

Exploring the Role of Culture in European Entrepreneurial Success: Qualitative Insights and Strategic Recommendations for Coalition Capital

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Abstract. Culture and entrepreneurship are complex and interrelated social concepts. The presence of disparities in entrepreneurial success among European Union nations, despite the existence of formal equality, requires a reconsideration of the relationship between culture and entrepreneurship in terms of "coalition capital" across the EU's countries and companies. Therefore, this paper aims to gain insights about capital coalitions and co-working relationships between economic agents from different EU countries by comparing Hofstede's cultural dimensions with the challenging task of evaluating overall entrepreneurial performance using ten conclusive indicators from the European Commission's SME Scoreboard 2020. By using the cluster analysis - Hierarchical Clustering offered by the R-package, along with data on cultural dimensions that shape social behavior and statistics on the entrepreneurial-success of small and medium-sized enterprises, several intriguing clusters of European Union nations have been found that show culture significantly groups countries more strongly than entrepreneurial performance, with smaller cluster sizes within the entrepreneurial correlation structure. Such insights facilitate the formulation of qualitative recommendations for entrepreneurs and public policy stakeholders and may be used to develop innovative public policies and to provide more objective guidance for fostering collaborative efforts among companies.

Keywords: cultural dimensions, entrepreneurial performance, European Union member states, cluster analysis, coalition capital, structural recommendations.

Introduction

Entrepreneurship is a human and social action, in which the individual passionately invests a large part of himself, solves problems and generates new ideas, along with monitoring risks and opportunities, the influence of culture in this context is clear (Motoki et. al., 2022). The concept of culture led to more rigorous studies and reasoning based on specific theories and methodologies regarding its economic, organizational, social, political, and psychological

components. The relationship between culture and entrepreneurship is complex since entrepreneurship is introduced as an institution. In this context, the institutions are presented as the “rules of the game” that incentivize economic activity, also acknowledging that entrepreneurs may exhibit unproductive behaviors like rent-seeking or depleting productive assets.

More recent research trends on culture and entrepreneurship examine them in various contextual frameworks, such as socio-demographic, cultural, political, and legal contexts (Chakraborty & Biswal, 2022; Gawel & Mińska-Struzik, 2023). These aspects have often been captured through relatively simple data representations, while complex data representations and processing, as well as more general approaches to the relationship between culture and entrepreneurial performance are rarely found in the literature. Most research focuses on the entrepreneurial ecosystem, which includes governments, agencies, universities, support structures, and financiers which attempt to influence the quality and direction of entrepreneurial innovations and the entrepreneurial mindset. According to Wang et al (2023), entrepreneurship issues are multifaceted and uncertain, necessitating multi-criteria methods for measurement. Few studies treat entrepreneurial performance in depth and even fewer offer a global perspective along with evaluation methods.

Considering the case of the EU, which views successful entrepreneurial activity as strategically essential for economic well-being, particularly with SMEs, public policies have been developed to help SMEs innovate, create jobs, benefit from digitalization, and to become global leaders in sustainable practices (Gawel & Mińska-Struzik, 2023). This new SME strategy complements the Small Business Act for Europe (SBA), which started in 2008 (European Commission, 2010). Despite these European well-developed programs and sustained interventions, some EU member states consistently outperform others in terms of entrepreneurial success. This raises important questions about the underlying factors that contribute to these disparities. Specifically, it is worth investigating whether cultural differences play a significant role in this process and if there is a particular cultural framework that consistently leads to entrepreneurial success.

The aim of the present paper is to explore the connection between Hofstede’s national cultural dimensions and various indicators of the entrepreneurial performance of SMEs across EU countries. The dataset used includes ten indicators, as defined by the European Commission’s SME Scoreboard 2020 for 26 EU countries. The research objectives are twofold:

- (1) identify correlation structure between countries (cases) over features for both data sets (the Hofstede - 6 data and EU SME -10 data) in the block-group similar correlations by using hierarchical correlation clustering (HC) – groups, clusters as categorical, qualitative indicators;
- (2) provide data-driven recommendations based on the composition and numbers of clusters containing countries, cultures and entrepreneurial features for prioritizing trusted “co-working partnerships”, and for evaluating coalitions based on the concept of “coalition capital” in order to forecast the probable success of collaborative efforts between economic agents from a country pair.

By using the-cluster analysis - Hierarchical Clustering (HC) offered by the R-package, the research aims to identify and objectively assess the qualitative relationships between cultural dimensions and entrepreneurial outcomes. This approach will help to uncover the nuanced ways in which culture influences entrepreneurship and can provide new insights and qualitative recommendations for public policymakers and business leaders to develop innovative public policies and guidance for fostering collaborative efforts among companies.

The novelty of this research lies in its expansion of knowledge towards identifying potential repers of co-working strategies at the country-pair level. The findings offer actionable guidance for decision-makers, governmental bodies concerning co-working of their companies can be guided by more objective means. Additionally, the study informs strategic management on building and (re-)shaping co-working teams. The findings are useful especially for the growing SME involvement in risky deep-tech initiatives, where adequate workforce (and not just financial investment) tends to be difficult to find within one single country.

The remaining paper has the following structure: section 2 reviews the literature, section 3 outlines the research methods and data modeling procedures used, section 4 reports on the key findings of this study, while section 5 concludes with the overall findings and their implications, as well as discussing the limitations of this approach.

Literature review

The intertwining of culture and entrepreneurship is increasingly recognized, with entrepreneurs and innovators seen as adept cultural operators who harness diverse cultural resources to innovate and establish new ventures. Moreover, culture plays a significant role on entrepreneurial intentions and fosters social support for entrepreneurial identity. Gimenez-Jimenez et al. (2020) illustrate how culture shapes informal institutions, thereby influencing individuals' likelihood of pursuing entrepreneurship. The theory of dissatisfaction posits that differences in values and beliefs between potential entrepreneurs and the wider population propel entrepreneurial action (Isac & Rusu, 2021). Culture's role in entrepreneurship is viewed through both psychological traits and moral approval, with national cultures exhibiting varying propensities towards entrepreneurial activity (Hofstede et al., 2004).

Two contrasting perspectives emerge regarding culture's impact on entrepreneurship: the aggregate psychological traits perspective and the dissatisfaction perspective. The former suggests that cultures characterized by lower power distance and uncertainty avoidance, coupled with heightened masculinity and individualism, foster a greater pool of potential entrepreneurs. Conversely, the latter contends that cultures marked by higher power distance and stronger uncertainty avoidance, but with reduced masculinity and individualism, may impede individuals from finding opportunities within existing structures, thereby making them more inclined towards self-employment (Hofstede et al., 2004; Shneor et al., 2013).

Identifying national cultural traits relevant to entrepreneurship involves assessing values and norms/ practices, as these significantly shape attitudes towards entrepreneurship and motivations for starting businesses.

Methodology

This paper aims to gain insights by confronting Hofstede's six cultural dimensions - variables (Power distance – POW, Individualism/Collectivism – IND, Masculinity/Femininity – MAS, Uncertainty Avoidance – UNC, Long Time vs. Short Time Orientation – LTO, Indulgence vs. Restraint - IDL) with overall entrepreneurial performance using ten conclusive indicators from the European Commission's SME Scoreboard 2020 (Entrepreneurship – ENT, Second chance – SEC, Think small first & Responsive administration – RES, State aid & public procurement – STA, Access to finance – FIN, Single market – SIMA, Skills and innovation – INNO, Environment – ENV, Internationalization – INT, Digitalization - DIG). Our dataset consists of the Hofstede cultural dimension matrix (HOF-6) - form by of 6 x 26 dimensions, and SME

performance dimensions matrix (SME-10) - form by of 10 x 26 dimensions. The 26 European Union member countries analyzed are: Austria (AU), Belgium (BE), Bulgaria (BG), Croatia (HR), Czech Republic (CZ), Denmark (DK), Estonia (EST), Finland (FIN), France (FRA), Germany (GER), Greece (GR), Hungary (HU), Ireland (IRE), Italy (IT), Latvia (LAT), Lithuania (LIT), Luxembourg (LUX), Malta (MAL), Netherlands (NL), Poland (PL), Portugal (PT), Romania (RO), Slovakia (SK), Slovenia (SLO), Spain (SP), Sweden (SE), excluding Cyprus.

The methodological design is a composition of simultaneous, multivariate data analysis, oriented towards producing ordinal and categorical results. Using hierarchical correlation clustering – HC (groups, categorical) as a method offered by the R-package attracted many new use cases (Ghoshdastidar et al., 2019). In this context a different idea used in the paper is HC extended on a correlation matrix. The effect of clustering the rows and columns of such a matrix is to block-group similar correlations, which means revealing affinities between countries regarding cultural or/and entrepreneurial performance features. Technically, this is achieved by independently permuting rows and columns of the matrix. A related approach not restricted to correlation matrices is co-clustering (Zhang et al., 2021; Zhao et al., 2023) which further improves insight into data. Additionally is no need to set beforehand a desired number of clusters as is the case with many other methods like K-means (Ghoshdastidar et al., 2019).

In the present study, such groupings are obtained by confronting cultural variables (HOF-6) and entrepreneurial variables (SME-10) of 26 European Union member countries. These countries are expected to vary sufficiently over their cultural and entrepreneurial features. The method allows achieving the research objectives and obtaining useful results, especially for recommending the prioritization of "collaborative partnerships" and for evaluating coalitions.

Results and discussions

In this study, Figure 1 groups the countries according to their correlations related to the culture. As we read off the dendrogram from the image, three important country-groups or clusters are forming. They can be read off directly from the adjacency of the subtrees, leading to the darker sub-matrices along the principal diagonal. According to the data, the clusters C1 – C3 result:

C1: [DK, SE, FIN, NL; [AU, IRE]]

C2: [MAL, BG, HR, RO, PL, [SLO, SP, GR, PT]]

C3: [GER, HU, IT, LUX, CZ, [LAT, EST, LIT], [BE, FRA]]

Some of the group compositions may seem somewhat surprising, as for instance to find GER, HU, and IT in the same sub-group. The six Hofstede cultural dimensions do not solely reflect economic attitudes, and the SME-10 data do not relate to general economic or technological performance of a country (i.e., excluding bigger firms and organizations). Hence, the results may surprise in that they may differ from a country's general image.

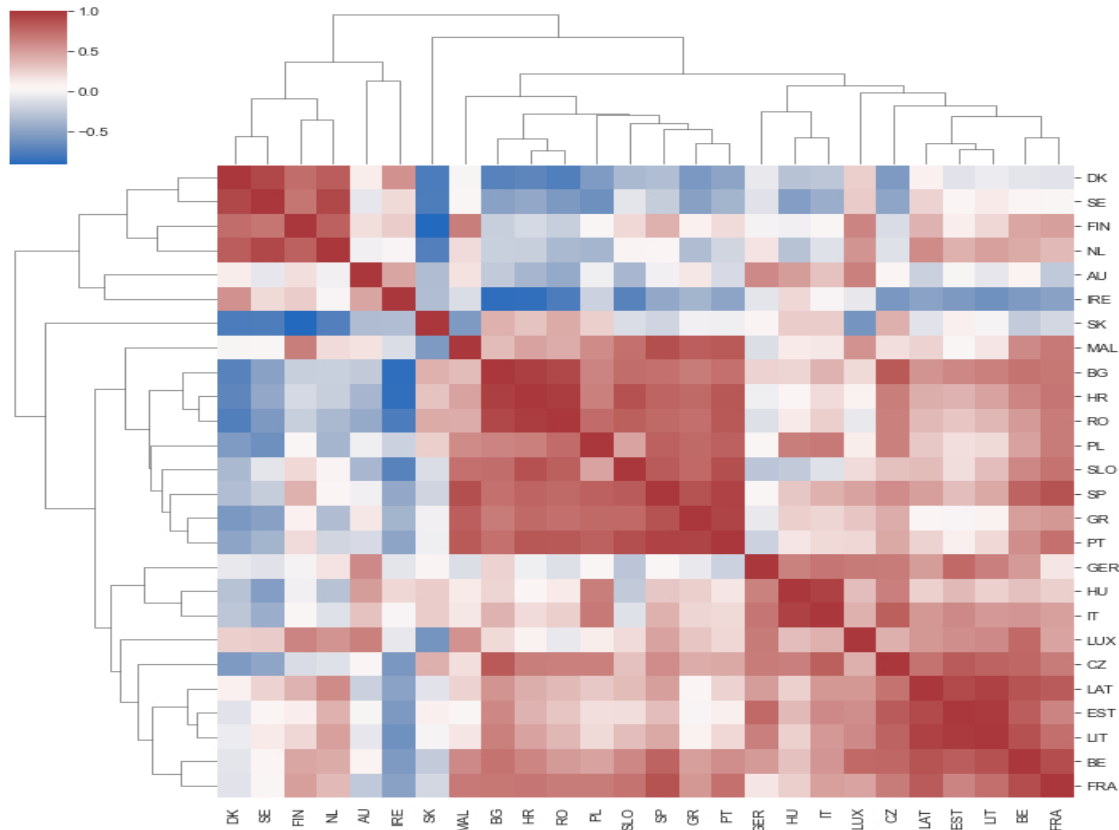


Figure 1. Hierarchical clustering of correlations between countries for the HOF-6 data

Source: Authors' own computations.

We next characterize these culture-inspired blocks alternatively by socio-economic and techno-culture notions which are:

C1: smaller, socially progressive (DK, SE, FIN, NL), high-living standards and techno-economically innovative (mostly “shiny-tech”, trendy; especially but not exclusively DK, FIN, IRE).

C2: small-medium, conservative, important tourist and/or agrarian sectors, reduced industrial diversity, single minded policies (following the GR, RO...- way of problem solving; strong on improvising, ad-hoc solutions)

C3: all sizes, lean towards social security and “moderated capitalism”, heavily industrialized, emphasize “deep-tech”, i.e., inherently difficult technical solutions (especially but not exclusively GER, FRA, BE; to some extend IT and CZ) as opposed to “shiny-tech” (trendy, highly visible, easily selling variety).

Figure 2 groups the countries according to their correlations related to entrepreneurial (SME) performance.

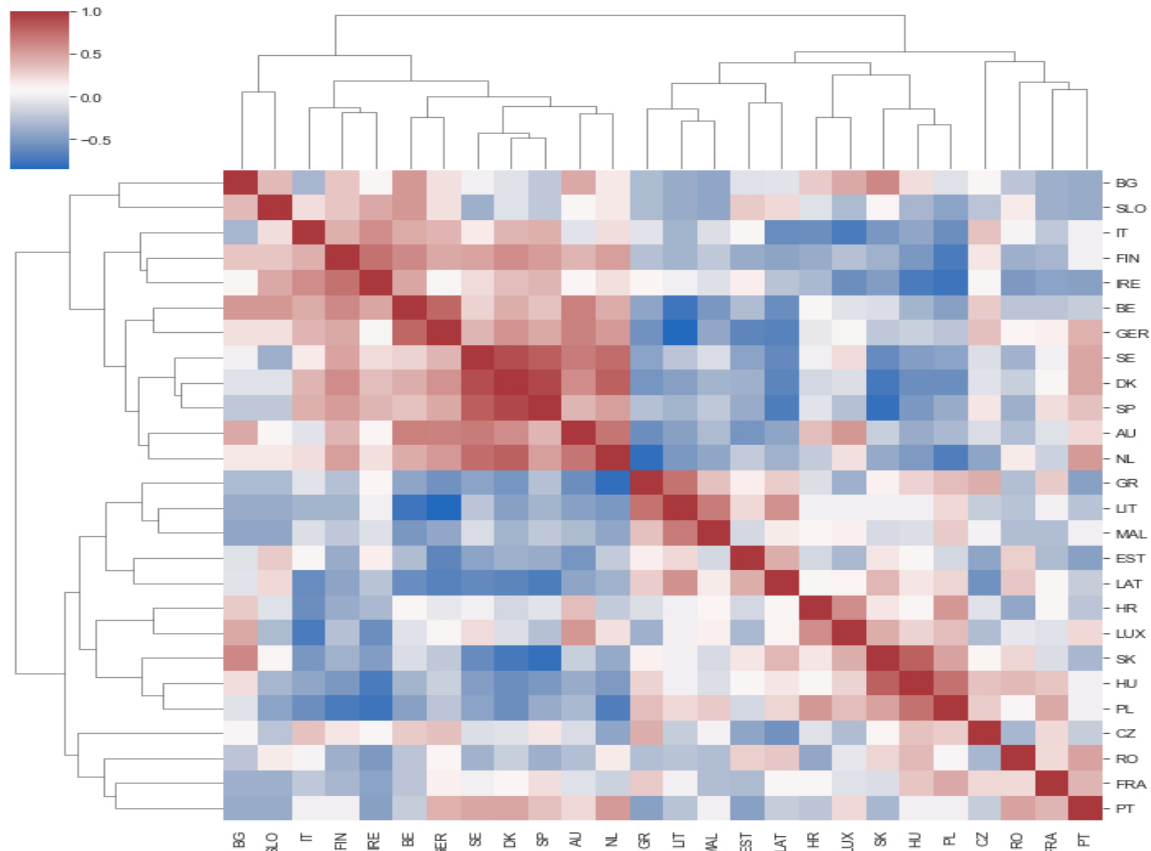


Figure. 2 Hierarchical clustering of correlations between countries for the SME-10 data

Source: Authors' own computations.

In contradistinction to the grouping from the culture-inspired data in Figure 1, we now note that there is a much less well-pronounced cluster formation. From the correlation strengths alone, one would hardly distinguish a clear cluster structure. Taking the dendrogram included within the image as an aid, two weak “superclusters” do emerge with (1) more positive correlations and (2) more weak correlations:

S1 = [BG, SLO, IT, FIN, IRE, BE, GER, SE, DK, SP, AU, NL], which contain only a few more strongly related mini-clusters, namely: [[FIN, IRE], [BE, GER], [SE, DK, SP], [AU, NL]].

Cluster S1 is in turn separated from the “outliers” BG and (to a lesser extend) SLO. The latter may be qualified as such as they bifurcate at a high level in the dendrogram tree, which contains the least specificity. All the remaining EU-countries enter the next supercluster, namely the highly diverse

S2 = [GR, LIT, MAL, EST, LAT, HR, LUX, SK, HU, PL, CZ, RO, FRA, PT].

Notably, there also is a residual block of structurally and culturally very different countries, namely [CZ, RO, FRA, PT], which tend to be weakly correlated – not just among themselves but also with all the rest of the EU-countries. Again, these countries are less typical as they follow their own ways of development.

At the second split-level of the dendrogram associated with the SME - correlation structure (Figure 2) we note four cluster of still very different sizes. The East-European, post-soviet area

countries are to be found in all these clusters. This reflects the substantial differences of approaches to SME-supportive practices within these countries.

As far as the SME-performance criteria reported in our data are concerned one may interpret the two superclusters of containing (a) more competitive SME-activity (as with most countries from S1) and (b) less competitive SME-activity (pertaining to most countries from S2). Here one may recommend to strive for improving and developing more non-marginal SME-activity within the countries of S2 (i.e., more innovative than the conventional, mainly trade- or small services-oriented clan-style businesses) and also, to look to the more accessible role model from S1. For instance, as far as SLO was inspired by AU (case a) this indeed worked out in reality and is verified by the S1 super-cluster data. Concerning for instance RO (case b) the widely held opinion is to follow FR or the CZ (industry) or GR (tourism), or HU (agriculture) which is weakly supported by the S2 data. Note that these relations may not convey for big industrial endeavours or very large and complex projects.

The correlation values found in Figures 1 and 2 are used to filter out a small number of potentially useful two-partner relations between SME, by placing thresholds to about $= 0.7$ and $= -0.5$ (i.e., Spearman's Rho). In this way one obtains a list of countries which tend to "attract" partners from the other country of a country pair. Such country pairs are meant to propose co-working between their SMEs, that is, which match or complement on technical and other economically relevant domains. The first such mutually *attracting* pairs are:

CoW₁-attr: [(NL, DK), (SE, DK), (SE, NL)]

Actors from these countries are supposed to be more likely to effectively join work and should therefore exploit their "coalition capital" (more on this in the sequel). In today's networked enterprises, this concept is signaling a non-financial economic potential alongside other, frequently used concepts like human or intellectual capital. It starts out with actors who perceive qualitative "attractivity lists" like the *CoW₁-attr* above and then "counts" occurrences in order to build "trust".

At such a filter step one, we have countries SE, DK, and NL which can co-work conveniently. With still more detailed data such groupings can be drilled down to firm pairs from different countries. Coalition capital would then be of immediate private interest to firms.

At the other extreme of negative correlations on both accounts, the resulting list inform on country pairs which (potentially) should avoid joint work, owing to *repulsive* (negative) potential, which also means lowering coalition capital. Such an example is the pairs from the following list:

CoW₁-rep: [(GR, DK), (PL, DK), (RO, IRE), (SK, DK), (SE, SK)].

The cost of conducting joint work with economic agents from these country pairs may be explained via proxies like difficulties in timely mutual trust building, different engineering cultures, important differences and different priorities in using marketing strategies, and other overhead costs. By lowering the strength of correlations, Spearman's Rho to 0.55 and -0.35 (filter steps two) for relaxing the strain on coalition capital, lists of additional country pairs appear, namely:

CoW₂-attr : *CoW₁-attr* + [(FIN, DK), (GER, AU), (LIT, LAT), (PL, HU)].

This is a series of country pairs that effectively do have a lot of ongoing joint work (firms, projects, etc.) and which is easily confirmed by various press news. On the repulsive side we do find additions to pair list *PL-1rep* as follows:

CoW₂-rep : *CoW₁-rep* + [(IRE, FRA), (PL,NL), (PT, IRE), (SK, FIN),
(SK, NL), (SE, GR), (SE, HU), (SE, PL), (SE,SK)].

From the last addition of country-pairs we see which partnerships some former eastern-bloc countries like SLO, PL and HU should rather avoid and what should be regarded as being risky by SE and IRE. Interestingly, as far as these data are concerned, the large, heavily industrialized EU-countries like GER, FR and IT do appear just in subordinate combinations, or not at all. The same goes also for the more atypical countries like RO.

These hierarchical clustering results and their interpretations in terms of coalition capital reported so far serves as a concept illustration of how to arrive qualitative indicators for the ease of co-working between economic agents from different EU countries. In principle, the procedure should also be of interest for governmental bodies, in that support for inter-country relations concerning co-working of their companies can be guided by more objective means. If drilled down to firm-level information, it also informs strategic management on building and re-shaping co-working teams.

The usefulness of these recommendations increases with the originality of the SMEs and is of no importance for “marginal”, copy-cat businesses. This is especially interesting for the growing SME involvement in risky deep-tech initiatives, where adequate workforce (and not just financial investment) tends to be difficult to find within one single country. Additionally, innovative SMEs do not only need inspiration but also convenient co-working at the B2B-level, as implied by examples from (EurDeepTech, 2023; EurStartups, 2023).

Conclusion

The study confronts publicly available data on (1) culture and (2) entrepreneurial performance for 26 European countries. The associations found are then transformed into qualitative recommendations about capital coalition and co-working relationship between economic agents from a country pair. Coalition capital may be therefore expressed via such comparative rankings, side-stepping monetary concept. By using the cluster analysis - hierarchical clustering (HC) offered by the R-package along with data on cultural dimensions that shape social behavior and statistics on the entrepreneurial performance of small and medium-sized enterprises (SMEs), several intriguing clusters of EU nations have been found. Some clustering shows that culture significantly groups countries more strongly than entrepreneurial performance, with smaller cluster sizes within the entrepreneurial correlation structure. Eastern European countries, in particular, are dispersed across all clusters, reflecting varied approaches to economic and entrepreneurial development in the post-Soviet era.

The findings highlight critical cultural attributes that correlate with entrepreneurial success, offering actionable insights for public policy and SME management to foster more conducive environments for SME development and performance improvement. By focusing on correlation strength and occurrence frequency, the study delivers a robust framework for enhancing SME performance through culturally informed strategies.

Despite the EU's provision of equal conditions for entrepreneurial development, some countries outperform others. Finally, concerning the country-correlation structures over culture dimensions and SME performance dimensions, respectively, the concept “coalition capital” is proposed as a factor to be taken into account when attempting to forecast the probable success of joint work of economic actors from any given country pair. Again, this often becomes necessary for “non-marginal” technology-oriented SME. The effective case-wise use of “coalition capital” may explain why some emergent EU economies were more successful than others. Culture, especially paired with SME performance data both explains and offers solutions for emergent

countries to overcome barriers in developing successful entrepreneurs. This may be achieved by adequately using one's coalition capital as well as opportunities for co-working.

The present study is subject to a series of limitations. Although based on real (empirical) data, the analysis and recommendation mechanisms are mainly conceptual and can certainly be refined along different technical lines. Results may also be checked against adding cultural dimensions other than Hofstede's. Methodologically, more alternative clustering approaches may be considered in order to verify and strengthen the robustness of the results. Finally, different distance metrics may influence the resulting cluster structures.

Further research can address strengthening the concept of "capital" along the lines of searching for and evaluating complementarities, for instance by employing automated text analysis inferring technological involvement of SMEs. For "non-marginal" SME, exploiting complementarities of their products with products of other firms may be more important than "substitutive" competition. Searching for a proxy that highlights this ability would therefore be desirable. The country-culture framework will be augmented by company-culture data, and industry - or sector-specific data will be added separately. This would allow for testing if, for instance, belonging to an industry also defines culture as does belonging to a country. There is also scope for considering co-working between actors of more than two countries as is practised in networks of high-tech SMEs, especially by those of the deep-tech variant, which are involved in domains like nuclear, aerospace, advanced materials, advanced energy and personalized biomedical applications. Such many-party, co-working may be either favoured or inhibited by specific cultural traits of the economic actors. Moreover, specific industries tend to publish more performance related data and sector-specific news than others. Concentrating further studies on such more open industries is advisable.

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