreneurial behaviour). This is important, especially for enterprises facing limited access to resources. Furthermore, these results show that neither EO, nor networking, leads to performance *per se*. A deeper understanding of the requirements under which e.g. networking can support EO is in need and should inspire future research.

A key takeaway on a conceptual level is that networking can be understood as a complementary element within the EO framework. The quantity and quality of both internal and external relationships can enhance or constrain the impact of EO.

7. Limitations and Recommendations

This study is subject to some limitations, the first of which is found in the sample characteristics. Despite the sample being relatively large and covering several types of activity, it is not random; investigated enterprises were selected by convenience sampling. Additionally, the sample consisted of enterprises from only one country. These characteristics limit the generalisation of the findings. To contribute more accurate conclusions related to associations among EO, networking, and performance, future research using other samples is recommended.

Second, the strength of the results is limited by the method employed. In general, fsQCA enables us to analyse the configurations that lead to performance; however, this has its limitations. The results achieved with fsQCA are determined by the justification of the calibrations, as well as the cut-off points indicated; their modification may result in findings other than ours. FsQCA enabled us only to identify configurations of factors that led to an outcome (in this case, to an increase in performance); fsQCA does not let us examine the associations between them in depth (e.g., the strengths of the impact of each variable on performance) or moderating and mediating relationships among the examined factors. Thus, future studies on associations among the variables are recommended. These studies may employ other methods that allow one to measure the strengths of the relationships among the variables and to identify moderating and mediating roles of the examined factors. Additionally, the utilization of statistical methods enables one to assess the significance of differences among investigated groups of enterprises (namely, micro, small, and medium).

This analysis assumes that combinations of four factors can lead to an increase in firm performance. The inclusion of other factors may result in obtaining configurations other than ours. Thus, studies on combinations of new factors are recommended. For example, the inclusion of both collaborative and competitive approach can enable the comparison of their roles in strengthening firm performance in the EO context. Finally, this study presents the analysis of factors at an aggregated level, wherein the specific behaviours and their separated impacts on performance are omitted. A more detailed analysis may be the subject of future studies.

By operationalising the network theoretical argument as an activity in form of networking, this study contributes with a concept that places emphasis on the aspect of “shaping” the networks around the firm as an entrepreneurial act. Studies with less complex research designs may follow up on this and improve this conceptualisation by differentiating strong and weak ties and their interactions in greater detail.

Finally, while our findings based on fsQCA are detailed, they remain somewhat abstract. Future research could combine illustrative company cases with fsQCA to gain a deeper understanding of the various combinations.

Risk-taking, proactiveness, and innovativeness are often linked to a positive managerial attitude and habits, which can sometimes mislead decisions. A key practical recommendation for managers of micro, small, and medium-sized companies is to recognize that networks form the basis of any entrepreneurial behavior, encompassing various opportunities and risks. Reflecting on entrepreneurial orientations within the context of these network-related opportunities and risks introduces a crucial rational element into the managerial process.

Availability of Data and Materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Author Contributions

The concept was shaped, and the draft and then the final version of the manuscript was written by RK, MS, SG, and CS. RK and MS designed the research study. RK performed the research. RK and MS analyzed the data. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

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Conflict of Interest

The authors declare no conflict of interest. RK and SG are serving as Advisory Board editors of this journal. We declare that RK and SG had no involvement in the peer review of this article and have had no access to information regarding its peer review. Full responsibility for the editorial process for this article was delegated to SJ.

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