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SOCIO-ECONOMIC CAUSALS FOR ENTREPRENEURIAL TRANSFORMATION

Causas sócio-econômicas para a transformação empreendedora

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ABSTRACT

Entrepreneurship has become vital for national growth. Therefore, it is essential to explore the factors that enhance entrepreneurial transformation. The literature identifies two main driving forces behind entrepreneurship: necessity and opportunity, which react differently to the socio-economic factors. This study explores the socio-economic determinants of necessity-based entrepreneurship and opportunity-based entrepreneurship. Here the yearly data of 108 countries from 2009 to 2017 is used to formulate a panel data model. Data on entrepreneurship is taken from the Global Entrepreneurship Monitor (GEM). HDI is used as a surrogate measure of socio-economic factors along with several control variables like cost of doing business, economic factors, governance factors and perception factors. Panel Feasible Generalized Least Squares (FGLS) estimation technique accounts for spatial heterogeneity. The panel data estimation shows that human capital improvement enhances the opportunities for entrepreneurial transformation while decreasing necessity-based entrepreneurship due to higher job creation. The findings also suggest that improvement in governance, perceived opportunities, openness, and culture are vital for enhancing opportunity-driven entrepreneurship.

Keywords: Opportunity-driven Entrepreneurs, Necessity-driven Entrepreneurs, HDI, Panel FGLS Model

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CAUSAS SÓCIO-ECONÔMICAS PARA A TRANSFORMAÇÃO EMPREENDEDORA

Socio-economic causals for entrepreneurial transformation

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RESUMO

O empreendedorismo tornou-se vital para o crescimento nacional. Portanto, é essencial explorar os fatores que potencializam a transformação empreendedora. A literatura identifica duas principais forças motrizes por trás do empreendedorismo: necessidade e oportunidade, que reagem de forma diferente aos fatores socioeconômicos. Este estudo explora os determinantes socioeconômicos do empreendedorismo baseado na necessidade e no empreendedorismo baseado na oportunidade. Aqui, os dados anuais de 108 países de 2009 a 2017 são usados para formular um modelo de dados em painel. Dados sobre empreendedorismo são retirados do Global Entrepreneurship Monitor (GEM). O IDH é usado como uma medida substituta de fatores socioeconômicos, juntamente com várias variáveis de controle, como custo de fazer negócios, fatores econômicos, fatores de governança e fatores de percepção. A técnica de estimativa de painéis mínimos quadrados generalizados factíveis (FGLS) considera a heterogeneidade espacial. A estimativa de dados em painel mostra que a melhoria do capital humano aumenta as oportunidades de transformação empresarial, ao mesmo tempo em que diminui o empreendedorismo baseado na necessidade devido à maior criação de empregos. Os resultados também sugerem que a melhoria na governança, oportunidades percebidas, abertura e cultura são vitais para melhorar o empreendedorismo orientado por oportunidades.

Palavras-chave: Empreendedores por Oportunidade, Empreendedores por Necessidade, IDH, Modelo Painel FGLS.

INTRODUCTION

Many developing countries cannot maintain a competitive advantage, resulting in slow growth, poverty, and unemployment (Kalim, Arshed & Shaheen, 2019). The recent resource-based view (RBV) debacle is evident because some resource-abundant countries cannot use it to their advantage. Similarly, law and order situations, corruption, gender inequality, and low private investment adversely affect human development and economic growth, resulting in severe poverty (Sarfaraz et al., 2014). It is the prime goal of every country to improve the living standard of people, for which they strive hard to explore those indicators that can help achieve this objective (Ray, 1998; Okpara, 2011). Entrepreneurship plays a prominent role in alleviating poverty and contributing to economic growth (Grant et al., 2019; Landes, 2015; Carree & Thurik, 2005). It is evident from many studies that entrepreneurial transformation promotes growth in the economy (Audretsch & Thurik, 2001; Acs et al., 2005; Carree & Thurik, 2005). It is a deliberate activity to start, run, and grow a profitable and dynamic business (Cole, 1968; Banerjee & Newman, 1993).

In many low-income countries, health facilities, education, and law and order situation are not ideal. These countries' governments can motivate people to start their businesses by improving the mentioned areas and reducing extreme poverty (Alvarez & Barney, 2014; Sachs, 2005). This will be a market-based approach where the existing resources will be utilized in the transformational process. Entrepreneurial transformation stimulates economic growth (Schumpeter, 1934; Bessant & Tidd, 2011). Many countries intend to promote entrepreneurship activities to attain sustainable economic growth (OECD Council Report, 2012). Several studies (Verheul et al., 2006; Grilo & Irigoyen, 2006) have investigated entrepreneurial activity mechanisms (Grilo & Thurik, 2005). Entrepreneurial transformation is associated with competition, ideation and innovation. Achieving a higher equilibrium level of entrepreneurship ensures that the new entrants in the market keep the prices at a normal gain (Wennekers & Thurik, 1999). The competition forces will ensure the maximization of consumer welfare.

According to the literature, several dynamics, such as the availability of technology, business cycles, and demographic changes, have brought new information related to the opportunities and threats to organizations that have transformed societies worldwide. To deal with these shifting forces, governments, public and private organizations, and the general public are recognizing the importance of entrepreneurship. Since the turn of the century, the role of entrepreneurial transformation in society has grown in prominence. Such transformation is significant because it is a human characteristic used to create dynamic human capital that efficiently and purposefully engages other resources (Bessant & Tidd, 2011). It is now more important than ever for economic growth and development of open economies.

Studies from different disciplines have shown their interest in entrepreneurship and its growth perspectives over the last few decades. There are numerous studies in the literature that address these two critical concepts (Szirmai et al., 2011; Naudé, 2011; Braunerhjelm, 2010; Carree & Thurik, 2010; Walzer, 2009; Wennekers et al., 2010; Audretsch et al., 2006; van Stel et al., 2005; Harper, 2003; Dejardin, 2000).

Environmental Perception

The decision to become an entrepreneur is usually taken at an individual level, and their entrepreneurial abilities are considered as an imperative (Van Stel & Stunnenberg, 2006; Arenius & Minniti, 2005). Moreover, burdensome regulations on entering the market might negatively impact individuals becoming self-employed (Van Stel et al., 2007; Hameed et al., 2022). Actually, potential entrepreneurs may be dispirited when they realize they have to fulfil too many requirements and have to follow strict rules and procedures to start a new business (Begley, Tan & Schoch, 2005). The same is the case with existing businesses (Arshed et al., 2022a). In general, rules and regulations by nature may generate a cost. On the other side, it benefits the entities (Begley et al., 2005). Literature shows that these kinds of barriers to entering the market discourage entrepreneurs. Gnyawali and Fogel (1994) argued that new entrants perceive the regulations as unfavourable. Sobel et al. (2007) also suggest that these barriers reduced entrepreneurship. Therefore, doing a World Bank business project has provided a simple procedure to stimulate new business creation by cutting down the regulations that cause inconvenience to the new entrants. Grilo

and Irigoyen (2006) points to complexities in administrative procedures and financial obstacles that have negatively impacted self-employment status. Moreover, the general economic climate is also important to ruminate on.

Risk perception

Business-driven values emphasize on profit generation, and entrepreneurship can potentially initiate and maintain profitability (Cole, 1968). According to Evans and Leighton (1990), high-profit act as a pull factor for an ongoing concern (Foti & Vivarelli, 1994). When the expected profits of own business seem higher, individuals will overweigh entrepreneurial activity over employment (Knight, 1921). On the other side, an individual also compares the risk or losses which can arise in the business. That fear is also realized as an obstacle to starting a new business (Minniti & Bygrave, 1999). Another study by Autio et al. (2013) points out that the personality characteristic of risk-taking has a small effect on growth ambitions. According to Wanger (2005), the fear of failure is twice as high among necessity entrepreneurs as it is among opportunity entrepreneurs in Germany. Because they have no other way to earn a living, necessity entrepreneurs are less risk-averse than opportunity entrepreneurs. As a result, they are less likely to take the risk of business losses or failure. In contrast, opportunity entrepreneurs are ascertained to have a more risk-tolerance attitude because they have alternative employment. Furthermore, research has shown homogenous risk attitudes among entrepreneurs in terms of personality necessity and opportunity (Tyszka et al., 2011; Fossen & Buttner, 2013).

Divergence between Necessity and Opportunity Entrepreneurship

Literature overtly distinguishes between necessity-based entrepreneurship and opportunity-based entrepreneurship. Necessity entrepreneurs are forced to start a business due to a lack of alternative satisfactory employment options. Whereas opportunity-based entrepreneurship involves pursuing entrepreneurial opportunities (Rosa et al., 2006).

Global Entrepreneurship Monitor (GEM, 2012) shows considerable variability between necessity and opportunity using a sample of 34 countries. According to the report, necessity entrepreneurs are prevalent in efficiency-driven countries such as Poland and Hungary. Opportunity entrepreneurs, on the other hand, are prevalent in high-income and innovation-driven countries such as the United States, the United Kingdom, and France. According to (Reynolds et al., 2002), necessity-based entrepreneurship predominates in developing countries due to low economic development. While opportunity entrepreneurship is associated with high development and economic growth in more affluent countries. Furthermore, entrepreneurial activity is less necessary because the labour market is more developed in these countries (Reynolds et al., 2002). In low-income countries, necessity-driven entrepreneurship is more common than opportunity-driven entrepreneurship (Wennekers et al., 2005).

In the literature, opportunity-driven entrepreneurship is generally regarded as beneficial because it is growth-oriented (Reynolds et al., 2002; Acs, 2006; Williams, 2008). It boosts productivity and economic growth (Hitt et al., 2001; Van Stel et al., 2005; Chiles et al., 2007; Carree & Thurik, 2010). It results in a significant reduction in welfare costs (Davidsson et al., 1995). Through innovation and creativity, opportunity entrepreneurship also contributes to economic growth (Audretsch & Thurik, 2001; Luke et al., 2007). To shed light from the policy perspective, this is generally important to probe the characteristics which drive the opportunity or necessity-based entrepreneurship among individuals. Reynolds et al. (2002) indicate that the same factors may not influence necessity entrepreneurs as opportunity entrepreneurs.

While comparing figure 1 of the time evolution of HDI with the time evolution of necessity entrepreneurship in figure 2 and opportunity entrepreneurship in figure 3. It is observed that there is a decrease in opportunity entrepreneurship and an increase in necessity entrepreneurship, and both patterns persist till late 2010; after that, the pattern reverses. On the other hand, there is a persistent increase in HDI, hence there is a need to explore what are the other factors which had influences in determining entrepreneurship.

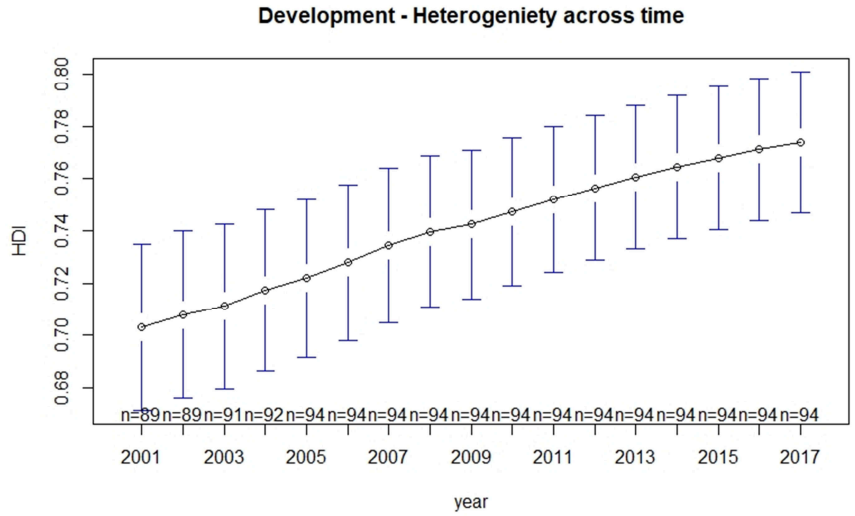


Figure 1- Annual Average of HDI

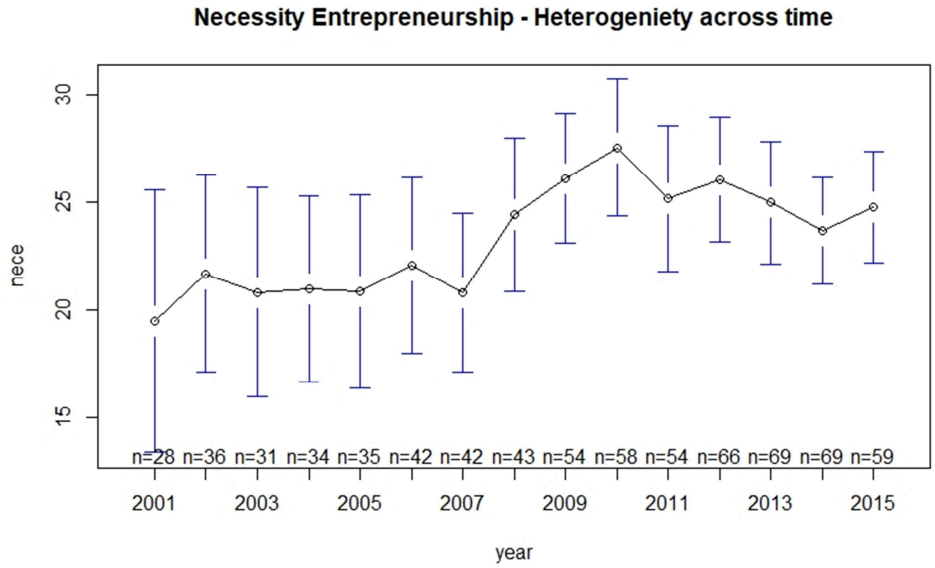


Figure 2 - Annual Average of Necessity Entrepreneurship

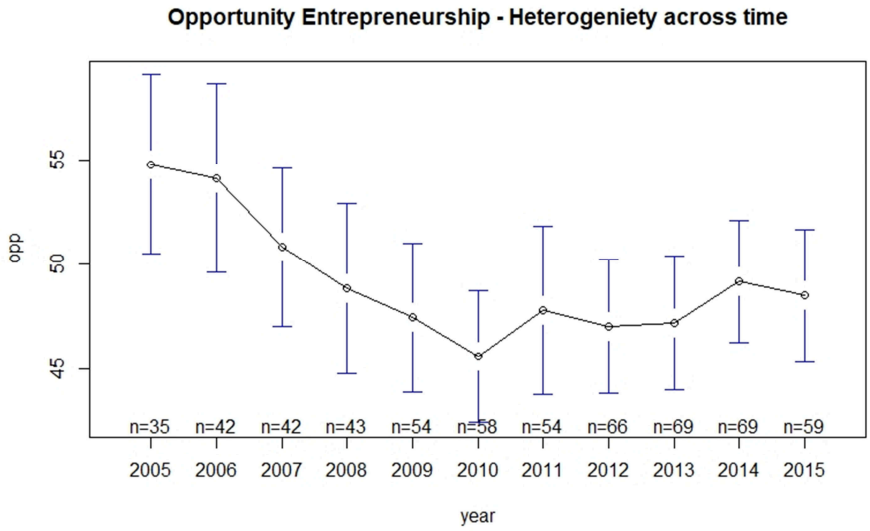


Figure 3 - Annual Average of Opportunity Entrepreneurship

The primary goal of this research is to investigate the necessity and opportunity entrepreneurship process as it pertains to entrepreneurial transformation. Furthermore, it will investigate whether opportunity and necessity entrepreneurs differ in socio-demographic factors and attitudes toward entrepreneurial transformation. This exercise will assist policymakers in developing policies to shift the proportion of new entrepreneurs to opportunity-based entrepreneurship.

1 LITERATURE REVIEW

Entrepreneurship contributes significantly to poverty reduction by creating job opportunities (Aziz et al., 2019). Inefficiencies in economies are identified and can be mitigated through the entrepreneurship mechanism (Baum et al., 2007). According to the OECD (2008), entrepreneurship is "fundamental to the functioning of markets." There is an urgent need to investigate those factors, theories, barriers, and existing literature in order to comprehend the significance of entrepreneurship in an economy. Which can persuade people to start their own businesses or work for themselves. According to Kuratko and Hodgetts (2004), entrepreneurship is a vigorous conversion and creation process. This process enables individuals to be creative in society and profit by taking advantage of the available opportunities (Timmons & Spinelli, 2004). Individuals identified opportunities and met the need for those opportunities by utilizing resources and innovating (Coulter, 2001). Entrepreneurs can break the poverty cycle by employing various work methods and techniques (Hussain et al., 2014). Entrepreneurship is the oldest human activity focusing on identifying market opportunities and utilizing them in new business ventures for financial gain (Landstrom, 2007).

Scholars and researchers have spent the last two decades analyzing the variations in entrepreneurial activities, as well as the intentions behind this phenomenon (Shane & Kolvereid, 1995; Gómez & Spencer, 2000; Reynolds et al., 2001; Mueller & Thomas, 2001). Evidence suggests that the answer revolves primarily around the institutional environment, which both creates and limits entrepreneurship opportunities (Reynolds et al., 2000, 2001; Hwang & Powell, 2005; Manolova et al., 2008; Welter & Smallbone, 2011; Valdez & Richardson, 2013).

Research conducted in Sweden by Davidsson (1995) surveyed 300 people aged 35-40 to investigate the physical and economic contributing factors of entrepreneurial intention. The study's proposed economic factors are employment and education, where a permanent employee has lower chances of becoming an entrepreneur than a temporary employed or unemployed person. Studies indicate that an unemployed person is pushed to become a necessity-based entrepreneur. So indicators which hinder opportunity-based entrepreneurship leads to lower employment which may show up in increased necessity-based entrepreneurship. In such cases, all the beneficial

indicators for existing businesses could also play a detrimental role in entrepreneurship, and this is because it is helping in increasing and sustaining employment.

Wennekers et al. (2007) have found that high unemployment allowances reduce entrepreneurial transformation. Hölzl (2010) said that the administrative and entry costs incurred on entrepreneurship should be reduced. Grant et al. (2019) used data from different income levels in countries, revealing that the cost of establishing a new business discourages the pace of entrepreneurship. Even if the entrepreneurs try to be self-employed, they get frustrated due to the high cost of handling business.

In the case of 39 countries, Stel et al. (2007) investigated the relationship between business regulations and new business formation. They used World Bank data to discover that the minimum capital required to start a new business lowers the entrepreneurship rate in these countries. Furthermore, administrative considerations such as cost, time, or other necessary procedures have no bearing on businesses. In such cases, a mature financial system and globalization can play an important role in motivating new businesses (Arshed et al., 2021; Sohail & Arshed, 2022; Ahmad et al., 2022)

Moreover, to become an entrepreneur, education creates a positive impact as it increases the capacity of individuals to grab the opportunity (Arshed et al., 2021). Entrepreneurship contributes to a country's economic development as it creates more jobs, reducing poverty. Poor can now have the ability to fulfil their basic needs of life, and thus standard of living also improves (Mead & Liedholm, 1998). Numerous studies have found that there is a direct relationship between education and entrepreneurship (Lasch et al., 2007; Arthur et al., 2012; Vakili et al., 2016). Education improves the performance of organizations and increases productivity, which helps to achieve the firm's long-term goals. Higher education increases the capacity of entrepreneurs to take decisions confidently in a period of uncertainty (Martinez et al., 2010; Jimenez et al., 2015). Rasool et al. (2012) used data from 8 Asian countries from 2005 to 2011. They affirmed that higher education leads to improvement-driven entrepreneurship and necessity-driven entrepreneurship.

Bjørnskov and Foss (2008) have analyzed the impact of different macroeconomic variables on entrepreneurial activity. Determinants of entrepreneurship include sound money, international trade, government size (as a measure of economic freedom), legal quality and regulatory quality. Findings indicate that sound money is positively correlated, and size of government is negatively correlated with entrepreneurship. These indicators contribute to increasing the dynamic seizing capability toward entrepreneurial transformation (Hameed et al., 2022).

Amoros (2011) used the Global Entrepreneurship Monitor (GEM) data and demonstrated that political stability and control of corruption are related to opportunity entrepreneurship. Stephen et al. (2009) showed that labour regulations have little impact on the decision about starting a new business in highly formalist states. Nystrom (2008) has observed that property rights, ease in getting credit, and better legal structure tend to increase entrepreneurial activities. On other hand, a study by Arshed et al. (2021) showed that better institutions sometimes increase the cost of regulation compliance, especially when the businesses are dealing in innovations where existing regulations are not clearly specified.

Similarly, cultural support from the society play a crucial role in defining entrepreneurship. Several empirical studies have linked culture with entrepreneurial intentions (Davidsson & Wiklund, 1997; Levie et al., 2005; Solesvik et al., 2014). According to these studies, culture can influence the psychological process of defining perceived opportunities and fear of failure related to entrepreneurship.

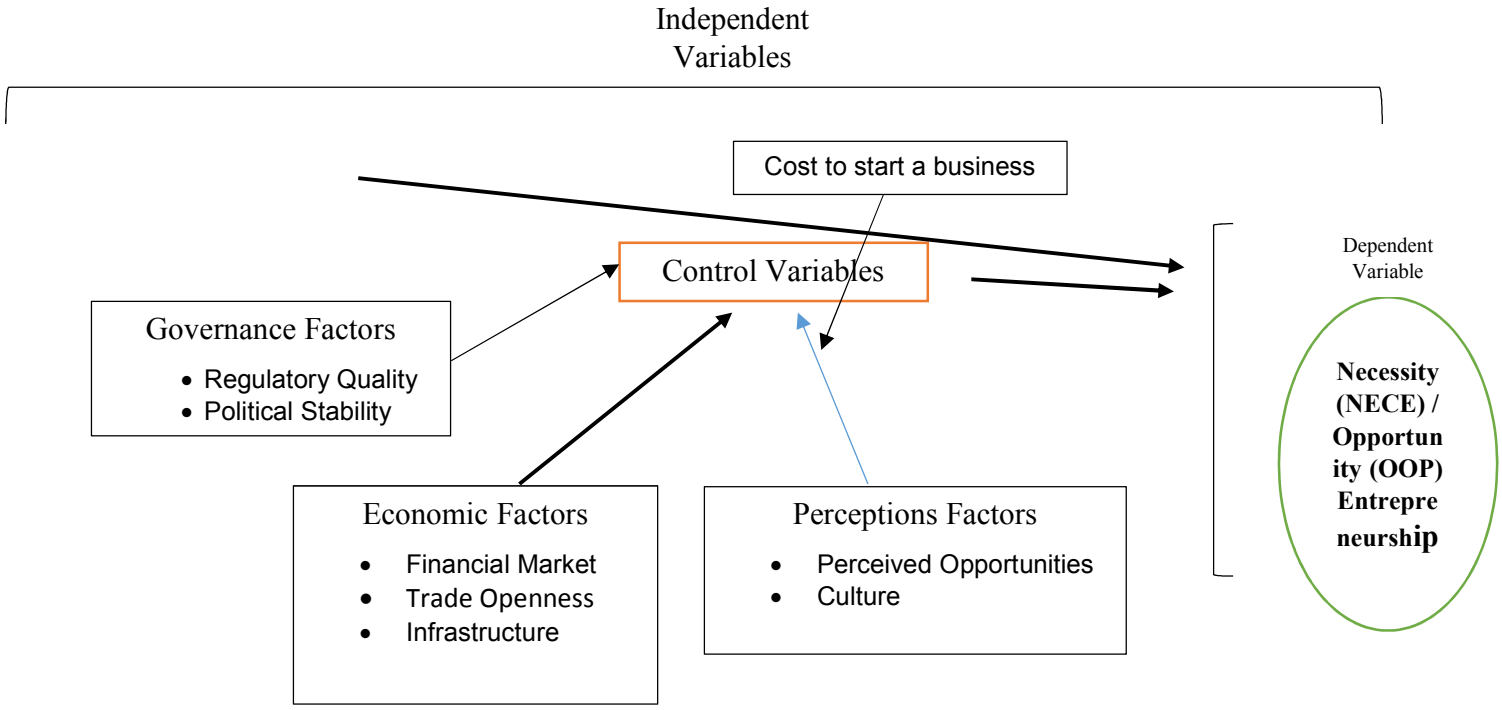
2 THEORETICAL MODEL

The model in figure 4 provides the theoretical setup of the study whereby the Human Development Index (HDI) is expected to play a role as a capacity builder for the new entrepreneurs. Todaro and Smith (2020) shared that Sen's definition of development inculcates the increase in individuals' capability to function. Further, it is assessed empirically using Mehbub ul Haq's method. As HDI increases, it leads to higher income, better health and better education. All these indicators extend the capacity of the entrepreneur to assess, perform and manage risk. Hameed et al. (2022) confirmed that an increase in HDI improves the sensing ability within the dynamic capability for

entrepreneurship. This improvement in human capital changes the meta-competencies (Arshed et al., 2021), which is expected to have a different effect on opportunity and necessity entrepreneurship.

While this study controlled for other important factors like institutional quality/governance, economic factors like cost of capital, trade openness (Ahmad et al., 2022) and infrastructure and perceptions like perceived opportunities and culture (Hameed et al., 2022). The factors proposed in the study adhere to the contextual factors discussed by (Aziz, 2019; Sohail & Arshed, 2022). Hameed et al. (2022) specifies that the selected control variables are affecting the sensing and seizing dynamic capabilities of individuals towards entrepreneurial transformation.

Figure 4 - Theoretical Model



3 METHODOLOGY

3.1 Research Method and Data Structure

This study is a quantitative study based on the positivist paradigm. The data structure of this study is pursuing is unbalanced panel data, where countries are cross-sections and years are periods.

3.2 Sample Countries

This study collected those countries whose data is available at GEM. There are about 53 countries mentioned in table 1 whose data has been selected for the years of 2009 to 2017, forming an unbalanced panel data.

Table 1 - Sample Countries			
Australia	Estonia	Latvia	Slovenia
Austria	Finland	Lithuania	South Africa
Belgium	France	Luxembourg	Spain
Botswana	Germany	Mexico	Switzerland
Brazil	Ghana	Netherlands	Thailand
Canada	Greece	New Zealand	Tunisia
Chile	Guatemala	Norway	Turkey
China	Hungary	Panama	Uganda
Colombia	India	Peru	UK
Costa Rica	Indonesia	Philippines	USA
Croatia	Ireland	Poland	Uruguay
Denmark	Israel	Portugal	Zambia
Ecuador	Italy	Romania	
El Salvador	Jamaica		

3.3 Variables used in the study

Following table 2 provides a brief definition and sources of the data. Here, we can see that the data of opportunity entrepreneurship, necessity entrepreneurship, perceived opportunity of individuals, culture, social norms, and physical and services infrastructure availability index are accessed from Global Entrepreneurship Monitor Report (GEM). The data of HDI is accessed from the Human Development Report. The political stability and regulatory quality data is accessed from Worldwide Governance Indicators (WGI). The data on financial market development is accessed from World Economic Forum (WEF). The data on the cost of doing business is accessed from Doing Business reports.

Table 2 - Variable Description

Symbols	Names	Source
OOP	Opportunity Based Entrepreneurship (% of 18-64 Population)	GEM
NECE	Necessity Based Entrepreneurship (% of 18-64 Population)	GEM
HDI	Inequality Adjusted Human Development Index (0-1 index)	HDR
GOV	Average of Political Stability and Regulatory Quality (normalized to -2.5 to 2.5 scale)	WGI
FMD	Financial Market Development (Index of 7 indicators provided in the 9th pillar of Global Competitiveness Index)	WEF
OPEN	Total trade (import + export) as percentage of GDP	WDI
PO	Perceived opportunity of individuals in next 6 months (% of 18-64 Population)	GEM
CUL	The degree of culture and social norms supportive of entrepreneurship (National average of Likert scale, 1 Completely False and 9 Completely True)	GEM
COST	Cost of business startup procedures (% of GNI)	Doing Business
INFRA	The degree of physical and services infrastructure supportive of entrepreneurship (National average of Likert scale, 1 Completely False and 9 Completely True)	GEM

3.4 Estimation Equation

Following are the stochastic equations that are constituted based on the theoretical model. Here future values of OOP and NECE are dependent variables while all others are independent variables. This study has proposed that the current levels of socio-economic indicators affect the future values of opportunity and necessity entrepreneurship. This setup helps in ruling out the possibility of endogenous estimates.

$$OOP_{it+1} = \alpha_1 + \alpha_2 HDI_{it} + \alpha_3 GOV_{it} + \alpha_4 FMD_{it} + \alpha_5 OPEN_{it} + \alpha_6 PO_{it} + \alpha_7 CUL_{it} + \alpha_8 COST_{it} + \alpha_9 INFRA_{it} + \varepsilon_{it}$$

$$NECE_{it+1} = \alpha_1 + \alpha_2 HDI_{it} + \alpha_3 GOV_{it} + \alpha_4 FMD_{it} + \alpha_5 OPEN_{it} + \alpha_6 PO_{it} + \alpha_7 CUL_{it} + \alpha_8 COST_{it} + \alpha_9 INFRA_{it} + \varepsilon_{it}$$

3.5 Estimation Approach

Since the data is collected from the individuals of the country, hence it is behaving at the micro-level. Hence it will not be fair to assume that the theory will behave homogenously across the countries (Wooldridge, 2010). This study assumes that the country differences are causing differences in the standard errors of the slope estimates, such model can be estimated using Panel Feasible Generalized Least Squares (FGLS), which has been used by studies like (Aziz et al., 2020; Hassan et al., 2019; Hanif et al., 2019; Arshed et al., 2019, 2022). This model is superior to the Random Effect model, whereby the variance-covariance matrix can be modified to make the model robust to heteroscedasticity and autocorrelation (Arshed et al., 2022a; 2022b).

4 ESTIMATION RESULTS AND DISCUSSIONS

4.1 Descriptive Statistics

Below, table 3 provides the mean and median values of all the variables used in the study. Here from the Shapiro Wilk test of normality, it can be seen that statistically, none of the variables is normally distributed. This indicates the presence of outliers or unobserved heterogeneity, making data non-homogenous across cross-sections. However, since the overall sample size is over 30, this study can assume the variables to be asymptotically normal (Lind et al., 2000). Further, when we compare the mean and standard deviation of the variables, only GOV and cost has their mean value smaller than their standard deviation. This makes them over dispersed variables while other variables are under dispersed in the selected sample.

Table 3 - Descriptive Statistics

Variable name	Mean	Median	Sd	Skewness	Kurtosis	SW – Z	Prob.
OOP	47.489	47.310	12.789	-0.023	2.493	1.68	0.05
NECE	25.610	25.275	11.271	0.421	2.957	4.38	0.00
HDI	0.644	0.673	0.176	-0.444	2.034	8.72	0.00
GOV	0.207	0.094	0.894	0.085	2.250	7.72	0.00
FMD	4.316	4.278	0.701	0.077	2.590	2.78	0.00
OPEN	4.334	4.340	0.594	-1.079	12.024	10.60	0.00
PO	43.356	43.980	16.713	0.134	2.679	3.37	0.00
CUL	2.857	2.857	0.486	0.357	3.018	4.26	0.00
COST	18.612	7.400	31.396	4.650	37.929	14.56	0.00
INFRA	3.749	3.829	0.478	-0.567	3.361	5.17	0.00

Further, in the bivariate descriptive analysis (figure 5), we can see that opportunity-based entrepreneurship is positively correlated with OPEN, INFRA, HDI, GOV, CUL and PO while it is negatively correlated with COST. It has the highest correlation evidenced with GOV among independent variables. For the case of necessity-based entrepreneurship, it is positively correlated with cost while negatively correlated with all others. Here the highest correlation is evidenced with GOV.

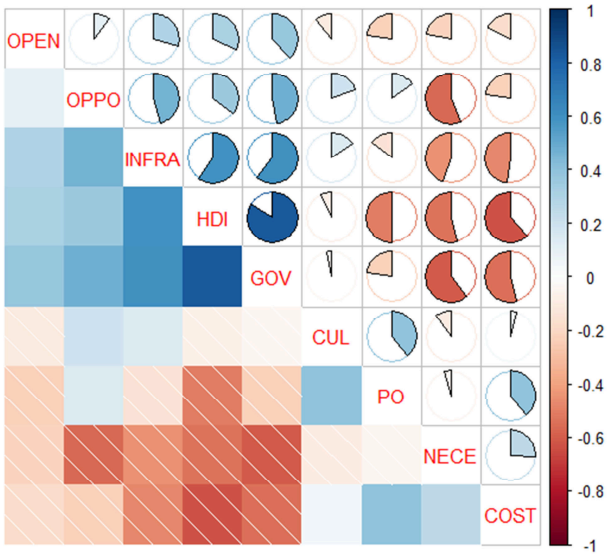


Figure 5 - Pairwise correlation chart

In bivariate assessment, the following graphs show that HDI follows a positive association with opportunity-based entrepreneurship (figure 7). At the same time, it follows a negative association with necessity-based entrepreneurship (figure 6). Hence, it can be assumed that development that opens opportunities and builds capabilities leads to opportunity-based entrepreneurship and reduces the incidence of necessity-based entrepreneurship.

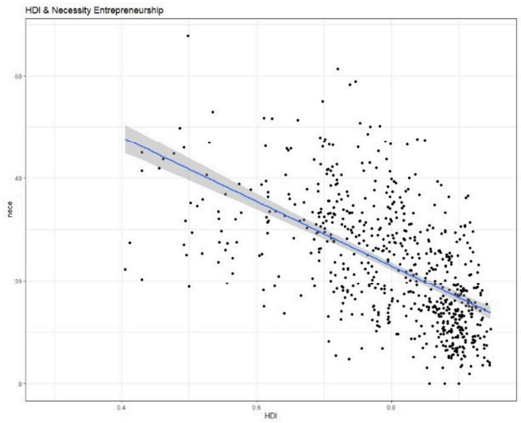


Figure 6 - Linear fit between HDI and necessity entrepreneurship

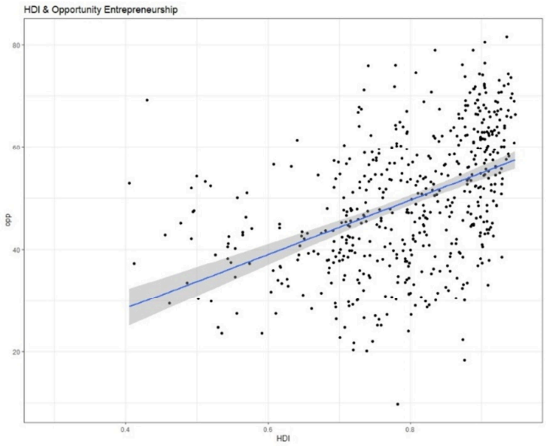


Figure 7 - Linear fit between HDI and opportunity entrepreneurship

4.2 Estimation Results

Table 4 provides the estimates of the opportunity and necessity-based entrepreneurship transformation model. It is observed that an increase in HDI positively increases opportunity-based entrepreneurship but decreases necessity-based entrepreneurship. This means that when an economy expands in terms of capacity and quality of human capital, the individual tends to discover opportunities to transform to an entrepreneur, leading to an increase in employment and reduced necessity-based entrepreneurship. Here HDI increase is more potent in reducing necessity-based entrepreneurship as it is inequality-adjusted and this development is helping them above to place in the job market. These results are consistent with past studies (Nabi et al., 2011; Nasiri & Hamelin, 2019).

Results also show that institutional quality/governance restricts opportunity-driven entrepreneurship, which opposes the study (Rasool et al., 2012). But Arshed et al. (2022a) and Ho and Wang (2007) had shown that better institutions also increase the regulatory compliance cost to the new businesses and innovators.

While indicators like openness and financial market development positively affect opportunity-based entrepreneurship, this is because the increase in financial development helps entrepreneurs access financing and leverage higher risk. These results are confirmed by (Angulo-Guerrero et al., 2017; Sohail & Arshed, 2022). Trade globalization also increases opportunities for new businesses in terms of exchanging ideas, opening of markets and reducing costs (Ahmad et al., 2022).

While culture, cost and infrastructure is negatively affecting opportunity-based entrepreneurship. The cost is a direct deterrent of entrepreneurship, with the increase in cost, businesses have to target higher margins to reach breakeven, influencing their prospective demand market.

For the case of necessity-based entrepreneurship, only cost has a positive effect while all others are negatively affected (Angulo-Guerrero et al., 2017). Here the increase in cost makes it difficult for the business to sustain jobs; hence the laid population is forced to start their own work out of necessity. While indicators like institutions and infrastructure significantly negatively affect necessity-based entrepreneurship.

The negative effect of infrastructure on both types of entrepreneurship can be explained by the fact that it helps businesses expand and form clusters. In this process, there is a high absorption of labour within forms in the form of intrapreneurs and pay them competitive salaries.

Table 4 - Estimation Results

Dep. Variables	**OOP**	**NECE**
Indep. Variables	**Coefficients (Prob.)**	
Constant	0.918 (0.143)	67.695 (0.000)
HDI	2.869 (0.000)	-25.474 (0.000)
GOV	-0.302 (0.009)	-2.452 (0.011)
FMD	0.153 (0.000)	-1.058 (0.173)
PO	0.001 (0.203)	-0.162 (0.000)
OPEN	0.293 (0.012)	0.656 (0.287)
CUL	-0.052 (0.030)	-0.821 (0.175)
COST	-0.012 (0.000)	0.085 (0.007)
INFRA	-0.082 (0.006)	-4.011 (0.000)
Sample	218	218
Number of Countries	53	53
Average Years	3.695	3.695
Wald (Prob.)	8399 (0.000)	1159 (0.000)

CONCLUSION AND POLICY RECOMMENDATION

In recent decades, entrepreneurship has acclaimed importance as a separate field of research (Peneder, 2009). It can help countries in enhancing economic growth, ideation and job creation. Therefore, it is crucial to investigate the determinants of entrepreneurship with aim of developing a favourable environment to nurture it. Literature shows that opportunity-based entrepreneurship is more beneficial than necessity-based entrepreneurship for the growth of a country because of its role in engaging and optimizing resources. And both types of entrepreneurship are motivated by different factors (van der Zwan, 2016). Thus, it is necessary to study both of them separately.

In this study, we used inequality-adjusted HDI to approximate socio-economic betterment across a heterogeneous set of countries available at GEM. For regression analysis, a panel study of 53 countries was used in order to get generalized results. Results of robust heterogeneity FGLS are consistent with the past studies in many cases and instrumental in others, as improvement in education provides more job opportunities to people, thus reducing the necessity-driven entrepreneurship. At the same time, it increases opportunity-driven entrepreneurship by providing more opportunities (Nasiri & Hamelin, 2019). Results also show that opportunity-driven entrepreneurs face different hurdles in starting and running a business than necessity-driven entrepreneurs. Increasing institutional quality and infrastructure creates new challenges for new opportunity-based entrepreneurs. Further increase in the cost of starting new businesses reduces the labour being absorbed by opportunity-based entrepreneurship, forcing them to initiate necessity-based entrepreneurship. Hence, the higher cost of doing business hinders entrepreneurial spirits; thus, policymakers should be the top priority to enforce ease of going business policies.

The study's findings also highlighted the importance of entrepreneurship facilitators like infrastructure, governance and entrepreneurship culture. These findings are vital for policymakers as improvement in these factors significantly boosts opportunity-based entrepreneurship. However, policymakers should be aware of the market distortions that may stem from these policy interventions (Kösters, 2010). After much deliberation, they should only make entrepreneurship policies to avoid a deadweight loss that may emerge from policy interventions (Hölzl, 2010).

Future studies which are exploring necessity and opportunity entrepreneurship in the longer horizon must also incorporate the spillover effects of both entrepreneurship types on each other to make results more efficient.

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