Impact of Cultural Factors on Entrepreneurship. Evidence from a cross-country analysis and Singularity of Japan

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Abstract

Since the 1990s there is an extensive literature about main factors impacting on Entrepreneurship activity, and therefore on the genesis and development of Entrepreneurship Ecosystems. Research activity on these topics has been reinforced on last years after economic downturn of 2008-2013, especially in Europe, the US and Eastern Asian countries. From the author own experience dealing with entrepreneurs along some of the main worldwide start-up's hot spots, there is clear evidence about the key impact of some context factors on Entrepreneurship activity. Results from this research suggest that cultural factors are of the most interest to understand differences on Entrepreneurship among countries, since these factors are specific from every community and may become indeed important boosters or brakes of Entrepreneurship activity. It has been written a lot about these cultural factors, especially at reaching conclusions from specific cases, [5, 37]. However, it has been further less published on a cross-country basis, with few exceptions, [25, 47], even less using a qualitative comparative approach (fsQCA). Precisely, this work aims to fill this gap, making special attention to the case of Japan.

Keywords: Cultural factors, Entrepreneurship, Fuzzy set Qualitative Comparative Analysis (fsQCA), Global Entrepreneurship Monitor (GEM), Japan.

1. Introduction

Concerning Cultural, Social, Institutional and Economic factors which could have some impact on Entrepreneurship performance of countries, a great deal of works has been issued in the last years, and at least two main research lines might be found: on one hand, that related to the Impact of Socio-Cultural and Institutional factors, widely developed since the seminal work of Hofstede. Moreover, on the other hand, that concerned to the impact of Economic factors on Entrepreneurship, those which can be parameterized and quantified, most of the times carrying out regression analysis [15].

These latter works pursue very often to formalize impact of those factors on Entrepreneurship at a country level, contrasting hypothesis with empirical evidence from cases well documented of Israel, USA and UK, progressively enhancing the list in the last years to other countries [7], especially China. Concerning this latter case, which apparently constitutes an odd phenomenon of explosion of Entrepreneurship in a country which is officially a communist state, it has attracted attention of scholars at least in the last 30 years, in a similar way to the attention dedicated some years before to Japan. This country, on the other hand, shows a singularity that consists of presenting poor Entrepreneurship performance indicators together with high Innovation and Technology metrics [28].

Considered above framework, overall objective of this paper has been adopting the existing research line about Socio-Cultural and Institutional factors impacting on Entrepreneurship, identifying which they are (indeed our Research Question), with two methodological contributions as regards to recent publishing:

- Firstly, to incorporate historical analysis of countries to better understand their current situation.

- Secondly, to use as methodological framework and tool a Qualitative Comparative Analysis through Fuzzy Sets (fsQCA), instead of the popular regression's analysis. FsQCA approach has the great advantage of being able to use smaller data sets without losing significatively of results, avoiding some as well of the most common problems associated to regression's analysis, such as auto-regressivity and multi-collinearity.

2. Theoretical Framework

Concerning the first contribution of incorporating historical analysis, it leads in a natural way to introduce the question of the impact of Culture on entrepreneurship attitudes, since there is empiric evidence that countries' specific History lets setting diverse sets of social values [13, 28, 33]. Therefore, it is reasonable looking to own History of countries as a source to comprehend their current Culture, understood it as a "set of beliefs, values, and preferences capable of affecting behaviors, that are socially (not genetically) transmitted, and that are shared by some subset of society" [49]. It should be also considered that "only those countries with specific cultural tendencies will engender a strong entrepreneurial intention, hence more entrepreneurship and global competitiveness" [40].

According to the above exposition, research question of this work has been deployed through the discussion of the four following hypotheses, which have been contrasted using fuzzy set Qualitative Comparative analysis, fsQCA, coherently to a formal scientific hypothetico-deductive procedure.

- Hypothesis 1: Current Perceived Opportunities (PO) by potential entrepreneurs are dependent on the conjunction of 6-D (Six-Dimensions) Hofstede Factors.
- Hypothesis 2: Furthermore, Current PO by potential entrepreneurs can be explained at the end both by specific historic events of their countries and their national Culture as a whole.
- Hypothesis 3: Just several combinations of Hofstede Factors result necessary for the arisen of PO among potential entrepreneurs.
- Hypothesis 4: Moreover, just a few Hofstede factors result in sufficient conditions for the existence of PO, forming themselves part of a Magic Recipe for Entrepreneurship.

To contrast above hypotheses, it has been developed the research model shown on Figure 1. The model puts into relationship countries' national History framework both with Hofstede Six Dimensions variables (6-D) and with GEM indicators. Suitability to use Hofstede 6-D in this context is supported, among others, by Hofstede and

Hampden-Turner and Trompenaars. Moreover, it also justified the GEM framework in this context based on previous works, such as those by [5].

For this work purposes, Hofstede 6-D factors constitute the inputs or conditions of our research model, while indicators from GEM model will be the outputs: specifically, the already cited PO.

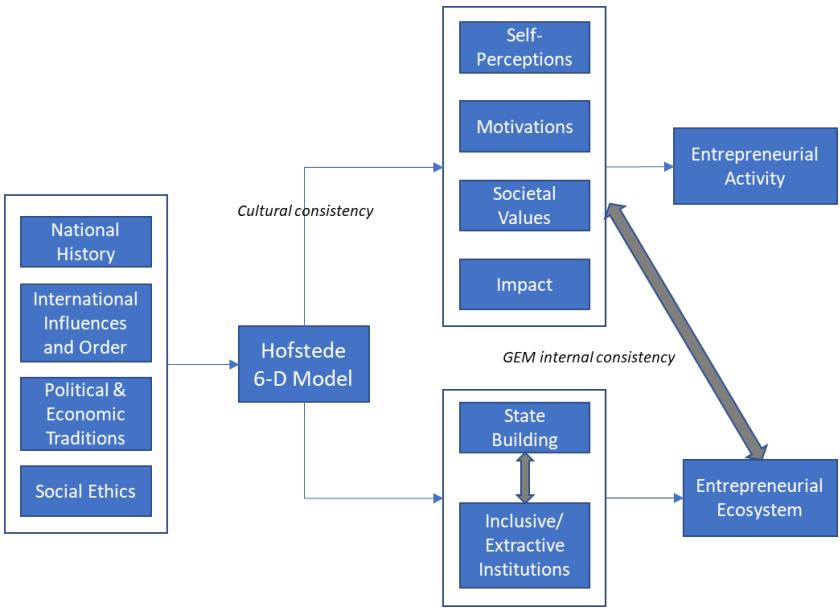
It should be also considered that along this research we intentionally do not enter into neither internal consistencies of Hofstede Model nor of GEM Model, but into understanding to what extent the Hofstede Six Dimensions factors (6-D) impact or not on GEM indicator of Perceived Opportunities, regarding to socio-cultural, regulatory, and institutional context of countries.

3. Materials and Methods

The data used in this study comes from lagged responses to business confidence surveys conducted in the Araucanía region by the Universidad Autónoma de Chile in the city of Temuco. These include perceptions regarding future sales, future prices, current national demand, and future investment. The surveys are conducted monthly, covering the period from September 2017 to March 2024. For the analysis, the employment rate reported by the Instituto Nacional de Estadísticas (INE) of Araucanía, recorded in rolling quarters over the same period, was used.

Initially, Autoregressive Distributed Lag Models (ARDL) were considered due to their ability to determine optimal lags and handle time series with different levels of integration. According to Pesaran and Shin (1999), ARDL models are effective for analyzing dynamic relationships between variables with different orders of integration. However, the initial results (Table 1) showed that most of the parameters were not significant despite having a high R^2. This indicated potential endogeneity issues, leading to the exploration of more robust methods.

Figure 1: Research model developed.



Source: Author's own research

4. Methodology

4.1. ARDL Model Results

The next step was to apply Ordinary Least Squares (OLS) and Instrumental Variables (IV) models corrected for heteroskedasticity and autocorrelation. The OLS model was used as an initial approach to estimate the regression coefficients by minimizing the sum of squared errors. The OLS methodology served as a starting point to obtain a preliminary estimation of the relationships among variables, following Wooldridge's (2010) recommendations on correcting heteroskedasticity using robust standard errors.

To address potential endogeneity issues, the IV model was applied using the Two-Stage Least Squares (2SLS) method, employing instrumental variables such as the level of confidence regarding past

sales performance and past business conditions. According to Angrist and Pischke (2009), this method is suitable for correcting endogeneity bias by using instruments that are correlated with the endogenous variables but not with the model's error term. These instrumental variables are considered exogenous and help correct potential biases in estimates caused by the presence of endogeneity when incorporating lagged employment rate as an explanatory variable.

The IV-GMM approach was selected due to its capacity to address endogeneity problems and provide more consistent estimations (Hansen, 1982). Lagged variables were generated for relevant business perceptions (future sales, future investment, service prices, national demand, and future employment) using different lags as deemed necessary. Then, all time series were aligned by eliminating initial missing values to ensure data consistency.

To check for and eliminate potential multicollinearity issues, the Variance Inflation Factor (VIF) was used, removing variables with VIF values higher than 7. Subsequently, the IV-GMM model was applied, using additional instruments to strengthen model identification and correct for heteroskedasticity and autocorrelation in the residuals. Instrument validity was assessed using the Hansen J test.

The IV-GMM model adjustment process included incorporating autocorrelation terms to address possible issues in the model's residuals. This was done by fitting an autoregressive (AR) model to the residuals of the original model and then including the autocorrelation terms in the IV-GMM model. This procedure allowed for correction of residual autocorrelation, providing more accurate and reliable estimates. Based on this, the adjusted model was defined as follows:

Figure 2: Proposed IV-GMM Model.

America	**Europe**	**Rest of World**
Brazil	Austria	China
Canada	Finland	Egypt
Chile	France	India
Colombia	Germany	Japan
Mexico	Greece	Morocco
Panama	Ireland	Qatar
Puerto Rico	Italy	Saudi Arabia

America	Europe	Rest of World
United States	Luxembourg	South Africa
	Netherland	South Korea
	Norway	Turkey
	Spain	United Arab Emirates
	Sweden	
	Switzerland	
	United Kindogdom	

Source: Author's own research

Data collection

For this work, quantitative data of 6-D factors have been taken from own Geert Hofstede website: https://geerthofstede.com/culture-geert-hofstede-gert-jan-hofstede/6d-model-of-national-culture/ (last visit on Nov. 1st 2024), in which is explained the 6-D model of a national culture as a one "with six basic issues that society needs to come to term with in order to organize itself. These are called dimensions of culture and each of them is expressed on a scale that runs roughly from 0 to 100".

According therefore to Hofstede (1984 and 2021), definition of each factor or dimension is showed on next table of Figure 3:

Figure 3: Variables Outcome and Conditions of fsQCA.

Outcome/ Conditions	Variables	Description	Source and Year
PO_(Outcome)	Perceive Opportunities	Percentage of the 18-64 population who see good opportunities to start a firm in the area where they live.	Global Entrepreneurship Monitor (GEM, 2022-2023)
PD_	Power Distance 6-D Hofstede	The extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally.	The 6-D model of national culture (Hofstede, 1984,2021)

Outcome/ Conditions	Variables	Description	Source and Year
IND_	Individualism 6-D Hofstede	The degree of interdependence a society maintains among its members. It has to do with whether people´s self-image is defined is terms of "I" or "We".	The 6-D model of national culture (Hofstede, 1984,2021)
MAS_	Masculinity 6-D Hofstede	A high score (Masculine) on this dimension indicates that the society will be driven by competition, achievement and success with success being defined by the winner / best in field – a value system that starts in school and continues throughout organizational life.	The 6-D model of national culture (Hofstede, 1984,2021)
UNCER_	Uncertainty Avoidance 6-D Hofstede	Deals with a society's tolerance for uncertainty and ambiguity.	The 6-D model of national culture (Hofstede, 1984,2021)
LTO_	Long term orientation 6-D Hofstede	This dimension describes how every society must maintain some links with its own past while dealing with the challenges of the present and future, and societies prioritize these two existential goals differently.	The 6-D model of national culture (Hofstede, 1984,2021)
INDUL_	Indulgence 6-D Hofstede	It is about the good things in life. This dimension is defined as the extent to which people try to control their desires and impulses, based on the way they were raised. Relatively weak control is called "Indulgence" and relatively strong control is called "Restraint.	The 6-D model of national culture (Hofstede, 1984,2021)

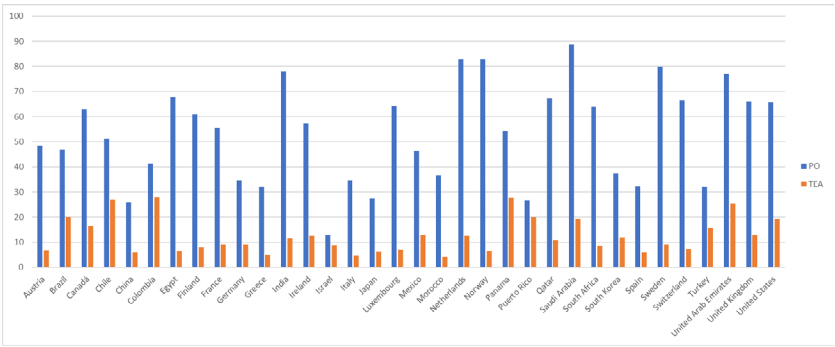
Source: Author's own research based on [7]

Furthermore, concerning data used from the GEM model, they are obtained from report 2022. Additionally, it should be considered that

GEM Model is a powerful tool with a wide set of data about features of entrepreneur attitudes and ecosystems, which gives data and metrics on the following six areas, getting info from experts from every country: Self- perceptions of entrepreneurs, Activity of entrepreneurship, Motivations, Impact, Societal values, and Ecosystem. Based on the findings of the Report, it is possible to acquire relevant insights, which show that a variety of stakeholders plays a critical role in facilitating the creation of enabling entrepreneurial ecosystems – including among them Policymakers, Private Sector, Educators and Researchers. Therefore, a Quadruple Helix [7] of stakeholders at National level (Academia, Business Sector, Government and Civil Society) plays an essential role. In this sense, recommendations for them highlight the ways in which educational institutions can equip individuals with the skill-sets to make use of entrepreneurial opportunities, as well as it remarks the importance of efficient IT infrastructures in reducing the cost of business, increasing market reach, improving access to information and allowing for innovation.

Data used from both sources are shown on next Figures 4 to 7.

Figure 4: Data of Perceived Opportunities and TEA rates in countries of sample.

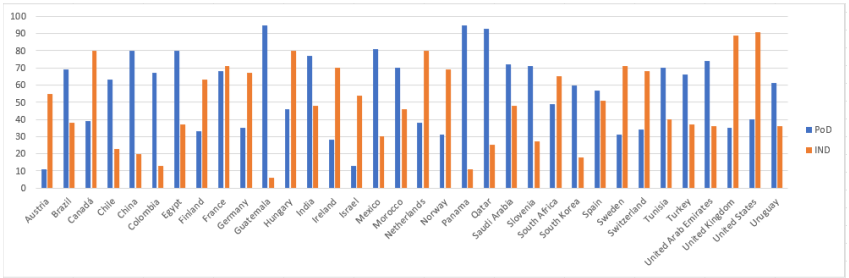


Source: Author's own research based on [7]

Based on above Figure 4, they are showed some evidence that could seem paradoxical. More in detail, it is seen that there's a peer group of countries which recurrently lead most of the above Entrepreneurship performance indicators (i.e. US, Israel, and the Netherlands); moreover, China has become an emerging star, with a quite good performance

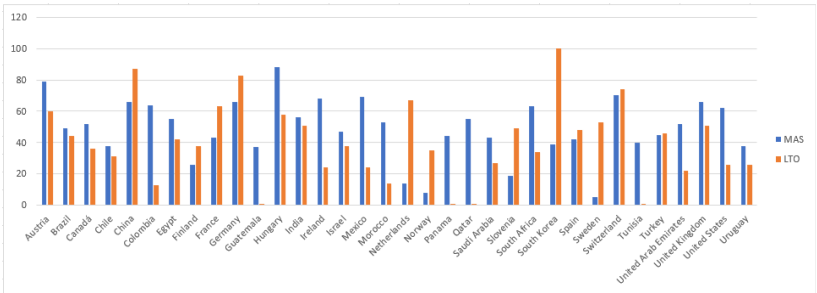
in most of the indicators. However, it is not easy to understand figures for Japan, significatively low regarding its high position on innovation benchmarks as a whole (specially in innovation in Robotics), unless some non-explicit factors were taken into consideration. Furthermore, we may wonder about which factors might be behind such a low rate in Japan regarding Self–Perceptions and Societal Values towards Entrepreneurship, or what is different in Japan with regards to other countries, which impacts so dramatically on these indicators, pointing out a singular path on Entrepreneurship and consequently leading to a very different entrepreneurial ecosystem. An attempt to answer to above questions is developed on next epigraphs of this paper, which explain why some Entrepreneurship metrics for Japan show such low values, proposing answers related to cultural, societal, and institutional factors.

Figure 5: Data of Power of Distance and Individualism in countries of sample.



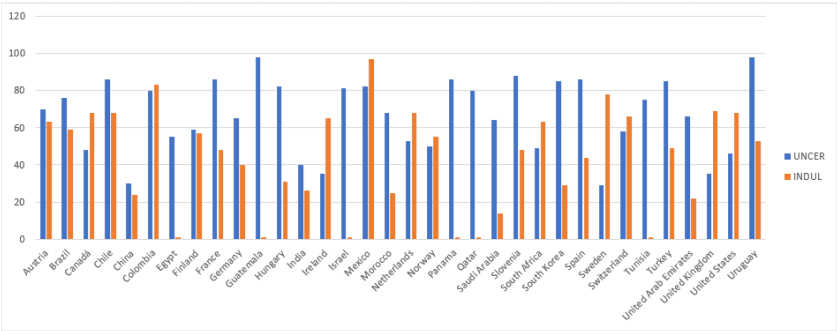
Source: Author's own research based on Figure 3.

Figure 6: Data of Masculinity and Long-Term Orientation in countries of sample.



Source: Author's own research based on Figure 3.

Figure 7: Data of Uncertainty Avoidance and Indulgence in countries of sample.



Source: Author's own research based on Figure 3.

4.2. Calibration

Table of Figure 8 shows main descriptive statistics and cut-off points for the calibration of conditions and outcome. Method used has been direct calibration [51], using the software R package developed by Medzihorsky [46]. Both conditions and outcomes values are expressed regarding to 100, so they could be all calibrated based on same general criteria of fuzzy score, that is, to establish three points of observation and related thresholds in the software:

- 0.05: non-membership to the set
- 0.5: neither in nor out, maximum ambiguity
- 0.95: complete membership

Figure 8: Calibration values and thresholds.

Condition/Outcome	Fully in	Cross over point	Fully out	Max	Min	Mean
PoD	0.95	0.5235294	0.05	95	11	56.8
Indiv	0.95	0.5020588	0.05	91	6	48.9
Masc	0.95	0.5173529	0.05	88	5	48.9
Uncer	0.95	0.5320588	0.05	98	29	66.9
LTO	0.95	0.4602941	0.05	100	1	40.2
Indul	0.95	0.4952941	0.05	97	1	43.7
PO (Outcome)	0.95	0.5194118	0.05	88.7	12.9	55.0

Source: Author's own research

4.3. Fuzzy set Qualitative Comparative Analysis (fsQCA)

In this work, fuzzy-set qualitative comparative analysis (fsQCA) is used to identify recipes or pathways that are necessary or sufficient for an outcome to occur. In this case, the outcome is the GEM indicator of Perceived Opportunities by potential entrepreneurs.

Important features of this type of analysis are its Equifinality, the same result can be obtained through multiple paths, and its Multi-Causality, [51], there could be multiple causes for a single phenomenon, which at the end means that a condition is sufficient if it explains the outcome by itself. In other words, the presence of a sufficient condition is enough to cause the outcome pursued, different combinations of conditions can lead to the same outcome and, depending on the context, a specific outcome can be the result of present and absent conditions.

Moreover, a condition is necessary if this condition is present whenever the outcome occurs. Given that few real-life phenomena are explained by a single condition, most solutions consist of combinations of conditions. In this sense, fsQCA identifies all combinations of conditions that cause the same outcome [2].

In the context of FSQCA (Fuzzy Set Qualitative Comparative Analysis), a necessary variable refers to a condition or factor that is always present when the outcome or consequence being analyzed occurs. In other words, without the presence of this necessary variable, the desired outcome cannot occur. On the other hand, a sufficient variable is one that, when present alone or in combination with other variables, is capable of consistently producing the desired outcome. In this case, the sufficient variable can fully explain the outcome without the need for other variables.

The relationship between a necessary variable and a sufficient variable is that, in some cases, they can be the same variable. That is, a variable can be both necessary and sufficient to produce the desired outcome. However, it is also possible that a necessary variable alone is not sufficient to explain the outcome, or that a sufficient variable is not necessary in all cases.

FsQCA was originally developed by Charles Ragin [51]. It is an already novel research method that is attracting growing interest from the academic community. Evidence of this growing interest has been documented in bibliometric studies by Berger [6, 53]. Fuzzy set QCA is a variant of qualitative comparative analysis (QCA) and is one of the three approaches to QCA: csQCA, mvQCA and fsQCA. Its main characteristics are explained in Ragin [51].

Based on Ragin's [51] theoretical summary of the characteristics of fsQCA, main aspects of this methodology are as follows (some of them already explained): (i) fsQCA is based on set theory and Boolean logic, rather than a correlation-based approach; (ii) fsQCA relies on qualitative evidence based on small or medium-sized samples, although there is no limitation that prevents researchers from working with large data sets [69]; (iii) fsQCA allows for multiple conjoint causality, which is non-linear and non-probabilistic; it rejects permanent causality and allows for equifinality (equifinality implies that more than one path can lead to a specific outcome); (iv) fsQCA is used in regional analysis, amongst other disciplines, because of its advantages over correlation-based methods [24, 53].

The main steps to conduct an analysis using fsQCA have been described by Ragin [51, 55]. First step, researchers must identify the sample of relevant cases and the list of causal conditions (which can be thought of as variables) that are involved in a specific outcome. In our case, the causal conditions are the six factors defined by Hofstede [30] in his Six Dimensions Model (6-D), described on table of Figure 2. Furthermore, Outcome condition is the ratio of Perceived Opportunities, as defined by the Global Entrepreneurship Monitor, 2019.

Second step, authors must calibrate the conditions and the outcome. Calibration means identifying whether a condition (for a certain characteristic) is present or absent by assigning a value between 0 and 1 to the case. In other words, raw data are transformed to fuzzy-set data. FsQCA permits the use of continuous values ranging from 0 (fully-out) to 1 (fully-in). The recommended calibration method (applied in this work) is direct calibration. The value 0 is so assigned to denote the absence of the condition, while 1 is assigned to denote presence, and 0.5 is assigned to denote the point of maximum ambiguity [51].

Following the example provided by Ragin [51], we can generate the fuzzy-set version of Outcome and Conditions. We then establish the threshold based on our theoretical knowledge. As noted earlier, the direct method of calibration requires three anchors to identify whether the conditions are present or absent. Thus, we could establish thresholds for every variable, Outcome and Conditions, so that, for the former, we consider if the country is fully perceiving entrepreneurship opportunities, fully absent (maximum ambiguity), and on the border of the set. Same rationale applied for Conditions. The values and the explanation of the thresholds for our model are provided on table Figure 7.

After the calibration process, the third step is to generate the Truth Table. The Truth Table contains all logically possible combinations of the available conditions. The size of the truth table is $2k$, where k is the number of conditions. The configurations (combinations) that are not covered by real or observed cases are called logical remainders. A logical remainder is therefore a logically possible combination that is not covered by our cases [55].

Moreover, the truth table is reduced using a minimization algorithm. We performed the analysis using the R package developed by Medzihorsky [46]. Therefore, in this study, the minimization algorithm was the Quine-McCluskey algorithm. Depending on how the logical remainders are dealt with, fsQCA provides three different solutions: parsimonious, complex, and intermediate. The selection of an intermediate solution in the FSQCA sufficiency analysis allows capturing the complexity and variability present in the system under analysis, providing a more realistic and comprehensive view of the conditions that contribute to the desired outcome. Note that the three solutions never contradict each other. These solutions supply the possible combinations of conditions that lead to the outcome [51].

Summing up, fsQCA enables the comparison of cases to identify factors that cause a certain outcome. Unlike other methods, fsQCA is used to analyze the combined effect of variables on an outcome rather than isolated effects (dominant correlational approaches).

Finally, it should be beared in mind that regarding the parameters of fit, fsQCA has two main indicators: coverage and consistency. Coverage of a configuration refers to the percentage of cases that can be explained

by that configuration. On the other hand, Consistency reflects the degree of membership of a condition to a configuration. A minimum level of both measures is required to accept a solution as valid [26,51]. Therefore, fsQCA is suitable for studying our research question.

5. Results

FsQCA in this paper was conducted to validate Research Question about impact of socio-cultural and institutional factors on Entrepreneurship, as well as to contrast derived four hypotheses.

Regarding them, we could *a-priori* think that in current developed and globalized societies, with similar levels of access to information and interacting among them, levels of opportunities perceived by potential entrepreneurs should be also quite similar in all of them. However, this is not the case: evidence given by GEM data shows significative disparities among the 34 countries of the sample.

Moreover, according to the Research Model deployed in this work (Figure 1), 6-D variables constitute a necessary linkage or glue between national cultural framework of countries and their Entrepreneurship performance; furthermore, concerning these variables or conditions: should they be considered individually or otherwise under combinations? To answer these questions, following indeed fuzzy set qualitative comparative analysis shall let us understand the actual role of 6-D conditions, as well as interactions among them and with national cultural frameworks, as we will further discuss in the following epigraphs.

5.1. Is there any individual necessary condition?

According to research carried out, we were unable to identify a single necessary condition for the presence or absence of the outcome Perceived Opportunities (PO) - consistency should be above 0.9 and raw coverage above 0.5-. This is a first interesting result, because, although there are some countries in the sample with high values of outcome PO and of some of their 6-D condition (such as the US concerning value of Individualism and the UK for Individualism

and Indulgence- Figures 4 to 7); however, according to analysis of necessary conditions with fsQCA (Figure 9), neither of them lets individually explain the existence of PO.

Consequently, we next explored the same question for combinations of these conditions. Table of Figure 9 shows different combinations of conditions which would be necessary for the presence of the outcome, characterizing therefore the cultural framework for the arising of Perceived Opportunities of Entrepreneurship in most countries of the sample (Hypotheses 1 and 3).

Following this *Super-Subset* type of analysis, we reached to two possible combinations of conditions necessaries for the arising of the outcome, both with values of Consistency very closed to 0.9, and those of Coverage higher than 0.5 (combinations numbered 1 and 2 on Table-Figure 10).

Figure 9: Analysis of necessary conditions. Parameters of fuzzy set conditions.

Condition	PO_		~PO_	
	Cons.	Cover.	Cons.	Cover.
PD_	0.654587	0.649438	0.742350	0.681461
~PD_	0.678936	0.740123	0.618115	0.623457
IND	0.726501	0.751611	0.582007	0.557118
~IND	0.571914	0.596574	0.740514	0.714708
MAS	0.686297	0.689028	0.744186	0.691302
~MAS	0.692526	0.745277	0.665239	0.662401
UNCER	0.556625	0.543394	0.835985	0.755113
~UNCER	0.749151	0.831552	0.494492	0.507857
LTO	0.617780	0.697125	0.652387	0.681150
~LTO	0.717441	0.690463	0.709914	0.632153
INDUL	0.697056	0.730998	0.620563	0.602138
~INDUL	0.620612	0.638695	0.722766	0.688228

Source: Author's own research based on results of the variables in Figure 3.

Results from this second analysis of necessary blended conditions lead to an apparent paradoxical consequence: for the arising of Perceived Opportunities among potential entrepreneurs, there should mostly be in the society values regarding to Individualism, Masculinity, and Indulgence, taken together, not individually (bear in mind that there is not any individual necessary condition). Additionally, we got evidence of this result looking at specific cases of countries from the

sample, observing evolution of these factors as necessary conditions along national History of countries, (Hypothesis 2).

Taking the case of Japan for this aim , it shows an extraordinarily poor value of GEM PO (just 8.09 over 100), and medium values for Individualism and Indulgence (taken individually), but not for Masculinity, which reaches a score of 95 out of 100. Hofstede explains that "At 95, Japan was one of the most Masculine societies in the world. However, in combination with their mild collectivism, you do not see assertive and competitive individual behaviors which we often associate with Masculine culture. What you see is a severe competition between groups. From a very young age at kindergartens, children learn to compete on sports day for their groups (traditionally red team against white team)". Is this individual feature of Masculinity in the case of Japan responsible for its whole behavior when dealing with Entrepreneurship? We cannot assure it from this fuzzy set qualitative comparative analysis, but we can indeed appreciate cultural singularities which could have led to these values of 6-D dimensions and PO.

There is not a wide literature that emphasizes the role of socio-cultural and institutional factors in Japan to explain this abnormally low value of PO, but some exceptions [34,45]. According to these authors, this low value should be related to social structures and ways of acting highly implanted in the past in Japan, especially during Edo and Meiji periods (1603-1867 and 1868-1912, respectively), but even earlier. Specifically, the low value of Perceived Opportunities should be related to the type of Japanese Family System implanted from the Tokugawa-Shogunate era (Edo), called *Ie* in Japanese written with Latin alphabet (Romaji). Although formal *Ie* System indeed disappeared after the Second World War, because of revision of the Civil Code at that time, and nowadays is growing the number of short nuclear families and even those with just one member, since current high penetration of individualism in Japanese society, it is however evident that de-facto *Ie* System remains strong among families in many parts of Japan, as a long-standing custom or as a moral value with diminished but still significant social force.

Furthermore, low values of Perceived and Capabilities Opportunities might also have to do with a basic dichotomy in the Japanese way of thinking, known as *Uchi and Soto*, related to the Ie

system as well. In this sense, *Uchi* can be defined as (1) inside, (2) my house and home, (3) the group that we belong to and (4) my wife or husband; in contrast, *Soto* distinguish insiders from outsiders in daily life depending on whether the others belong to an *uchi* or *soto* group. Although this distinction to some degree can be seen everywhere in the world, it is fundamental and widespread in Japan, where this dual concept has had a great influence on society, especially in terms of human relations [19]. Because of this dichotomy, it is understandable that any initiative that expels someone from a group (the company) will not be well received.

Finally, there is the fact that Japanese workers and managers still consider their companies as a sort of social club, concept calls in Japanese *Shakai no Kurabu* [21], referring not only to the junior-senior vertical structure of these companies, but also to the extended paternalism style of the largest ones, by the way, a hierarchical-Confucian style. In this sense, to understand procedures and organization of a Japanese company, it is indeed helpful to think of it in terms of a combination of three factors: an exclusive club, a sort of cooperative union and of course a business enterprise, because it incorporates attributes of the all three. This structure often also applies to the set of providers which depend on the larger firms for their day-to-day existence, and affects extraordinarily to the perception of opportunities and capabilities by Japanese professionals.

Figure 10: SuperSubset relations (presence of the outcome Perceived Opportunities).

	SuperSubset	Cons.	Cover.	Combined
1	IND_*LTO_*INDUL_	0.893213	0.506795	0.693870
2	IND_*INDUL_	0.865160	0.628539	0.760432
3	IND_*MAS_*INDUL_	0.864921	0.467724	0.655977
4	PD_*IND_*MAS_	0.905994	0.376557	0.601244
5	PD_*IND_*MAS_*LTO_	0.939873	0.336353	0.574131
6	PD_*IND_*LTO_*INDUL_	0.912698	0.325595	0.561985

Source: Author's own research

5.2. Magic recipes: analysis of sufficiency

Looking at the table of Figure 11, we may observe different combinations of conditions, explicitly present or absent, which have better values of Consistency and Coverage indicators. These combinations illustrate the strategies or recipes that lead to Entrepreneurship acceptable performance; in other words, these recipes are configurations that are sufficient for the presence of high values of PO.

Again, as we already made at analyzing necessary conditions, indicators used are those of inclusion, or consistency, and coverage, both raw and unique. Numerous authors consider consistency values that are greater than 0,8 to be acceptable [18, 26]. All four combinations from Figure 10 surpassed this threshold.

Moreover, although there is no established minimum value for coverage, we have set it at 0,45 as an acceptable minimum value for it in this context, according to Crilly [18] and Ragin [51]. Therefore, only three combinations met both criteria (numbered 1, 3 and 4). In any case, since coverage indicates empirical relevance, greater coverage would have implied greater empirical relevance of the solution.

Next table of Figure 11 shows the only successful combination which are sufficient for the arising of the outcome PO in the countries of the sample. We can see that just two conditions remained in all of them: Individualism and Indulgence, (Indiv*Indul), which stands out as a sufficient "magic recipe" for Entrepreneurship in the form of Perceived Opportunities (Hypothesis 4). Consequently, in the countries of the sample, national cultural frameworks in which remain some model of open thinking (Indul) together with low collective ways of action (Indiv), favor therefore higher values of outcome PO.

This result of sufficiency might seem paradoxical, but paradox or apparent contradiction is mostly solved considering that both factors of sufficiency should be taken combined, as well as fsQCA does not imply neither correlations among conditions and outcome nor single causality. Furthermore, due to impossibility of taking sufficient conditions individually, from this point, it is not possible to identify a set of countries which satisfy a pattern of sufficiency for presence of PO. However, what is indeed possible, as we did for necessary conditions, is to test this result against a specific country case.

We take again the case of Japan for this aim, since its case highlights the apparent paradox, presenting mid-high values of conditions taken individually (Indul and Indiv), but a very poor value of PO, and pointing in any case the key importance of both factors for the presence of the outcome.

Concerning Power of Distance, its current situation in Japanese society has much to do with lifetime employment system in Japan, called *Shu-Shin Koyo*, one of most talked facets of its traditional family-patterned company system, even though it has never been applied to the majority of the nation's workers, and nowadays it has been phased down if not out in many companies. De Mente [21] explains that, although a direct descendant of feudal times in Japan, when peasants and artisans were attached to a particular clan by birth and there was a social classes society, the lifetime employment system did not become characteristic of large scale modern Japanese industry until the 1950s. In fact, in the immediate post-war period, losing one's job was regarded as being sentenced to starvation. Consequently, to prevent employees from being fired or arbitrarily laid off, national federation union leaders took advantage of their new freedom and the still weak position of industry to force adoption of the lifetime employment system by the country's major enterprises. Under the lifetime employment system, all permanent employees of larger companies and government bureaus were, in practice, hired for life. These organizations generally hired once a year, directly from schools, so well before the end of the school year, each company and government ministry or agency decided on how many new people it wanted to bring in.

Figure 11: Analysis of sufficient conditions for presence of outcome: Intermediate solution.

PATHS	PD	IND	MAS	UNCER	LTO	INDUL	RAW COV.	CONSIT.
1	~	●		~		●	0.566251	0.930232
2	●	~		~	~	~	0.324462	0.956594
3	●	~	●		~	~	0.379389	0.876963
4	●	~	●	~		~	0.334655	0.862774
Overall Solution Consistency					0.774475			
Solution Coverage:					0.855606			
Cases with greater than 0.5 membership in term ~PD_*IND_*~UNCER_*INDUL_:					Sweden (0.83), United Kingdom (0.81), Ireland (0.77), Canada (0.76), Netherlands (0.75), United States (0.75), Switzerland (0.67), Finland (0.65), Norway (0.65), South Africa (0.63)			

Source: Author's own research
Note: As in Fiss[25], • means presence of the condition and ○ means absence of the condition; Consistency cutoff: 1; Frequency cutoff: 0,873; Calculated as per Medzihorsky [45]); Analysis of the absence of the outcome was performed but has not been included in the paper

Moreover, regarding the cultural factor of Individualism in Japan, it is related to the fact that most Japanese workers have an extraordinary feeling of membership as regards to their companies (*Shudan Ishiki* in Japanese), so they are more willing to talk in terms of collectivity rather than individually.

6. Discussion, conclusion, and implications

This work has deepened in socio-cultural and institutional factors of Entrepreneurship, a quite well-developed one in terms of recent research but with some gaps that this paper tries to fill up. In this sense, the net contribution of this paper can be evaluated by the result achieved after applying fsQCA and country case analysis to a cross-country sample. This contribution is condensed in the Research Model shown on Figure 1.

Through applying Research Model, they are put into relationship with national cultural frameworks with Global Entrepreneurship Monitor's (GEM) performance indicators, setting up a qualitative comparative analysis among Hofstede Six Dimension factors (6-D) and GEM Perceived Opportunities by potential entrepreneurs. This is something new, partially treated before by Fernández [25, 42, 47, 70].

In this way, it has been possible to answer and validate the Research Question through testing Hypotheses (Hip.) 1 to 4, about impact of cultural factors on Entrepreneurship, as well as about which Hofstede factors (alone or combined) are necessary and sufficient for the arising of perceived opportunities of new businesses. More in detail, results obtained have been the following:

- For the arising of perceived opportunities among potential entrepreneurs, there should mostly be in the society values regarding Individualism, Masculinity, and Indulgence, taken together, not individually (*Hyp. 1 and 3)*.
- It is possible to get evidence of necessary conditions looking at specific cases of countries from the sample, observing evolution of these factors as necessary conditions along the history of countries, (*Hyp. 2*). Taken for this aim, the country-case of Japan.

- Among countries of the sample, national cultural frameworks in which remain some model of social open thinking (Indul), together with low collective ways of action (Indiv), favor higher values of outcome PO (*Hyp. 4*).

However, despite results achieved and the usefulness of their implications, this study has limitations that suggest future areas of research.

Firstly, sample size of sixteen countries could be enlarged, favoring generalization of results. Secondly, consistency and coverage of Necessary and Sufficiency analyses might be both higher, improving relevance of overall results. How to improve these indicators should be part of further research, although three possible vias can be pointed out now: modify calibration criteria, revise input-data, both for Hofstede Dimensions and for GEM PO, and changing PO indicator for other GEM ones, such as the Entrepreneurial Intentions [25].

Finally, future research should be addressed to the normative arena, that is, to analyze how to foster national Entrepreneurship under a determined Culture by policy makers, to make the necessary *aggiornamento* of countries entrepreneurship ecosystems.

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