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Field Lab SME Competitiveness – EDUdigital's Internationalization Strategy

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TABLE OF CONTENTS

Abstract

EDUdigital is currently struggling with its internationalization process, generating profits and being established in the African market. The goal of this study is to analyze the global readiness of the firm and to evaluate new markets. The assessment was made through a Country Clustering and Ranking, followed by an in-depth analysis of the top five countries. A strategic plan was developed in three stages: definition of the international entry strategy, elaboration of a marketing strategic plan and computation of a financial forecast. The results prove the firm's preparedness to go global and that Sweden is the optimal target.

Keywords: Internationalization, Strategy, eLearning, LMS, Sweden

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1. INTERNAL AND EXTERNAL ANALYSES

a) Company overview

i) Introduction to EDUdigital

EDUdigital (ED) is a Portuguese company that offers technological learning solutions, web platforms and digital content to universities, companies and other public or private organizations since 2008. ED's main goal is to provide customized training solutions that succeed in meeting the specific needs of the customers served. By combining value and quality, while ensuring cost optimization, the company has been able to build and maintain solid and long-lasting relationships with the clients.

ED focuses on the two distinct segments of training and education, and the products offered can be divided into six categories, namely *eLearning Platforms, eLearning Courses, Certified Training, Academic Management Software, Apps and Web Services*, and *Gamification* – as further described in **section 1.a.iii.**

The company has already started to expand to foreign markets, namely to Cape Verde, in 2018, and to Mozambique, in 2019, having only one client in Angola. The decision of expanding to international markets arose after realizing that, on the one hand, the Portuguese market had already a lot of competitors, who benefited from a first-mover advantage, and, on the other hand, potential clients faced high switching costs. The current internationalization process has been supported by the *Portugal2020* strategic program, which is an initiative that operates cooperatively between Portugal and the EU, helping companies to internationalize to other countries.

Furthermore, ED believes that opportunities for progress require constant transformation and innovation, and therefore the team strives to keep developing platforms and contents that answer to the latest market and customers' needs. Every time ED receives a new

project, the team carries out a thorough analysis and presents to the client a proposal in accordance with its expectations, desired delivery date, financial availability, and so on. The solutions are then designed and developed through technological, multimedia, and pedagogical elements, with the aim to be high quality and customized, but also aligned with the client's desired budget. After the implementation, customers are offered technical and pedagogical support throughout all the process.

Regarding ED's pricing scheme, the company's offer is aligned with the average market price. Thus, ED defines its pricing list by considering the number of hours that the employees allocate to each project, and then adding a margin that defines the business' profitability.

Finally, it is important to mention that the current pandemic is positively impacting the business, especially in the national market, where there has been an overload of proposals from a stream of new and existing clients. More than ever before, companies and education institutions felt the urgent need to adapt to more efficient and suitable technological solutions. For the purpose of answering to the increasing demand, the company started to hire more employees, namely coders and designers.

ii) Vision, Mission and Objectives

An organization's vision and mission communicate the firm's identity and purpose, while providing a broad understanding of the overall company's direction. Having knowledge of these two statements allows a better understanding of the company's profile and offers criteria for the definition of future objectives.

The **vision** of a firm states which direction is going to be taken and what the firm wants to be in the future, identifying its long-term desired status (Carpenter and Sanders 2014). ED envisions the promotion of education through digital platforms, adapted to every customer's

content needs, while being a reference in eLearning, namely online training, implementation and consulting on eLearning platforms and development of digital solutions for the customer's content.

The **mission** statement declares what is the position of the firm in relation to the key organization stakeholders, in terms of fundamental values and purpose of the company (Carpenter and Sanders 2014). The **mission** of ED is to develop educational digital solutions and resources adapted to each customer, offering top quality products, while granting a remarkable and consistent customer service.

The key determinants that drive the efficiency of the vision and mission are the objectives set by the leaders, that provide a bridge between the vision and the strategy (Carpenter and Sanders 2014). ED defined its **main goals** as:

- Growth and retention of the customer base in national and international markets.
- Enhance the presence and gain market share in the countries where ED operates.
- Reinforcement of the firm’s knowledge in terms of international strategy.
- Creation of three work positions, specifically project manager, designer, and programmer.
- Achieve efficiency by ensuring competitive price/quality with innovative products.
- Creation and expansion of the sales network, by creating partnerships in different business areas.
- Development of new innovative products in eLearning, by keeping up with the market tendencies in the industry.
- Consolidation of the partnership and representation of *Moodle* and *Totara*, by developing a program to measure and integrate with several other software.

iii) Product Portfolio

As indicated above, ED's offer can be divided into six different segments, in order of importance in terms of sales.

Certified Training

ED offers training in different areas, such as Communication, Management, Sales and Marketing, Customer Service, HR, Financial, Languages, among others, thus being a training entity certified by *DGERT* in education. In fact, Certified Training is the service that generates most of the revenues for the company. The program grants a high-quality and complete preparation adapted to customers' needs, and including complete courses, scoring tests and final achievement certificates. The *DGERT* certificate is essential to build a quality image and to be a reference in the market. In addition, ED partners with *Cambridge English School*, offering certified English courses.

eLearning Platforms

The second best-selling product are eLearning Platforms, namely *LMS* (*Learning Management Systems*), which are integrated systems that help members of an educational institution or companies with administering, tracking, and documenting the learning progress of their students or collaborators. In fact, *eLearning* refers to the use of digital resources to deliver electronic training and education through online contents. Since the channels are digital, the user is free to adapt the teaching to its needs and schedules. Therefore, the company has been partnering with *Totara* and *Moodle*, using the tools and servers provided by them to offer a *LMS* that fits the client's requirements. In this regard, the global eLearning market was valued at almost €168 ($200) billion[1] in 2019 and is expected to reach the value of €313 ($373) billion by 2026. More specifically, in 2019, *LMS* contributed with €15 ($18) billion and is estimated

[1] Throughout the report, a USD to Euro exchange rate of 0.84 was applied.

to double the value by 2026 (Statista 2020).

eLearning courses

The eLearning courses are the third most selling product of the company. These are digital programs that facilitate the training process, by increasing interactivity and accessibility. ED offers courses adaptable to any *LMS* platform, offering the possibility to personalize them based on customer's needs, and always respecting the appropriate quality norms. In the current context, most educational and corporate institutions are struggling with the pandemic, and flexibility is fundamental. Therefore, it has been acknowledged that online solutions have more importance than never, and online eLearning is the segment that contributes the most to the eLearning market, reaching a value of (€85) $101 billion in 2019, while being expected to grow by more than 65% until 2026 (Statista 2020).

Apps and Web Services

The company also builds up smartphone Apps and Web services, since it recognized that these digital platforms are an essential part of the business to meet corporate and educational needs. Adding this type of service into the company's activities surely delivers many benefits, especially by increasing the visibility in the market, by creating direct sales channels, by consolidating a strong brand image and reputation, among others. In this regard, ED helps its customers in the development of tailor-made websites, platforms, and applications. Due to the high expertise of the staff, who is continuously cooperating with clients, it is possible to guarantee innovative and personalized solutions.

Academic Management Software

The Academic Management Software is a single unified platform that gathers the management of all areas of an educational institution, rendering it easier and more accessible. ED offers the service *EDUacadémico*, which provides mechanisms that optimally manage tasks

regarding training and management, with a high degree of personalization. It deals with enrolments and grade registration, emission of certificates, debt management, personnel management, and internal auditing system. This business segment also includes the anti-plagiarism systems, and the company has a partnership with *Urkund*, the second largest plagiarism management software in the world.

Gamification

Finally, Gamification is the use of game components in a non-game context to make learning more appealing. Not only it increases the engagement and motivation, while improving the learning behavior, but it also results in a higher overall performance. ED develops eLearning solutions by offering a customizable service that blends training, competition, evaluation, and collaboration with gaming mechanisms.

As a matter of fact, gamification techniques enhance employee engagement by 60% and productivity by 50%, and the growth rate of game-based learning systems is forecasted to range from 27% in Asia Pacific, to 60% in Africa (Jay 2020). It is expected that, until 2021, the gamification market will be valued at nearly €10 ($12) billion (Gough 2018). Even though the demand for this product is growing around the world, most companies are still very reluctant to invest in gamification. This is the reason why it is the least requested service of ED.

iv) Employees' Structure

The company counts on eleven employees, managed by the executive director Ricardo Santos, who is responsible for the most important managerial and strategic decisions, while travelling frequently to the international markets in which ED operates. The employees are divided into three multidisciplinary teams by region, who are thus responsible for the projects

developed in the respective countries. In appendix, **Table 1.1** describes the employees' structure and the respective roles.

v) Target Market

The company currently operates in four countries, all Portuguese speaking. Besides Portugal, the company exports to three *PALOP* (*Países Africanos de Língua Oficial Portuguesa*) countries, which are Mozambique, Cape Verde, and Angola. Soon, ED aims to consolidate and increase the number of clients in these countries, to rise its current market share and, consequently, to improve its market positioning.

The target clients of the company are mainly private schools, in the educational sector, and medium and large enterprises, in the corporate sector. In the latter, ED aims to hit a wide spectrum of corporate sectors, such as insurance companies, consulting firms and banks, etc. For instance, certified training and eLearning courses can be useful to any company in need of training for their employees, hence, ED is not narrowing its reach in this sector. In the educational one, private schools are the main target, even though the company has several public universities as clients.

Some of ED's biggest clients in these sectors are *The Navigator Company*, *CTT*, *KPMG*, *Direção Geral de Educação* and *Universidade do Minho*. Hence, the company only operates in the business-to-business area.

vi) Business and Product Life Cycle

A **Business Lifecycle** analysis, that comprehends 5 stages – *1. Seed and Development; 2. Startup; 3. Growth and Establishment; 4. Expansion; 5. Maturity and Possible Exit* – was conducted (Petch 2016) to evaluate ED's progresses to reach the **Expansion stage.** Founded in 2008, ED's position is currently well established within the market, with rising sales and

important partnerships with some of the largest software open-source producers in the world. The company has already set separate areas of activity, autonomously managed, with multidisciplinary teams trained in areas such as computer engineering, IT, management, design, multimedia, communication technologies, etc. Furthermore, ED is already expanding its products/services to new geographies, as stated above, and the internationalization process is being supported by the *Portugal2020* program.

Regarding the **Product Lifecycle analysis,** understanding in what stage ED's products are positioned can leverage managerial decisions, strengthening a company's solid strategy and competitive standing (Levitt 1965).

ED's offer is placed in the **Maturity stage,** since it is conquering an increased demand for eLearning services. The firm has been dominating a major parcel of the national and international markets, resulting in increased company's sales. Therefore, the company is both focused on the eLearning market (through digital content and multimedia), whilst expanding to new market trends of customized digital solutions, such as learning platforms based on entertainment. Thus, ED has been resisting to some competitors' threats that exist, as it will be further explored in the **section 1.c.i**.

b) Financial Overview

For the financial overview, IES Declarations were primarily analyzed. For the sake of this analysis, the results from the Mozambique branch were not considered, since these are counted for *EDUdigital MOZ*, a company that is hold by ED, but independently managed.

ED has had an overall increase of income from 2016 to 2019, but not in a straight line. In this time frame, the EBITDA grew from €9765 to €11293 and the Net result from €1220 to €2426, and **Figure 1.1** exhibits this evolution. In 2019, there was a drop in income, but it was not linked

to revenues, that increased by 21%. In fact, it was the increase of costs that led to the drop in EBITDA and Net Income, led by an upsurge of supplies and external services and a down surge of exploration subsidies.

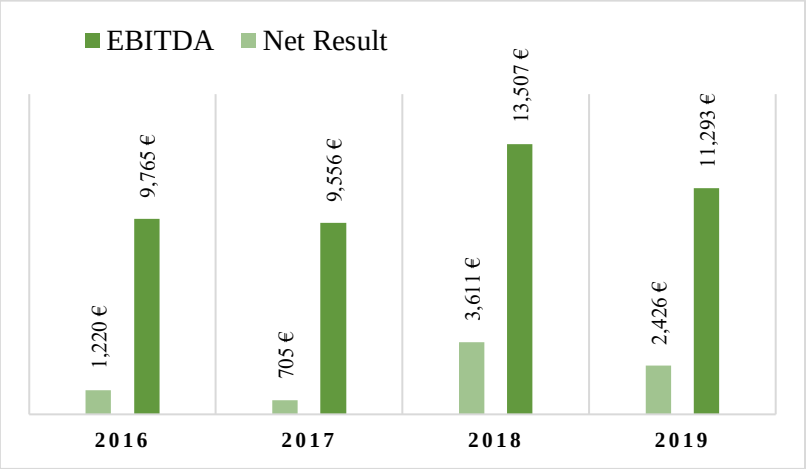

Figure 1.1: *Evolution of EBITDA and Net Result from 2016 to 2019*

In appendix, **Table 1.2** and **Table 1.3** contain the reformulated income statement and the reformulated balance sheet, respectively. From a reformulated statement perspective, throughout the 4 years analyzed, the weight of core activities – in terms of operations – is close to 100%. This is expected as ED is an SME and still does not have the scope to delve in non-core activities. Financially speaking, the company profits from a small tax shield that rotates around €100.

	2019	**2018**	**2017**	**2016**
Gross Margin	32,7%	36,0%	44,9%	56,4%
EBITDA Margin	5,6%	8,1%	5,7%	8,2%
EBIT Margin	2,6%	4,4%	1,6%	3,2%
EBT Margin	2,5%	4,4%	1,7%	3,6%
Net Margin	1,2%	2,2%	0,4%	1,0%
Return on Sales	3,1%	4,4%	2,3%	
Interest Coverage ratio	34,6	33,6	9,9	61,8

Table 1.4: *Evolution of Gross Margin, EBITDA Margin, EBIT Margin, EBT Margin Net Margin, Return on Sales and Interest Coverage Ratio, from 2016 to 2019*

Moreover, **Table 1.4** reveals some important ratios. ED has had low margins: for instance, the Gross Margin has been slowly decreasing over the years, while the Net Margin has been fluctuating between 0.4% and 2.2%. The declining paths have been accentuated by a series of high costs and high effective tax rates, that are reflected in **Table 1.5.**

	2019	**2018**	**2017**	**2016**
Effective tax rate	52,8%	51,0%	75,1%	71,3%

Table 1.5: *Evolution of the Effective tax rate, from 2016 to 2019*

As previously stated, it also makes sense that around 100% of the invested capital is focused on the core activities of the business. There is an evident drop in Invested Capital from 2018 to 2019, which is mainly due to two factors: the increase in Accounts Receivable, correlated to the increase in total revenues and number of clients, and the drop in Cash and Cash Equivalents. It can be observed that ED has a very high number of Accounts Receivable and a low number of Accounts Payable, which is representative of the low negotiation power of ED compared to their larger clients. In other words, this is translated by a mid-high buyer power. From a liquidity standpoint this can be a source of problems. In this respect, **Table 1.6** describes three liquidity ratios. The Net Working Capital and the Current ratio are respectable, however, the cash ratios of 2018 and 2019 should have been around 1. Increasing the cash ratio would allow the company to be more attractive to potential investors and lenders. ED has not invested in PPE ever since 2016, as depreciation has been linearly impacting this value throughout the years.

Liquidity ratios	**2019**	**2018**	**2017**	**2016**
NWC	94 042 €	49 711 €	124 780 €	66 246 €
Cash ratio	0,6	0,8	1,6	1,6
Current ratio	3,6	1,3	3,4	2,3

Table 1.6: *Evolution of the NWC, Cash Ratio and Current Ratio, from 2016 to 2019*

Additionally, **Table 1.7** contains ratios from an efficiency standpoint. ED presents a high asset turnover ratio, that is, however, not well complemented by a correct net trade cycle. This is a sign that the company could benefit from investments in Property, Plant & Equipment. The high average payment period of 2016 and 2017 is related to facilities provided to new business. The high collection periods from 2017 to 2019 can become a source of problem for the company as the company has a low cash ratio (0.57).

Efficiency ratios	**2019**	**2018**	**2017**	**2016**
Assets Turnover	1,3	0,8	0,6	-
Average collection period	177	140	198	88
Average payment period	46	14	101	170
Cash conversion cycle	132	126	97	- 82

Table 1.7: *Evolution of Assets Turnover, Average Collection Period, Average Payment Period and Cash Conversion Cycle, from 2016 to 2019*

Furthermore, **Table 1.8** contains the Core ROIC Breakdown from 2017 to 2019. The low ROIC of ED is due to a low core operational margin which in turn is due to a low Net margin value (or Net Result value by causality). An internationalization project can be beneficial for this ratio, as it can help ED achieve a larger market potential and spread out their assets on more demand. The company is still young and with time if enough investment opportunities are followed with success the ROIC can increase with growth hand in hand.

	2019	**2018**	**2017**
Core ROIC	2,4%	2,9%	0,4%
Core Operational Margin	0,02	0,03	0
Core Asset Turnover	1,2	1	1,6
Core ROIC	**2,4%**	**2,9%**	**0,4%**
Overall ROIC	**4,2%**	**2,7%**	**0,9%**

Table 1.8: *Core ROIC Breakdown from 2017 to 2019*

It can also be considered the ROA and ROE of ED, which has been divided through the *DuPont* Identity analysis, that is further described in **Table 1.9.**

Profitability	**2019**	**2018**	**2017**
Return on Assets	2,5%	3,9%	2%
Return on Equity	4,2%	6,7%	1,3%
DuPont identity	4,2%	6,7%	1,3%
Tax burden	0,5	0,5	0,3
Interest burden	1	1	1,1
Return on Sales	3,1%	4,4%	2,3%
Assets Turnover	1,3	0,8	0,6
Leverage	2,3	3,8	3,6

Table 1.9: *DuPont Analysis*

Finally, from a Sales' Drivers point of view, Total Revenue can be divided either by segment or by country, as it is reflected **Table 1.10** and **Table 1.11**, respectively. The main source of revenue comes from the production of eLearning Platforms which is followed by eLearning Courses and Certified Training. It comes to mind that Certified Training became a greater source of revenue when ED moved from Portugal and Mozambique (2 countries) to 4 countries. Portugal has been increasingly becoming the most reliable source of revenue and Mozambique revenues dropped, while Cape Verde and Angola revenues went up.

Segment	**2019**	**2018**	**2017**	**2016**
eLearning Platforms	59 554 €	40 485 €	58 299 €	92 208 €
eLearning Courses	26 311 €	40 861 €	69 311 €	26 011 €
Gamification	0 €	0 €	0 €	0 €
Certified Training	63 150 €	67 008 €	18 735 €	32 224 €
Academic Management Software	0 €	0 €	0 €	0 €
Apps and Web Services	4 314 €	12 618 €	19 211 €	17 133 €
Other	59 977 €	24 263 €	37 785 €	43 212 €
Total	213 305 €	185 235 €	203 340 €	210 788 €
Percentual Growth	15,2%	-8,9%	-3,5%	

Table 1.10*: Total Revenue divided by segment, from 2016 to 2019*

Country	2019	2018	2017	2016
Portugal	91 701 €	98 433 €	72 877 €	22 465 €
Cape Verde	27 615 €	7 830 €	0 €	0 €
Mozambique	91 905 €	78 972 €	130 463 €	188 322 €
Angola	2 085 €	0 €	0 €	0 €
Total	213 305 €	185 235 €	203 340 €	210 788 €

***Table 1.11**: Total Revenue divided by country, from 2016 to 2019*

c) Industry Analysis

i) eLearning Industry and its Competitors

Due to the specialization in technological services related to training and learning, ED can legitimately be considered part of the eLearning industry. The goal of this sector is to provide accessible and relatively low-cost services to schools, universities, public and private entities. Despite being a niche market, it has been rapidly expanding and transforming the learning experience of the century. eLearning was born in the 90s, when educational institutions and companies started offering online courses. Since the beginning of the new century, it has grown by 900% (Pappas, Top 20 eLearning Statistics For 2019 You Need To Know [Infographic] 2019). In 2015, the global market was worth €90 ($107) billion, and in 2019 it went beyond €168 ($200) billion. It is forecasted to grow up to €206 ($243) billion in the next 2 years, and to reach a peak of €275 ($325) billion in 2025 (McCue 2018).

Within the global market, the US companies seem to exploit online learning at its best, reaching 77% in 2017 (Chernev 2020). In fact, firms that can keep their employees up to date with market changes will most likely gain a competitive advantage. In addition, experts believe that the technology will eventually shift from education to other sectors of the market, and that most of the upcoming demand will originate from developing countries. It is believed that all

these factors will contribute to an impressive growth of ED and their analysis is useful to plan the company's next steps on the road to success.

In Portugal, ED faces strong, even less specialized, competitors, which offer similar digital solutions to companies, government, and schools, such as *Edrom*, *Novabase*, *Clouts*, *ISQ* and *Cegoc*. For instance, the last one is focused on developing learning solutions for businesses, running in the coaching, recruiting, and consulting sector as well. In the national market there are several other smaller companies, such as *Distance Learning Consulting*, *E-LEARN PT®* and *Nova Etapa*, that provide "ready-to-wear", as well as tailor-made eLearning courses. Even *SGS* and *Bureau Veritas*, which are two of the world's leading companies for inspection and certification, also offer accredited training solutions for organizations and individuals to foster sustainable business development. However, it can be said that ED is one of the few Portuguese companies whose core business is focused on eLearning, hence mainly targeting the education sector, and offering a wide range of products and services that smaller competitors do not, including *LMS*.

In the African market, several startups are beginning to operate in this sector to provide tools to improve the educational system. For instance, *HITCH* is a platform started in Nigeria that offers high quality educational video content to African students in underserved schools (Idajili 2020). However, it is not possible to consider a small player like this as a threat, at least for the moment, since it is still in an early stage.

ii) Porter's Five Forces Model

Michael Porter's Five Forces model is a helpful tool to examine the fundamental characteristics and structure of an industry. The forces in question can vary in strength across industries, and this is the reason why the related level of returns might be substantially different. In business, the negotiation power of the parties is altered by several factors in favor of buyers

or suppliers, while the possibility of entrants and substitute products or services could be a threat to the participants of a specific industry (Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors 1980). This analysis aims to assess the attractiveness of the eLearning industry along with the implied risks and threats that the company could face, to design a strategy that both fits ED's goals and the industry conditions.

Supplier Power: Mid-High

Regarding ED's *Learning Management Systems*, the suppliers are *Moodle* and *Totara*. These companies produce the open-source platform required to provide clients with customized offerings. From this point of view, as the company would have developed economies of learning based on these platforms, switching presents a cost (Neef, et al. 1998). Other suppliers can also be individuals specialized in programming and development, which do not have strong bargaining power if the number of options increases. When it comes to other products and services, ED helps satisfy its human resource needs by working with the *Direcção Geral do Emprego* and *das Relações de Trabalho (DGERT).* Some of their courses are done with the help of *Cambridge Education* and ED supplies institutions with the anti-plagiarism technology of *Urkund*.

Buyer Power: Mid-High

Buyers of digital services have multiple choices in Portugal, while for African countries ED is the only option. By looking to ED's past clients, it can be observed that many of them are banks and other big corporations. This asymmetry in size causes the negotiation to be on the client's side. However, the creation of all ED's services is a process where both sides must collaborate, and this helps weaken buyer power (Kaliski, et al. 2008). Besides the size asymmetry, buyers have high switching costs, and are reluctant to change and need more

incentives. This aspect is negative from a demand point of view as it will be harder to convince potential clients to change services.

Threat of Substitution: Medium

eLearning is a disruptive technology as in an innovation that leads to its own market and can bring disruption to the classical learning market. Alternative learning forms such as TV Broadcasts, or CD and DVD learning are simply irrelevant and considered weak (Christensen, Raynor and McDonald 2015). The most threatening substitute is presential training, or real-life training. Companies and institutions might prefer this form, as it has been shown to be effective throughout times. The resistance to change towards online learning increases the threat of substitution.

Threat of New Entry: Medium

The acquisition of the necessary workforce, connections and the financial boundaries are solid barriers for potential new competitors. Integration is, however, a threat, since big corporations, such as *Moodle* or *Microsoft,* can vertically integrate and start customizing their own services for clients in all segment. Companies that are not specialized in online training could also be attracted by the profits granted by this growing industry and start offering these products and services.

Competitive Rivalry: Mid-High

Even considering that, within the eLearning industry, there are almost no companies in Portugal whose business scope is the same as ED, the national competition is still intense, since ED did not have a first mover advantage, unlike some national players. Competitors are relatively the same size and their strategies vary, while the market in which ED is operational is dynamic and offers many opportunities. If the service is accepted by big and prominent

clients, a change in competitive powers and advantages can happen. Moreover, if big corporations join in, competition can become even stronger.

Key takeaways

Overall, ED's power with suppliers can be considered moderately high, and the same could be said regarding buyers. The risk of substitution is quite irrelevant, since the alternative learning modes are incomparable to what the company currently offers. Yet, the threat of a vertical integration is remarkable, and competition is intense. To become more predominant in the market and overcome these hazards, ED can keep differentiating its services through personalization and adaptation, pushing on the power of a committed customer service.

iii) Porter's Diamond Model

Porter's Diamond Model aims to assess the competitive advantage of a country. The team believes it is important to determine if ED is inserted in a nation that is internationally competitive, and if the conditions in the national industry are favorable for innovation and progress. If the domestic market is highly competitive, the company will be more prepared to face the international environment and compete with foreign players. The model presents six dimensions that "individually and as a system constitute the diamond of national advantage" (Porter, Competitive Advantage of Nations: Creating and Sustaining Superior Performance 2011). The dimensions are: **Factor Conditions,** that includes the nation's factor of production, such as skilled labor or raw materials; **Demand Conditions,** that consists in the nature of the internal demand for that industry; **Firm, Strategy and Rivalry,** which is related to how companies are created, organized and managed, as well as the environment of internal rivalry; **Related and Supporting Industries,** that evaluates the existence of national suppliers and

complementary industries and their competitiveness; **Government,** that evaluates how the state encourages and supports the industry; and **Chance,** which includes random events that go beyond the control of companies or the government, that can be natural disasters, terrorism, etc. (Porter 2011).

Factor Conditions

Portugal as a country is a great source of qualified workers, being the average yearly salary for an average software engineer around €22 000 (PayScale 2020). SMEs have shown a rise in number of employees hired and creation of value in terms of money. From 2017 to 2018, employment has risen by 3.4%, while value grew by 4.6% (European Commission 2019). Portugal is currently within the weakest European countries in terms of SMEs' internationalization. This issue is mainly due to weak access opportunities for SMEs to potential financing opportunities.

Demand Conditions

Due to COVID-19, the overall demand for eLearning solutions has grown exponentially. This increase has been a boost for the adoption of online learning systems by educational institutions and commercial enterprises. Moreover, with the growth of education in Portugal, there is more room for a bigger demand in eLearning (United Nations Development Programme 2013).

Firm Strategy, Structure and Rivalry

ED's strategic plan is focused on delivering competitive prices in Portugal. In the other African countries, ED – although there is no direct competition – still offers competitive prices as to be in line with willingness to pay of their clients. The relatively high competition in Portugal is an incentive and a driver for ED to internationalize, and the reason behind is the

need to acquire more clients and to increase revenues. These competitive prices practiced by ED are partly a consequence of the competitive environment that is facing in Portugal. ED would not be able to adopt a product differentiation strategy based on higher prices as the competition would be able to provide the same service combined with a better reputation.

Related and Supporting Industries

Supporting industries are composed of the open-source platforms, such as *Moodle* and *Totara*, and other outsourced suppliers of information. By tapping into a network of educated people and experts, ED can provide courses, apps and gamification services that fit their clients' needs. Portugal provides an economy in which the access of service providers is easy and reliable. As a matter of fact, Portugal is ranked 43rd in the *Economic Freedom Index* and has a rating of 7.6/10 (Fraser Institute 2020).

Government

Besides the *Portugal 2020* program, jointly initiated by Portugal and European Union, the Portuguese state is encouraging eLearning through the *EDUPORTUGAL* portal, that aims to help Brazilian students interested in studying in Portugal. The website also offers a range of eLearning options (EDUPORTUGAL 2020). The Portuguese government is also implementing policies that have as goal the "boosting" of SMEs by reducing administration times as to respond faster to their needs. Another policy aims to increase state aid and public procurement by helping SMEs to have more access to financing (European Commission 2019). As already mentioned, governments all around the world are starting to understand the importance of digitalizing education and are willing to invest more.

Chance

Within the span of history, Portugal has colonized multiple countries, especially in Africa, such as: Angola, Mozambique, Brazil, Guinea, and Cape Verde (Crowley 2015). The

relationship between colonizer and colonized allowed Portugal to spread its linguistics to the colonized countries. In such a fashion, Portugal has a linguistic advantage in Portuguese speaking countries over non-Portuguese speaking competitors. This advantage has also allowed ED to go through with a successful bid at the *Portugal 2020* program, which had as a goal to help ED internationalize to the Lusophony markets of Portugal. ED also has the advantage of being present in Europe and of being able to profit from international trade relations.

Key takeaways

The framework's goal is to provide a better understanding of the industry competitive advantages in the national and international arena. The competitive context and the quality of human resources highly affect ED's strategy, forcing the company to keep improving and developing its strengths. Other factors that push growth are undoubtedly the exponential increase in demand of digital services and the existence of strong and knowledgeable supporting partners. In conclusion, despite relatively weak financing opportunities, the overall conditions are favorable to grant ED the opportunity to upgrade and improve.

d) Environmental analysis – PESTEL

Organizations operate in extremely complex macro-environments that can affect their business. Therefore, the study of these factors is vital for business planning and development. In the technological sector, things move at fast pace, so companies need to be constantly aware of changes in both internal and external factors, which can influence the success of their businesses. The PESTEL analysis breaks down the external macro-environment into Political, Economic, Social, Technological, Environmental and Legal (Carpenter and Sanders 2014, 75-77). Thus, the goal of this analysis is to achieve a conscious understanding of the macro-

environment in which ED operates and to ascertain what are the relevant external factors that affect the firm's business.

Political

At the present time, it is expected a global increase in government initiatives to stimulate the digitalization of education (Businesswire 2017). As previously stated, Governments are starting to recognize the importance of eLearning and are willing to invest in it more than before. However, the type of investment depends a lot on how developed the country is and if there are other essential needs that must be fulfilled first. Developed countries tend to focus more on the improvement and implementation of technology, whereas developing countries would probably be worried about providing computers to the students (Businesswire 2017). The governmental structure of education also differentiates the way of making legislation related to eLearning. Countries where educational institutions are mainly held by the state, do struggle with implementing a cohesive eLearning policy that includes all public institutions. On the contrary, when institutions are private, governments can opt for advisory committees, that establish general rules and help the schools implementing it, as it happens in the UK (Rowell 2010). Some countries have restricted access to the internet because governments use censorship and monitoring systems, and these restrictions seriously compromise the success of a technological company (Bischoff 2020). There is still a lot of discussion upon this topic, with people arguing that it is censorship and the government saying it is for the security of the citizens (Giles and Mwai 2020).

Economic

eLearning is a cost-effective alternative that contributes to solve inequalities of opportunities among students, which sometimes arise from differences in the family's financial situation. Therefore, it can be very useful to students who are not able to travel to attend school,

since they can choose to frequent classes from home (Arkorful and Abaidoo 2014). Due to the recent pandemic, the world is suffering the biggest crisis since the 1930 depression (BBC NEWS 2020). With many people losing jobs, the consumption is decreasing and affecting many companies around the world, except for the ones in which the business can survive. Examples of sectors that were boosted by COVID-19 can be eLearning, entertaining, remote working tools, and software (Somanas 2020). The niche market in which ED operates is one of those that grew, since the pandemic reinforced its importance as an alternative way of learning. There are many economic incentives coming from the EU destined to technology companies. For instance, in scope of the *Portugal2020* program there is the *Compete2020* initiative that fosters the exports of tech companies through its *Portugal Digital Export* project (Portugal2020 2020). These programs are funded by the EU and have the goal of helping in the development of SMEs, making them more competitive and dynamic (Portugal Digital Export 2020).

Social

One disadvantage of eLearning regarding the social field is the lack of physical interaction amongst students and teachers (Cantoni, Cellario and Porta 2004). The absence of discussions can contribute to a worse knowledge experience, since students are learning to express themselves and to discuss with other students (Castaneda and Rentz 2020). However, the industry is trying to overcome this problem with the growing use of automated activities, such as AR (Augmented Reality) and VR (Virtual Reality), striving to create more real and interactive eLearning experiences (Pappas, 7 Ways AR/VR Technologies Impact eLearning 2018). The recent growth of the sector and its projections are the proof that eLearning is getting an ascending acceptance from the educational community and companies. There is some degree of reluctance when shifting a business to digital, but the sector has already crossed that barrier, and the trend is for companies and universities to opt for increasing the use of eLearning, instead of traditional teaching (McCue 2018). Career development opportunities and access to training

are highly valued by employees. In fact, companies are certain that investing in training brings higher productivity, while recognizing the need of having training programs personalized to their business needs (International Business Machines 2014). Thus, eLearning companies with highly personalized products are expected to be very potentiated in this sector. To guarantee higher retention rates, companies are more committed to provide good training programs to their workers.

Technological

Big Data analysis and Machine Learning mechanisms will contribute to the further development of the eLearning industry. While the former helps companies in improving and correcting their products used by clients providing immediate feedback, the latter assists in personalizing courses based on trainee's goals and earlier results (Axelsson 2017). Technologies that provide a higher engagement of the trainee while using eLearning are also growing. The gamification sector is booming because it motivates, helps to solidify contents, and makes trainees spending more time on the platform (Jay 2020). It can help eLearning makers to differentiate with unique products while boosting the productivity of their clients. Augmented Reality and Virtual Reality can also contribute to more immersive learning programs (Pappas, 7 Ways AR/VR Technologies Impact eLearning 2018). These technologies can help to solve the lack of interaction associated with online education. They are still starting to be used in this sector, but they can turn out to be crucial to its development.

Environmental

Fossil fuels, used in the electricity and transportation sectors, were considered a leading source of the world's global warming pollution, hence there is a tremendous pressure to decrease its consumption levels worldwide (World Wildlife Fund 2020). Thus, studies have been evidenced that eLearning can contribute to significant cuts in energy consumption and in CO2 emissions, when compared with the less efficient conventional education method (Pappas,

Top 20 eLearning Statistics For 2019 You Need To Know [Infographic] 2019). eLearning solutions replace physical training, and this will positively impact the carbon footprint, since less energy related with heating, cooling, or powering the facilities will be used. Also, it eliminates the need to travel to training centers. Finally, less office furniture will be acquired and discarded every year, which is expected to diminish the harmful effect of fossil fuels on the environment. In this regard, deforestation and tree-clearing were considered the second most important causes of global warming, and the major reason of habitat loss for many species (World Wildlife Fund 2020). These phenomena are responsible for one-fifth of global greenhouse gas pollution (World Wildlife Fund 2020), and the paper industry is a major contributor for them (The World Bank 2020). Therefore, there is an increasing concern regarding paper waste worldwide, and by replacing classroom training by eLearning solutions, there will be no need of having documents in paper forms, thus helping to save the environment.

Legal

As the society moves towards a digital era, conflicts over data access become increasingly complex, and there is a delay in the potential business impact (Lamarre and Brett 2019). Thus, as governments implement strict data sovereignty and privacy regulations, companies face more restrictions and complications. This can stall some companies' digital transformation and create obstacles to the adoption of more technological procedures, such as eLearning solutions. Advancements in the IT industry also led to the emergence of global problems, such as cybercrime, which is linked to tremendous risks but also to other huge opportunities for tech companies (Huntsman 2019). Nevertheless, there is an increased pressure for companies to offer secure and protected services, as ED does.

Key Takeaways

To assess the viability of the expansion, it will be crucial to analyze both governments expenditure and legislation on education for each country, also considering restrictions to internet access. Economically, this period allows ED to take advantage of an unexpected growth in the eLearning sector, together with the incentives provided by the EU. Despite an initial reluctance, companies and schools are becoming more comfortable with digital solutions and advanced technologies could help in solving potential problems. This shift not only represents a benefit in terms of costs, but also in environmental impact. However, government restrictions on data privacy could be harmful for the transformation. Overall, it can be acknowledged that this could be the right moment for a digital company to expand and grow successfully.

e) Internal Analysis

i) Resources and Capabilities Analysis

The Resources and Capabilities Analysis was conducted to understand whether ED has any competitive advantage, given the firm's structure and organization. The following definitions are presented for a better understanding of the subsequent conclusions (Pauwee and Farndale 2018): **A. Resources** englobe any asset, process, skill, or item of knowledge that company's activities require to provide products or services to its customers. Therefore, can be divided in several categories, namely human resources, physical resources (tangible assets), financial resources (financial assets), intellectual capital (patents, copyrights, trademarks, "know-how"), among others; **B. Competences** are activities or processes that the company performs, by using its resources, thus offering value to customers. The efficient use of the resources will allow the company to distance itself from competitors; **1. Threshold Capabilities** are the minimum level of capabilities for the company to operate in each market.**;**

and **2. Distinctive Capabilities** include a set of unique company's capabilities, that give the company a competitive advantage over the rest of the market.

In this regard, ED is believed to have the following threshold resources, threshold competences, distinctive resources, and distinctive competences.

A1: Threshold Resources

- **Multiservice company:** ED operates in two main segments – Training and Education – while offering a diversified portfolio of products and services, that meet the needs of the new technological era.
- **Multidisciplinary teams:** ED works with specialized teams in the most various areas from computer engineering to management, from design and multimedia to pedagogy in information and communication technologies.
- **Valuable Partnerships:** ED partners with the major open-source software developers worldwide, such as *Moodle* and *Totara*, and with the 2nd largest world plagiarism management software – *Urkund*.

B1: Threshold Competences

- **Ability to build a strong client base:** ED has been able to attract new clients and projects, since prior or existent clients were satisfied with the service offered, recommended the company to others, or bought more products. Moreover, the recent pandemic resulted in an overload of proposals and the company currently works in more than 50 projects.
- **Customization:** ED implements platforms and technology learning solutions and develops digital content to meet each customers' specific needs and budgets. Customization is necessary as each client requires a custom service that meets the standards needed.

A2: Distinctive Resource

- **Exploration Subsidies:** ED takes advantage from the funding opportunities that emerge from the strategic partnership with *Portugal 2020*. It represents a major contribution to the company's EBITDA, and consequently, to its positive Net Result.

B2: Distinctive Competences

- **Customer support:** Since the company is relatively small, the employees really commit to help their clients and to satisfy all their needs. In fact, ED provides technical and pedagogical support to its clients throughout all the process (from the implementation, to the installation and post-sales).
- **Competitive prices:** ED's offering is highly price-competitive yet practicing prices that are aligned with the market's average. ED offers products and service that accommodate technological, multimedia, and pedagogical requirements, resulting in an output that is both high-quality and feasible.
- **International Management**: since ED entered the business late, it must deal with several limitations in the Portuguese market, such as the fierce competition and conservative-minded potential clients. Consequently, the company has been expanding to less saturated markets, namely African countries, working mainly with SME, and benefiting from the lack of competitiveness.

Key takeaways

While the threshold resources and capabilities are the basic required to be able to compete in a market, since possessing them makes it possible to satisfy the minimum consumers' expectations, the distinctive ones allow the company to gain a competitive advantage over competitors, by delivering a superior performance. Once, the offer of

customized products was a source of advantage, but now might be considered as the bare minimum to survive in competitive markets. Therefore, despite offering several services to an established and growing client base, ED must push on what distinguish it the most. It is considered that ED's international management, together with its price competitiveness, can really be a source of differentiation. Also, other unique qualities which have been obtained thanks to exploration subsidies and great customer support are attributes that could lead the company to success. ED should further work on mapping the core activities through value chain analysis and benchmarking, which would allow to identify the distinctive capabilities that might not be easily noticeable by consumers and management.

ii) VRIO Framework

The VRIO framework presented in **Table 1.12** was used to analyze the resources and capabilities of the company to assess their competitive potential. In this way it will be possible to distinguish the firm's internal weaknesses and strengths, that will eventually turn into a competitive advantage (Barney and Hesterly 2008). For a better understanding of the following table, the following definitions are presented: **Value:** a resource adds value when it can exploit an opportunity and neutralize threats; **Rarity:** resource that is not controlled by numerous competing firms; **Inimitability:** resource that is not easily obtained or developed by others; and **Organization:** resource that is fully organized to fully exploit its competitive potential.

The main objective is to understand what is the competitive position of the resources and capabilities that the company possess, which can be: **Competitive Disadvantage,** if the resource is not valuable, meaning that the company is behind competitors**; Competitive Parity,** if the resource is valuable, but not rare, and if more than a few players have the same ability; **Temporary Competitive Advantage,** if the resource is valuable and rare, but it is easy to imitate, thus meaning that the company might have the first mover advantage, but it will be

easy for competitors to acquire or develop; or **Sustainable Competitive Advantage,** if the resource carries all the four characteristics, being the goal of every firm to distinguish themselves and expand in the market.

		V	R	I	O	Conclusion
Threshold Capabilities	**Multiservice company**	YES	NO	NO	YES	**Competitive Parity**
		- ED offers 6 types of different services, being able to easily meet each client's needs. - Peers in this industry usually have a portfolio of diversified products. - The resource is already being imitated by other players. - ED offers a service line organized to reach a wide range of market needs and to capture value.				
	Multi-disciplinary team	Y	N	N	Y	**Competitive Parity**
		- A team with diversified backgrounds complements and contributes to the firm's specific objectives. - The use of this HR structure is very common. - Any company can build a team with diversified qualifications. - Each member of the team is allocated to projects according to their qualifications to achieve full potential.				
	Valuable Partnerships	Y	N	N	Y	**Competitive Parity**
		- Partnerships are a key to develop networks and to prosper in different markets. - ED's key partners have links with other firms around the world. - Building partnerships can be quite easily replicable. - Key allies allowed ED to retain knowledge and apply it to build a better service.				
	Ability to maintain and increase client base	Y	N	N	Y	**Competitive Parity**
		- The ability to maintain and grow the client base is what allows a company to prosper. - Many companies can build customer loyalty. - It is one of the main goals of a company: hard to achieve, but successful companies in the industry can do it. - The company is ready to focus on maintaining their client base by creating a network that would increase awareness and visibility.				

	Customization	Y	N	N	Y	**Competitive Parity**
		- With its customized offer, ED builds projects that contribute to increasing customer satisfaction and value. - Every customer has specific needs, so most firms adapt their offer accordingly. - This feature can be implemented by any company. - ED works closely with their clients and customizes every project to their requirements, providing the best quality service.				
Distinctive Capabilities	**Customer Support**	Y	N	N	Y	**Competitive Parity**
		- Customer Support is one of the most important tools to increase satisfaction. - ED is not the only company providing this service. - Imitable by competitors that have enough resources. - ED takes advantage of this capability to get closer to its customers.				
	Exploration Subsidies	Y	N	N	Y	**Competitive Parity**
		- Increased exploration subsidies imply funding opportunities. This has been allowing ED to integrate projects that bring value to the company. - Some of ED's competitors do also benefit from strategic partnerships, that offer exploration subsidies. As an example, IQS also partners with Portugal 2020. - The remaining companies in this sector can also apply for exploration subsidies. ED takes advantage from this exploration subsidies, since they are really supporting its internationalization process, as well as the company growth.				
	Price Competitiveness	Y	Y	N	Y	**Temporary Competitive Advantage**
		- The strategy is valuable to stimulate demand and gain market share in the target market. - The industry is associated with high costs but building upon already existing products is less costly. Also, generally, companies bet on cost over quality, and vice-versa. - The players can adapt their cost structure to achieve lower costs and dominate the market. - The company is structured in a way that allows them to have low costs and practice a lower price by outsourcing.				

	International Management	Y	Y	N	Y	**Temporary Competitive Advantage**
		- ED is already present in international markets, experiencing a more diversified knowledge and background in African markets. - As an early mover, ED was able to acquire experience and information of that industry that no other company has - The international presence is not that strong yet, being easily replicable. - The expansion process is structured to gain customers and market share with an adequate cost structure, allowing the firm to capture value.				

Table 1.12: *VRIO Analysis*

Key takeaways

Capabilities and resources of value allow the company to respond to external threats, gaining competitive parity. Rarity will transform the capability from threshold to distinctive to reach a competitive advantage. ED was able to gain this advantage by having the experience of the African market and by finding a way to provide affordable, but high-quality services to a broad range of clients, increasing the brand's value and the market presence. However, in Portugal, competition is high, and many peers possess the essentials to be present in the business. Sustaining and developing distinctive competencies is necessary for ED to fight external threats and to survive in the long term.

iii) Porter's Generic Strategy Model

The fundamental basis of Porter's Generic Strategy combines the two most common types of competitive advantage – cost and differentiation – with the scope of a strategic target, that result in the generic strategies that can be used to outperform the firms in the industry

(Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors 1980), as shown in the **Table 1.13**.

	Cost	**Differentiation**
Broad Target	Cost Leadership	Differentiation Leadership
Narrow Target	Cost Focus	**Differentiation Focus**

Table 1.13: *Porter's Generic Strategy Model*

ED is a small company that operates in a niche market, focusing on technologies applied to learning and training, that narrowed down their target scope to customers with the specific need for eLearning. This focus strategy allows the company to serve a narrow strategic target better than competitors with a broader target (Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors 1980). The company strives to offer a competitive pricing, but also commits on the differentiation of the services provided, by customizing the products to meet the consumer's needs. Besides focusing on a specific area, ED compromises on providing a wide range of products and a top-quality customer service, which allowed the company to establish in the Portuguese market and to conquer some market share.

It was concluded that the **Differentiation Focus** is the strategy that ED is currently adopting with the aim to achieve a higher competitive advantage and to become an above-average performer in the market. A disadvantage of this strategy is that, since a niche market is targeted, a lower volume of revenues can be achieved. Thus, the bargaining power of the supplier increases, but the firm can still be able to pass on the costs to the customers thanks to the high customization of the products.

In this industry, ED's main competitors in Portugal are *ISQ* and *NOVA BASE*, which provide eLearning products while also developing systems for other purposes, meaning that their target is extensive. Since their focus is the elevated quality service for a wide range of areas and do not demarcate with a low price for their services, these players pursue a Differentiation Leadership strategy.

f) SWOT and TOWS Analyses

i) SWOT Matrix

The SWOT analysis allows the alignment of organizational issues to understand how strengths can be leveraged to take advantage of new opportunities and how weaknesses are eroding the company's competitive position (Helms and Nixon 2010). The framework is divided into: **Strengths**, that define the components at which the company excels and differentiates from the competition; **Weaknesses,** which describe the segments that stop the company from operating at an optimum level; **Opportunities,** that are related to external factors that the company can take advantage of to reach competitive advantage; and **Threats,** which are external factors that can potentially harm the firm's activity (Grant 2020). This framework is very important for decision making processes, and should be done before any action is initiated, whether is the exploration of new projects, take advantage of new opportunities, or changes in internal management.

In this regard, the company is considered to have the following **Strengths:**

- Strategic partnerships with the main open-source software developers in the market (*Moodle* and *Totara*) and with the 2nd largest management software *(URKUND).*
- Customization of the product based on clients' needs and budgets.

- Multidisciplinary team with experience in the most diverse areas (management, design, engineering, multimedia, ICT, among others).
- Consolidated range of clients in Mozambique, Portugal, Cabo Verde, and Angola.
- Only company in Portugal with core business focused on education.
- Affordable products and services, that are simultaneously high-quality.

Also, ED's **Weaknesses** are the following**:**

- Lack of a strong, cohesive, and planned communication strategy (started investing in advertising on social networks in 2016), implying some inertia related to digital change.
- Relatively small team, often facing work overload. The cost focused strategy increases demand that sometimes cannot be fully satisfied. No proper project screening is done.
- Impossibility to exploit economies of scale due to customization.
- eLearning courses are difficult to export to foreign countries since translation and adaptation are needed.

Moreover, the following **Opportunities** should be considered:

- eLearning industry and digitalization trends are growing worldwide, causing increased demand for the companies in this sector.
- Growing need of businesses to train their employees fast, easy, and efficiently, especially in the current pandemic landscape.
- Vast national and international market, meaning a high number of potential clients.
- Relatively low competitive market in Africa due to the low number of players.

And finally, some **Threats** should be considered, such as:

- Fierce competition in Portugal, even considering that there are no companies with the same business scope as ED.

- Businesses still feel apprehension in investing in technologic services.
- Potential customers are conservative and are not prone to change their usual suppliers; they sometimes fear a lock-in or do not trust the vendor.
- Relatively low investment in eLearning globally.
- Difficult financial and economic situation in the Portuguese-speaking countries where ED operates (especially Angola).

Key Takeaways

During a period characterized by increasing digitalization and need for training, there is a huge opportunity for ED to act and expand to a huge international market. To do so, ED should harness its strength and uniqueness, which are mainly linked to valuable partners and to a versatile team committed to fulfil the needs of a consolidated client base. On the other hand, it would be necessary to keep track of the potential threats that could affect the company's success, especially in terms of competition and reluctancy for technological solutions. To fully pursue this digital transition, the team might implement a meticulous screening process to better handle project workload, and it must also work on enhancing the communication strategy to gain a better position in the market.

ii) TOWS Matrix

The TOWS analysis combines the firm's external threats and opportunities with the internal strengths and weaknesses, thus aiming to provide strategic recommendations.

By recognizing that **Strengths** can be used to take advantages of the **Opportunities**, some recommendations are described below:

- During the pandemic, the need to train employees fast and remotely grew. Therefore, ED can take advantage from this increased demand, since works with open-source solutions which are cheaper, while also being efficient, and so can serve many companies that want good price/quality relation.
- Continue to deliver high-quality products at a competitive price, to earn the market segment of companies that want cheap but reliable eLearning solutions.
- As technology becomes more accepted worldwide, the company should take advantage of being the only one in Portugal with its core business in education to increase its market share in this segment and differentiate from its competitors.

Then, **Strengths** can avoid potential **Threats** if the following considerations are done:

- The PALOP countries are in a difficult economic situation, thus *LMS* solutions offered at a competitive price will be preferred. ED should focus on maintaining competitive prices in that market.
- The company should keep focused on consolidating and growing clients in the PALOP, as there are strong competitors in Portugal.
- The investment in digital learning is relatively low, thus, ED should keep working to obtain EU funds, namely from *Portugal2020*, aiming to develop valuable projects and gain notoriety.

Moreover, **Opportunities** can be addressed to overcome **Weaknesses** by recognizing that:

- The lack of a strong advertising strategy during the pandemic was not very harmful to the company due to a big increase in the demand for eLearning solutions. However, ED should still plan on developing a communication strategy to reach more valuable clients.

- The low investment in eLearning is supposed to increase in the next years, as the sector is getting acceptance from the education sector (McCue 2018). Since it is a growing sector, the company should keep it as its core business.

Finally, to minimize **Weaknesses** and to avoid **Threats**, the following recommendations should be considered:

- The recent pandemic changed the landscape of the eLearning industry as the high increase in demand devalued the problem of low investment in eLearning. Now with ED having a small workforce, their focus should be on delivering quality and affordable solutions rather accepting any project proposal.
- Even though the company feels is not ready yet to export eLearning courses, eLearning platforms can be exported without efforts, and they are already the area that generates more sales to ED. Expanding the *LMS* offer internationally can make the company grow. Also, ED should try to develop the eLearning courses segment in order to export this service too.

Key Takeaways

Offering relatively cheap but efficient services would help the company to grow its market share, especially in the PALOP countries, where the economic situation is getting worse. However, the company should mainly focus in increasing the services quality, while keeping them affordable. The fact that ED is the only company operating in the education sector as a core business, and the possibility of being funded by the EU, are factors that would surely favor the company. As already mentioned, the absence of a strong advertising strategy must be filled, even though it has been offset by a significant increase in demand during the pandemic. In terms of export, *LMS* are the best product to offer in the international market, but eLearning courses

should be pushed as well. ED should try to balance the projects' workload by selecting the best and more profitable ones to develop, since size constraints sometimes make the team work on too many activities simultaneously.

g) Diagnosis for Internationalization

i) Motives for Internationalization

According to *Dunning*'s theoretical framework (Dunning and Lundan 2008), four motives push firms to look for new opportunities outside of their domestic market. The first one is **market seeking,** which means getting access to new markets and customers, compete with the main rivals in their markets, or locate production close to the clients. Another motive can be **resource seeking,** or in other words, to have access to materials not available or too expensive in the home country. Moreover, **efficiency seeking** is another motive to internationalization, and involves the intention of exploiting differences in factor endowments and reduce costs, taking advantage of incentives from governments, economies of scale and the lack of trade barriers. The last motive is **strategic asset seeking,** not merely focused on assets, but on strategic considerations.

Of course, these motives are not the same across the different industries and are highly affected by the company's size and experience in international markets. ED is a relatively small enterprise, but it is already engaged in multinational activities with few Portuguese-speaking countries. Now, the company is still hesitant to expand further. However, it is important to consider this improvement to exploit many benefits.

Therefore, ED has several reasons to internationalize and broaden its vision in terms of economic strategies for better future perspectives. Firstly, growth opportunities, especially regarding sales and revenues, would surely appeal to the company. Moreover, enhancing the

market positioning at an international level could also be beneficial at a local level. Then, the expansion towards other countries will bring knowledge in terms of innovation capabilities, new technologies and skills, additional network links and partnerships, among others. Finally, the fact of having a saturated domestic market together with the existence of attractive government incentives, such as chambers of commerce that facilitate commercial relations between countries, should stimulate the company to go abroad. However, international markets are becoming increasingly global and dynamic, hence a thorough analysis is needed before deciding to pursue an expansion.

In conclusion, it can be stated that the ***market seeking*** **motive** is dominant for ED.

ii) Global Readiness

The internationalization process is not always feasible for every company due to several barriers. These can be related to external factors such as competition, inaccessible information, bureaucracy, or government restrictions. Alternatively, the limitations might be internal and concern financial resources, management, or communication issues, as well as many other corporate matters.

The financial constraint could be a threat to the company when expanding internationally since the process would obviously require some financial investment. Since ED has already gone outside Portugal, the management might be quite at ease handling another international operation. Nevertheless, the company has never dealt with non-Portuguese speaking countries. Going global will inevitably require the team to interact with a foreign language, and to eventually adapt the communication strategy to the different countries. The only way to solve this problem would be to hire people who speak the local languages and know the foreign cultures. This would mean increasing costs, the number of employees, and slowing down the processes. Besides, products such as eLearning courses are more complicated to

export since they need to be carefully translated. On the other hand, *LMS* platforms could be implemented in any country in the world without extraordinary efforts.

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Field Lab SME Competitiveness – EDUdigital's Internationalization Strategy: Clustering and Ranking Analyses

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2. Country Clustering and Ranking Analyses

a) Country clustering

i) Literature Review

The Country Clustering answers the daunting task of screening and assessing alternative market opportunities. The similarities and differences among countries are crucial in determining the most appealing industry environments for entry. There are many dimensions that vary from country to country, such as income, size, infrastructure, language, among others. Therefore, the primary concern for firms' managers who intend to internationalize will be quantifying the potential of distinctive market opportunities. Several procedures can be followed, the first of which is almost always the country screening (Cavusgil, Kiyak and Yeniyurt 2004).

The approach carried out aims to provide clusters of countries grouped by similar demographic, commercial, political, cultural, and economic characteristics. According to the researcher S. Tamer Cavusgil, it provides "insights into structural similarities among markets", thus building the basis for a synergistic international marketing strategy. On the other hand, however, the method has been criticized for some methodological shortcomings. It relies, excessively, on macro-variables, without considering specific market indicators. However, including product specific variables sometimes require a costly and time-consuming in-depth analysis. Researchers also claim that the assumption that countries are indivisible and homogeneous is wrong, since potential inner differences among markets and consumer groups are not considered. Moreover, there is some criticism regarding the perception of international markets, which should not be judged as similar or different, but should be identified as a "continuum". Finally, the unreliability or lack of updated secondary data is also a significant weakness of this approach, even considering that this is gradually disappearing, as more mechanisms for comprehensive data collection and processing are arising.

ii) Process Description

The Country Clustering procedure aimed to group countries based on their past performance, and therefore the preliminary step involved gathering the most recent and accurate raw data for the initially selected 23 variables, for all the 263 countries or regions. Afterwards, however, some countries and regions were excluded, as they lacked information for many of the variables and indexes. Also, for a better fit with the company's vision and needs, markets which were considered too small, both in populational terms (below 3 million people), and according to the *GDP per capita* (below $1000), were removed. In appendix, **Table 2.1** contains the 23 variables initially selected, and **Table 2.2** contains the countries and regions that were discarded. Ultimately, 73 countries, that are listed in **Table 2.3**, in appendix, were chosen for the Clustering and Ranking analyses.

Thereafter, as some missing figures remained for several countries, the *mean imputation method* was followed, in other to replace them by plausible results. It should be noted that the consequent harmful effect on the statistical nature of the data was considered, namely by underestimating the correspondent variance (Kleinbort 2020). Accordingly, each country's missing values were replaced by the mean of the countries that were geographically close or were similar to them.

Moreover, a correlation analysis was performed, through the *IBM SPSS* platform, by recognizing that correlated variables would make it more difficult to assess the impact of each (Sambandam 2003). In this regard, a correlation threshold was defined, by considering that a *Pearson* correlation value between any two variables higher than 0.7 could seriously compromise the estimative and predictive capacity of the model, and so these variables should be disqualified (Dormann, et al. 2012). In appendix, **Table 2.4** reveals the degree of correlation among the preliminary variables, while **Table 2.5** contains the 13 variables that were ultimately

selected for the purpose of the following analyses, and the respective acceptable levels of reliability.

Also, some special considerations were taken for the variables: *Inflation* and *GDP growth*. On the one hand, the minimum percentage value of *GDP growth* was pushed to 0. Therefore, the minimum value was added to all the countries' results, which resulted in positive numbers only, that could be standardized. On the other hand, *Inflation* values were adapted and computed as a distance to an optimal inflation of 2% (Andrade, et al. 2019), by using the following **formula**: $x_{inflation\ adjusted} = \sqrt{(x_{inflation} - 2\%)^2}$ **(2.1)**

Additionally, since the data was expressed in 44iferente measures, it was necessary to make it more comparable, by reducing the scale effects (Cavusgil, Kiyak and Yeniyurt 2004). For this reason, the final data was standardized, by converting the results into z-scores and to a scale of 1-100, according to the following **formula**: $X'ij = \left[\frac{Xij - mini}{Ri} * 99\right] + 1;$ **(2.2)**

where X_{ij} is the average score of country *j* on dimension *I*; X'_{ij} is the scaled final value of county *j* for the dimension *I;* min_i is the minimum value for the dimension *I*; and R_i is the range of dimension *I* (Cavusgil, Kiyak and Yeniyurt 2004).

Later, some variables were inverted – by using 100 as a numerator, and **formula (2.2)** as a denominator – to facilitate their interpretation. In this regard, **section 2.a.iii.** presents the variables that were inverted and the respective explanations.

Finally, the *IBM SPSS* platform was used to impute all the data and perform a hierarchical Clustering analysis, using *squared Euclidean distances* and a *Ward's clustering algorithm*. Automatically, a dendrogram was provided, illustrating groups of countries with structural similarities, which should be considered for the internationalization strategic decision.

iii) Selected variables

The Country Clustering process was performed based on five dimensions – demographic, industrial, market attractiveness, economic, and sociopolitical –, each containing several variables that were selected either to describe the market in general, or to reflect the nature and objectives of ED. Therefore, **Table 2.6** exhibits the set of variables that describe each dimension, as well as the respective description and detailed reasoning for selecting them.

	Variable	Description & Reasoning
Demographic dimension	***Annual Population Growth Rate*** Year: 2019 (The World Bank 2020)	It is "*the exponential rate of growth of midyear population from year t-1 to year t*", measured in percentage points (The World Bank 2020). This variable was considered significant by assuming that ED would benefit from expanding to a country with a growing population, since this would be translated into a higher market potential.
	Population by Age Group (15 to 64 years old) Year: 2019 (The World Bank 2019)	It counts "*all the country residents regardless of legal status or citizenship between the ages 15 to 64*" (The World Bank 2019) Thus, it includes the potential target audience of the company, while giving a perspective on the market size.
Industrial dimension	***Education Index*** Year: 2013 (UNDP 2020)	It is obtained through "*the mean years of schooling and the expected years of schooling*". The amounts can diverge between 0 and 1, with 1 being the closer the country is to providing education opportunities for all (UNDP 2020). Due to the nature of ED's business, this variable plays an important role, since a higher value can be a consequence of a larger investment and concern with education, which will consequently lead to an increased number of potential clients.
	Government Expenditure on Education (% of GDP) Year: 2010-2019 (The World Bank 2020)	It translates the "*general government expenditure on education (current, capital, and transfers*", and so higher values determine higher priority of education investments (The World Bank 2020). This indicator is limited, since it does not include private investment. However, it is meaningful since ED focuses its main business operations on the educational sector. Thus, it is necessary to assess whether governments are financially qualified to access ED service, which in turn requires large investments in technological infrastructures to support online learning.

	Computer, Communications, and other services (% of commercial service imports) Year: 2018-2019 (The World Bank 2020)	This evaluates the amount of trade in "*telecommunication activities, computer data, construction services, professional and technical services*", among others (The World Bank 2020). Therefore, by reflecting to what extent a country relies on the import of technological services, this was considered a proxy for the potential acceptance of ED's products and services.

Market Attractiveness	***Herfindahl-Hirschman Market Concentration Index (HHI)*** Year: 2017-2018 (WITS 2020)	It represents the sum of the squares of all market shares (in fraction) of all the companies competing in a market. The closer the figures are to 1, the more concentrated is the market (Hayes 2020) As this is a measure of market competitiveness, it was assumed, based on past internationalization experiences, that countries with low *HHI* values were preferred for the company. **This is the reason why the variable was inverted.**
	Corporate Tax Rate Year: 2020 (KPMG 2020)	It is a taxation applied to firm's profits, being collected by the government, and widely differing among countries (Kagan 2020). Therefore, it was considered a key factor in international expansion decisions, since it can affect the potential profitability of the company operating abroad. Lower corporate tax rates were obviously considered to be beneficial for ED when deciding to open subsidiaries abroad, and so **the variable needed to be inverted.**

Economic dimension	***GDP Growth*** Year: 2019 (The World Bank 2020)	It is the "*annual percentage growth rate of GDP at market prices based on constant local currency*" (The World Bank 2020). Therefore, positive and sustained growth rates of GDP indicate expanding economies. Consequently, it was assumed that, in this case, companies' willingness to invest and government spending would be higher, meaning a higher chance of success for ED.
	Unemployment Rate Year: 2020 (The World Bank 2020)	It corresponds to the proportion of labor force that is "*without work but available for and seeking employment*" (The World Bank 2020). Therefore, it was assumed that countries with high unemployment rates affect negatively the overall economy's output, as well as individuals purchasing power and disposable income. Thus, making an eventual ED's market entrance less viable. **For this reason, the variable was inverted.**
	Inflation Year: 2019 (The World Bank 2020)	As it is measured by the *Consumer Price Index (CPI)*, and according to the *Laspeyres* formula, it reflects the annual percentage change in the price of a basket of goods and services, which is assumed to be purchased by the reference consumer (The World Bank 2020). For the purpose of the analysis, it was calculated the distance of each country to a value of inflation that was considered "optimal", thus equal to 2% (Andrade, et al. 2019). Through this method, the higher the distance, the less attractive the market for ED to internationalize, since it would translate into higher economic uncertainty. **This argument motivated the inversion of the variable.**

	PPP Year: 2019 (The World Bank 2020)	This is "*a price deflator and currency converter that controls for price level differences between countries*", thus equalizing the purchasing power among distinct countries, and so allowing comparisons between the total GDP of each of them (The World Bank 2020) . It was assumed that countries with higher *PPP* figures correspond to low living standards, thus less attractive markets for ED, even considering that there are some exceptions, such as Japan. **This is the reason why the variable was inverted.**
Sociopolitical dimension	***Cultural Difference Index*** Year: n.d. (Hofstede Insights 2020)	This translates the cultural differences between countries in terms of Power Distance, Individualism, Masculinity, Uncertainty Avoidance and Long-Term Orientation and Indulgence (Hofstede Insights 2020). To combine all these variables and calculate the cultural distance to Portugal, the following **formula** was used: $CD = \sum_{i=1}^{6} \frac{[(I_{ij} - I_{iu})/V_i]}{6}$; **(2.3)** where I_{ij} is the index for i^{th} cultural dimension and j^{th} countries; I_{iu} is the value of Portugal for each i^{th}dimension; V_i is the variance of the index i^{th} dimension. Culture affects the way people communicate, interact, and motivate each other; thus, companies must assess the impact of culture on a business setting for a successful global expansion. This index allows corporations to understand which countries better fit their values in terms of those 5 dimensions, and which behaviors to change. Being a Portuguese company, ED would benefit from expanding to markets with similar values and behaviors to Portugal, for the internationalization to run smoothly. **This means countries with lower results for this index, which explains the inversion of the variable.**
	Political Risk Index Year: 2019 (PRS Group 2019)	It is a regional ranking, calculated based on 17 risk components, such as tariff barriers, investment restrictions, restrictions on foreign trade, domestic and international economic problems, among others. The index ranges between 0 and 100, with 100 meaning no political risk and the most favourable climate for international business within the correspondent region (PRS Group 2019). The profitability of a business can be negatively affected by changes in the political environment, such as the introduction of new trade barriers. Therefore, ED should avoid markets with volatile and complex political landscapes.

Table 2.6: *Demographic, Industrial, Market Attractiveness, Economic and SocioPolitical dimensions, and respective arguments for this selection*

iv) Results

Through the *IBM SPSS* platform, a dendrogram, that is exhibited in **Figure 2.1**, in appendix, was automatically released, thus clustering the 73 countries into 25 groups, according to the variables chosen. In appendix, **Table 2.7** reveals the composition of each cluster.

Upon initial inspection, it would appear that some clusters grouped countries that were not intuitively similar, neither connected by major structural similarities. However, it can be stated that the clusters actually contain groups of countries that had a similar performance in the chosen indicators, which are in turn representative of the preferred interests for the aim of this analysis, tied to educational and digital matters.

v) In-depth Clusters' Analysis

An in-depth clusters' analysis explored the set of explanatory factors for the generation of each cluster. The aim was to further understand which dimensions contained the variables with the best sources of similarity, which were characterized by low data dispersion, and so minimal standard deviations. Moreover, each cluster's performance was comparatively assessed with the average sample, in order to perceive which of them had the most attractive indicators for ED's business success.

In this regard, an analysis of the clusters that contain the five highest-ranked countries (Sweden, Norway, Denmark, New Zealand, and Ireland), which will be discussed in **section 2.b**., is described in **Table 2.8**. Furthermore, in appendix, **Table 2.9** has a comprehensive analysis of the remaining clusters.

Cluster 9: Norway, Sweden, Denmark	**Demographic dimension** In terms of *Annual Population Growth Rate*, the cluster registered an average z-score value (34.2) slightly lower than the average z-score of the sample (38.6), and with a moderate standard deviation of 7.4. In addition, the *Population by Age Group (15 to 64 years old)* is one of the variables with most strength in explaining the generation of the cluster, registering minimal dispersion of data (standard deviation of 0.2). The respective average z-score value (1.4) is also lower than the sample's average of 4.2. **Industrial Dimension** **The cluster is composed of attractive markets for the company, that value education investments. The following variables explain why Norway, Sweden and Denmark belong to the same group. Regarding the *Education Index* and the *Government Expenditure on Education (% of commercial service imports),* all the countries presented higher z-scores than the sample's average z-scores (64 and 41, respectively). The standard deviations for these variables are 7.1 and 3.3, respectively. By its side, the *Computer, Communications and other services (% of commercial service imports)* average z-score (52.9) is also higher than the average z-score of the sample (47). However, this variable registered high dispersion of figures, with the standard deviation being equal to 12.3, which means that the previous conclusion may be misleading**. **Market Attractiveness Dimension** Regarding the *Corporate Tax Rate*, the average inverted z-score of the cluster is 3.5, thus lower than the sample's average z-score (7.9). Hence, the cluster is characterized by not particularly favorable conditions with regards to this tax. **The *HHI* average inverted z-score (23.9) is higher than the average z-score of the sample (15.7), which is a good sign,** but the correspondent standard deviation (16) means that this is not the best source of similarity. In this regard, Norway is harming the performance of the cluster. **Economic Dimension** Concerning the *GDP Growth*, the cluster registered an average z-score (46.1) slightly lower than the sample's average z-score (52.4), with a moderate standard deviation 7.6. Similarly, the *Unemployment Rate* average inverted z-score (6) is lower than the sample's average z-score (7.3), but the variability is low (standard deviation of 2). **Moreover, the *PPP* is further explanatory factor for the generation of the cluster, since the correspondent standard deviation is low (2.5), being the average inverted z-score (85.4) higher than the average z-score of the sample (82.7).** Moreover, the high variability of *Inflation* means that no similarity can be found. **SocioPolitical dimension** This cluster has a very low average inverted z-score (1.3) regarding the *Cultural Difference Index*, when compared to the sample's average z-score (5.4), while registering a low standard deviation (0.5). Therefore, this variable is a proximity factor among the countries, and they are culturally different from Portugal, in relative terms. **However, all countries present very high z-scores regarding the *Political Risk Index*, meaning that these are countries with very low political risk. The average z-score of the *Political Risk Index* is 81.2, which is higher than the sample's average z-score of 56.3, and the standard deviation is moderate (7.5).**

Cluster 8: Australia, New Zealand, and Canada	Demographic dimension **The *Population by Age Group (15 to 64 years old)* average z-score of the cluster (2.5) is lower than the sample's average z-score (4.2), and this is a good source of similarity among the countries, since the standard deviation is low (1.1). In contrast, the high standard deviation (14.1) of the *Annual Population Growth Rate* means that no similarity can be found here.**
	Industrial Dimension **This cluster is characterized by countries that performed well in terms of the *Education Index.* All the countries presented z-scores figures above the sample's average z-score (64), thus leading to a cluster's average z-score of 94.7. Even so, there is moderately high dispersion for this variable (standard deviation of 7.7). Also, the *Government Expenditure on Education (% of GDP)* average z-score of the cluster (54.1) is higher than the sample's average z-score (41), but it has a high standard deviation of 13.6.** In contrast, the *Computer, Communications, and other services (% of commercial service imports)* average z-score (37) is below the sample's average z-score (47), and, once again, there is moderate dispersion (standard deviation of 7).
	Market Attractiveness Dimension Regarding both the market Attractiveness related variables, the cluster presented low z-score values. The average inverted z-score of *HHI* is 4.8 and of *Corporate Tax Rate* is 2.4, while the correspondent average z-scores of the sample are 15.7 and 7.9. There is moderate dispersion in *HHI* (standard deviation of 3.4), but there is low dispersion regarding the *Corporate Tax Rate* (standard deviation of 0.2).
	Economic Dimension **The *PPP* has a very low standard deviation (0.3) and the cluster presented a very high average inverted z-score (97.6), when compared to the sample's average z-score of 82.7. This cluster is composed of countries with very good *PPP* conditions. Finally, these are countries with favorable inflation conditions. All the countries registered *Inflation* inverted z-scores higher than the average sample. However, the correspondent high standard deviation (22.6) means that this is not the best source of similarity for the generation of the cluster.** In contrast, both the *GDP Growth* average z-score and the *Unemployment Rate* average inverted z-score are lower than the correspondent average z-scores of the sample (52.4 and 7.3). For these variables, the standard deviations are low, and so these variables also contributed to group these countries together.
	SocioPolitical dimension The cluster is characterized by a very low average inverted z-score (1.4) regarding the *Cultural Difference Index***,** when comparing to the sample's average z-score (5.4), meaning that the countries are culturally away from Portugal, in relative terms. There is very low dispersion for this variable, being the standard deviation equal to 0.2. However, the cluster presented very high figures for the *Political Risk Index* (average z-score of 89.1), while the sample's average z-score is 56.3. However, the standard deviation for this variable is moderately high, being equal to 7.5, and so this conclusion may be deceptive.

Cluster 18: Ghana, Ireland, and Malta	**Demographic dimension** The *Population by Age Group (15 to 64 years old)* can partially explain the generation of the cluster, since the standard deviation is low, equal to 1. The average z-score (1.7) is clearly below the average z-score of the sample (4.2), and so Ghana, Ireland and Malta are not large countries. The standard deviation of the *Annual Population Growth Rate* is huge (24.7), and so no similarity can be found. Ireland can be considered an outlier, which is harming the performance of the cluster in this last variable.
	Industrial and Market Attractiveness Dimensions These countries present quite disperse figures for the variables in these dimensions. This translates into moderately high standard deviations, and so these are not the best sources of similarity.
	Economic Dimension In terms of the *Unemployment Rate*, this cluster performed, on average, worse than the average sample. The average inverted z-score (6.5) is lower than the average z-score of the sample (7.3), which is not a good sign. **In contrast, the *PPP* average inverted z-score of the cluster (98.1) is better than the worldwide average z-score (82.7). These two variables register minimal standard deviations (1.4 and 1.6, respectively), thus forcing Ghana, Ireland and Malta into the same cluster**. Finally, the *GDP Growth* and the *Inflation* register high standard deviations (11.6 and 26.7, respectively), and so no similarity can be found.
	SocioPolitical dimension The *Cultural Difference Index* is a proximity factor, since the inverted z-scores are very similar (standard deviation of 1.6) among the countries, being, on average (2.9), worse than the average z-score of the sample (5.4). In contrast, the z-scores of the *Political Risk Index* are dispersed over a wider range. This translates into a huge standard deviation (26.4), and so this variable did not impact the generation of the cluster.

Table 2.8: *In depth analysis of clusters 8, 9, and 18, in terms of the five dimensions*

b) Country Ranking

i) Literature Review

While clustering groups the countries based on their macro similarities, this second approach ranks them in terms of overall market attractiveness. Economic, political and socio-cultural dimensions can provide information on the country's aggregated market potential.

The researcher S. Tamer Cavusgil proposed the latest example of this method, analyzing 23 countries from emerging markets (S. T. Cavusgil 1997). The intention was to produce an index of market attractiveness, hence dimensions such as market size, market growth rate, market

consumption capacity, market receptivity, economic freedom, market intensity and commercial infrastructure were investigated, after being standardized, and converted into a 100-point scale.

After attributing weights to these variables, by following a Delphi *process*, they were combined into an aggregate measure of market attractiveness, but this should only be used as a preliminary assessment. The author also states that the researcher is free to adjust the number and the weights of the dimensions arbitrarily, depending on the priorities and preferences of the project to be carried out, since the method is "more intuitive and less demanding". However, in this study, the same flaws of clustering remained, meaning that the indicators still did not include any information on product or service market specificity (Cavusgil, Kiyak and Yeniyurt 2004).

ii) Process Description

The Country Ranking included the same variables as the Clustering process, since all of them were valuable for the analysis. The previous five dimensions were addressed, and so both macro and industry-related variables engineered the model. The ultimate goal was to combine both processes, in order to reach the top five potential markets that should be considered when deciding where to expand, and what market position ED should trace.

Different coefficients were, therefore, attributed to the 13 variables or indexes, adding up to a total weight of 100%. This allocation was based on the relevance and preponderance that each indicator has for the industry in which ED is inserted, but also taking into account the specific features that its products and services offer to clients.

All the data was already standardized and converted into a scale of 1 to 100, as was explained in **section 2.a.ii**.

Thereafter, each country's final score was calculated, by summing up the z-scores of all the variables multiplied by the correspondent weights.

Finally, all the countries were ranked, according to their final score. A higher score corresponded to a higher position in the Ranking, thus reflecting a better potential market for the company to export its products.

iii) Selected variables and correspondent weights

For the Country Ranking, **Table 2.10** contains the variables which were considered to impact ED's internationalization process, but in different scales, as reflected by the distinct coefficients that were attributed to each.

Dimensions and its respective variables and weights	Reasoning for the attributed weights
Demographic (9%) - *Population by Age Group (15 to 64 years old)*: 5% - *Annual Population Growth Rate*: 4%	Similarly, both variables give an idea of the potential size of each target market. On the one hand, regarding the population segments, the range between 15 and 64 years is the one that fits ED's consumer profile. On the other hand, the population growth allows to understand how the market, in general, will evolve, thus being considered slightly less important for the purpose of the analysis. However, since this dimension is not directly related to the industry, a lower weight was attributed.
Industrial (39%) - *Education Index*: 15% - *Government Expenditure on Education (% of GDP)*: 13% - *Computer, communication and other services (% of commercial services imports)*: 11%	These variables reflect to what extent the government of each country prioritizes the segments that are relevant for the industry where the company operates, thus a larger portion was attributed to this dimension. The education-related variables (*Education Index* and *Government Expenditure on Education (% of GDP)*) show the degree to which education is a priority for the country. These indicators were considered of great relevance, since a significant portion of ED's products and services are designed for the educational sector. Moreover, the percentage of the commercial service imports that is attributed to computer, communication, and other services was considered comparably important to rank the countries. This is because the effectiveness and adoption of all the products offered by the company depend on these constraints.

Market Attractiveness (15%) - *HHI*: 8% - *Corporate Tax rate*: 7%	This dimension has a direct impact on the company's strategy and intended procedure. Since ED showed great concern in expanding to low saturated markets, the variable *HHI* was inverted and then considered a proxy to deal with that matter. The corporate tax of potential markets could directly influence the firm's profits, thus was also attributed a moderate coefficient to it.
Economic (34%) - *PPP*: 8% - *Inflation*: 6% - *GDP Growth*: 5% - *Unemployment Rate*: 4%	This was elected the second most important dimension, since markets' wealth and stability should be determinant when deciding to expand internationally. By reflecting price differences and fluctuations, *PPP* and *Inflation* make comparisons among different markets, as well as their discrepancy from the national one. Therefore, these were considered the most important indicators within the economic dimension. The *GDP growth* reflects how the wealth created by each country evolved over time, thus helping to predict the business success of this project. Lastly, the *Unemployment Rate* was considered the comparably less important indicator. This was because ED is a B2B company, and so the reflection of this indicator on the overall economy is clearly a concern, but the respective impact on individuals' financial availability has a less visible effect on the business scope of the company.
Sociopolitical (24%) - *Cultural Difference Index*: 9% - *Political Risk Index*: 5%	The countries' sociopolitical environment was also considered of great importance for the Ranking process, since this will influence business uncertainty and risk. A high coefficient was attributed to the *Cultural Difference Index*, since the company's managers place great value on cultural similarities, so the internationalization process can run smoothly. Finally, political stability should be addressed (through the *Political Risk Index*), since it influences, among other dimensions, the consumer confidence, thus impacting the business activity.

***Table 2.10**: Country Ranking: Selected variables and respective weights*

iv) Results

Taking into account the aforementioned variables, and the respective importance they were considered to have for the purpose of the analysis, **the Country Ranking resulted in the following ten best classified countries, and respective scores: Sweden (55.03), Norway (53.51), Denmark (49.77), New Zealand (49.55), Ireland (49.35), Netherlands (49.19),**

Malta (49.13), United States (49.0), Belgium (48.9), and Finland (48.52). The top five highest-ranked countries belong to three different clusters. The first three countries complete cluster 9, and the remaining two belong to cluster 8 and 18, respectively.

Therefore, the highest potential markets gather a set of attractive characteristics that differentiate them from the remaining alternative markets. Firstly, belonging to the Scandinavian region, Sweden, Norway and Denmark gather a set of similarities (in linguistic, religious, political, economic, among other, terms), thus explaining why they were put together in the same cluster, as detailed in **section 2.a.v**. These countries registered a great performance in the most relevant indicators for the analysis, namely the *Education Index* and the *Government Expenditure on Education (% of GDP).* This predicts a favorable acceptance of the company's products and services that are designed for schools and universities. Also, these countries present a successful economic structure, with appealing values for *Inflation* and *PPP*, for example. Moreover, these are relatively small marks in populational terms, having a population size that is either similar, in the case of Sweden, or approximately half that of the Portuguese, in the case of Norway and Denmark. However, at this stage, this was actually considered an attractive condition, since ED is a small-size company, with no economies of scale, due to its high customization of products. Adding to that, the company seeks a gradual and progressive internationalization plan, which, ideally, does not require huge investments, or increased costs to hire many new employees beforehand. Therefore, these are countries where it would be easier and more effective to absorb demand, which comes from high investments in education, for example.

Then, New Zealand is the most distant market among the highest ranked. Despite being the least similar country, it has some characteristics that could ensure a smooth internationalization process. While not an oversized market in population terms, it is growing and has an *Education Index* and a *Government Expenditure on Education (% of GDP)* that

could generate an engaging demand for the company's products and services. Also, the *Political Risk Index* can favor the business activity.

Finally, the Country Ranking emphasized some factors that make Ireland an appealing market. It is the country that spends the largest fraction of commercial service imports in computers, communications, and other services, in addition to having a promising *Education Index*. Moreover, both the economic and political environments seem to be favorable, in terms of the *GDP Growth*, *PPP*, and *Political Risk Index*.

c) Conclusion

The selection of the top five potential markets was based on the results from both the Country Ranking and Clustering analyses, and the respective approval and consensus of Ricardo Santos – CEO of the company. These two analytical approaches to preliminary market assessment complemented each other, and the five highest ranked countries – Sweden, Norway, Denmark, New Zealand and Ireland – belonged to three homogeneous clusters (out of 25). Moreover, the fact that the three highest ranked countries are identical Scandinavian countries, means that the business success in one could be considered a proxy for a good performance in the remaining.

In the following section, Sweden, Norway, Denmark, New Zealand and Ireland will be further analyzed in several dimensions. For each country, an evaluation will take place regarding the contacts that could be established to build an effective network, the national competitors that could be a threat, the market and sales potential, and finally the market entry conditions, in terms of regulations, national industry standards, among other. Then, after prioritizing these characteristics, Sweden will be recommended as the best market to internationalize, and an entry strategy and a marking plan will be proposed. In the last section, a financial forecast will be performed, based on the most accurate assumptions.

7. CONCLUSIONS AND RECOMMENDATIONS

a) Conclusions

Clustering and ranking complement each other to identify the most appealing markets

The country clustering and ranking analyses were carried out after an extensive research on the best macro and industry-related indicators, which included a preliminary assessment of the level of correlation, that in turn brought the team to exclude several variables. The clustering process led to the division of the countries into twenty-five clusters. However, at a first glance, the countries do not seem to be grouped based on major structural similarities. In fact, the chosen variables are representative of the areas of interest that better suit the goals of this analysis, linked to educational and digital matters. Thereafter, a ranking was performed to complement the analysis and determine the most appealing markets for ED to expand its operations. One of the most interesting key findings was the fact that the countries which ranked among the top 5 belonged to three clusters, with the three highest ranked – Sweden, Norway, and Denmark – being part of one cluster only. This acknowledgement was crucial to support the recommendations regarding a further expansion to other Nordic countries.

Sweden as the most promising market for expansion among the top five countries

The country ranking process led to the recognition of the five most attractive markets, namely Sweden, Norway, Denmark, New Zealand, and Ireland. A further in-depth country analysis, carried out to detect their main characteristics, allowed the team to delineate thorough profiles of these markets. The alternative options were carefully weighted to make a crucial and thought-out final decision. Sweden was judged as the best choice for ED's expansion due to several factors, including its outstanding performance in social and technological terms, in

market and sales potential, as well as trade facilitation due to the existence of important potential contacts.

Nevertheless, the remaining countries are notoriously valid alternatives for doing business. For instance, Norway has a higher GDP per capita, the best scoring for voice and accountability, and a high educational level, however the market is dominated by strong and established competitors. Denmark is also characterized by a highly saturated market, despite ranking high in terms of ease of doing business, while New Zealand ranks first, but it has the lowest market potential score. Regarding Ireland, the low corporate tax attracts investors from all over the world, and this is also why competition is so fierce in the market.

In conclusion, even though competition in Sweden is quite tough as well, the team believes that ED could exploit huge opportunities and position itself as a niche player in this market.

Entering Sweden through a low-control strategy of direct exporting

After electing Sweden as the optimal market for ED to internationalize its business, in this first phase, it was necessary to specify how the market entry should proceed. Therefore, ED was advised to go through a low-control strategy, due to its limited international experience and financial availability, that determined the need of choosing a strategy with low associated risk and maximum flexibility and autonomy. More specifically, the team suggests that the company should directly export its products to Sweden, even considering that this would imply a low level of control over foreign operations. This decision was based on internal and external factors, particularly in the fact that ED is a small-size company, with limited resources, negligible learning from previous expansions, but with an offer that answers relevant market needs, being thus expected to conquer the increased demand in Sweden. Furthermore, it was also considered the desired mode of the company and some transaction specificities. In this

regard, the company does not have economies of scale, and so exporting will allow to autonomously and gradually manage the number of international projects embraced, according to its structure, resources, and human capabilities.

The *Add-on* and the *Cross-selling* business models should drive the international expansion process

When entering the Swedish market, the team suggests ED to implement both the *Add-On* and the *Cross Selling* business models. The former will require the company to establish a lower price for the base product or service, and then sell various extras at a premium price. On the one hand, the competitive price of the core product will enhance market penetration, while attracting new clients. On the other hand, the fact that the additional features will be sold separately will allow the clients to choose them by their needs and budget. Furthermore, the *Cross-selling* model will allow to increase revenues over the years, without depending on an increased customer base. This model predicts that the company's customers will be prone to buy complementary products or services after being satisfied with an initial purchase.

Essentials of the marketing plan and objectives

The marketing strategy has been formulated taking into consideration the importance of fitting the firm, the industry, and the characteristics of the related products and services. After the segmentation of the market into five subunits based on geographic, firmographic, buying behavior and benefits sought criteria, the team concluded that ED should only focus on the most appropriate groups, namely large and medium-sized corporations, and universities. In terms of positioning, ED's goal must be to keep being perceived as a relatively small provider of good value for money services, that are complemented by a centralized, hence efficient,

customer support. Therefore, the company should align marketing efforts to this brand image, while striving to absorb constant direct and indirect feedback by Swedish consumers.

A key driver for ED's success is pushing on its unique selling proposition, that is differentiated from the existing competitors, due to its extreme degree of customization. The best short-term plan would be to mainly offer eLearning courses and *LMS*, which represent the greatest proportion of revenues due to their high demand. The suggested pricing scheme has been defined according to the *Add-on* and *Cross Selling* business models standards, together with the existing pricing strategy.

Distribution channels are to be kept to the strict minimum, to avoid unaffordable expenses for intermediaries, that would not add enough value to be justified. The company could benefit more from selling directly to consumers, since ED's service features make it possible to operate remotely. However, a vehicle for brand awareness and gathering new clients would still be to physically attend fairs and conventions, whenever possible. Promotion should be also made through an upgraded website, online advertising channels and local sales agents, following a pull strategy, to inform potential customers of the economic benefits in the first place.

What has just been said is perfectly in-line with the following micro-objectives: to acquire and retain customers, to promote brand awareness, and to increase digital presence. Achieving these targets would eventually lead to the accomplishment of the macro-objectives set at the start of the process, namely increasing sales, and maximizing profits.

Financial Forecast based on the most accurate assumptions for both revenues, expenses, and discount rate

A Financial Forecast was computed for the next 5 years, based on the company's

performance in the home country, in the last year. The revenue for the first year of operations was computed, by assuming that the company will reach 7 Swedish clients – as the market and sales potential calculations suggested –, who will have an average consumption aligned with the one of the Portuguese clients, and consumption will be adjusted to differences in the price levels. However, some special considerations were taken to reflect both the positive impact on revenues of the marketing efforts, and the lower prices that should be practiced upon entry into force, as the *Add-On* business model advises. In further accordance with this model, each client is expected to pay for upgraded and more expensive features of the products in the upcoming years. In addition, the Cross Selling business model also led to the assumption of increased revenues over the years, as the clients buy more products and services, after being satisfied with the former.

Furthermore, the assumptions on costs for the financial forecast include the personnel expenses, supplies and external services, and marketing expenses. Personnel expenses is multivariate caption that includes base costs, sales agents, flights, new employees, and food and accommodation costs. The base costs constitute the cost related with the time that current employees will need to dispend on this internationalization project. Also, it was assumed the average cost of hiring one new sales agent, who will be the responsible for representing the company overseas. The assumption on the number of flights was made based on the expected yearly trips to Sweden, thus five in the first year and three in the following, that the company should achieve to demonstrate customer care and build new relationships. Moreover, in accordance with our previsions of new clients, ED should also hire more employees to deal with new projects in Sweden. These employees include an IT specialist and a designer in the first year and a project manager in the second year of the internationalization. The food and accommodation costs are the last variable of the personnel expenses caption and it includes the costs of business trips related to food and accommodation.

Regarding supplies and external services costs, there are two variables affecting it: cloud server costs and outsourced costs. The cloud server costs were predicted according to the partnership with *PTisp,* that allows for a server management according to the clients of the company. The outsourced services costs have two different components. One is the base cost, which includes general external services costs that may arise with the implementation of the project. The other is the translation costs that will be required for translating the website, the e-Learning courses, and flyers with ED's products to Swedish.

Marketing expenses include the costs of going to business fairs, namely renting the space plus designing the stand. Also, it comprises the online advertising costs in Google Ads and Facebook ads. The company already uses these platforms, but it is important to advertise in Sweden too, and that is why we assumed an increasing in the costs related to advertising. The last variable of the marketing expenses caption is related with the flyers and catalogues printing costs, to have updated and appealing materials to give to the potential customers.

The results of the capital budgeting analysis stipulate three scenarios which can be summarized in **Table 7.1.**

	Positive scenario	**Normal scenario**	**Negative scenario**
WACC	9,0%	10,5%	11,5%
Revenue Annual Percentage Increase	23,9%	19,0%	14,1%
NPV	32 862 €	15 963 €	299 €
Payback Period (y)	3,00	3,43	4,30
Discounted Payback Period (y)	3,13	3,72	N/A

Table 7.1: *Positive, Normal and Negative scenario's results*

b) Recommendations

After Sweden, expanding to the remaining Scandinavian countries (Norway and Denmark) would be a smooth process

As previously explained, the top three countries in the ranking turn out to be part of the same cluster. On top of that, Sweden, Norway, and Denmark have strong cultural, historical and linguistic ties binding them together into a single Northern Europe subregion: Scandinavia.

Given the structural similarities, and the fact that their markets appear to be as the most attractive for doing business, it should not be surprising that the team would encourage ED to think about going further. After all, if the Swedish expansion is successful, moving to the surrounding countries will be a smoother process. ED could benefit from a huge increase in sales and profits by simply transposing the strategy already implemented in the Swedish market to Norway and Denmark. However, a new financial forecast would have to be prepared to assess the actual feasibility of this extension from the original plan.

Follow-up the investment on brand management to become an internationally recognized brand

As a business matures and grows, the need of brand investment increases and becomes more important to differentiate from competitors. As previously analyzed, ED does not have a sustainable competitive advantage, and therefore growing brand awareness can offer a solution as a single characteristic to differentiate from other competitive offerings that might arise (Kotler, and Pfoertsch 2006). ED's brand must translate the company's identity and vision, aiming to enforce trust and confidence among customers, partners, and potential investors. Moreover, it will contribute to become the top of the mind company and a reference when it

comes to *LMS*. Finally, it can bring other benefits, such as the attraction of talented employees, or a decrease of the client's price sensitivity, for instance.

EDUdigital's final readiness for the expansion (based on the financial forecast)

According to the financial forecast, the NPV of this internationalization project is positive, meaning that the company should indeed expand to Sweden. All three scenarios obtained show that the project will be profitable, as it is reflected in **Table 7.2:**

	Positive scenario	**Normal scenario**	**Negative scenario**
NPV	32,862 €	15,963 €	299 €
Average NPV	16,375 €		

Table 7.2: *Positive, Normal, and Negative scenarios' NPV*

Investing in this expansion will result in a creation of value beyond the result. Furthermore, all three scenarios present positive results, which means that, in accordance with the calculations, ED should undergo the necessary steps to do this project.

Moreover, beyond the calculations of free cash flows obtained by the capital budgeting analysis, such a project will help boost ED's reputation. ED can leverage its reputation and increase its negotiation power, reach more clients, and make more profitable deals. The fact that ED is a heavily digital and technology-oriented company makes online reputational even more detrimental for the success of the firm (Worthy 2020).

There are, however, some limitations in this analysis, which must be recognized. Such limitations are related to the assumptions made, since using an unprecise cost of capital can hurt the validity of the investment decision (The Motley Fool 2015). To relief the potential

problems resulting from this limitation, three WACC values were chosen, which helped to create a sensitivity range.

It is also understood that most of ED's investments and future investment decisions are not discretionary, but necessary to stay in business. In other words, due to the nature of the business and due to how young ED is, it is difficult to forecast future cash flows as easily as an established company such as *3M* company or *Coca Cola*. The recommendation here is for ED to rely on this capital budgeting analysis and to avoid the sole reliance on "gut feel" or the payback period analysis (Danielson and Scott 2006).

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APPENDIX

***Table 1.1**: Employees' structure and respective roles*

Country	Role	Employee name
Portugal	Head of IT	Eduardo Perdido
	Head of Business Development	Carina Brito
	Multimedia & Web designer	Francisco Almeida
	Web Developer	Patrícia Jesus
	Instructional Designer	Mafalda Sequeira
Cape Verde	Project Manager & Multimedia designer	Helder Silva
	Web Developer	Edino Costa
Mozambique	Business Developer	Ernesto Matimbe
	Senior Project Manager	Abiatar Fernando
	Multimedia and Web designer	Miguel Ginge
	Web Developer	Victorino Machoco

***Table 1.2:** Reformulated Income Statement from 2016 to 2019*

	2019	**2018**	**2017**	**2016**
Core operations				
Total Revenues	201 560 €	165 803 €	167 385 €	118 890 €
Supplies and external services	- 135 590 €	- 104 851 €	- 83 681 €	- 46 071 €
Cost of sales	0 €	- 1 236 €	- 8 565 €	- 5 794 €
Exploration subsidies	28 383 €	43 682 €	3 480 €	4 075 €
Personnel Expenses	- 80 064 €	-87 840 €	- 70 217 €	- 63 319 €
Depreciation and Amortization	- 6 130 €	- 6 130 €	- 6 869 €	- 6 011 €
Result before taxes	8 158 €	9 427 €	1 533 €	1 771 €
Taxes	- 4 304 €	- 4 808 €	- 1 151 €	- 1 263 €
Core result	*3 854 €*	*4 620 €*	*382 €*	*509 €*
Non Core operations				
Other income	46 €	1 615 €	3 426 €	2 727 €
Other expenses	- 3 042 €	- 3 665 €	- 2 273 €	- 744 €
Interest income	122 €	211 €	411 €	555 €
Result before taxes	- 2 874 €	- 1 838 €	1 564 €	2 538 €
Taxes	1 516 €	938 €	- 1 174 €	- 1 810 €
Non Core result	*- 1 358 €*	*- 901 €*	*390 €*	*729 €*
Financial				
Interest expenses	- 149 €	- 220 €	- 270 €	- 61 €

Result before taxes	- 149 €	- 220 €	- 270 €	- 61 €
Taxes	79 €	112 €	203 €	43 €
Financial result	*- 71 €*	*- 108 €*	*- 67 €*	*- 17 €*
Net result	**2 426 €**	**3 611 €**	**705 €**	**1 220 €**

Table 1.3: *Reformulated Balance Sheet from 2016 to 2019*

	2019	**2018**	**2017**	**2016**
Core business				
Cash and Cash Equivalents	21 057 €	115 900 €	81 477 €	82 727 €
Property, Plant and Equipment	884 €	7 014 €	13 144 €	18 733 €
Intangible Assets	943 €	530 €	530 €	- €
Accounts Receivable	99 329 €	64 598 €	91 844 €	29 006 €
Prepayments	897 €	- €	- €	- €
Prepaid Income Tax	0 €	1 283 €	3 078 €	5 102 €
Deferred Assets	183 €	468 €	0 €	0 €
Accounts Payable	- 17 166 €	- 4 225 €	- 25 802 €	- 24 433 €
Current Tax Payable	- 9 919 €	- 12 151 €	- 5 231 €	- 4 555 €
Deferred Liabilities	0 €	- 9 760 €	0 €	0 €
Core Invested Capital	**96 207 €**	**163 658 €**	**159 041 €**	**106 581 €**
Non Core business				
Financial Investments	0 €	0 €	0 €	149 €
Other Current Assets	9 333 €	16 288 €	569 €	15 €
Other Payables	0 €	- 10 122 €	0 €	0 €
Other Current Liabilities	- 9 672 €	- 110 101 €	- 21 157 €	- 21 617 €
Non Core Invested Capital	**- 339 €**	**- 103 935 €**	**- 20 587 €**	**- 21 453 €**
Financial				
Long-term borrowings	- 36 188 €	0 €	- 84 810 €	- 32 189 €
Loans and other borrowings	0 €	- 2 468 €	0 €	0 €
Net Financial Obligations	**- 36 188 €**	**- 2 468 €**	**- 84 810 €**	**- 32 189 €**
Equity	59 680 €	57 254 €	53 643 €	52 939 €

Table 2.1: *Country Clustering: 23 variables initially selected*

Market dimension	***GDP Nominal (Current US $)*** (https://data.worldbank.org/indicator/ny.gdp.mktp.cd?view=map)
	Annual Population Growth Rate (%) (https://data.worldbank.org/indicator/SP.POP.GROW)
	Population by Age Group (15 to 64 years old) (https://data.worldbank.org/indicator/SP.POP.1564.TO)
Industrial dimension	***Education Index*** (http://hdr.undp.org/en/content/education-index)
	Expected Years of Schooling (https://databank.worldbank.org/reports.aspx?source=3698&series=HD.HCI.EYRS#)
	Tertiary School Enrollment (% gross) (https://www.theglobaleconomy.com/rankings/Tertiary_school_enrollment/)
	Government Expenditure on Education (% of GDP) (https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?start=2009&view=chart)
	Computer, Communications, and other services (% of commercial service imports) (https://data.worldbank.org/indicator/TM.VAL.OTHR.ZS.WT?view=chart)
	Individuals using Internet (% of Population) (https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=2019&name_desc=false&start=2019&view=map)
	Digital Adoption Index (https://www.worldbank.org/en/publication/wdr2016/Digital-Adoption-Index)
Market Attractiveness dimension	***Herfindahl-Hirschman Index (HHI)*** https://wits.worldbank.org/CountryProfile/en/country/by-country/startyear/ltst/endyear/ltst/indicator/HH-MKT-CNCNTRTN-NDX
	Corporate Tax Rate (https://home.kpmg/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html)

	Ease of Doing Business (https://data.worldbank.org/indicator/IC.BUS.EASE.XQ?view=chart)
	Trading Across Borders (https://www.doingbusiness.org/en/data/exploretopics/trading-across-borders)

Economic dimension	***GDP Growth*** (https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG)
	Unemployment Rate https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
	Inflation (https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG)
	PPP (https://data.worldbank.org/indicator/PA.NUS.PPP)
	Foreign Direct Investment, net inflow (https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD)
	Index of Economic Freedom (https://www.heritage.org/index/ranking)

Sociopolitical dimension	***Cultural Difference Index*** (https://www.hofstede-insights.com/product/compare-countries/)
	Political Risk Index (https://www.prsgroup.com/regional-political-risk-index/#:~:text=Below%20is%20our%20most%20recent,direct%20investment%2C%20and%20export%20market)
	Rule of Law Index (https://worldjusticeproject.org/sites/default/files/documents/WJP-ROLI-2020-Online_0.pdf)

***Table 2.2**: Excluded countries and regions from the Country Clustering and Ranking, due to lack of information, or inadequate population size or GDP per capita*

Afghanistan	Eswatini	Least developed countries: UN classification	Rwanda
Albania	Ethiopia	Lebanon	Samoa
Algeria	Euro Area	Lesotho	San Marino
American Samoa	Europe & Central Asia	Liberia	Saudi Arabia
Andorra	Europe & Central Asia (excluding high income)	Libya	Senegal
Antigua and Barbuda	Europe & Central Asia (IDA & IBDR countries)	Liechtenstein	Seychelles
Arab World	European Union	Low & middle income	Sierra Leone
Armenia	Faroe Islands	Low income	Sint Maarten (Dutch part)
Aruba	Fiji	Lower middle income	Small states
Azerbaijan	Fragile and conflict affected situations	Macao SAR, China	Solomon Islands
Bahamas	French Polynesia	Madagascar	Somalia
Bahrain	Gabon	Malawi	South Asia
Bangladesh	Gambia, The	Maldives	South Sudan
Barbados	Georgia	Mali	South Asia (IDA & IBDR)
Belize	Gibraltar	Marshall Islands	St. Kitts and Nevis
Benin	Greenland	Mauritania	St. Lucia

Bermuda	Grenada	Mauritius	St. Martin (French part)
Bhutan	Guam	Mexico	St. Vincent and the Grenadines
British Virgin Islands	Guinea	Micronesia, Fed. Sts.	Sub-Saharan Africa
Brunei Darussalam	Guinea-Bissau	Middle East & North Africa	Sub-Saharan (excluding high income)
Burkina Faso	Guyana	Middle East & North Africa (excluding high income)	Sub-Saharan (IDA & IBDR countries)
Burundi	Haiti	Middle East & North Africa (IDA & IBDR countries)	Sudan
Cambodia	Heavily indebted poor countries (HIPC)	Middle income	Suriname
Cameroon	High income	Monaco	Syrian Arab Republic
Caribbean small states	IBDR only	Morocco	Tajikistan
Cayman Islands	IDA & IBDR total	Myanmar	Tanzania
Central African Rep.	IDA blend	Namibia	Togo
C. Europe & Baltics	IDA only	Nauru	Tonga
Chad	IDA total	Nepal	Trinidad and Tobago
Channel Islands	India	New Caledonia	Turkey
Colombia	Iran, Islamic Rep.	Nicaragua	Turkmenistan
Comoros	Iraq	Niger	Turks and Caicos Islands
Congo, Dem. Rep.	Isle of Man	Nigeria	Tuvalu

Congo, Rep.	Israel	North America	Uganda
Cote d'Ivoire	Jamaica	North Macedonia	Ukraine
Cuba	Jordan	Northern Mariana Islands	Upper middle income
Curacao	Kazakhstan	OECD members	Uzbekistan
Cyprus	Kenya	Other small states	Vanuatu
Djibouti	Kiribati	Pacific island small states	Venezuela, RB
Dominica	Korea, Dem. People's Rep.	Pakistan	Vietnam
Dominican Republic	Korea, Rep.	Palau	Virgin Islands (U.S.)
Early demographic dividend	Kosovo	Panama	West Bank and Gaza
East Asia & Pacific	Kyrgyz Republic	Papua New Guinea	World
East Asia & Pacific (excluding Pacific)	Lao PDR	Philippines	Yemen, Rep.
East Asia & Pacific (IDA & IBRD countries)	Late-demographic dividend	Post-demographic dividend	Zambia
Egypt, Arab Rep.	Latin America & Caribbean	Pre-demographic dividend	Zimbabwe
Equatorial Guinea	Latin America & Caribbean (excluding high income)	Puerto Rico	
Eritrea	Least developed countries (IDA & IBDR countries)	Russian Federation	

Table 2.3: *73 countries that were selected for the Country Clustering and Ranking Analyses*

Angola	Ecuador	Lithuania	Serbia
Argentina	El Salvador	Luxembourg	Singapore
Australia	Estonia	Malaysia	Slovak Republic
Austria	Finland	Malta	Slovenia
Belarus	France	Moldova	South Africa
Belgium	Germany	Mongolia	Spain
Bolivia	Ghana	Montenegro	Sri Lanka
Bosnia and Herzegovina	Greece	Mozambique	Sweden
Botswana	Guatemala	Netherlands	Switzerland
Brazil	Honduras	New Zealand	Thailand
Bulgaria	Hong Kong SAR, China	Norway	Timor-Leste
Cabo Verde	Hungary	Oman	Tunisia
Canada	Iceland	Paraguay	United Arab Emirates
Chile	Indonesia	Peru	United Kingdom
China	Ireland	Poland	United States
Costa Rica	Italy	Portugal	Uruguay
Croatia	Japan	Qatar	
Czech Republic	Kuwait	Romania	
Denmark	Latvia	Sao Tome and Principe	

***Table 2.4**: Pearson Correlation values among the 23 variables initially selected*

VARIABLES	GDP nominal	Annual Population Growth Rate	Population by Age Group (15-64 years old)	Education Index	Expected Years of Schooling	Tertiary School Enrollment (% gross)	Government Expenditure on Education (% of GDP)	Computer, communications and other services (% of commercial service imports)	Individuals Using Internet (% of population)	Digital Adoption Index	Herfindahl-Hirschman Index (HHI)
GDP nominal	1	-.036	.473	.202	-.240	.131	.026	.099	.111	.206	-.121
Annual Population Growth Rate (%)	-.036	1	-.042	-.018	-.045	.003	.101	-.021	.036	.008	-.021
Population by Age Group (15-64 years old)	.473	-.042	1	-.044	.057	-.063	-.076	.096	-.051	.049	-.120
Education Index	.202	-.018	-.044	1	**.847**	**.810**	.303	.313	**.831**	**.725**	-.315
Expected Years of Schooling	-.240	-.045	.057	.847	1	**.749**	.249	.250	**.705**	**.661**	-.257
Tertiary School Enrollment (% gross)	.131	.003	-.063	.810	.749	1	.229	.294	**.742**	.443	-.182
Government Expenditure on Education (% of GDP)	.026	.101	-.076	.303	.249	.229	1	.121	.201	.273	-.014
Computer, communications and other services (% of commercial service imports)	.099	-.021	.096	.313	.250	.294	.121	1	.316	.374	-.249
Individuals Using Internet (% of population)	.111	.036	-.051	.831	.705	.742	.201	.316	1	**.728**	-.374
Digital Adoption Index	.206	.008	.049	.725	.661	.443	.273	.374	.728	1	-.331
Herfindahl-Hirschman Index (HHI)	-.121	-.021	-.120	-.315	-.257	-.182	-.014	-.249	-.374	-.331	1

VARIABLES	Corporate Tax Rate	Ease of Doing Business	Trading Across Borders	GDP Growth	Unemployment Rate	Inflation	Purchasing Power Parity (PPP)	Foreign Direct Investment	Index of Economic Freedom	Cultural Difference Index	Political Risk Index	Rule of Law Index
GDP nominal	.087	-.261	.165*	-.015	-.094	-.064	-.046	**.895**	.168	.300	-.302	.179
Annual Population Growth Rate (%)	.010	.024	-.026	-.160	.039	-.033	.025	-.039	.019	-.071	.041	.093
Population by Age Group (15-64 years old)	.120	-.112	.035	.127	-.073	.048	.041	.488	-.045	.135	.061	-.085
Education Index	-.358	**-.775**	**.651**	-.253	.035	-.181	-.210	.202	**.673**	.215	.454	**.731**
Expected Years of Schooling	-.331	**-.739**	.625	-.183	-.049	-.156	-.110	.188	.622	.186	.494	.598
Tertiary School Enrollment (% gross)	-.178	-.636	.533	-.424	.012	.079	-.174	.211	.554	.068	.533	**.650**
Government Expenditure on Education (% of GDP)	.046	-.205	.242	-.196	.251	-.091	-.143	.136	.119	.342	.068	.479
Computer, communications and other services (% of commercial service imports)	.110	-.295	.261	-.151	-.099	-.103	-.162	.061	.295	.230	.413	.378
Individuals Using Internet (% of population)	-.374	**-.766**	.629	-.236	.013	-.183	-.171	.185	**.717**	.260	.533	**.728**
Digital Adoption Index	-.173	**-.701**	.587	-.134	-.037	-.297	-.144	.189	.601	.107	.528	.576
Herfindahl-Hirschman Index (HHI)	.181	.351	-.270	-.004	-.008	-.024	.048	-.107	-.243	.079	-.112	-.218

VARIABLES	GDP nominal	Annual Population Growth Rate	Population by Age Group (15-64 years old)	Education Index	Expected Years of Schooling	Tertiary School Enrollment (% gross)	Government Expenditure on Education (% of GDP)	Computer, communications and other services (% of commercial service imports)	Individuals Using Internet (% of population)	Digital Adoption Index	Herfindahl-Hirschman Index (HHI)
Corporate Tax Rate	.087	.010	.120	-.358	-.331	-.178	.046	.110	-.374	-.173	.181
Ease of Doing Business	-.261	.024	-.112	-.775	-.739	-.636	-.205	-.295	-.766	-.701	.351
Trading Across Borders	.165	-.026	.035	.651	.625	.533	.242	.261	.629	.587	-.270
GDP Growth	-.015	-.160	.127	-.253	-.183	-.424	-.196	-.151	-.236	-.134	-.004
Unemployment Rate	-.094	.039	-.073	.035	-.049	.012	.251	-.099	.013	-.037	-.008
Inflation	-.064	-.033	.048	-.181	-.156	.079	-.091	-.103	-.183	-.297	-.024
Purchasing Power Parity (PPP)	-.046	.025	.041	-.210*	-.110	-.174	-.143	-.162	-.171	-.144	.048
Foreign Direct Investment	.895	-.039	.488	.202	.188	.211	.136	.061	.185	.189	-.107
Index of Economic Freedom	.168	.019	-.045	.673	.622	.554	.119	.295	.717	.601	-.243
Cultural Difference Index	.300	-.071	.135	.215	.186	.068	.342	.230	.260	.107	.079
Political Risk Index	-.302	.041	.061	.454	.494	.533	.068	.413	.533	.528	-.112
Rule of Law Index	.179	.093	-.085	.731	.598	.650	.479	.378	.728	.576	-.218

VARIABLES	Corporate Tax Rate	Ease of Doing Business	Trading Across Borders	GDP Growth	Unemployment Rate	Inflation	Purchasing Power Parity (PPP)	Foreign Direct Investment	Index of Economic Freedom	Cultural Difference Index	Political Risk Index	Rule of Law Index
Corporate Tax Rate	1	.279	-.328	-.007	-.043	.194	-.051	.103	-.294	.158	.000	-.087
Ease of Doing Business	.279	1	**-.748**	.023	.093	.271	.117	-.274	**-.844**	-.331	-.525	**-.711**
Trading Across Borders	-.328	-.748	1	-.028	.008	-.307	-.171	.173	.641	.149	.453	.602
GDP Growth	-.007	.023	-.028	1	-.153	-.168	.221	-.059	.004	-.084	-.293	-.231
Unemployment Rate	-.043	.093	.008	-.153	1	.154	-.157	-.082	-.082	-.354	-.155	.041
Inflation	.194	.271	-.307	-.168	.154	1	.030	-.042	-.347	-.221	-.152	-.240
PurchasingPowerParity (PPP)	-.051	.117	-.171	.221	-.157	.030	1	-.012	-.112	-.015	-.115	-.174
Foreign Direct Investment	.103	-.274	.173	-.059	-.082	-.042	-.012	1	.205	.258	.184	.237
Index of Economic Freedom	-.294	-.844	.641	.004	-.082	-.347	-.112	.205	1	.399	.608	**.783**
Cultural Difference Index	.158	-.331	.149	-.084	-.354	-.221	-.015	.258	.399	1	.438	.483
Political Risk Index	.000	-.525	.453	-.293	-.155	-.152	-.115	.184	.608	.438	1	.627
Rule of Law Index	-.087	-.711	.602	-.231	.041	-.240	-.174	.237	.783	.483	.627	1

Note: The variables that are colored in the previous tables *(GDP Nominal, Expected Years of Schooling, Tertiary School Enrollment (% gross), Individuals using internet (% of population), Digital Adoption Index, Ease of Doing Business, Trading across Borders, Foreign Direct Investment, Index of Economic Freedom, and Rule of Law Index)* were discarded for the purpose of the Country Clustering and Ranking analyses, by having compromising Pearson Correlation values with any other variables, thus higher than 0.7.

Table 2.5: *Pearson Correlation Values among the 13 variables addressed for the purpose of the Clustering and Ranking Analyses*

VARIABLES	Annual Population Growth Rate (%)	Population by Age Group (15-64 years old)	Education Index	Government Expenditure on Education (% of GDP)	Computer, communications and other services (% of commercial service imports)	Herfindahl-Hirschman Index (HHI)	Corporate Tax Rate	GDP Growth	Unemployment Rate	Inflation	Purchasing Power Parity (PPP)	Cultural Difference Index	Political Risk Index
Annual Population Growth Rate (%)	1	-.042	-.018	.101	-.021	-.021	.010	-.160	.039	-.033	.025	-.071	.041
Population by Age Group (15-64 years old)	-.042	1	-.044	-.076	.096	-.120	.120	.127	-.073	.048	.041	.135	.061
Education Index	-.018	-.044	1	.303	.313	-.315	-.358	-.253	.035	-.181	-.210	.215	.454
Government Expenditure on Education (% of GDP)	.101	-.076	.303	1	.121	-.014	.046	-.196	.251	-.091	-.143	.342	.068
Computer, communications and other services (% of commercial service imports)	-.021	.096	.313	.121	1	-.249	.110	-.151	-.099	-.103	-.162	.230	.413
Herfindahl-Hirschman Index (HHI)	-.021	-.120	-.315	-.014	-.249	1	.181	-.004	-.008	-.024	.048	.079	-.112
Corporate Tax Rate	.010	.120	-.358	.046	.110	.181	1	-.007	-.043	.194	-.051	.158	.000
GDP Growth	-.160	.127	-.253	-.196	-.151	-.004	-.007	1	-.153	-.168	.221	-.084	-.293
Unemployment Rate	.039	-.073	.035	.251	-.099	-.008	-.043	-.153	1	.154	-.157	-.354	-.155
Inflation	-.033	.048	-.181	-.091	-.103	-.024	.194	-.168	.154	1	.030	-.221	-.152
Purchasing Power Parity (PPP)	.025	.041	-.210	-.143	-.162	.048	-.051	.221	-.157	.030	1	-.015	-.115
Cultural Difference Index	-.071	.135	.215	.342	.230	.079	.158	-.084	-.354	-.221	-.015	1	.438
Political Risk Index	.041	.061	.454	.068	.413	-.112	.000	-.293	-.155	-.152	-.115	.438	1

Figure 2.1: *Dendrogram, using the Ward's method, and obtained through the IBM SPSS platform*

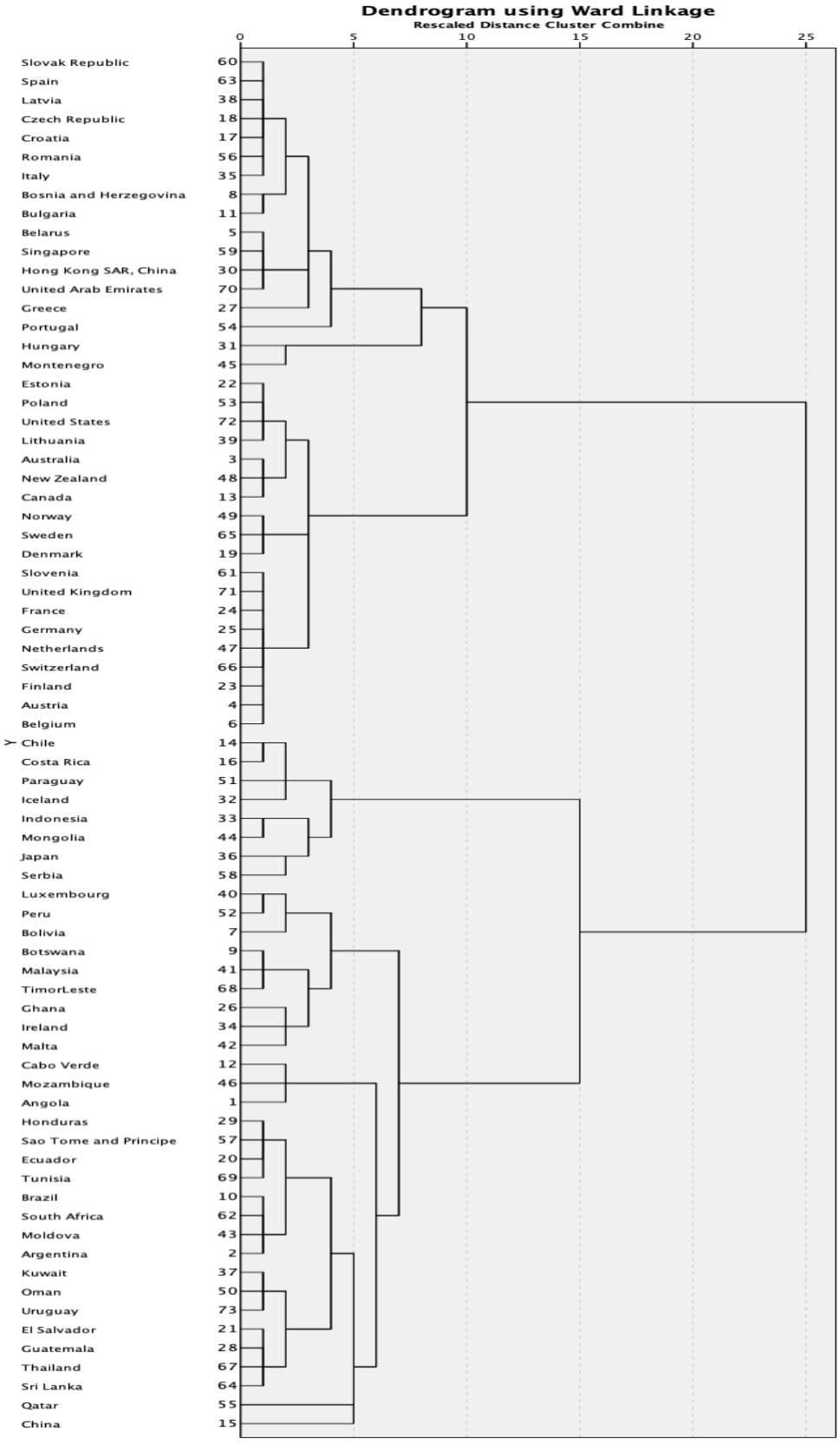

Table 2.7: *Clusters' Composition*

Cluster	Description: Countries names
Cluster 1	Slovak Republic, Spain, Latvia, Czech Republic, Croatia, Romania, Italy
Cluster 2	Bosnia and Herzgovina, Bulgaria
Cluster 3	Belarus, Singapore, Hong Kong, United Arab Emirates
Cluster 4	Greece
Cluster 5	Portugal
Cluster 6	Hungary, Montenegro
Cluster 7	Estonia, Poland, United States, Lithuania
Cluster 8	Australia, New Zealand, Canada
Cluster 9	Norway, Sweden, Denmark
Cluster 10	Slovenia, United Kingdom, France, Germany, Netherlands, Switzerland, Finland, Austria, Belgium
Cluster 11	Chile, Costa Rica
Cluster 12	Paraguay, Iceland
Cluster 13	Indonesia, Mongolia
Cluster 14	Japan, Serbia
Cluster 15	Luxembourg, Peru
Cluster 16	Bolivia
Cluster 17	Botswana, Malaysia, Timor Leste
Cluster 18	Ghana, Ireland, Malta
Cluster 19	Cape Verde, Mozambique, Angola
Cluster 20	Honduras, São Tomé and Principe, Ecuador, Tunisia
Cluster 21	Brazil, South Africa, Moldova, Argentina
Cluster 22	Kuwait, Oman, Uruguay
Cluster 23	El Salvador, Guatemala, Thailand, Sri Lanka
Cluster 24	Qatar
Cluster 25	China

Table 2.9: *In-depth analysis of the clusters 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, in terms of the five dimensions*

Cluster 1: Slovak Republic, Spain, Latvia, Czech Republic, Croatia, Romania, and Italy	**Demographic dimension** The average z-score of the *Annual Population Growth Rate* of this cluster (14.8) is below the average z-score of the sample (38.6). Also, all countries have z-score values below the average z-score of the sample, meaning that this cluster is represented by countries with low population growth. However, the countries present high dispersion in the results, being the standard deviation equal to 11.6, and so indicating that the previous conclusion may be misleading. In terms of *Population by Age Group (15 to 64 years old),* it presents a low average z-score value of 2.4, while the sample's average z-score is 4.2, and the data has low dispersion (standard deviation of 1.5). **Industrial Dimension** **This cluster presented favorable values regarding the *Education Index*, being the average z-score (76.5) above the average z-score of the sample (64). The values regarding this variable have some dispersion, with a standard deviation of 6.7.** Regarding *Government Expenditure on Education (% of GDP),* this cluster has a lower average z-score value (25.7) than the worldwide average z-score (41) and with some dispersion, being the standard deviation equal to 7.6. All countries have lower z-score values than the sample's average z-score, what means that these countries' governments spend a low percentage of their GDP on education. **Lastly, all countries of this cluster have higher z-score values than the sample's average z-score (47), regarding *Computer, Communications, and other services (% of commercial service imports).* There is low dispersion in this variable (standard deviation of 3.1), meaning this a proximity factor for the generation of the cluster.** **Market Attractiveness Dimension** **The *HHI* average inverted z-score of this cluster (20.4) is above the world's average z-score (15.7), but there is high dispersion (standard deviation of 11). Czech Republic is an outlier with an inverted z-score of 8.2, thus harming the performance of the cluster.** In contrast, the *Corporate Tax Rate* average inverted z-score of the cluster (4.2) is below the average z-score of the sample (7.9), with all countries presenting z-score values lower than the sample's average, and with low dispersion, leading to a standard deviation of 1.2. **Economic Dimension** **Regarding the *PPP*, the average inverted z-score of the cluster (95.3) is above the sample's average z-score (82.7), and there is moderate dispersion (standard deviation of 7.2). For this varaible, all countries have higher inverted z-score values than the sample's average, meaning that the cluster is composed by countries with favorable PPP conditions. Also, the *GDP Growth* average z-score of the cluster is slightly above the sample's average z-score (54.4 and 52.4, respectively), and with high dispersion (standard deviation of 12.5). Italy is an outlier with a z-score of 31.8.** Regarding *Inflation,* the average inverted z-score of the cluster (33.8) is below the sample's average z-score of 39.8, and with a high standard deviation of 8.3. Finally, the *Unemployment Rate* average inverted z-score of the cluster (5.6) is below the sample's average (7.3), while the values present low-to-moderate dispersion (standard deviation 3.9).

	SocioPolitical dimension Regarding the *Cultural Difference Index*, the average inverted z-score of the cluster (4.4) is below the average z-score of the sample (5.4). The values regarding this variable have low-to-moderate dispersion (standard deviation of 2.8). **By its side, the average z-score of the *Political Risk Index* is higher than the average z-score of the sample with the values of 64.4 and 56.3, respectively. However, there is high dispersion (standard deviation of 19.6), thus with countries above and below the sample's average z-score.**

Cluster 2: Bosnia and Herzegovina and Bulgaria	**Demographic dimension** Regarding the *Annual Population Growth Ra*te and *Population by Age Group (15 to 64 years old)*, the cluster presented average z-scores (2.2 and 1.3, respectively) below the correspondent sample's average z-scores (38.6 and 4.2). Also, the values are very similar values for Bosnia Herzegovina and Bulgaria, being both the standard deviations equal to 0.2. Hence, the countries are characterized by having low population growth and a small percentage of people between 15 and 64 years old of their total population.
	Industrial Dimension The *Government Expenditure on Education (% of GDP)* z-scores are very similar for both countries. Thus, the average z-score of the cluster (28.9) is below the sample's average z-score of 41. Moreover, both the *Education Index* and the *Computer, Communications and other services (% of commercial service imports)* average z-scores (60.2 and 21.8, respectively) are lower than the correspondent average z-scores of the sample (64 and 47). However, these last two variables presented some variability, and so did not impact the generation of the cluster.
	Market Attractiveness Dimension **Regarding the *HHI*, the cluster's average inverted z-score (20.8) is above the average z-score of the sample (15.7), and with a standard deviation of 7.9, therefore indicating high dispersion of the values. Also, this cluster presented very favorable corporate tax conditions. The cluster's average inverted z-score of the *Corporate Tax Rate* (31.7) is way higher than the sample's average z-score (7.9). In this case, the standard deviation is 0, since the countries presented the same z-score value for this variable. Concluding, this variable has the highest strength in forcing these countries in the same cluster.**
	Economic Dimension **Regarding the *GDP Growth*, the cluster presented an average z-score (61.5) that is higher than the respective sample's average z-score (52.4). However, there is moderate dispersion, being the standard deviation equal to 6.2**. Contrarily, regarding the *Unemployment Rate* and the *Inflation*, the cluster's average inverted z-scores (4.3 and 30.2, respectively) are below the correspondent sample's average z-scores (7.3 and 39.8). Their relatively low standard deviations mean that these are good sources of similarity. **Lastly, the *PPP* average inverted z-score of the cluster (99) is higher than the correspondent sample's average z-score of 82.7. Hence, the cluster is characterized by very good business conditions related to *PPP*. The standard deviation for *PPP* is around 0, being this the best explanatory factor for the generation of the cluster.**

	SocioPolitical dimension The average inverted z-score of the *Cultural Difference Index* of the cluster (4.5) is below the sample's average z-score (5.4), and with low-to-moderate dispersion (standard deviation of 1.1). Instead, the high variability of the *Political Risk Index* means that no similarity can be found here.

Cluster 3: Belarus, Singapore, Hong Kong, and United Arab Emirates	**Demographic dimension** **This cluster presented an *Annual Population Growth Rate* average z-score (39.4) very similar to the sample's average z-score (38.6), but with high dispersion of values (standard deviation of 9.4).** Regarding the *Population by Age Group (15 to 64 years old)*, all countries presented very low values, thus being the cluster's average z-score (1.6) lower than the sample's average z-score (4.2). The standard deviation of this variable is very low (0.2), and so this variable is a good source of similarity among these countries.
	Industrial Dimension These countries present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these are not the best sources of similarity. It should also be noted that United Arab Emirates is harming the performance of the cluster in all the variables.
	Market Attractiveness Dimension When looking at market attractiveness, the cluster presented low average inverted z-scores regarding both variables. The *HHI* and the *Corporate Tax Rate* inverted z-scores (12.5 and 4.3, respectively) are lower than the correspondent average z-scores of the sample (15.7 and 7.9). However, the relatively high standard deviation of the *HHI* means that this conclusion may be misleading. All in all, Belarus is an outlier in the *HHI* variable (z-score of 3.2) and United Arab Emirates in the *Corporate Tax Rate* variable (z-score of 1).
	Economic Dimension Regarding the *GDP Growth*, all the countries of this cluster presented z-score values below the sample's average z-score (52.4). Even though there is high dispersion in the values (standard deviation of 13.9), these countries have in common that they have a lower growth in terms of GDP than the average sample. **Moreover, regarding the *Unemployment Rate,* the average inverted z-score of the cluster (7.4) is slightly above the sample's average z-score (7.3). The *PPP* cluster's average inverted z-score (94.6) is high, and all countries presented values above the sample's average z-score (82.7). In this regard, there is moderately low dispersion (standard deviation of 4), and so these countries have favorable *PPP* business conditions.** When looking at *Inflation*, the cluster presented highly dispersed values (standard deviation of 13) and an average inverted z-score (22.8) below the sample's average z-score (39.8).
	SocioPolitical dimension The cluster's average inverted z-score regarding the *Cultural Difference Index* (1.7) is very low, when compared to the correspondent sample's average z-score (5.4), while having a low standard deviation (0.8). Therefore, a characteristic of this cluster is that the countries are very different from Portugal, in cultural terms. **However, regarding the *Political Risk Index*, all countries have**

	extremely high values, when compared to the sample's average z-score (56.3), and so this cluster's countries have very low political risk.

Cluster 4: Greece	**Demographic dimension** The country's z-scores of both demographics variables (14.4 for *Annual Population Growth Rate* and 1.7 for *Population by Age Group (15 to 64 years old)*) are way lower than the correspondent sample's average z-score (38.6 and 4.2), meaning that the country is not performing well in this dimension.
	Industrial Dimension **Greece presented a high average z-score value (77) regarding the *Education Index*, thus being higher than the respective sample's average z-score (64).** However, the remaining variables presented lower z-scores than the average z-score of the sample.
	Market Attractiveness Dimension **Regarding the *HHI*, the inverted z-score is equal to 100, meaning that this would be the best option when only looking at the competitiveness in the country**. However, the *Corporate Tax Rate* is not very favorable, being the respective z-score (3) lower than the average z-score of the sample (7.9).
	Economic Dimension **Greece registered a very high inverted z-score regarding the *PPP* (99.2), when compared to the sample's average (82.7).** In contrast, the country presented a *GDP Growth* z-score and an *Inflation* inverted z-score lower than the respective sample's average z-scores (52.4 and 39.8, respectively). Also, the *Unemployment Rate* inverted z-score of the country (1.8) is lower than the sample's average z-score (7.3).
	SocioPolitical dimension **The country's z-score of the *Cultural Difference Index* (7) is above the respective sample's average z-score (5.4)**, but the *Political Risk Index* z-score (46.5) is below the sample's average (56.3).

Cluster 5: Portugal	**Demographic dimension** Portugal registered z-score values of both demographics variables (14.7 for the *Annual Population Growth Rate* and 1.7 for the *Population by Age Group (15 to 64 years old*)) lower than the sample's average z-scores (38.6 and 4.2, respectively), meaning that the country is not behaving well in this dimension.
	Industrial Dimension **Regarding the *Education Index* and the *Computer, Communications, and other services (% of commercial service imports)*, Portugal presented very similar values (64.6 and 46.3, respectively) to the sample's average (64 and 47, respectively). Also, the z-score of the *Government Expenditure on Education (% of GDP)* is equal to 46, thus being above the correspondent sample's average z-score (41).**

	Market Attractiveness Dimension The *HHI* and the *Corporate Tax Rate* inverted z-scores (12.5 and 3.7, respectively) are below the sample's average z-scores (15.7 and 7.9, respectively), what means that the country is not performing well in this dimension.
	Economic Dimension **Regarding the *GDP Growth*, Portugal presented a z-score value (52.7) very similar to the sample's average z-score. Also, the *PPP* inverted z-score of the country (99.2) is much better than the average z-score of the sample (82.7).** In contrast, in terms of the *Unemployment Rate* and the *Inflation*, the country registered inverted z-scores (4.7 and 24.4, respectively) that are below the correspondent average z-scores of the sample (7.3 and 39.8).
	SocioPolitical dimension **Regarding the *Cultural Difference Index*, the country presented the highest inverted z-score of the sample, 100, since it was the country used as a reference point to calculate the cultural distance. When looking at the *Political Risk Index*, the country's z-score (49.5) is above the sample's average.**

Cluster 6: Hungary and Montenegro	**Demographic dimension** The demographic variables of this cluster present very low z-score values, what leads to the conclusion that the cluster is composed by countries with small population growth and small percentage of population between 15 and 64 years old. The *Annual Population Growth Rate* average z-score of the cluster is 17, while the sample's average z-score is 38.6. By its side, the *Population by Age Group (15 to 64 years old)* has an average z-score for the cluster of 1.3, which is lower than the sample's average z-score (4.2). These variables have low dispersion (standard deviations of 0.7 and 0.4, respectively), thus being good sources of similarity between Hungary and Montenegro.
	Industrial Dimension **Regarding the *Education Index*, the cluster presented a very high average z-score value (74.4) when compared to the sample's average (64). There is low dispersion, with a standard deviation of 3.8, that ensures that the cluster is composed by countries with good levels of education.** However, the *Government Expenditure on Education (% of GDP)* cluster's average z-score (31) is below the correspondent sample's average z-score (41), and with high dispersion (standard deviation of 12.1). **Lastly, the *Computer, Communications and other services (% of commercial service imports)* average z-score (62.5) is higher than the sample's average z-score (47), but the correspondent high standard deviation (9.3) means that this conclusion may be deceptive.**
	Market Attractiveness Dimension **The *HHI* average inverted z-score of the cluster is 15, thus being more or less the same as the sample's average z-score (15.7), while registering moderate dispersion (standard deviation of 6.1). Regarding the *Corporate Tax Rate*, this cluster is composed by two countries with the maximum inverted z-scores (100), and so, this is the cluster with the most attractive corporate tax conditions.**

	Economic Dimension
	The *GDP Growth* average z-score of the cluster is high (75.3), when compared to the sample's average z-score (52.4), even though there is high dispersion of values (standard deviation of 10.1). Regarding *Inflation*, the cluster presents an average inverted z-score (38.5) very similar to the sample's average, 39.8, and with high dispersion (standard deviation of 13.7). The *Unemployment Rate* average inverted z-score of the cluster (4.9) is lower than the sample's average (7.3), and there is some dispersion, represented by a standard deviation of 4.2. Regarding *PPP*, the cluster's average inverted z-score (62.6) is below the sample's average (82.7), but Montenegro presented a very high z-score value of 99.7.
	SocioPolitical dimension
	Both the *Cultural Difference Index* average inverted z-score and the *Political Risk Index* average z-score of the cluster (2.4 and 48, respectively) are below the correspondent sample's average z-scores (5.4 and 56.3). These variables presented low variability (standard deviations of 1.5 and 2.1, respectively), and so can partially explain the generation of this cluster.

Cluster 7: Estonia, Poland, United States, and Lithuania	**Demographic dimension**
	Regarding the *Annual Population Growth Rate*, this cluster presented an average z-score (19.5) below the correspondent average z-score of the sample (38.6), while registering a high dispersion (standard deviation of 10.1). **Regarding the *Population by Age Group (15 to 64 years old)*, this cluster's average z-score (7.1) is above the sample's average z-score (4.2), but also with high dispersion, meaning a standard deviation of 10.3. There is an outlier, United States, whose z-score is much higher than the one of the peers.** All in all, these conclusions may be misleading due to the variability of the data.
	Industrial Dimension
	All countries in this cluster presented very high values regarding the *Education Index*, leading to a higher cluster's average z-score (88.1) than the correspondent sample's average z-score (64). There is moderate dispersion (standard deviation of 5.5). Regarding the *Government Expenditure on Education (% of GDP)* and the *Computer, Communications, and other services (% of commercial service imports)*, their high standard deviations (10 and 12.3, respectively) mean that these are not good sources of similarity, with Lithuania harming the performance of the cluster.
	Market Attractiveness Dimension
	Regarding *HHI*, the cluster presented a high average inverted z-score value (22.8), when compared to the sample's average z-score (15.7). This is mainly due to the value of Lithuania (41.8), that is an outlier and is improving the overall performance of the cluster, being the less concentrated market. The *Corporate Tax Rate* average inverted z-score of the cluster (4.6) is below the sample's average z-score (7.9) and with some dispersion, that translates into a standard deviation of 1.9.

	Economic Dimension **The *GDP Growth* average z-score of the cluster (68.7) is above the sample's average z-score (52.4), but registering high dispersion (standard deviation of 10.1). United States is an outlier, registering the lowest z-score (53.8).** The *Unemployment Rate* average inverted z-score of the cluster (6.4) is slightly below the sample's average z-score (7.3), and the values have low-to-moderate dispersion (standard deviation of 2). **When looking at *PPP*, all the countries present very high values, thus leading to a cluster average inverted z-score of 98.5, which is much higher than the sample's average z-score of 82.7. There is low dispersion, being the standard deviation equal to 1.2, and so this cluster is characterized by countries with good conditions regarding *PPP*. The *Inflation* average inverted z-score of the cluster is also high (71.9), when compared to the sample's average z-score of 39.8, while registering some dispersion (standard deviation of 6). Therefore, favorable inflation conditions are also a characteristic of this cluster.**
	SocioPolitical dimension The *Cultural Difference Index* average inverted z-score of the cluster is low (2.3), with all the countries having lower inverted z-scores than the sample's average z-score (5.4). The respective low standard deviation (1.2) indicates that this cluster is composed by countries that are distant from Portugal, in cultural terms. **However, regarding the *Political Risk Index*, all countries present very high values, which means that the cluster is represented by countries with very low levels of political risk. The cluster's average z-score is 80, while the sample's average z-score is 56.3.**
Cluster 10: Slovenia, United Kingdom, France, Germany, Netherlands, Switzerland, Finland, Austria, and Belgium	**Demographic dimension** The cluster presented a *Population by Age Group (15 to 64 years old)* average z-score equal to 2.9, being lower than the average z-score of the sample (4.2). The correspondent standard deviation is moderately low (2.1), and so this variable can partially explain the generation of the cluster. However, the *Annual Population Growth Rate* presented high variability, and so this is not a good source of similarity. It should be noted that Belgium is an outlier regarding this variable, with a z-score of 60.2.
	Industrial Dimension **Regarding the industrial dimension, the cluster performed very well, with all the countries presenting higher z-scores than the sample's average in all the variables. The *Education Index* average z-score for the cluster is 84.3, being higher than the average z-score of the sample (64), and the standard deviation is 6. The average z-score of the *Government Expenditure on Education (% of GDP)* is 54.1, that is, once again, above the sample's average z-score (41), and has a high standard deviation of 10.8. Also, the *Computer, Communications and other services (% of commercial service imports)* average z-score is 65, thus way above the sample's average z-score (47), and with a moderately high standard deviation of 9.** All in all, this cluster is composed by countries with high levels in the education related variables, but their relatively high standard deviations mean that these conclusions may be deceptive.

	Market Attractiveness Dimension The *Corporate Tax Rate* average inverted z-score (3.6) is lower than the average z-score of the sample (7.9), being the values very similar among the set of countries (standard deviation of 1.7). However, the *HHI* has a high standard deviation of 10.4, and so no similarity can be found.
	Economic Dimension The *GDP Growth* average z-score and the *Unemployment Rate* average inverted z-score are 43.9 and 6.2, respectively. These values are lower than the correspondent average z-scores of the sample (52.4 and 7.3), and with moderately low dispersion (standard deviations of 5.8 and 2, respectively). **Regarding *PPP*, the average inverted z-score of the cluster is 98.8, which is higher than the average z-score of the sample (82.7), and the dispersion of data is minimal (standard deviation of 0.3). Hence, the cluster is composed by countries with very good *PPP* conditions**. Contrarily, the high standard deviation of *Inflation* (14.1) means that no similarity can be found.
	SocioPolitical dimension The cluster's average inverted z-score regarding the *Cultural Difference Index* (2.8) is lower than the average z-score of the sample (5.4) and the values present low-to-moderate dispersion (standard deviation of 3.1). However, the *Political Risk Index* presented high variability, with France harming the performance of the cluster, and so this is not a good source of similarity.

Cluster 11: Chile and Costa Rica	**Demographic dimension** **The *Annual Population Growth Rate* average z-score of the cluster (41.9) is slightly above the sample's average (38.6) and with a relatively low standard deviation of 3.6.** However, regarding the *Population by Age Group (15 to 64 years old)*, the average z-score is equal to 1.8, being below the average z-score of the sample (4.2), and with a relatively low dispersion (standard deviation of 0.7). Thus, these variables can partiality explain why these variables were forced into the same cluster.
	Industrial Dimension The average z-score of the *Computer, Communications and other services (% of commercial service imports)* of this cluster is equal to 41.7, thus being lower than the average z-score of the sample (47), and with a low-to-moderate dispersion of the values (standard deviation of 5.4). However, the remaining variables present high variability, and so no similarity can be found.
	Market Attractiveness Dimension Regarding the market attractiveness dimension, both Chile and Costa Rica presented low average inverted z-score values (5.7 for the *HHI* and 2.3 for the *Corporate Tax Rate*), when compared to the correspondent average z-scores of the sample (15.7 and 7.9), and with a very low standard deviations (0.6 and 0.3, respectively). These variables are explanatory for the generation of this cluster, which is represented by countries that do not have very attractive market conditions.

	Economic Dimension The *GDP Growth* has a lower average z-score for the cluster (46.1) than the sample's average z-score value (52.4), and with moderate dispersion (standard deviations of 7.8). Also, both the *Unemployment Rate* and *PPP* average inverted z-scores (3.1 and 11.2, respectively) are lower than the correspondent average z-scores of the sample (7.3 and 82.7). Also, the standard deviation of these variables is very low, being equal to 1.2, and so they have higher similarity. However, regarding *Inflation*, the correspondent high standard deviation of 28.8 means that no similarity can be found.
	SocioPolitical dimension **In terms of *Cultural Difference Index*, the cluster presented a high average inverted z-score of 8.6, while the average z-score of the sample is 5.4, and with a low standard deviation, 0.1. This means that these countries are relatively close to Portugal, in cultural terms, and this variable can partially explain why Chile and Costa Rica were forced into the same cluster**. The *Political Risk Index* has high dispersion, being the standard deviation equal to 10.5, and so this is not a good source of similarity.
Cluster 12: Paraguay and Iceland	**Demographic dimension** The *Annual Population Growth Rate* average z-score of the cluster (59.2) is higher than the sample's average (38.6), even though there is a high standard deviation of 18.16. However, regarding the *Population by Age Group (15 to 64 years old)*, there is very low dispersion of values (standard deviation of 0.3), being the average z-score (1.2) clearly lower than average z-score of the sample (4.2). This can partially explain the generation of this cluster, in which both countries have a low proportion of people between 15 and 64 years old in its total population.
	Industrial Dimension These countries present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these are not the best sources of similarity. The standard deviations of the *Education Index*, *Government Expenditure on Education (% of GDP)* and *Computer, Communications and other services (% of commercial service imports)* are, respectively, 32.5, 27.9 and 30, and should be stated that Paraguay is harming the performance of the cluster in all these variables, as it was intuitively expected.
	Market Attractiveness Dimension The *HHI* average inverted z-score (9.6) is lower than the average z-score of the sample (15.7), while registering a moderate standard deviation of 4.1. However, the *Corporate Tax Rate* for Paraguay and Iceland are very distinct, being the standard deviation equal to 19.6, which means this is not a good source of similarity.
	Economic Dimension Both the *Unemployment Rate* and *Inflation* have average inverted z-score values (7 and 38.7, respectively) slightly below the average z-scores of the sample (7.3 and 39.8), and with low-to-moderate dispersion (standard deviations of 1.9 and 5.1, respectively). Regarding the *GDP Growth*, the cluster presented an average z-score value (42.5) below the average z-score of the sample (52.4). Also, the cluster

	performed poorly in terms of *PPP*, registering a very low average inverted z-score of 13.9, when compared to the average z-score of the sample (82.7). However, these last two variables present high variability, and so these conclusions may be misleading.
	SocioPolitical dimension **The cluster presented a *Cultural Difference Index* average inverted z-score (5.9) very close to the average z-score of the sample (5.4),** but there is some variability, being the standard deviation equal to 5.6. The *Political Risk Index* has, once again, highly dispersed values, and so this is not a good source of similarity.

Cluster 13: Indonesia and Mongolia	**Demographic dimension** Indonesia and Mongolia present high variability in both the *Annual Population Growth* and the *Population by Age Group (15 to 64 years old)*. This is translated into moderate-to-high standard deviations (9.8 and 12.8, respectively), meaning that these variables did not impact the generation of the cluster.
	Industrial Dimension On the one hand, regarding *Computer, Communications and other services (% of commercial service imports)*, both Indonesia and Mongolia present similar z-scores (40 and 43.1), and so slightly below the average z-score of the sample (47). Also, the low standard deviation (2.2) means that this can be considered a proximity factor. On the other hand, regarding both the *Education Index* and *Government Expenditure on Education (% of GDP)*, Indonesia and Mongolia performed worse than the average sample. Indonesia is harming the average of the cluster, by presenting lower z-scores than Mongolia. However, both variables present high variability, and so these are not the best sources of similarity.
	Market Attractiveness Dimension Indonesia and Mongolia have the same *Corporate Tax Rate* (25%), and this can partially explain why these countries were put together in the same cluster. The correspondent inverted z-score (2.8) is below the average z-score of the sample (7.9). The *HHI* z-score of Indonesia is 15 times the one of Mongolia (1). This high variability means that no similarity can be found.
	Economic Dimension In economic terms, this cluster performed worse than the average sample. Both the *Unemployment Rate and PPP* average inverted z-scores (5.2 and 3.1, respectively) are clearly below the worldwide average z-scores (7.3 and 82.7, respectively). **The exception is the *GDP Growth* average z-score (84.1), which is above the average z-score of the sample (52.4). The low standard deviation of these three variables (0.7, 2.9 and 0.8, respectively) become them explanatory factors for the generation of the cluster.** However, the *Inflation* inverted z-scores are very distinct among the countries, and so no similarity can be found.

	SocioPolitical dimension The *Cultural Difference Index* is a proximity factor, since the inverted z-scores are very similar (2.7 for Indonesia and 1.6 for Mongolia), being worse than the average z-score of the sample (5.4). Regarding the *Political Risk Index*, the correspondent average z-score (42.1) is below the average z-score of the sample (56.3). However, the values are quite dispersed, being the standard deviation moderate (6.3), and so this conclusion may be misleading.

Cluster 14: Japan and Serbia	**Demographic dimension** Japan is larger than Serbia, in populational terms. The *Annual Population Growth Rate* and the *Population by Age Group (15 to 64 years old)* z-scores of Japan (13.2 and 8.5, respectively) are higher than the ones of Serbia (5.7 and 1.4, respectively). Consequently, these variables present low-to-moderate standard deviations (5.3 and 5, respectively), not being the best sources of similarity.
	Industrial Dimension **The *Education Index* and the *Computer, Communications and other services (% of commercial service imports)* average z-scores (69.1 and 62.8, respectively) are above the average z-scores of the sample (64 and 47, respectively). These are positive indicators, even considering that Serbia is harming the performance of the cluster.** In contrast, the *Government Expenditure on Education (% of GDP)* average z-score (16.9) is much worse than the worldwide average z-score (41), and this time the z-score of Japan is lower. However, these variables register moderately high standard deviations, and so some conclusions may be misleading.
	Market Attractiveness Dimension Japan and Servia present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these should not be considered explanatory factors. It should also be noticed that Serbia is helping the performance of the cluster.
	Economic Dimension Japan and Servia present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these should not be considered explanatory factors.
	SocioPolitical dimension The *Cultural Difference Index* average inverted z-score (4.6) is worse than the average z-score of the sample (5.4). However, since the correspondent standard deviation (4.8) is moderate, this conclusion may be deceptive. Moreover, the *Political Risk Index* z-scores for both countries are very distinct, and Serbia is harming the performance of the cluster, once again. The huge standard deviation (25.2) of this variable means that no similarity can be found.

Cluster 15: Luxembourg and Peru	**Demographic dimension** **The *Annual Population Growth Rate* average z-score of the cluster (57.9) is above the worldwide average z-score (38.6).** In contrast, the *Population by Age Group (15 to 64 years old)* average z-score of the cluster (2.1) is clearly below the average z-score of the sample (4.2)**. Overall, Luxembourg and Peru are growing, being still small countries, in populational terms. These variables present minimal standard deviations, being the ones with the most strength in forcing these countries into the same cluster.**
	Industrial Dimension The *Government Expenditure on Education (% of GDP)* is a proximity factor, since the values are similar (standard deviation of 4.8), and the average z-score (22.5) is clearly below the average z-score of the sample (41). Moreover, the *Education Index* and the *Computer, Communications and other services (% of commercial service imports)* average z-scores (61.1 and 39.5, respectively) are lower than the worldwide average z-scores (64 and 47, respectively). These variables present moderately high standard deviations, and so the conclusions may be misleading. Concluding, these are not attractive indicators for ED.
	Market Attractiveness Dimension Both the *HHI* and the *Corporate Tax Rate* are forcing Luxembourg and Peru into the same cluster. The values for these countries are similar, and, on average, they performed worse than the average sample. The average inverted z-scores (9 and 2.5, respectively) are lower than the correspondent worldwide average z-scores (15.7 and 7.9). That said, Luxembourg and Peru were not considered attractive markets.
	Economic Dimension **In terms of *GDP Growth* and *PPP*, Luxembourg and Peru performed, on average, better than the average sample. The *PPP* average inverted z-score (97.8) is higher than the average z-score of the sample (82.7), which is a good sign. The previous variables present minimal standard deviations (0.8 and 1.3, respectively), thus being explanatory factors for the generation of the cluster**. Contrarily, the *Inflation* registers a moderately high standard deviation (9.9), and so no similarity can be found.
	SocioPolitical dimension **The *Political Risk Index* is a proximity factor. The values for both countries are close to each other (standard deviation of 2.8), and the cluster performed better than the average sample.** The *Cultural Difference Index* present quite disperse z-scores (standard deviation of 10.1) for Luxembourg and Peru, and so this is not the best source of similarity.

Cluster 16: Bolivia	**Demographic dimension** **Bolivia is growing above the worldwide average in populational terms**, but still the *Population by Age Group (15 to 64 years old)* z-score (1.7) is clearly lower than the average z-score of the sample (4.2).

	Industrial Dimension **Bolivia has *Government Expenditure on Education (% of GDP)* and *Computer, Communications, and other services (% of commercial service imports)* z-scores (50 and 47, respectively) higher or equal than the average sample z-scores (41 and 47, respectively). These are attractive indicators for ED**. However, the *Education Index* of Bolivia (54) is worse than the average z-score of the sample (64).
	Market Attractiveness Dimension Bolivia is not wealthy in terms of market attractiveness. Both the *HHI* and *Corporate Tax Rate* inverted z-scores (12.5 and 2.8, respectively) performed worse than the average z-scores of the sample (15.7 and 7.9, respectively).
	Economic Dimension **The *Unemployment Rate, PPP* and *Inflation* inverted z-scores (7.8, 95 and 82.5, respectively) are higher than the average z-scores of the sample (7.3, 82.7 and 39.8, respectively),** which is a good sign. The exception is the *GDP Growth,* whose z-score is extremely low.
	SocioPolitical dimension The *Political Risk Index* z-score of Bolivia (7.9) is lower than the average z-score of the sample (56.3). **However, Bolivia has a *Cultural Difference Index* inverted z-score (10.8) higher the average z-score of the sample (5.4).**

Cluster 17: Botswana, Malaysia, Timor Leste	**Demographic dimension** The *Population by Age Group (15 to 64 years old)* can partially explain the generation of this cluster. The values are very similar (standard deviation of 1.2), and clearly below the average z-score of the sample (4.2). **However, in terms of *Annual Population Growth Rate*, the average z-score (58.8) is evidently higher than the average z-score of the sample (38.6). Concluding, these are not large countries, despite registering a rising trend in terms of population growth.**
	Industrial Dimension These countries present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these should not be considered explanatory factors. Regarding the *Education Index*, Timor Leste can be considered an outlier, that is harming the performance of the cluster.
	Market Attractiveness Dimension In terms of market attractiveness, this cluster performed worse than the average sample. The *Corporate Tax Rate* is a proximity factor, since all the countries register very similar inverted z-scores (standard deviation of 0.4), being, on average, lower than the average z-score of the sample (7.9). The *HHI* average inverted z-score (7.5) is also lower than the average z-score of the sample (15.7). However, the *HHI* present some variability, and so the previous conclusion may be deceptive.

	Economic Dimension In terms of the *Unemployment Rate*, this cluster performed worse than the average sample. The correspondent average inverted z-score of this cluster (5.2) is lower than the average z-score of the sample (7.3). **Contrarily, the *PPP* average inverted z-score (96.1) is higher than the average z-score of the sample (82.7). These two variables have low standard deviations, meaning that they influenced the generation of the cluster.** Finally, the *GDP Growth* and the *Inflation* register moderately high standard deviations (7.3 and 9.4, respectively), thus not being the best sources of similarity.
	SocioPolitical dimension The *Cultural Difference Index* is a proximity factor (standard deviation of 0.4), and the cluster performed worse than the average sample. The correspondent average inverted z-score (2) is lower than the average z-score of the sample (5.4), which is not a good sign. Moreover, no significant similarity can be found regarding the *Political Risk Index*, since the values are quite dispersed.

Cluster 19: Cape Verde, Mozambique, and Angola	**Demographic dimension** These are not large countries in populational terms. The *Population by Age Group (15 to 64 years old)* is an explanatory factor of the generation of the cluster. The correspondent standard deviation is minimal (0.9), and the average z-score of the cluster (2.1) is lower than the worldwide average z-score (4.2). In contrast, the standard deviation of the *Annual Population Growth Rate* is really high (25.6), meaning that this is not a good source of similarity. Cape Verde is an outlier and is prejudicing the overall performance of the cluster.
	Industrial Dimension These countries present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these are not good sources of similarity.
	Market Attractiveness Dimension Cape Verde, Mozambique and Angola are not wealthy in terms of market attractiveness**.** The *Corporate Tax Rate* is one of the variables with the most strength in forcing the countries into the same cluster. The correspondent standard deviation is minimal (0.1) and the average inverted z-score (2.1) is worse than the average z-score of the sample (7.9). The *HHI* average inverted z-score (6.4) is also lower than the average z-score of the sample (15.7). However, this last conclusion may be deceptive, since the correspondent standard deviation is moderately high (7.6), mainly due to the relatively high inverted z-score of Mozambique (15.2).
	Economic Dimension In economic terms, the *Unemployment Rate* is the only variable than can partially explain why these countries integrate the same cluster. On average, these countries performed worse than the average sample and the standard deviation is low (3.1). The remaining variables have very distinct values among the countries, and so no similarity can be found, while being Angola an outlier.

	SocioPolitical dimension The *Cultural Difference Index* is one of the variables with higher similarity, due to the minimal respective standard deviation (0.4). The average inverted z-score of the cluster (2.2) is much worse than the average z-score of the sample (5.4). This means that, on average, Angola, Cape Verde and Mozambique are, in cultural terms, more distant to Portugal than the average sample as a whole. The moderate standard deviation of the *Political Risk Index* means that no similarity can be found, mainly due to the negative performance of Mozambique.

Cluster 20: Honduras, São Tomé and Principe, Ecuador, and Tunisia	**Demographic dimension** The *Population by Age Group (15 to 64 years old)* is one of the variables that better explain the generation of the cluster. The correspondent standard deviation is minimal (0.5), and the average z-score (1.6) is clearly below the average z-score of the sample (4.2). **Despite being small countries, Ecuador, Honduras, São Tomé and Príncipe and Tunisia are growing in populational terms**. **The *Annual Population Growth Rate* average z-score (53.4) is higher than the average z-score of the sample (38.6), while registering a low-to-moderate standard deviation (7.4)**
	Industrial Dimension These countries present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these are not good sources of similarity. Even though, the *Education Index*, the *Government Expenditure on Education (% of GDP)* and the *Computer, Communications and other services (% of comercial service imports)* average z-scores (31.9, 40.9 and 25, respectively) are lower than the average z-scores of the sample (64, 41 and 47, respectively).
	Market Attractiveness Dimension Both the *HHI* and the *Corporate Tax Rate* do not make these countries attractive markets. The *Corporate Tax Rate* is a proximity factor, since the standard deviation is minimal (0.4), and the cluster's average inverted z-score (2.6) is evidently worse than the average z-score of the sample (7.9). The *HHI* average inverted z-score of the cluster (7.8) is also less appealing than the average z-score of the sample (15.7). However, this variable presents a moderate standard deviation (4.9), being Honduras' inverted z-score positioned clearly below the peers.
	Economic Dimension In terms of the *Unemployment Rate*, this cluster performed worse than the average sample. The average inverted z-score (3.9) is lower than the average z-score of the sample (7.3). Therefore, this variable can partially explain the generation of this cluster, due to the low standard deviation (2.3). However, these countries present quite disperse values for the remaining variables in this dimension. The correspondent standard deviations are moderately high, not being these good sources of similarity.

	SocioPolitical dimension **This cluster performed well in SocioPolitical terms. The *Cultural Difference Index* can be considered a proximity factor, since the standard deviation is low (1.3), and the average inverted z-score (8.1) is better than the average z-score of the sample (5.4). This means that these countries are culturally close to Portugal, in relative terms.** In contrast, the high standard deviation of the *Political Risk Index* (11.2) means that no similarity can be found here.
Cluster 21: Brazil, South Africa, Moldova, and Argentina	**Demographic dimension** **This cluster is wealthy in demographic terms. Both the *Annual Population Growth Rate* and the *Population by Age Group (15 to 64 years old)* average z-scores (39.3 and 6.4, respectively) are higher than the average z-scores of the sample (38.6 and 4.2, respectively)**
	Industrial Dimension These countries present quite disperse values for the variables in this dimension. This translates into moderately high standard deviations, and so these are not good sources of similarity.
	Market Attractiveness Dimension Following the above reasoning, the *HHI* and *Corporate Tax Rate* register moderately high standard deviations (5.2 and 5.6, respectively), and so these are not the best sources of similarity. However, the cluster performed better than the average sample, in both variables.
	Economic Dimension In terms of the *Unemployment Rate*, this cluster performed worse than the average sample. The average z-score (2.8) is lower than the average z-score of the sample (7.3). Therefore, this variable can partially explain the generation of this cluster, due to the low standard deviation (1.7). However, these countries present quite disperse values for the remaining variables in this dimension. The correspondent standard deviations are moderately high, not being these good sources of similarity.
	SocioPolitical dimension The *Cultural Difference Index* is a proximity factor and the cluster performed worse than the average sample. Thus, these countries are culturally more distant from Portugal, in relative terms, than the average sample. By its side, the high variability of the *Political Risk Index* (standard deviation of 8.9) indicate that no similarity can be found.
Cluster 22: Kuwait, Oman, and Uruguay	**Demographic dimension** The *Population by Age Group (15 to 64 years old)* z-scores of Kuwait, Oman and Uruguay are very similar (standard deviation of 0.1) and all around 1, thus lower than the average z-score of the sample. This is an explanatory factor for the generation of the cluster. In contrast, the high standard deviation (15.7) of the *Annual Population Growth Rate* means that no similarity can be found.

	Industrial Dimension This cluster performed, on average, worse than the average sample, in all the variables that characterize this dimension. The *Education Index,* the *Government Expenditure on Education (% of GDP)* and the *Computer, Communications, and other services (% of commercial service imports)* average z-scores (51.1, 25.4 and 40.7, respectively) are below the correspondent average z-scores of the sample (64, 41 and 47, respectively). However, the moderately high standard deviations (9.7, 15.1 and 7.2, respectively) indicate that these conclusions may be misleading. Oman is contributing to this variability, thus harming the cluster's performance.
	Market Attractiveness Dimension This cluster is not wealthy in terms of market attractiveness. Both the *HHI* and the *Corporate Tax Rate* are forcing these countries into the same clusters. The correspondent average inverted z-scores (7.1 and 5.7, respectively) are less attractive than the average z-scores of the sample (15.7 and 7.9, respectively). Their standard deviations are moderately low.
	Economic Dimension **Both the *Unemployment Rate* and the *GDP Growth* are proximity factors, due to their low standard deviations. By one side, in terms of the *Unemployment Rate*, this cluster performed, on average, better than the average sample.** By the other side, the *GDP Growth* average z-score (32.5) is lower than the average z-score of the sample (52.4). However, regarding the *PPP* and the *Inflation*, these countries present quite disperse values. The correspondent standard deviations (19.9 and 14.8, respectively) are high, not being these good sources of similarity.
	SocioPolitical dimension These countries present quite disperse values for the *Cultural Difference Index* and the *Political Risk Index*. This translates into moderately high standard deviations (9.7 and 7.5, respectively), and so these are not the best sources of similarity.

Cluster 23: El Salvador, Guatemala, Thailand, and Sri Lanka	**Demographic dimension** These are not large countries, being the *Population by Age Group (15 to 64 years old)* average z-score (2.9) evidently lower than the average z-score of the sample (4.2). This variable can partially explain why these countries were forced into the same cluster. In contrast, the high standard deviation of the *Annual Population Growth Rate* (12.7) means that no similarity can be found. Guatemala is the country with the highest growth in populational terms (average z-score of 53).
	Industrial Dimension These countries present quite disperse values for the variables in this cluster. This translates into moderately high standard deviations, and so these are not the best sources of similarity.
	Market Attractiveness Dimension The *Corporate Tax* is a proximity factor. Regarding this variable, this cluster performed worse than the average sample. The average inverted z-score (2.9) is lower than the average z-score of the sample (7.9), and the standard deviation is minimal (0.8). However, the *HHI* inverted z-scores are dispersed over a wide range, not being this a good source of similarity.

	Economic Dimension
	In terms of *Inflation*, this cluster performed worse than the average sample, and this variable partially explain why these countries are grouped together. The correspondent average inverted z-score (25.3) is lower than the average z-score of the sample (39.8), and the standard deviation is low (3.3). Moreover, the remaining variables present high standard deviations, thus did not impacted the generation of the cluster
	SocioPolitical dimension
	The *Cultural Difference Index* average inverted z-score (5.6) is slightly better than the average z-score of the sample (5.4), being this an explanatory factor for the generation of the cluster. Contrarily, the high standard deviation (10.6) of the *Political Risk Index* means that no similarity can be found.

Cluster 24: Qatar	**Demographic dimension**
	Qatar's *Annual Population Growth Rate* z-score (58.2) is greater than the average z-score of the sample (38.6). However, Qatar is a relatively small country in terms of *Population by Age Group (15 to 64 years old),* being the respective z-score equal to 1.2.
	Industrial Dimension
	Qatar performed badly in all the variables that represent this dimension. The *Education Index*, the *Government Expenditure on Education (% of GDP)* and the *Computer, Communications and other services (% of commercial service imports)* respective z-scores (57.6, 6 and 25.1) are below the correspondent average z-scores of the sample (64, 41 and 47)
	Market Attractiveness Dimension
	The *HHI* inverted z-score of Qatar (9.3) is worse than the average z-score of the sample (15.7), which would not be good for ED**. However, the huge *Corporate Tax Rate* inverted z-score of 31.7 makes this country an attractive market for the company.**
	Economic Dimension
	By one side, both the *Unemployment Rate* and *PPP* inverted z-scores (100 and 95.5, respectively) are better than the average z-scores of the sample (7.3 and 82.7, respectively). By the other side, both the *GDP Growth z-score* and the *Inflation* inverted z-score are worse than the correspondent average z-scores of the sample.
	SocioPolitical dimension
	Qatar performed well in terms of the *Political Risk Index*, since the correspondent z-score (64.4) is higher than the average z-score of the sample (56.3). Hoiwever, the *Cultural Difference Index* inverted z-score (2.3) is lower, and so worse, than the average z-score of the sample (5.4).

Cluster 25: China	**Demographic dimension** **China is the most populous country in the world, being the *Population by Age Group (15 to 64 years old)* z-score equal to 100.** This country also registers a high Annual *Population Growth Rate* (z-score of 25.9), despite being lower than the average z-score of the sample (38.6).
	Industrial Dimension **By one side, China's *Government Expenditure on Education (% of GDP),* which is equal to 49.7, is higher than the average expenditure of the sample (41).** By the other side, regarding the *Education Index* and the *Computer, Communications and other services (% of commercial imports)*, China performed worse than the average sample.
	Market Attractiveness Dimension **The *HHI* inverted z-score (19.3) is higher than the average z-score of the sample (15.7), being this a good indicator in terms of competition. This is an appealing factor for ED, when deciding its internationalization strategy.** However, the relatively low *Corporate Tax Rate* inverted z-score of 2.8 does not make this country an attractive market**.**
	Economic Dimension **China is the second-largest economy in the world, in terms of total GDP** (Silver 2020)**, also registering a huge *GDP Growth* z-score (95.6).** Also, China's *Unemployment Rate* and *Inflation* inverted z-scores (6.3 and 38, respectively) are worse than the worldwide average z-scores (7.3 and 39.8, respectively). **The *PPP* reverses this trend, since the correspondent China's inverted z-score (92.3) is better than the average z-score of the sample (82.7).**
	SocioPolitical dimension China is not wealthy in SocioPolitical terms. Both the *Cultural Difference Index* inverted z-score and the *Political Risk Index* z-score (1.2 and 25.8, respectively) are worse than the average z-scores of the sample (5.4 and 56.3, respectively).