

# The Challenge of Business Innovation – An Entrepreneurial Perspective

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## Abstract

In a digital world, the entrepreneurial idea can be a starting point for economic development. Following an analysis of the specialized literature, it can be well observed that one of the key elements that set the foundations of the business itself is innovation or the innovative process. The primary challenges that entrepreneurs and companies face are related to the capacity to adapt to new trends by using innovation and the innovative process. The main purpose of this paper is to identify the business challenges related to innovation and to extrapolate the entrepreneurial idea through innovation. From a methodological point of view, this article uses quantitative and qualitative analysis in order to support the initial premise. The results obtained using the *Principal Component Analysis* have highlighted major aspects in regards to the differences between the countries in the study sample, and the causes for these discrepancies should be subject to observation.

**Keywords:** Entrepreneurship, Challenges, Business Innovation

**JEL Codes:** L26, F10, O24

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## 1. Introduction

At the base of entrepreneurship lies the *challenge* that individuals with entrepreneurial skills (entrepreneurs) set out to accept, in an increasingly dynamic environment dominated by uncertainty. This action has the primary goal of obtaining some gains, irrespective of the type thereof, whether material or immaterial. The assumption of risks make the difference between an *entrepreneur* and the other actors operating on a free marketplace, one where the *rules of the game* prevail. Identifying existing opportunities on a marketplace or creating new ones are specific activities of the entrepreneurial actor. Sooner or later, it is the consumers that will determine if the entrepreneur and the products or services they chose to develop were more or less inspired choices. *Innovation and the innovative process* have to be on-going and, implicitly, the adaptability to consumers' requirements and demands could give an individual a competitive edge on the market, to the detriment of its competitors. Performance and efficient use of available resources are goals that the entrepreneur pursues in conducting their own activity.

Innovation and the innovative process have to be constant in entrepreneurial actions. Building on this hypothesis, one cannot ignore the essentiality of the entrepreneur's adaptability to market requirements and demands. The assumption of risks and uncertainty evidently generates a motivation at an individual level in entrepreneur-actors. Action in a dynamic environment leads to the imperativeness of adopting new technologies in business. Even considering Vernon's opinion on product life-cycle, staticism can neither provide entrepreneurs with a market advantage, nor can it be maintained indefinitely. Innovation is the main tool entrepreneurs or companies can use to face the challenges of a free – and implicitly – competitive market.

## 2. Literature Review

Innovation is one of the fundamental premises of conducting the entrepreneurial activity and of economic progress, respectively. The specialized literature often approached the impossibility of obtaining entrepreneurial profits without acceptance of the innovative element. Acting in a dynamic environment, entrepreneurs have to constantly innovate. Below we present the opinions regarding innovation as an element of the entrepreneurial act. The definition for entrepreneur and the act the latter carries out took on different approaches throughout the analysis periods.

Innovation emerged as a matter of novelty in the definition of entrepreneurship. These approaches also include that of J.B. Say, who believes the entrepreneur is a middle man between the knowledge generating/producing scientist and the worker applying such knowledge in the industry (Say, 1821). Later on, Marshall put an innovating function of the entrepreneur at the forefront, highlighting that the actor within the company is the one constantly seeking opportunities to cut costs (Marshall, 1875).

Joseph Schumpeter's contribution to developing a new sense for innovation cannot be omitted from a specialized literature review. Schumpeter's entrepreneur does not need to be a capital owner or even work within the limits set by a company: *the entrepreneur may, but need not, be the person who furnishes the capital* (Schumpeter, *Business Cycles: A Theoretical, Historical, and Statistic Analysis of the Capitalist Process*, 1939, p. 102). He introduced the idea of *movement* – that is a business operator that innovates. The irrationality thereof results from the lack of any economic calculation. The entrepreneur is a player that assumes the success or loss and is guided at the same time by a *creative destruction* (Schumpeter, *Capitalism, Socialism, and Democracy*, 1942). Capitalism is in itself a change-generating system and, as such, it cannot have a static dimension. The emergence of new goods, new production and

distribution methods, new market places and new types of industrial organization is the impulse that guides and sets the capitalist system in motion. In this context, each company and each entrepreneur has to adapt and innovate if they wish to survive. *Creative destruction* results from a critical mass of innovation or, otherwise said, from the entrepreneurs' action. Curiosity is what drives entrepreneurs to take action. The heroic character thereof is what drives them to take on new, unprecedented and innovative actions. Innovation is what enables the entrepreneur to expand their business and consolidate their market position, pushing the boundaries of their own market by setting new rules under uncertainty conditions. Thus Schumpeter defines entrepreneurship from an economic perspective, emphasizing the idea of identifying market opportunities and adapting same by means of innovation.

Largely sharing Schumpeter's vision, Frank Knight states that innovation is a source of profit and can only occur when investments are used to create new resources. Knight sees the entrepreneur's motivation as connected to the desire to excel, to win a game, the greatest and most fascinating game that was ever invented. In order to achieve gains, there are three tasks incumbent on the entrepreneur: (1) to initiate change and usher in innovations; (2) to adapt to changes in the economic environment; (3) to assume the consequences of the uncertainties they are faced with in the activity carried out within the company. Knight's analysis emphasizes the intuitive and game-line nature of the entrepreneurial act, as well as the irrationality guiding the entrepreneur. The skills required of an entrepreneur are different from those pertaining to other individuals, conferring upon the entrepreneur a prophetic characteristic provided that the market is well organized. The entrepreneur assumes the uncertainty in order to earn a profit by satisfying consumers' needs, while acting in an innovative manner (Knight, 1921).

Friedrich von Hayek believes that business operators make decisions in a context dominated by uncertainty, instead of a transparent one, as postulated in the hypothetical case of perfect competition. Entrepreneurship signifies the pursuit, discovery and adjustment of the actions of business operators that are active in promoting the changes defining the market process. In other words, in Hayek's vision entrepreneurship is the relation between competition and knowledge, rooted in the condition that every business operator has a specific advantage in their subjective knowledge. Discovery and innovation are the ones that ensure the market evolution and entail benefits for the entrepreneur (Hayek F. A., 1960) (Hayek F. , *The Fatal Conceit: The Errors of Socialism*, 1988) (Hayek F. , *Utilizarea cunoașterii în societate*, 2014).

For Kirzner, the entrepreneur is not a source of *ex nihilo* innovation; it is rather in a constant pursuit of existing opportunities waiting to be identified. In the process of economic development, the entrepreneur should be seen as a respondent to opportunities instead of a creator thereof. The entrepreneur notices opportunities that can generate profits (Kirzner, 1973).

In recent years, the terms *innovation* and *entrepreneurship* have gained quite the importance in the management literature. In one of his works, Peter Drucker approaches entrepreneurship building on the philosophy according to which, in the present and in the future, the entrepreneurial society may be the only one capable of supporting the development of a *welfare society*. This entrepreneurial society will be the result of an economy based on innovative entrepreneurship, combined with easy government or – otherwise said – minimum intervention in regards to development (Drucker, 1985). In his opinion, *innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced. Entrepreneurs need to search purposefully for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation* (Drucker, 1985, p. 20). He introduces the idea of *systematic innovation* as a framework for the exploitation of innovative opportunities and identifies several sources of innovation: (1) the unexpected; (2) the incongruity; (3) innovation based on the need of the process; (4) changes in the sector or in the market structure that surprise everybody; (5) changes

in the number and structure of the population; (6) changes in terms of perception, status and significations; (7) new knowledge, both scientific and non-scientific. Peter Drucker lays emphasis on the need for innovation and entrepreneurship in a society. In order to achieve this, *entrepreneurial executives* have to transform innovation and entrepreneurship into normal, everyday and ongoing activities.

William Baumol states that innovation is the driving force that leads to the remarkable progress of capitalism (Baumol W. , 2002). In the capitalist economy, innovation is the primary dimension of the competitive process, to the detriment of prices, and less competitive companies lose their market position in favor of their competitors. For this, innovation is an essential element that can ensure the survival of the company. Moreover, Baumol developed a few ideas to prove that innovation can be integrated in the neoclassical *framework*. The latter describes a process whereby companies compete with one another based on innovation, not based on prices, emphasizing that successful companies can be ineffective from a neoclassical point of view, but they can enjoy profits if they continue to innovate. Without innovation, even the most efficient company will be ousted from the market by innovative competitors. Thus, the only solution is to routinize innovation, making it a part of the activities conducted across the company. Market incentives force companies to constantly innovate, which led to the growth miracle of capitalism. Baumol views the entrepreneur as *the independent innovator, in the broadest sense, meaning that the activities of this individual include, but go considerably beyond, technical inventions and their utilization* (Baumol W. , 2002, p. 114). Moreover, the importance of market institutions and the protection of ownership rights have to exist in order to ensure the necessary incentives for profit-generating innovation. In Baumol's vision, the fact that constant refinement became rather routinized seems to be the argument for the continued progress that requires the cultivation of a spark of entrepreneurship, able to generate *the real miracle of the free-market innovation machine*. In brief, innovation begets innovation.

Recent studies in the specialized literature bring to the foreground the role of innovation in the process of economic development. Jorgenson's opinion runs along the same lines, stating that achieving economic growth is based on introducing new innovations in the field of technology by integrating same in different domains or fields of activity. He emphasizes that the innovative process based on technology led to significant growth rates in the economic sectors (Jorgenson D. W., 2011). In small businesses, new innovations and their related activities have contributed to an increased observance of copyrights by large companies (Kortum, S., Lerner, J., 2000). Galindo *et. al* believes that the entrepreneurs' decisions to innovate or not are tightly connected to the achievement of profits; implicitly, we can identify a circular process given that innovation can be assimilated to the improvement of a product, granting the entrepreneur a better position on the competitive market. The latter are relevant for the obtaining of increasingly higher profits that can be applied for new innovation. This circuit also has positive effects on economic growth (Galindo, M.A., Mendez-Picazo, M.T., 2013).

In Bhide's view, entrepreneurial firms are in fact relatively young structures that have the potential to grow and achieve profit over relatively short time frames (Bhide, 2000). Amit & Zott state that for a company, an innovative business model can lay the foundation for creating a new market or can offer the possibility to introduce and harness new entrepreneurial opportunities that already exist on an established marketplace (Amit, R., Zott, C., 2013). Acting in such a context, these companies should offer solutions for the problems encountered by people in an ever-changing world (Langlois, 2005).

To synthesize the aforementioned opinions, we can posit that the statement according to which the dimension of the entrepreneurial activity is significantly influenced by the degree of implementation of technologies or new technologies is also confirmed by the specialized literature.

### 3. Methodology

Considering the goal set for this article, namely to identify the challenges faced by the business environment from the perspective of implementing and using innovation, the research methodology employed helps prove the hypothesis established initially.

The article starts with a review of specialized literature, illustrating the most important opinions on *innovation*, *innovative process* and *entrepreneurship*. Starting from this review, we aimed to empirically demonstrate the statements posited in the literature. For the empirical part of the research endeavor, we sourced available data on entrepreneurship, as well as on the innovative dimension of the activity conducted by individuals with entrepreneurial skills. Under these circumstances and having a very low number of entrepreneurship-related factors as the primary limitation, we used the *Global Entrepreneurship Index*. This index is provided by *The Global Entrepreneurship and Development Institute (The GEDI Institute)*, founded by world-leading entrepreneurship scholars from the LSE, George Mason University, University of Pécs and Imperial College London.

To have a clear view of the database, we need to make some notes regarding the analyzed indicators. We chose two sub-indices, in the component of which we can identify elements that are able to view the innovative phenomenon in a most evident manner (Abilities Subindex and Aspirations Subindex). Each sub-index takes values from 0 to 1, where 0 is the lowest value and 1 is the greatest value.

**The Abilities Sub-Index** includes the following components:

- *Opportunities Start-up* monitors the identification of individuals that are guiding their activity for the purpose of identifying certain quality opportunity-driven start-ups, while also considering the effects of taxation and of the quality of governmental services.
- *Technology Absorption* is the variable used to measure the capacity of a state to implement and absorb new technologies via companies. This measurement is obtained following the World Economic Forum reporting. *The diffusion of new technology, and the capability to absorb it, is vital for innovative firms with high growth potential* (Acs, Z., Szerb, L., Lloyd, A., 2018).
- *The Human Capital pillar captures the quality of entrepreneurs as weighing the percentage of start-ups founded by individuals with higher than secondary education with a qualitative measure of the propensity of firms in a given country to train their staff combined with the freedom of the labor market* (Acs, Z., Szerb, L., Lloyd, A., 2018).
- *Competition* – measures if entrepreneurs are able to create new products and services that they can subsequently introduce on the market.

**The Aspiration Sub-Index** includes the following components:

- *Product Innovation* refers to a company's capacity to create new products that reflect the transfer capacity of a country's technology. This indicator measures a country's potential to create new products or mimic existing products via innovation.
- *Process Innovation: The Process Innovation pillar captures the use of new technologies by start-ups combined with the Gross Domestic Expenditure on Research and Development (GERD) and the potential of a country to conduct applied research* (Acs, Z., Szerb, L., Lloyd, A., 2018).
- *High Growth* identifies a company's capacity to plan its growth strategy and measures its capacity to grow, setting ambitious goals for itself in terms of gaining profits.

- *Internationalization* centralizes and measures the extent to which companies are able to identify opportunities on the international market for exporting their products or services.
- *Capital Risk* refers to the availability of capital both for natural persons and institutions.

The data collected to be subject to analysis is provided in *Table 1*. The analyzed sample comprises 25 states, and the selection criterion thereof was related to their level on the *Global Entrepreneurship Index*. In their case, we aimed to identify certain elements that justify the development level of the business environment, having the influence exercised by innovation and the innovative process within companies as their starting point.

**Table 1: The Global Entrepreneurship Index and Sub-Index Ranks of the First 25 Countries, 2018**

Countries	GEI	Abilities Subindex	Opportunity Start-up	Technology Absorption	Human Capital	Competition	Aspirations Subindex	Product Innovation	Process Innovation	High Growth	Internationalization	Risk Capital
United States	83.60	86.00	0.849	0.814	1.000	1.000	84.90	0.733	0.902	1.000	1.000	0.876
Switzerland	80.40	86.40	0.966	1.000	0.789	1.000	85.50	0.834	0.902	0.882	1.000	1.000
Canada	79.20	79.90	0.999	0.779	0.912	0.676	79.90	0.991	0.758	0.559	0.936	1.000
United Kingdom	77.80	83.30	0.925	1.000	0.742	0.848	76.30	0.924	0.701	0.850	0.824	0.649
Australia	77.50	76.00	0.871	0.780	0.950	0.567	71.20	0.592	0.786	0.658	0.633	1.000
Denmark	74.30	84.50	1.000	1.000	1.000	0.989	66.50	0.988	0.723	0.594	0.390	1.000
Iceland	74.20	69.90	1.000	1.000	0.506	0.501	70.30	0.602	0.838	0.699	0.952	0.588
Ireland	73.70	78.90	1.000	0.769	0.851	1.000	75.00	1.000	0.822	0.884	0.970	0.568
Sweden	73.10	78.70	0.976	0.946	0.644	0.869	69.50	0.666	0.899	0.557	0.816	0.721
France	68.60	69.70	0.683	0.840	0.625	0.739	74.40	0.801	0.941	0.644	0.764	0.768
Netherlands	68.10	65.30	0.935	0.835	0.365	0.786	61.70	0.652	0.769	0.596	0.562	0.715
Finland	67.90	62.90	1.000	0.826	0.495	0.415	61.80	0.617	0.795	0.675	0.647	0.497
Hong Kong	67.30	62.50	0.800	0.643	0.894	0.381	70.20	0.884	0.409	1.000	0.679	1.000
Austria	66.00	66.40	0.808	0.941	0.399	0.761	64.40	0.724	0.818	0.403	0.901	0.630
Germany	65.90	67.20	0.759	0.863	0.482	0.848	69.40	0.667	0.84	0.662	0.874	0.760
Israel	65.40	60.80	0.647	1.000	0.811	0.317	72.20	0.997	1.000	0.851	0.601	0.788
Belgium	63.70	67.80	0.543	0.852	0.778	0.850	69.50	0.913	0.963	0.551	0.887	0.627
Taiwan	59.50	54.80	0.651	0.705	0.701	0.317	69.56	0.972	0.696	0.894	0.535	0.935
Chile	58.50	50.90	0.812	0.550	0.670	0.370	54.30	1.000	0.320	0.670	0.370	0.640
Luxembourg	58.20	62.90	1.000	0.839	0.551	0.857	62.60	1.000	0.612	0.545	1.000	0.902
Norway	56.60	60.90	1.000	0.752	0.419	0.671	42.84	0.259	0.465	0.467	0.282	0.840
Qatar	55.00	54.50	0.754	0.339	0.882	0.603	62.20	0.856	0.516	1.000	0.529	0.956
Estonia	54.80	55.70	0.635	0.773	0.540	0.606	50.95	0.724	0.647	0.674	0.658	0.214
Korea	54.20	50.10	0.485	0.460	0.560	0.320	56.80	0.950	1.000	0.450	0.320	0.580
Slovenia	53.80	55.00	0.604	0.744	0.500	0.485	52.09	0.480	0.806	0.427	0.746	0.333

Source: own processing of data available on The Global Entrepreneurship and Development Institute (2018)

Upon the initial analysis of the data registered by the indicators/indices related to *entrepreneurship* and *innovation*, we drew a series of logical correlations between same and the market reality in the respective states in order to offer ideological and theoretical justifications. Moreover, we used the *Principal Component Analysis* in order to reduce the

number of variables and identify the primary components impacting entrepreneurship and business innovation.

#### 4. Results and Discussions

In order to identify the existence of correlations between variables, we considered the Kaiser-Meyer-Olkin Measure of Sampling Adequacy. In the case of analyzed variables,  $KMO > \alpha \rightarrow 0.608 > 0.05$ , which means there are correlations between the variables. Given that  $KMO > 0.5$ , the analysis of the primary components can be applied.

##### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.614
Approx. Chi-Square		65.749
Bartlett's Test of Sphericity	Df	36
	Sig.	.002

##### Communalities

	Initial	Extraction
Opportunity_Start_up	1.000	.859
TechnologyAbsorption	1.000	.708
Human_Capital	1.000	.799
Competition	1.000	.673
Product_Innovation	1.000	.620
Process_Innovation	1.000	.781
High_Growth	1.000	.588
Internationalization	1.000	.670
Risk_Capital	1.000	.635

Extraction Method: Principal Component Analysis.

##### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.574	28.603	28.603	2.574	28.603	28.603	2.401	26.682	26.682
2	2.334	25.934	54.537	2.334	25.934	54.537	2.350	26.115	52.797
3	1.425	15.829	70.367	1.425	15.829	70.367	1.581	17.570	70.367
4	.717	7.968	78.335						
5	.604	6.707	85.041						
6	.508	5.646	90.687						
7	.364	4.044	94.731						
8	.252	2.796	97.527						
9	.223	2.473	100.000						

Extraction Method: Principal Component Analysis.

Following the analysis of the results obtained from the data processing, we can note that the first three components explain 70.36% of the total corresponding to the total variance, as follows:

- The first component (component 1) explains 28.603% of the total variance;
- The second component (component 2) explains 25.934% of the total variance;

- The third component (component 3) explains 15.829% of the total variance.

Each of the three components is comprised of several variable, as evidenced by the table below:

**Component Matrix**

	Component		
	1	2	3
Opportunity_Start_up	.534	-.176	-.736
TechnologyAbsorption	.535	-.649	.007
Human_Capital	.608	.630	.181
Competition	.715	-.379	-.135
Product_Innovation	.351	.526	.469
Process_Innovation	.251	-.512	.675
High_Growth	.455	.610	.099
Internationalization	.661	-.419	.240
Risk_Capital	.540	.505	-.298

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

**Component Transformation Matrix**

Component	1	2	3
1	.718	.592	.367
2	-.650	.758	.049
3	.249	.273	-.929

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

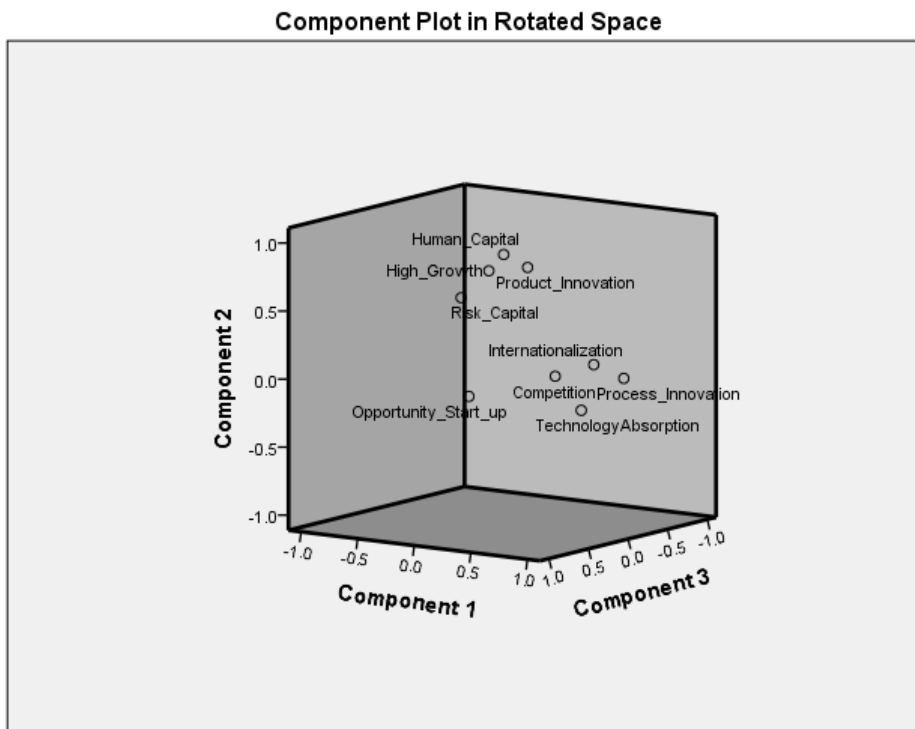
In order to observe the main dimensions that impact variance, we resorted to synthesizing the information on the components. Following this process, we decided that there were three dimensions with significant impacts on the entrepreneurial attitude of economic actors in the analyzed sample:

- The first dimension (component 1) pertains to the competitive character across the marketplace. This one is significantly impacted by the human capital involved in the competitive process, as well as by the companies' capacity for internationalization.
- The second dimension (component 2) – the innovational dimension of the product;
- The third dimension (component 3) – the innovational dimension of the process.

The Principal Component Analysis generated 3 new variables that describe the three dimensions listed above, named Fac1\_1, Fac2\_1, Fac3\_1, which refer to the influence of the independent variable on the dependent variable. In our case, the dependent variable is Fac2\_1 which represents the innovational dimension of the product, and Fac1\_1 is the independent variable, pertaining to the competitive dimension. The values of the new variables are highlighted in table 2. Moreover, Figure 2 is a graphical representation of the values mentioned in table 2.

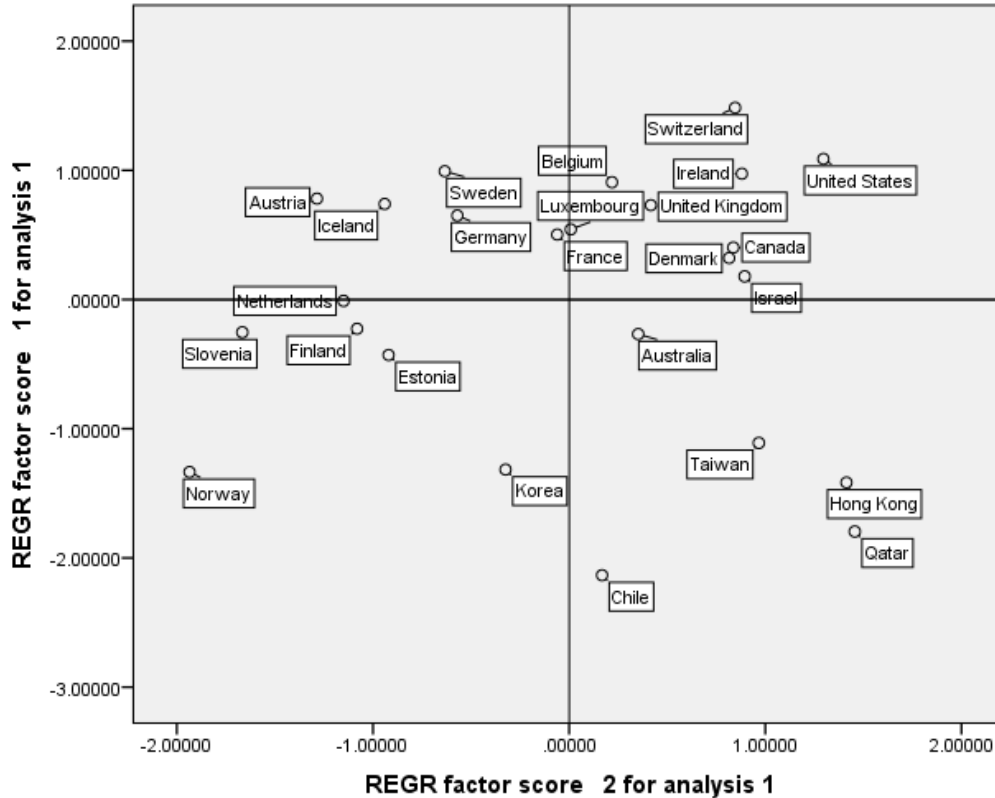


Figure 1: Component Plot in Rotated Space



Source: SPSS output for the used database

Figure 2: REGR factor score for analysis



**Table 2: Factor Variable of the First 25 Countries, 2018**

Countries	FAC1_1 (Competitional Dimension)	Fac2_1 (Product Innovation)	Fac3_1 (Process Innovation)
Switzerland	1.08806	1.29629	0.14802
United States	1.48408	0.8459	0.6503
Denmark	0.40211	0.83687	0.55372
United Kingdom	0.73008	0.41649	0.3416
Canada	-0.2677	0.35198	0.578
Ireland	0.32116	0.81559	1.1272
Sweden	0.7395	-0.9406	0.30345
Australia	0.97353	0.88062	0.09679
Iceland	0.99239	-0.6341	0.46418
France	0.50233	-0.06087	-0.83475
Belgium	-0.01051	-1.15031	0.64261
Germany	-0.2263	-1.08117	0.23343
Austria	-1.41662	1.41383	0.66489
Netherlands	0.78107	-1.28558	-0.20476
Luxembourg	0.65024	-0.57017	-0.11701
Finland	0.17878	0.89441	-1.53592
Hong Kong	0.90769	0.21851	-1.6496
Japan	-1.10972	0.96701	-0.66425
Norway	-2.1336	0.16752	0.34597
Israel	0.54307	0.00801	0.92684
Singapore	-1.33455	-1.9354	2.17666
Estonia	-1.79574	1.45621	0.35854
Slovenia	-0.42935	-0.92039	-1.0313
Taiwan	-1.31616	-0.32428	-2.39118
Qatar	-0.25386	-1.66638	-1.18342

By performing an analysis of the factorial axes obtained, we can draw the following conclusions:

- On the first factorial axis, corresponding to the *competitional dimension*, the highest values are registered by countries such as the United States, Switzerland, Iceland, Australia and Hong Kong, and the lowest values are achieved by Norway, Estonia, Austria, Singapore and Taiwan. We can infer that in the case of the states registering the highest values, the behavior of economic actors is one that tends towards carrying out the entrepreneurial act and, implicitly, of a strong competitive process. The status of the United States of America is one that once again emphasizes their international competitiveness, a matter that is evidently correlated with the economic development thereof. On the opposite side, in the case of countries where the competitional dimension registers the lowest values, we can conclude that an analysis should be performed on the factors determining the entrepreneurs' lack of focus on the wish to be constantly enterprising within the competitive process. One of the factors that might explain this lack of action could be the laws in the respective country and the obstacles encountered by economic actors in their conduct of the entrepreneurial act. Aside from this aspect, we could consider the cultural dimension corresponding to each country, as well as its implications in terms of entrepreneurship. Given the fact that there has yet to be any research on the social and political, legal or cultural conditions in the analyzed states, we cannot accurately state the causes

for such low values pertaining to the entrepreneurial behavior, focused on participation in the market process.

■ The dimension that refers to the *innovational product* corresponds to the second factorial axis. As with the first factorial axis, there are significant differences in the analyzed countries. Thus, entrepreneurs in states located in the top side of the hierarchy are more motivated to innovate their product than those in the lower side. On the one hand, there are countries where the motivation and perception of opportunity score very high values (Estonia, Austria, Switzerland, Japan and Finland), and on the other hand there are countries where the same indicators score very low: Singapore, Qatar, Netherlands, Belgium and Germany. In the dimension that refers to the innovation of the product, a major significance also goes to the Human Capital component. Considering this aspect, we can state that the different cultural heritage is one of the factors worth mentioning in this dimension. While for some people the entrepreneurial activity seems to be something that comes naturally, for others we can talk about the attempt to educate the same values. Furthermore, the differences in terms of political regime evidently bear another type of impact on understanding the discrepancies in terms of the motivational dimension.

■ The third factorial axis can be associated with the dimension of the *innovative process*. Singapore, Ireland, Israel, Austria and United States rank on top of the list in terms of implementing innovative strategies within processes. On the other hand, entrepreneurs in Taiwan, Hong Kong, Finland, Qatar and Slovenia score the lowest values in terms of implementing new processes within companies. For this factorial axis we can draw the same correlation regarding the national culture and the focus towards entrepreneurship.

Starting from the observation of factorial axes, we can notice a series of interesting aspects regarding certain states in the study sample:

The United States of America score very high values for the first factorial axis (the *competitional dimension*) and very low values for the third factorial axis (the dimension of the *innovational process*). *Opportunity start-up* and *Risk capital* negatively impact the last factorial axis, which means that the dimension of the innovative product, as well as that of the process are influenced by the competition on the American marketplace. The entrepreneur's activity bears the competitive mark, within which we also include both Internationalization and Human Capital. The position of the USA in international trade is well understood and, moreover, we can identify the challenges the US faces in starting a business, building on the idea of innovation.

Switzerland presents high values for both the first and second factorial axes, and this data could suggest the significant connection between the high level of competitiveness and the high level of innovation in terms of the product designed for the consumer. Another major aspect worth mentioning for Switzerland refers to the value of the third variable focusing on the dimension of the innovative process. Although there is a high level of competitiveness and innovation in terms of the process, the innovative process generally presents relatively low values; we could thus infer that change is rather difficult in major sectors that contribute to the economic development of Switzerland (e.g.: the watchmaking industry they are notorious for, etc.).

Singapore is located at the top of the list for the third factorial axis, which refers to the innovational dimension of the process. The same state scores the lowest values in the second factorial axis (*product innovation*) and relatively low values for the first factorial axis. Thus we can infer that Singapore innovates in terms of process, yet without implicitly bringing about changes in terms of the finished product designed for consumers. Moreover, competition does not appear to be stimulated on the Singapore marketplace.

Japan registers very high values for the second axis (*product innovation*) and negative values for the other two factorial axes.

In conclusion, we can state that there evidently are discrepancies in terms of entrepreneurship and the entrepreneurial activity at an international level. Following the analysis, we ascertained three dimensions that explain the variations in entrepreneurship: the competition dimension, the innovational product dimension, and the innovational process dimension. Putting together a map illustrating the entrepreneurial intensity and, moreover, the level of economic development in countries across the world, will constitute a future research direction, while being a limitation for the current research endeavor.

## 5. Conclusions

In conclusion, the primary challenges that entrepreneurs and companies face are related to the capacity to adapt to new trends by using innovation and the innovative process. By acting in an innovative manner, entrepreneurs manage to obtain a proper positioning in the market hierarchy and, moreover, they can hope for maximized profits. Most of the times, the difficulty in implementing the innovative process and product innovation incentivizes entrepreneurs in the activity they carry out.

The results obtained using the *Principal Component Analysis* have highlighted major aspects in regards to the differences between the countries in the study sample, and the causes for these discrepancies should be subject to observation. A part thereof can be justified in general, but one should not omit the particular aspects that generate heterogeneity. The political regime, entrepreneurial culture (and others), and the risk susceptibility of a nation provide explanations for the entrepreneurial activity of its actors. In the analyzed sample we can undoubtedly notice the heterogeneity by starting from the cultural/social/political differences themselves. As was already shown, the three factorial axes resulting from the analysis of the main components offer a series of explanations for the positioning of states on either side of the international hierarchy, precisely by tapping already existing information that were set in a different light.

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