

Master of Science in Business Administration

# CGC Genetics Case Study

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A Portuguese SME in a global market

**Author:** Inês Oliva

**Advisor:** Nuno Cardeal

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# ABSTRACT

**Title:** CGC Genetics Case Study: A Portuguese SME in a global market

**Author:** Inês Braz Oliva

This master thesis is divided in three parts: case study, literature review and teaching notes, aiming to provide a real business case used for class discussion in a strategic-based course, where students can apply strategic frameworks and their knowledge in an authentic case.

CGC Genetics was the first private medical genetics laboratory in Portugal in 1992. In 2012, CGC offers abroad more than 1500 laboratory and clinical tests that cover all medical areas. In order to provide the best and complete services, besides the laboratory services, the company also provided consults medical genetics and psychological support. In 2012, CGC was supplying 32 countries through the laboratories in Portugal, Spain and United States of America. However, the internationalization to both countries, Spain and United States was troubled. The company was not successful when it entered at the first time into Spain, so there was a need to take strategic decisions to improve this situation. However, due the experience gained through the internationalization to Spain, CGC entered in the U.S. market as an American firm, which significantly reduced the barriers. As the company ensures the major capacity in Oporto and the perception about Portugal and Portuguese products or services, in addition to the high protectionism, have a strong impact on CGC's strategy.

The second part namely literature review, contains the relevant theory necessary to interpret and analyze the case study and to solve the assignment questions, one of the topics present on last section, teaching notes. This last content provides instructor guidance with suggested assignment questions as well the possible solutions for those discussion topics.

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# CASE STUDY

## 1. Introduction

Over the years, the family owned Centro de Genética Clínica e Patologia SA (CGC) proved itself as a strong national player. In 2007 celebrating the fifteenth anniversary, the company was facing several difficulties in the domestic market and being passive regarding many international opportunities. The strategy of internationalization intended to reduce the risk of exposure to the domestic market due to the small dimension and to anticipate the crisis. Also considering the number of certifications, which are essential for a successful internationalization of a firm that belongs to the Innovation and Development segment, and the health financial structure, the Portuguese group perceived the urgent need to expand business activities and explore those opportunities abroad, creating the first branch in Spain, in 2007.

The internationalization to Spain was troubled and unsuccessful as a Portuguese Company. At that time, there was a need to apply a new strategy in order to be accepted into the Spanish market.

In 2008, CGC Genetics perceived that U.S. were presenting several opportunities and high demand by receiving requests from hospitals and laboratories in such market, which made the company choose New Jersey State for their landing.

After one year, CGC still not being successful in Spain and decided to acquire two small genetic laboratories in Madrid, Spain. At that time, besides the decision about direct entry in United States, the company was expanding internationally and got growing the number of contracts in several countries, for instance the most prestigious hospitals in Saudi Arabia.

Nowadays, the CGC's process of internationalization started, independently of the country, by exports. By establishing contracts, some through contests, with various and different entities, CGC was able to increase the portfolio of clients, taking advantage from its quality certifications and consolidate an international position. Since the foundation that CGC had as objective provide their quality services in the domestic and in the international market.

Due the direct entry mode in Spain and in U.S., CGC mainly exposed the difficulties faced during these internationalizations, referring that the activities' extension was natural, however troubled regarding the protectionism of both countries and the fear of Portuguese economic situation. CGC was facing several difficulties, challenges and there was a need to consider multiple aspects of such markets and take decisions.

## 2. Company overview

CGC Genetics was the first private medical genetics laboratory in Portugal that offers abroad more than 1.500 medical genetic testing that covers all medical areas. In 2012, CGC was composed by five different laboratories (molecular diagnostics, clinical genomics, cytogenetic, anatomic pathology and prenatal screening) that were strongly linked.

Besides the laboratory industry, its core activity, CGC Genetics complements this area with medical genetics consult and psychological support, in order to provide the best service in laboratory and consequently in counseling. When the geographical distance did not allow the proximity with the patient, CGC provide a medical analysis report in order to support and guide the medical professionals. Accordingly to AICEP Portugal Global:

*“CGC Genetics has been the leading provider of specialty genetic tests in Portugal and has grown into one of Europe’s major clinical laboratories.<sup>1</sup>”*

In 2012 the CGC Group was present in 32 countries that represents over 60 national and worldwide contracts and partnerships agreements with hospitals, clinics, insurance companies and other laboratories. Those genetic tests are performed by the three national and international laboratories of CGC that were present in Portugal, Spain and USA respectively, Oporto, Madrid and New Jersey. In 2012, the revenue from international services already represented 30 per cent (See **EXHIBIT 1**) of the total turnover, wherein a client from Saudi Arabia was the most significant client. CGC was also supplying countries such as: Canada, Mexico, Bahrain, Thailand, Jordan, Australia, Dubai and Vietnam.

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<sup>1</sup>CGC Genetics' website  
Available at: <http://www.cgcgenetics.com/cgc/pt/main/informacao-corporativa/Noticias-visiveis/2011/Centro-de-Gen-tica-Cl-nica---o--nico-laborat-rio-da-Pen-nsula-lb-rica-a-promover-o-rastreio-do-cancro-do-c-lon-em-sangue-perif-rico.html> [Accessed October 7<sup>th</sup> 2013]

The company receives samples from all over the world, national and international, public and private entities that represented in 2012 more than €4 million of revenue. In the same year, CGC presented a growth of 25 per cent comparing with the previous year analyzing more than 50.000 genetic tests per year.

## 2.1. The Origin

The origin of CGC Genetics dates back to June of 1992 when Purificação Tavares, professor of genetics and medical geneticist, returned from the United States of America and decided to use her expertise to create CGC ,as a complement of Consulta de Genética Médica (medical genetics Consults), that already existed since 1983.

*“That time in New York was decisive to return with enough energy to launch the Centro de Genética Clínica. I had energy, initiative and I was strongly motivated.”<sup>2</sup>*

At that moment, Purificação Tavares considered that there was a lack of efficiency by the existent public laboratories, regarding the time and the costs to perform the genetic tests.

With Amândio Tavares, her father that was also the first professor of medical genetics, and Carmo Palmares, a biologist who that managed the cytogenetic laboratory, was created the first private medical genetics laboratory in Portugal. By increasing the competition and improving time and costs, the public entities were in disadvantage with the necessity of refine strategies.

The origin was marked by a challenged environment by using own resources and bank loan without soliciting venture capital. The enormous investment and the recognition from the others were the main issues at the beginning. For these reasons the board of directors decided to

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<sup>2</sup>(2008). Farmacogenómica e individualizaçãodo tratamento - Implicaçõesna terapêutica do cancro do ovário. Ser Saúde:48-51  
Available at: [http://biblioteca.isave.pt/publicacoes/revistas/SER\\_SAUDE\\_10.pdf](http://biblioteca.isave.pt/publicacoes/revistas/SER_SAUDE_10.pdf) [Accessed October 9<sup>th</sup> 2013]

participate in several external evaluations, quality certifications and international quality audits that mean technical quality and ensure procedures established internationally.

## **2.2. CGC's Evolution in Portugal**

Since the year of the foundation, in 1992, CGC's evolution was continuously marked by being pioneer (see **EXHIBIT 2**). In addition of being the first private laboratory of medical genetics, in the same year CGC was the responsible of prenatal screening.

The niche of potential clients was mainly present in Lisbon. Concerning this, CGC considered that there was a need and consequently an opportunity to establish, in 2006, a laboratory in the capital of Portugal due the proximity with the client and with the patient.

Since the first year operating CGC committed itself to high quality standards by submit to diverse national and international quality assessments with the mission of *“provide the medical community with the most advanced forms of diagnosis in the field of Medical Genetics<sup>3</sup>”* by developing new genetic tests and techniques, at an affordable price, to improve the time waiting and the precision of medical diagnostics, for patients, and tools for health care professionals.

In 2007, CGC was once again a pioneer by being the first Portuguese laboratory obtaining the CLIA license, Clinical Laboratory Improvement Amendments<sup>4</sup>, issued by Health department and Human Services (USA) that establishes quality standards accordingly to United States legislation and mandatory to operate in this market. However, this license was not enough to operate in some other states in U.S. and as CGC was so committed with quality and excellence, CGC was certified to operate in California through the achievement of Clinical Laboratory License for the U.S. state of California, a rigorous and strict state legislation, in 2009.

As philosophy of the company, CGC always reinvested the totality of the results, from the previous year, in R&D, technologies, equipment's and human resources. This investment followed by rigorous quality politics allowed CGC Genetics to develop “in house” new

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<sup>3</sup> CGC's mission

Available at: <http://www.cgcgenetics.com/cgc/main-en/About-Us/Mission-and-Strategy.html>

<sup>4</sup> *Centro de Genética Clínica e Patologia integrada a Rede PME Inovação COTEC*, COTEC Portugal [Online]. Available at: [http://www.cotecportugal.pt/?option=com\\_content&task=view&id=475](http://www.cotecportugal.pt/?option=com_content&task=view&id=475) [Accessed October 9<sup>th</sup> 2013]

techniques and tests, some of them with submitted patented, recognized at a global level. Research, Development and Innovation were three crucial pillars for the evolution of the company over the years.

Generally, CGC invested around 15 per cent<sup>5</sup> of the turnover in R&D&I (Research, development and Innovation) in order to improve and diversify the services' portfolio at sustainable way, fundamentally possible due the complementarity among all departments.

CGC was always focused in maintain and, when it was possible, increase the employment in the origin country. However, in 2007 there was a need of expand the activity internationally. As Purificação Tavares explained in an interview to Jornal de Negócios:

*“Regarding the small dimension of the national market was natural, and almost mandatory, the internationalization process.”<sup>6</sup>*

Although all internationalizations, the Portuguese market was always a priority for the firm where was necessary to develop efficiency gains to resist to the crisis by offering lower prices than the public competitors. What allowed this was research, development, innovation and quality that permitted the company to gain distinctive awards. For instance in 2012, CGC received “SME Leader status 2012” an initiative of IAPMEI.

Until 2012 CGC was 100 per cent Portuguese and private, without benefit from financial state support or European funds. With a constant investment and with the objective of improve and increase the set of services to offer, CGC gained international market showing an exponential growth over the years and achieving, in 2012, 50 per cent of the Portuguese market share and a solid international presence.

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<sup>5</sup>«Candidatura ao Prémio Biotecnologia Prémios Hospital do Futuro 2010/2011» Available at: [http://groupvision.info/media/hdf/premios2011/biotech/02\\_baby.pdf](http://groupvision.info/media/hdf/premios2011/biotech/02_baby.pdf) [Accessed October 30<sup>th</sup> 2013]

<sup>6</sup> Machado, A. (2011) “Em Portugal analisa-se a genética de todo o mundo.” Jornal de Negócios Online

### 2.3. For the future, we prefer to build the present

In 2012 CGC still wanted to consolidate itself internationally through the three subsidiaries, aiming to be the Europe's major laboratory of genetics. The company was facing a domestic contraction regarding the decrease of consumption of their services and the increase of debt by the state hospitals. Thus, some of the medium term objectives were based on increases the exportats by establishing partnership agreements and contracts with international entities.

The objective-base of the company over the years was an optimization of resources in order to achieve useful and accessible genetic tests. CGC proved itself that was prudent and careful without taking unnecessary risks, by evaluate the risk of each possible project by the R&D department, where each new possible business unit obtain a numeric value based on the analysis done and will be processed accordingly to the order of less risky – R&D&I process (See **EXHIBIT 3**). The implementation and certification of R&D&I (Research and Development and Innovation) Management System had allowed a sustainable growth through a transformation of knowledge into a competitive advantage national and internationally, which was extremely relevant to the internationalization strategy. For these reasons, the company recognized that it is important to improve this Management System considering that it will help managing internal creativity and orienting management innovation.

The CEO of CGC had clearly defined the objectives for the forward years:

*“Maintain the leadership as a international reference laboratory, expand internationally, obtain economies of scale and reduce costs<sup>7</sup>.”*

The strengthening of CGC's position in the future will be based on strategic alliances and affiliations in the domestic and international markets and Purificação Tavares ads:

*“It is not easy, but it is possible. We must have a distinctive factor and an added value in our business regarding the competition to achieve contracts with international prestigious hospitals.<sup>8</sup>”*

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<sup>7</sup>October 18<sup>th</sup> 2011, *Jornada AEP: Portugal tem voltar a ter indústria forte.*

Available at: <http://www.dinheirovivo.pt/Economia/Artigo/CIECO018816.html> [Accessed October 30<sup>th</sup> 2013]

Always focused on innovation, CGC had plans to bet in Telemedicine in order to better support the international clients with an excellence and innovative service, vital factors to be successful in international expansion strategy in medical genetics area<sup>9</sup>. The idea was based on a free iPhone/ iPad application, available in Portuguese, English and Spanish, that contains actual and useful information's about genetics.

The Board of Directors of CGC believes that the future of the health industry goes through prevention of diseases and pharmacogenetics, through early genetic diagnosis. The company believes that this investment, on these innovative areas, will allow building a sustainable and competitive strategy, and decrease the costs by reducing the expenses on diagnostic and consequently on treatments. However, CGC is not only innovative on products but also on the organization, by implement new processes, new methodologies (hands-on) and new ideologies (free-paper).

#### **2.4. “Made in Porto” for all over the world**

CGC Genetics' expansion outside Portugal started in 2004 when started emerging some opportunities internationally. At that time, CGC was registered in two medical directories, one European (Orphanet<sup>10</sup>) and other American (Genetic Testing Registry (GTR)<sup>11</sup>). In these directories was provided genetic test information (test's purpose and its usefulness, methodology, validity) and company information (contacts, localization and credentials), submitted by providers; medical professionals can easily find information about CGC. Also through international reference meetings, CGC was able to provide information about itself and to be known internationally; for instance, it was performing genetic tests for few American entities, for instance Mayo Clinic, a prestigious American clinic.

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<sup>8</sup>September 2010, «Portugal Inovador», Jornal Público, pp. 6-8.

Available at: <http://paginaexclusiva.pt/userfiles/files/pagina%20exclusiva%208%20NET.pdf> [Accessed November 1st2013]

<sup>9</sup> June 2007, «CGC Centro de Genética Clínica comemora 15 anos de actividade laboratorial», Newsletter June 2007

<sup>10</sup> [www.orpha.net](http://www.orpha.net)

<sup>11</sup> <http://www.ncbi.nlm.nih.gov/gtr/>

The main strategic objective of CGC was to establish strategic alliances and affiliations worldwide in order to increase the clients' portfolio and to take advantage from economies of scale and offer competitive prices.

Although CGC started exporting services to foreign countries in 2004, the volume of sales was not significant. 2007 was the year in which the company decided to export for all over the world. At that moment, the reduced demographic and geographic dimensions of Portugal, the technological capacity available and the know-how acquired were the main reasons that made the company start the internationalization process.

The national and international success of CGC Genetics was dependent of itself and of the success of relationships with third-parties. CGC was capable to globalize due the connection with public and private entities such as representatives and partnerships with hospitals, clinics, insurance companies and other laboratories. Purificação Tavares explained the objective of these strategic alliances and affiliations:

*“The internationalization of CGC is based on a strategic distribution of teams in different and influent key-points to achieve various geographic, economic and cultural markets, however maintaining the major decisions at headquarters in Oporto.”<sup>12</sup>”*

In 2007, due the proximity and similar culture, CGC created a Portuguese branch in Spain. However, CGC was not having success without achieving the objectives. It was difficult to establish contracts or even create partnerships by being a Portuguese company. Over the years the group continuously invested in this country where in 2009 acquired two small local laboratories.

In 2008, CGC decided to internationalize to United States of America in a directly way creating an American brand office denominated by CGC Genetics, Inc. Besides the exportations to the U.S. market already done since 2004, the demand for CGC' services was increasing and consequently was an opportunity to be more present in U.S.

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<sup>12</sup>April 2010, «Inovação em genética portuguesa marcapresença no mundo»

Available at:

[http://www.rcmpharma.com/taxonomy/term/23/index.php?page=392&revistapreview=&menu\\_id=16&idvm=1043&destino=1&vmb=true&sub=go&mr=&quicktabs\\_1=0](http://www.rcmpharma.com/taxonomy/term/23/index.php?page=392&revistapreview=&menu_id=16&idvm=1043&destino=1&vmb=true&sub=go&mr=&quicktabs_1=0) [Accessed October 7<sup>th</sup> 2013]

2009 was an imperative year for CGC regarding the increase of international presence. In this year, the group also established one contract with a hospital with significant relevance in Saudi Arabia, where was accorded that CGC would total and exclusively supply this hospital with genetic services. Purificação Tavares explained in an interview to “Jornal Oje”:

*“It is motivating to know that the treatment of leukemia patients from Saudi Arabia and from other countries is oriented by tests performed by us in Oporto.”<sup>13</sup>”*

Besides the branches in Madrid and in New Jersey, since the moment that CGC decided to expand its services the main reason was to increase the volume of services supplied by the Oporto laboratory by having the major capacity and assets of high-technology and human resources. This is, even a hospital requires a genetic test to CGC España or CGC Genetics Inc, there is an enormous probability of that test be processed in Oporto.

To be competitive at national and internationally level, CGC was always focused in investing in R&D in order to present innovative and exclusive solutions that had allowed the development of new and exclusive genetic tests by using the most recent technology. It was in 2009 that CGC developed ARRAY CGC that was based of simultaneous diagnostic of various clinic entities that share a set of clinic characteristics, avoiding the conventional methodology of studying a different sequence of genes<sup>14</sup>. These innovative and exclusive tests, with submitted patent, have been very successful globally what have increased the reputation and the recognition of CGC worldwide.

Besides others new international contracts established over the years, in 2010 CGC started to provide services to Mexico and after one year, Uruguay and Dubai that in 2012 were three important clients regarding the turnover comparing with the 32 countries for CGC was exporting.

Each internationalization strategy developed was unique and differentiated from others due the different factors and barriers that might affect the process, for instance geographical distance that

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<sup>13</sup> Available at: [http://www.oje.pt/gente-e-negocios/entrevistas/purificacao-tavares-o-maior-risco-  
hoje-e-ter-uma-empresa-em-portugal](http://www.oje.pt/gente-e-negocios/entrevistas/purificacao-tavares-o-maior-risco-<br/>hoje-e-ter-uma-empresa-em-portugal)

<sup>14</sup> «Candidatura ao Prémio Biotecnologia Prémios Hospital do Futuro 2010/2011»  
Available at: [http://groupvision.info/media/hdf/premios2011/biotech/02\\_baby.pdf](http://groupvision.info/media/hdf/premios2011/biotech/02_baby.pdf) [Accessed October 30<sup>th</sup> 2013]

usually leads with different legal and ethical issues. Another and significant internationalization barrier considered by Purificação Tavares was “*being a Portuguese SME in a global market.*”<sup>2</sup>

The progress of internationalization forced the company to be able to present the reports with three or more languages and work seven days per week in order to be compatible with clients, for example Arab clients<sup>15</sup>.

Over the years, CGC amplified the range of international clients and it is correlated with the increase of revenue from foreign countries that represented in 2009, 4 per cent and in 2012 already represented 27 per cent forecasted to increase next year (See **EXHIBIT 4**). This international evolution was possible essentially due to the innovation focus by offering to the world useful and innovative tests. In 2012, the Portuguese was worldwide present, supplying services for the five continents (see **EXHIBIT 5**).

## **2.5. National and International risks**

The risks were mainly correlated with the worldwide economic and financial crisis. The deep reduction on public budgets to spend in health by the governments and the contraction of purchase power were some external factors that affected the company.

At national level, CGC faced essentially difficult recoveries by the most relevant client, the government state, through the purveyance of services to public entities, some of them with over two years debt. The recession strongly affected the Portuguese market by increase the general costs and the interest rates, that generate uncertainty about the future by the Portuguese companies and insurance by the foreign companies that recruit products or services from those. There was a need of being prudent and careful in all decisions taken.

Internationalization leads with additional and different risks comparing with the national market. Geographical distance associated with different currency, language and ethical and legal discrepancies were common and transversal barriers faced during the internationalization process. As Purificação Tavares explained to “Jornal Sol” in an interview:

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<sup>2</sup>October 18<sup>th</sup> 2011, *Jornada AEP: Portugal tem voltar a ter indústria forte*. Available at: <http://www.dinheirovivo.pt/Economia/Artigo/CIECO018816.html> [Accessed October 30<sup>th</sup> 2013]

<sup>15</sup>September 26<sup>th</sup> 2010, *GCGC Genetics prestigia ciência portuguesa*, Portugal Global [Online]. Available at: [http://www.portugalglobal.pt/PT/PortugalNews/Documents/Revistas\\_PDFs/Portugalglobal\\_n26.pdf](http://www.portugalglobal.pt/PT/PortugalNews/Documents/Revistas_PDFs/Portugalglobal_n26.pdf) [Accessed October 9<sup>th</sup> 2013]

*“It is impossible to change the damage of Portuguese image as a country. When we start a meeting, it is unavoidable to answer about the Portuguese financial crisis’ questions.”<sup>16</sup>”*

In the same interview, the president and CEO of CGC considered that the main risk of the company was:

*“Being a Portuguese company, with 70 employees with high-tech on health sector, with debt of various years from state hospitals... It is a risk.”*

### **3. The cases of Spain and United States of America**

#### **3.1. CGC and the competitive environment**

Diagnostic and medical laboratories are crucial on healthcare industry regarding the perpetual necessity of their services of investigation, identification and prevention of diseases.

Despite the global economic and financial crisis, this industry presented overall positive results however, with more moderate growth rates since the start of the recession in 2008. Concerning the crisis, households’ health expenditures had been decreasing due the decline of the income that represents a diminishing of purchasing power even in health services. In 2012 was expected that 9.3 per cent<sup>17</sup> of the GDP of OECD countries will be spent in health, instead of 9.5 per cent in 2011<sup>18</sup>. In the same year, United States of America was the country that spent more on health, 17.7 per cent of its GDP, comparing with the remaining countries that belong to OECD with an average of 9.5 per cent<sup>19</sup> (See **EXHIBIT 6**).

The worldwide economic crisis and the consequent austerity were affecting the health industry by decreasing the government spending due the reduction in public budgets. However, in a long term perspective, it was expected to grow significantly over the forward decade. The expected improvement of worldwide economic situation conciliated with the population lifetime that have

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<sup>16</sup> Available at: [http://www.oje.pt/gente-e-negocios/entrevistas/purificacao-tavares-o-maior-risco-  
hoje-e-ter-uma-empresa-em-portugal](http://www.oje.pt/gente-e-negocios/entrevistas/purificacao-tavares-o-maior-risco-hoje-e-ter-uma-empresa-em-portugal) [Accessed on 5<sup>th</sup> November]

<sup>18</sup> Available at: [http://www.oecd.org/els/health-systems/health-spending-continues-to-stagnate-says-  
oecd.htm](http://www.oecd.org/els/health-systems/health-spending-continues-to-stagnate-says-oecd.htm) [Accessed on 5<sup>th</sup> November]

<sup>19</sup> Available at: <http://www.oecd.org/portugal/Briefing-Note-PORTUGAL-2013.pdf> [Accessed on 5<sup>th</sup> November]

increased over the years, technologic and scientific advancements and increasing health, and more specifically, preventive care concerns are also driving the market to grow. The trend considering a long term perspective for CGC was forecasted to be parallel to the industry, forecasted to accelerate.

Over the years, the healthcare industry has intensified R&D and technology that allow being highly advanced and competitive. The combination of both has been useful for the industry by helping to reduce costs and to find out more, and more efficiently, medical treats. Being present in an industry which the price is a crucial factor, as for the patient as for the business-to-business' relationships, there is a need to be competitive for instance through product differentiation.

This industry is strongly pressured by various regulators through rigorous and strict legislations that establish conduct processes, conditions, quality standards and several other legal issues which are different to each country, rising difficulties to operate in this market. However, samples are free to travel over the world regarding customs issues.

As it was referred before, this market is highly competitive regarding the size and the number of players. It is expectable that companies have difficulties to differentiate its products and services, what made companies extremely focused on price. However, CGC by strongly betting in R&D&I was able to provide differentiated and exclusive services at an affordable price, essentially due the advantage of economies of scale. In 2012, CGC had 50 per cent of share market that means that was the major national player. Purificação Tavares ensures that CGC is successful when competing internationally "*with any genetic laboratory worldwide*". The Portuguese company by being worldwide present competes with the major American and German Laboratories for instance Baylor's, Mayo Clinic, Labcorp, among others big laboratories.

Each country has its own health system offering various services for instance laboratory medicine services. Diagnostic activities are essential in medicine mainly to decisions-taking and by being highly technological industry it has helped efficiency and health systems in general. This area represents 12 per cent of the health expenditures in Europe.

Over the years, people have increased concerns regarding health, start focusing more in early detection in addition to changes on demographic aspects, positively affected the diagnostic area.

The global crisis had an impact on general national health systems by increasing pricing pressures, which made companies being innovative to reduce costs and try to maintain similar profit margins. Private entities as well public such as hospital and clinics are trending to outsource medical laboratories instead of have their own. As a whole, it can be considered that companies operating in health industry are facing additional several pressures by increasing the minimum required standards of quality.

The creation of local subsidiaries in Spain and USA were complemented with a global divulgation and sustained strategy by supplying new, unexpected and exclusive products along with medical genetics support.

## **3.2. Spain**

### **3.2.1. Spanish market**

Accordingly to “*The Global Competitiveness Report 2012–2013*”<sup>20</sup> (See **EXHIBIT 7**) Spain was an innovation-driven economy in terms of stage development and ranked as the thirty-sixth most competitive country.

The Spanish market has faced difficulties to balance its public deficit, debt-to-GDP ratio and difficulties on banking system, which resulted on lack of confidence by foreign markets and consequently created barriers to access to affordable international financing. In December of 2011, the Spanish Government started developing reforms by increasing austerity accordingly to the European Union, to mainly reduce the public spending toward increase the country’s competitiveness and to create professional opportunities. One of the reform measures was to reduce the expenditures on Research and Innovation, which means the reduction of funding for those activities and consequently, firms are coming less innovative.

Besides the moderate-high level of unemployment in 2007, about 8 per cent<sup>21</sup>, since that year that this rate has exponentially increased reaching 25 per cent in 2012. Taxes are also following

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<sup>20</sup> This report is focused on competitive analysis that was based on 12 pillars: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication and innovation. Schwab, Klaus; Sala i Martín, Xavier, *The Global Competitiveness Report 2012-2013*, World Economic Forum.

this trend, increasing the constraints to access credit to households as well companies. In order to improve the financial situation, one of the various decisions taken by Government, was to increase three and two percentage points of VAT for the general and reduced categories reaching 21 per cent and 10 per cent, respectively. Regarding the super-reduced category still unchanged, 4 per cent.

The access to financing is the most problematic factor for companies that pretend to operate in Spain, in addition to the restrictive labor regulations<sup>22</sup>. However, the Spanish market offers one of the greatest transport infra-structure which may facilitate the internationalization.

Other measure was focused on National Health System and Education, which consists on adjust the resources efficiently toward generate €10 billion of savings.

### **3.2.2. Health industry in Spain**

As referred, health was one of the major areas hired by the Government reform measures established in accordance with European Union requirements. As the households' income has decreased, the consumption of health services follows the same trend, declining 2 per cent in 2012<sup>23</sup> comparing with the previous year.

The Central Government Administration, the autonomous communities plus the local councils, control the Spanish National Health System (SNHS) by establishing the standard principles, requirements and conditions to operate on public healthcare sector. The life expectancy at birth was 82.4 per cent this is about 2 per cent higher than the EU average.

The total healthcare expenditure, in 2011, was 9.3 per cent as a percentage of GDP, 0.3 per cent above the average comparing with countries that belong to the EU (see **EXHIBIT 8**).

The Spanish market is expecting to increase the number of sales and establishments related with testing laboratories (see **EXHIBIT 9**).

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<sup>21</sup> Available at: [http://www.kas.de/wf/doc/kas\\_8049-1442-1-30.pdf?121029115956](http://www.kas.de/wf/doc/kas_8049-1442-1-30.pdf?121029115956) : 2

<sup>22</sup> From a list of factors, respondents were asked to select the five most problematic for doing business in their country and to rank them. Available at: [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2012-13.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf): 326

<sup>23</sup> Available at: <http://www.euromonitor.com/consumer-health-in-spain/report>

As Spanish authorities implemented the same requirements accordingly to EU directives, a foreign company, if it belongs to this continent and if it followed the same standards and the same certifications are required, that company may operate in this market.

### **3.2.3. Overview of the Spanish internationalization**

In the same year that CGC Genetics was celebrating the 15th anniversary, 2007, was elaborated and executed the internationalization plan that started with activity in Spain. The need to expand the services and regarding the geographic proximity and culture similarity with Spain, made it the first choice.

Instead of start by exporting services to local entities, in order to test the market regarding their services and before invest in direct entry into a country, as it has recently been the company's strategy, CGC decided to start by the opposite, establishing a Portuguese branch, Centro de Genética Clínica.

In the Spanish health market exists an additional entry barrier to foreign countries, a huge protectionism of Spanish products and services. Essentially for this reason, the company was not successful as Portuguese company in this market. CGC participated in several contests with lower prices than other Spanish laboratories. However, in Spain seems that being Spanish is a crucial factor to be selected as supplier.

In 2009, there was a need of acquire two small laboratories in Madrid, Circagen and ADFTEcnogen, and create a Spanish brand/image, CGC Genetics España. As Purificação Tavares explained:

*“We first entry in Madrid as a Portuguese company. But this market is highly protectionist. Regarding this, we had to purchase a Spanish laboratory and invest in a Spanish image to be able to supply this market.”*

This decision was taken aiming to reduce the entry barriers, instead of continue with the own offices due, once again, the high protectionism present in Spain.

This acquisition was divided into two stages, firstly, CGC acquired the majority of the equity of both laboratories, 62.5 per cent, with an investment of €1.5 million; in the second phase, the option of purchase the remaining equity in two years if both laboratories achieved the objective for EBITDA previously established for those years. After one year, CGC was expecting that the laboratories will not achieve the EBITDA, and it happened. At the end date of the contract, Circagen and ADFTecnoGen did not achieve the expected result meaning that CGC was 100 per cent own of them without paying the remaining equity.

This acquisition allowed the firm to increase the clients' portfolio and supply the Spanish market with services that were already supplied in Portugal, expecting to reach between 7 and 12 per cent of market share in that market in the genetic testing sector.

In November of 2012, the company decided to merger the laboratories Centro de Genética Clínica, that existed but it was inactive, Circagen and ADFTecnoGen. The services supplied in those laboratories could be complemented and for the board of directors it makes sense to be just one laboratory. With a Spanish brand, CGC was expecting to reduce the barriers and to be well accepted in the market.

### **3.3. United States of America**

#### **3.3.1. American Market**

Although United States fell two positions, it occupies the seventh place on the Global Competitiveness Report<sup>24</sup>, which represents a very competitive market. Regarding the stage of development, it was classified as an innovation-driven economy. In spite of, in the same report, this largest country regarding the market size, was considered unstable in macroeconomic terms, it has improving its efficiency, innovation and sophistication (See **EXHIBIT 7**) and the continuous expenditure in research and development. Comparing with Spain, an American problem for doing business it is also the access to financing but the major are inefficient government bureaucracy in addition to high tax rates.

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<sup>24</sup> Available at: [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2012-13.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf)

The global crisis associated with the lack of agreement between democrats and republicans have disturbing the implementation of austerity measures that can be considered a combination of an increase in taxes and a reduction in public expenditure, mainly to reduce the budget deficit, which was in 2012 the lowest deficit since three years period before. The diminishing households' purchasing power as consequence of rising unemployment is one of the major economic indicators that show the U.S. market instability.

In July 2010 was implemented the DODD-FRANK Wall Street Reform and Consumer Protection Act that aims to promote the financial stability, increase the transparency on the financial system and protect consumers from financial exploitation. Regarding the foreign trade, United States was ranked in the top three of G20 members<sup>25</sup> responsible for implementing several protectionist measures.

Although the recession, financial market starts indicating a recovery presenting better results on banking system and it is forecasted to improve this situation by reducing the public debt on almost 3 per cent in 2013. However, these years of recession negatively affected the employment by decreasing it, achieving 8.1 per cent in 2012 instead of 4.6 per cent in 2007 of unemployment, before the downturn (See **EXHIBIT 10**). United States of America presented moderated positive results about 2 per cent<sup>26</sup> on the economic activity and it is expected to follow this trend.

Even though the existence of several social discrepancies for instance, race, income inequalities and youth unemployment, it offers a system friendly-to-business by providing flexible labor force and centers of entrepreneurship and innovation, for instance California's Silicon Valley.

### **3.2.2. Health industry in United States of America**

United States is the largest economy and the largest healthcare services market in the world. Over the years, both public and private expenditures on health have increasing, achieving respectively, in 2011, 8.5 and 9.2 per cent as percentage of GDP.

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<sup>25</sup> G20 or Group of Twenty composed by finance ministers and central bank governors of the largest economies represents the major economies in addition to European Union that aims to promote the worldwide growth and development.

<sup>26</sup> Available at: <http://www.bes.pt/SiteBES/cms.aspx?plg=5dfab447-ab50-4f85-9922-3100287cd209> : 9

However, the health industry in this market is based on an insurance system and predominantly private, which has affected population due the global crisis. Over the years, American population has faced enormous income inequalities, racism and employment decreasing hindering the insurance access. To improve this situation, on March 2010 the president of United States, Barack Obama, signed a reform measure, which pretends to decrease the barriers to access health services and make it less expensive, expecting to increase the government expenditures by \$1 trillion and improve the competition.

Focusing on testing laboratories in US market is forecasted to increase the sales as well establishments (See **EXHIBIT 11**).

### **3.3.3. Overview of the American internationalization**

It was in 2008 that CGC decided to enter into the American market due the high demand of their services by hospitals, clinics and medical professionals, even not being in United States. This is, when the group was only constituted by laboratories in Portugal and Spain, with few partnerships in such market, various American entities demonstrated interest in CGC's services. It identified opportunities and the risks of this internationalization and it decided to invest in this process.

As strategy, CGC always invested in R&D in order to create conditions to be successful in the international market. In other words, CGC strategically invested in innovative and useful genetic tests by using the most recent technologies thus, creating exclusive products that could be applied internationally. The main reasons that made increase the demand of United States by CGC's services were the latest innovations, ARRAY CGC®, exclusive tests that *“has seen increased demand for the panel<sup>27</sup>”* globally.

The board of directors decided that Newark<sup>28</sup> would be the city selected by CGC to establish its branches in United States based on efforts and campaigns done by Brick City Development Corporation (BCDC) and by the Newark government to attract Portuguese companies since

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<sup>27</sup> Available at:

<http://www.portugalglobal.pt/pt/portugalnewsarquivo2012/revistaimpresaestrageira/paginas/cgcgenetics,aclinicalgeneticstestingcompany.recentlyintroducedapanelforskeletaldysplasias.aspx>

<sup>28</sup> Newark is the largest city of New Jersey State of United States, by population (over 270.000 habitants).

2007<sup>29</sup>. The Deputy Mayor Stefan Pryor, Chairman of BCDC, explained the main reasons of having headquarters in Newark:

*“Newark makes enormous sense as the U.S. headquarters location for Portuguese businesses. Our city is a center of Portuguese culture and commerce in this country and is home to an international seaport and airport that make it an ideal base for any global operation.”*

At the initial stage, the company transferred two employees from Portugal to United States and to be committed with the residents of Newark, CGC recruits more six, mainly recently graduated in medicine. Besides the agreement already realized in 2004 with few American entities, the first partnership established was with the Faculty of Medicine from University of Medicine & Dentistry in New Jersey. About this partnership, Purificação Tavares commented:

*“This institutional affiliation is important to the American expansion, since it allows high visibility, besides projects and collaboration with the Medical Genetics Institute of this university<sup>30</sup>”.*

Since the foundation of CGC Genetics, Inc. that the objectives were to consolidate the position itself and growth in the American market by amplifying the number of partnership agreements and contracts. The certifications and licenses to operate in the American market, and specifically in California, give some competitive advantages and consequently allow CGC to supply this market in the future.

Over the years, CGC has faced several difficulties and challenges what defines the internationalization to the U.S. market as troubled. Recently located in Newark, CGC was accused by selling illegal online genetic tests. However, it was a mistake committed by the Health Department of U.S. that did not understand what was written on the official page of CGC<sup>31</sup> in 2008.

The critical Portuguese financial situation influences the performance and the image of CGC. Even being present in U.S. market, the main tests are performed in Oporto to reduce costs and to gain competitive advantage on price through economies of scale. However, this behavior is not

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<sup>29</sup> Available at: <http://bcdcn Newark.org/wp-content/upload/PressReleaseforCGCOpeningApril12010.pdf>

<sup>30</sup> Available at: <http://www.oje.pt/Imprimir.aspx?channelid=fd8d7bba-5b9a-4dad-8914-1fc7406a49ef&contentid=9b033b95-408f-40e8-99ef-e0993b281e24>

<sup>31</sup> [www.cgcgenetics.com](http://www.cgcgenetics.com)

well accepted by American entities. Purificação Tavares in an interview gave an example about how the company has been affected:

*“We already lost a contract with an American hospital in the last year due to the fear of the risk of our laboratory, by being located in Portugal.”<sup>32</sup>”*

With a politic of innovation and differentiation, CGC was building a sustainable strategy that had allowed increasing the portfolio of clients. In 2012, the Portuguese company was responsible to supply the most prestigious health institutions in the U.S. market, such as: Mayo Clinic, NYU Medical Center, Stanford Pediatrics Hospital, Children’s Hospital of Philadelphia and Ontario’s Ministry of Health.

#### **4. Outlook**

It had been a great time for CGC with a promissory future. Even the group was only established in Portugal, Spain and United States of America and in the future is not expecting to enter directly in other countries, the objective is to grow internationally through exports. Is it the company more successful without being physically presents internationally, or is it not being strategically competitive? Should CGC redefine the strategies?

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<sup>32</sup> Available at: <http://www.oje.pt/gente-e-negocios/entrevistas/purificacao-tavares-o-maior-risco-hoje-e-ter-uma-empresa-em-portugal>

## Exhibits

### EXHIBIT 1 - Evolution of sales from international services

	2009	2010	2011	2012	2013
<i>Exports/Turnover</i> (%)	4%	17%	20%	28%	>30 % <sup>e</sup>

e- Expected value

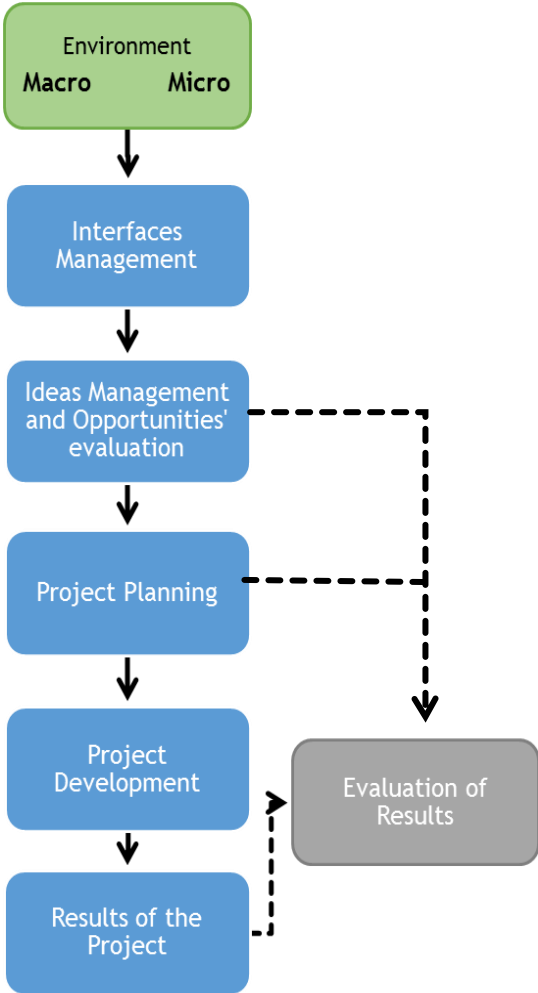
Source: CGC Genetics

### EXHIBIT 2 – The history of CGC was market by being pioneer

- 1st Private Medical Genetics Laboratory (1992)
- 1st Pre-natal Screening Program (1992)
- 1st Fetal Pathology Laboratory (1996)
- 1st Medical Genetics Laboratory with the certification ISSO 9001 (2004)
- 1st Portuguese Laboratory with CLIA certification (2007)
- 1st Laboratory with certification IDI NP 4457 (2009)
- 1st Laboratory with license to operate in California (2009)

Source: CGC Genetics

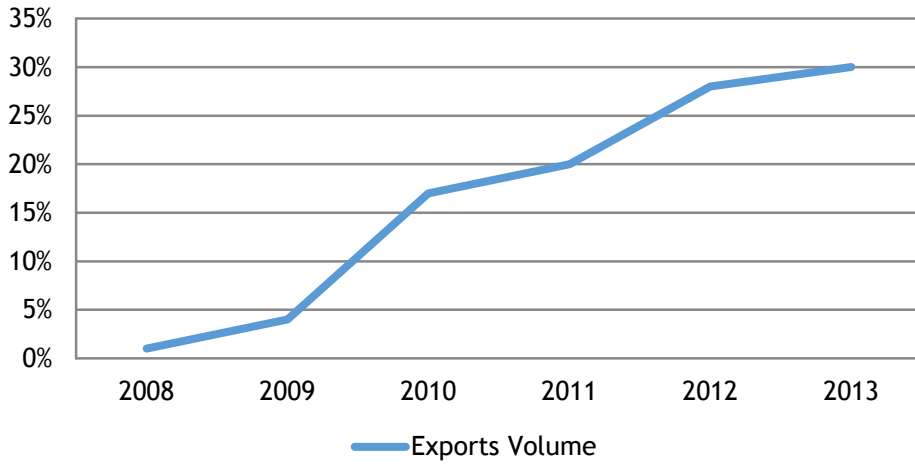
**EXHIBIT 3 – R&D&I Process**



Source:Cotec Portugal - <http://www.barometro.cotecportugal.pt/website/successpractices/case/cid/9>

**EXHIBIT 4 – Evolution of revenue from exportations**

**Exports Volume**



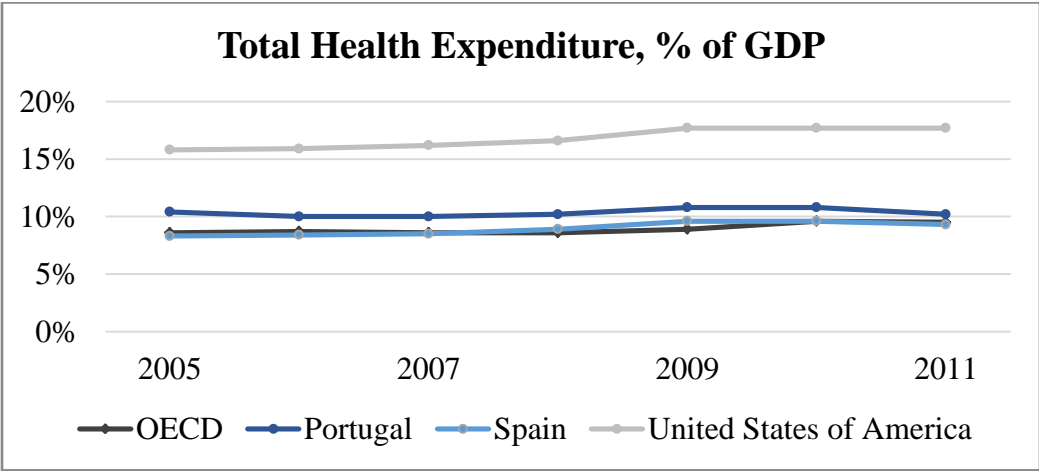
Source: CGC Genetics

**EXHIBIT 5 – Supplying services for the five Continents**



Source: CGC Genetics

**EXHIBIT 6 – Comparison of % of GDP spent on Health**



Source: OECD - <http://www.compareyourcountry.org/health/health-spending-gdp?cr=oeed&lg=en>

## EXHIBIT 7 – The Global Competitiveness Index 2012–2013: Efficiency enhancers

Country Pillars (Ranks out of 144 economies)	Portugal	Spain	United States of America
1. Institutions	46	48	41
2. Infrastructure	24	10	14
3. Macroeconomic environment	116	104	111
4. Health and primary education	30	36	34
5. Higher education and training	30	29	8
6. Goods market efficiency	61	55	23
7. Labor market efficiency	123	108	6
8. Financial market development	99	82	16
9. Technological readiness	28	26	11
10. Market size	48	14	1
11. Business sophistication	54	32	10
12. Innovation	31	35	6
<b>Overall rank</b>	<b>49</b>	<b>36</b>	<b>7</b>

Source: The Global Competitiveness Report 2012-2013

**Exhibit 8 – Evolution of some macroeconomic indicators in Spain**

Spain	2007	2008	2009	2010	2011	2012
GDP per capita (USD)	32.216	33.131	31.951	31.475	31.607	32.081
Household disposable income (Annual growth,%)	3,2	3,3	1,8	-4,5	-2,3	-5,1
Real GDP growth (Annual growth, %)	3,5	0,9	-3,8	-0,2	0,1	-1,6
Government deficit (% of GDP)	2,0	-4,5	-11,1	-9,6	-9,6	-10,6
Public expenditure on health (% of GDP)	6,1	6,5	7,2	7,1	6,8	NA
Private expenditure on health (% of GDP)	2,4	2,4	2,4	2,5	2,5	NA
Unemployment (% of population)	8,3	11,3	18,0	20,1	21,6	25,1
Research and Development of the GDP	16.220	17.457	17.298	17.237	16.601	NA
Life expectancy at birth (years)	81,2	81,5	81,8	82,2	82,4	NA

Source: OECD - [http://www.oecd-ilibrary.org/economics/country-statistical-profile-spain-2013-2\\_csp-esp-table-2013-2-en](http://www.oecd-ilibrary.org/economics/country-statistical-profile-spain-2013-2_csp-esp-table-2013-2-en) (NA: Not Available)

**Exhibit 9 - Evolution of establishments and sales in Spain testing laboratories industry**

	2009	2010	2011	2012 <sup>e</sup>	2013 <sup>e</sup>
<b>Establishments</b>	429	432	435	439	442
<b>Sales (\$ Millions)</b>	710	708	726	764	786

Source: The 2012 Worldwide Testing Laboratories, pp 84

**Exhibit 10 – Evolution of some macroeconomic indicators in United States of America**

United States of America	2007	2008	2009	2010	2011	2012
GDP per capita (USD)	47.996	48.336	46.927	48.287	49.782	51.689
Household disposable income (Annual growth,%)	2,0	2,7	-2,5	2,1	1,6	NA
Real GDP growth (Annual growth, %)	1,8	-0,3	-2,8	2,5	1,8	2,8
Government deficit (% of GDP)	-2,8	-6,4	-11,9	-11,3	-10,1	NA
Public expenditure on health (% of GDP)	7,3	7,6	8,3	8,4	8,5	NA
Private expenditure on health (% of GDP)	8,9	9,0	9,3	9,3	9,2	NA
Unemployment (% of population)	4,6	5,8	9,3	9,6	9,0	8,1
Research and Development of the GDP	357.836	374.199	369.856	368.856	368.203	366.299
Life expectancy at birth (years)	77,9	78,1	78,5	78,7	78,7	NA

Source: OECD - [http://www.oecd-ilibrary.org/economics/country-statistical-profile-united-states\\_20752288-table-usa](http://www.oecd-ilibrary.org/economics/country-statistical-profile-united-states_20752288-table-usa) (NA: Not Available)

**Exhibit 11 - Evolution of establishments and sales in United States testing laboratories industry**

	2009	2010	2011	2012 <sup>e</sup>	2013 <sup>e</sup>
<b>Establishments</b>	6.688	6.781	6.724	6.855	6.974
<b>Sales (\$ Millions)</b>	12.523	13.443	13.935	14.913	15.862

Source: The 2012 Worldwide Testing Laboratories, pp 98

# LITERATURE REVIEW

## 1. Strategy

Accordingly to Hotorov (2001) *“The formulation of competitive strategy requires a completely different set of tools and methods of analysis.”* Thus, some of them will be considered in the Literature Review.

### 1.1. Generic strategies

Porter (1980, 1985) defined three generic competitive strategies – differentiation, cost leadership and focus- which describe how a company position within its industry, which determines whether a firm’s profitability is above or below the industry average. Porter also considered that to be above-average performance in the long run there were two types of competitive advantage that combined would allow a sustainable competitive advantage: cost advantage and differentiation. These combined with the activities that allow achieving them, drives the company to one of the three generic competitive strategies.

The differentiation strategy means that the company will try to be unique in its industry in along various dimensions that are valued by customers, in order to supply unique products that responses to customers perception needs.

Cost leadership strategy is engaged when a company is the low-cost producer comparing with its competitors within its industry, by exploiting all sources of cost advantage (Porter, 1985).

When the focus strategy is engaged, a company chose a narrow competitive scope within its industry by being focused on specific segments that were excluded from the competition.

Also accordingly to Porter (1985) and concluding, *“The cost leadership and differentiation strategies seek competitive advantage in a broad range of industry segments, while focus strategies aim at cost advantage (cost focus) or differentiation (differentiation focus) in a narrow segment”*

For more detailed explanations, about Generic Competitive Strategies, can be found in the strategy book:

- Porter M. 1985. *Competitive Advantage*. Free Press: New York.

## 1.2. PESTEL Analysis – Contextual environment

The contextual environment considers several broad elements that will affect a company in a long-term, which commonly are disaggregated in five distinct contexts, summarized through the PESTEL analysis.

This analysis can be prepared through a framework, which correlates six different areas – political and legal, economic, socio-cultural, technological and environmental - that helps to understand the macro environment and which ways may impact a specific company. Considering each individually and briefly, political and legal forces assess all aspects that have origin within this context for instance the power of laws and regulation; economic factors are analyzed according to exchange of materials and services, currency and information; the socio-cultural includes customs of society, values, ideologies; the technological considers innovation and sophistication development; and the environmental issues involves concerns and trends regarding the environment.



**Figure 1:** Contextual environment .Source (adapted from): Freire A. 1997. *Estratégia - Sucesso em Portugal*. Editorial Verbo: Lisboa / São Paulo. Pp-66

Detailed information about this framework can be found in books for instance:

- Freire A. 1997. *Estratégia - Sucesso em Portugal*. Editorial Verbo: Lisboa / São Paulo.

### 1.3. Porter's 5 forces

In order to analyze the “*industry's structure and shapes the nature of competitive interaction within an industry*” (Porter, 2008) is considered five competitive forces: the threat of new entrants, bargaining power of customers, bargaining power of suppliers, threat of substitute products or services and rivalry among existing competitors.

The profitability of an industry is highly dependent of the degree of rivalry, where “*High rivalry limits the profitability of an industry*” and in the same senses the lower the degree, higher the expected profitability. (Porter, 2008)



**Figure 2 : Porter's Five Forces Source:** Porter, M. 2008. *The Five Competitive Forces That Shape Strategy*, Harvard Business Review:80-85

Deeper and detailed information regarding this framework can be found in articles and books such as, respectively:

- Porter, M. 2008. *The Five Competitive Forces That Shape Strategy*, Harvard Business Review.
- Freire A. 1997. *Estratégia - Sucesso em Portugal*. Editorial Verbo: Lisboa / São Paulo.

## 1.4. Industry structure

In addition to the PESTEL and Porter's Five Forces analyzes should be also consider the life cycle of the industry, which generally are divided into four stages accordingly to the sales evolution: introduction, growth, maturity and decline.

At the first stage, introduction, few firms are operating in that market and the volume of sales is slowly increasing. At the growth phase, the number of players increases as well the number of consumers providing an imbalance regarding the demand and supply. The maturity stage is characterized by sales slowdown and a competition growth, looking for increasing the market share. Finally, the decline stage, the volume of sales is declining and many companies decide to leave the market.

Accordingly to the life cycle evolution, each business tend to assume the features of the general four industry structure – emergent, fragmented, concentrated and declined. For further reading:

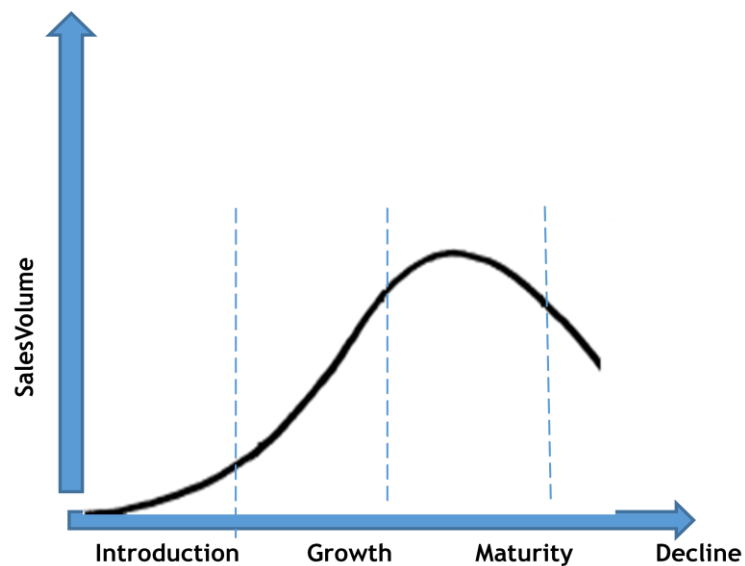


Figure 3: Industry Life cycle. Porter M. 1985. *Competitive Advantage*. Free Press: New York:89-95

- Porter M. 1985. *Competitive Advantage*. Free Press: New York.

## 1.5. Ansoff Matrix

According to Ansoff (1957) *“There are four basic growth alternatives open to a business. It can grow through increased market penetration, through market development, through product development, or through diversification.”*

Market penetration aims to increase the volume of sales by supplying the existing products to its present and potential customers in the same existing market.

Market development is a strategy in which a company enters in new markets and offer the same products although, generally, with some different features in order to be adapted to new customers.

The product development strategy consists on the development of new products in the markets that the company is already supplying.

Regarding the diversification strategy, it is engaged when a company aims to achieve new markets with new products.

Although each strategy described may allow growth, is common that a company follow simultaneous market penetration, market development and product development to be competitive (Ansoff, 1957).

	Existing Products	New Products
Existing Market	Market Penetration	Product Development
New Market	Market development	Diversification

**Figure 4:** Ansoff Matrix. **Source:** Freire A. 1997. *Estratégia - Sucesso em Portugal*. Editorial Verbo: Lisboa / São Paulo: 217-218

## 2. Internationalization

According to Melin (1992) internationalization is a longitudinal process that enhance the international involvement by increasing international operations characterized by high degree of complexity, variability and heterogeneity. In other words, the development of internationalization should be strategically and deeply structured. Each internationalization process is unique due the different external and internal factors that affect the strategy that may have a different impact on the different stages of the process.

To be competitive and successful at an international level it is necessary to build a strong home-domestic-based structure with well-defined strategies. Porter (1986) mentioned that a firm can choose to remain domestic or can expand internationally, it just depends if the benefits outweigh the risks and costs that may occur.

## **2.1.Product life cycle model and Uppsala internationalization process model**

The product life cycle model (Vernon, 1966) and Uppsala internationalization process model (Johanson and Vahlne,1977) consider the internationalization a longitudinal strategy process. Vernon (1966) developed a model that consists in four stages: In the introduction stage, domestic company, the firm only produces on the home-country and it is exporting some of its products through local companies. Regarding the second stage - growth stage - exportation increase exponentially and generally occur an investment in manufacturing plants. In the maturity phase, the manufacture is relocated to countries with low labor costs regarding the saturated markets and standardized products (Melin, 1992). Finally, in the decline stage the company leaves that country.

The second model considers that a firm gradually increases international involvement (Johanson and Vahlne, 1977) that usually starts with exportation activities and then enter into foreign countries. To be successful the company should acquire an existent foreign company, and collect knowledge about this international environment. This author also considers that internationalization starts with the lowest perceived market uncertainty.

## **2.2. Entry modes**

When a company decides to internationalize, there are several modes of entry that are generically classified into two generic groups: non-equity modes (contract-based) and equity modes (or foreign direct investment) that mainly depends if the company pretends to invest in equity or not.

However, before to decide the entry mode, there are information's to be collected and decisions that the company should take. Following the recognition of the need to expand to foreign markets, it is extremely necessary to analyze and evaluate the available resources as well the quality of the information in order to understand what will affect the internationalization. A strategic decision should be taken, that mainly depends on manager's expectations and interpretations. The type and the quality of the information will influence the manager and consequently influence the strategic decision. Thus, deeper data collection and, consequently, analysis will help the firm to select the mode of entry.

Deeper and detailed information and explanations regarding entry modes, can be found in books, for instance:

- Freire A. 1997. *Estratégia - Sucesso em Portugal*. Editorial Verbo: Lisboa / São Paulo: 314-323.

### **2.3. Country-Of-Origin effect**

The Country-Of-Origin (COO) or “Made-in” effect aims to analyze the perception of products by consumers regarding a specific country, and defends that those perceptions vary across product categories (Romeu and Roth, 1992).

Besides the product or service itself, customers also consider extrinsic information such as: brand name and its reputation as well the country-of-origin to evaluate it. In spite of this extrinsic information does not impact the performance of the product or service, it has an impact of customers’ perception.

### **2.4. The CAGE Distance Framework**

Accordingly to Ghemawat (2001) *“Companies routinely exaggerate the attractiveness of foreign markets, and that can lead to expensive mistakes. Here’s a more rational approach to evaluating global opportunities”*.

This framework defends that there are four dimensions that strongly affect the perceived attractiveness of a foreign market, which are: cultural, administrative, geographic and economic. Each one is composed by various factors with different impact on the managers’ decisions regarding the distance in several industries that are summarized below:

	Cultural Differences	Administrative Differences	Geographic Differences	Economic Differences
Bilateral Measures	<ul style="list-style-type: none"> <li>• Different languages</li> <li>• Different ethnicities or lack of connective ethnic or social networks</li> <li>• Different religions</li> <li>• Differences in national work systems</li> <li>• Different values, norms and dispositions</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of colonial ties</li> <li>• Lack of shared regional trading block</li> <li>• Lack of common currency</li> <li>• Different legal system</li> <li>• Political hostility</li> </ul>	<ul style="list-style-type: none"> <li>• Physical distance</li> <li>• Lack of land border</li> <li>• Differences in climates (and disease environments)</li> </ul>	<ul style="list-style-type: none"> <li>• Differences in consumer income</li> <li>• Differences in availability of natural, financial and human resources, and infrastructure information or knowledge</li> </ul>
Unilateral Measures	<ul style="list-style-type: none"> <li>• Traditionalism</li> <li>• Insularity</li> <li>• Spiritualism</li> <li>• Inscrutability</li> </ul>	<ul style="list-style-type: none"> <li>• Nonmarket/closed economy</li> <li>• Nonmembership in international organizations</li> <li>• Weak legal institutions or corruption</li> <li>• Lack of governments checks and balances</li> <li>• Societal conflict</li> <li>• Political/expropriation risk</li> </ul>	<ul style="list-style-type: none"> <li>• Landlockedness</li> <li>• Geographical size</li> <li>• Geographical remoteness</li> </ul>	<ul style="list-style-type: none"> <li>• Economic size</li> <li>• Low per capita income</li> <li>• Low level of monetization</li> <li>• Limited infrastructure, other specialized factor</li> </ul>

**Figure 5: CAGE Framework. Source:** Ghemawat, P., 2001. *Distance Still Matters*, Harvard Business Review: 137 - 147.

Ghemawat’s CAGE framework suggests looking broadly at foreign countries besides the physical distance in order to identify the cross-country differences. As it is represented at the table above, unilateral differences indicates the factors that commonly are analyzed by the company, whereas bilateral differences take into consideration the need to collect and evaluate deeper information regarding the cross-countries differences.

# TEACHING NOTES

## 1. Introduction

This section aims to be a guide plan to instructors with some suggestions and recommendations to help in class discussion.

## 2. Synopsis

CGC Genetics, a Portuguese-based company, was founded in 1992 being the first private medical genetics laboratory in Portugal. The internationalization process started in 2004 entering into United States supplying few American entities. However, at that time, the sales from international was insignificant comparing with the total turnover. It was in 2007 that the board of directors decided to enter in Spain as a Portuguese company. Due the enormous protectionism of Spanish products the CGC was not being successful as Portuguese company. For this reason, the company decided to acquire two small local laboratories. In 2010, the company was entering into United States with own headquarters in New Jersey. Both internationalizations were troubled and marked by a challenge and competitive environment.

In 2012, the Group was present in 30 countries through local partnerships and representatives, adding the headquarters in Spain and U.S. In the same year, CGC decided to merger the three laboratories (Centro de Genética Clínica, Portuguese subsidiary that was inactive, Circagen and ADFTEcnogen). For the future, the main objective of CGC was to consolidate itself through the three subsidiaries by establishing new agreements with entities over the world.

The Portuguese financial and economic crisis, that was affecting the Portuguese image abroad, associated with the protectionism existed in Spain and in U.S. were strongly disturbing the activity of CGC. Considering that CGC is not expecting to enter directly into new markets, should the company continue with the same strategies?

### **3. Suggested assignment questions**

Students should read the case and prepare the following recommended questions:

1. *How would you describe the CGC's evolution and strategy?*
2. *Considering the internationalization to Spain and United States of America described in the case study, what is the biggest and common problem the company in both situations? Imagine you were one of CGC's managers and the board of directors asks you to present solutions.*
3. *How would you describe the health market in Spain? What are opportunities and threats for CGC Genetics? Would you consider this an attractive market?*
4. *What about United States of America?*
5. *What aspects are important to create superior value to customers in the market of medical and genetics laboratories? How do CGC's strengths and weaknesses relate to this? Hint: Consider the critical success factors.*
6. *CGC was not successful when it starts in Spain as a Portuguese company. How would you define the cultural, administrative, geographic and economic aspects from a proximity point of view? What about United States? Do you consider that those entry modes were appropriated? (Please use the CAGE Distance Framework).*

### **4. Teaching objectives**

CGC's case study contains information and data that should help students to solve the suggested assignment questions. It was prepared to students apply their knowledge in a real business scenario with the following teaching objectives:

1. For students to analyze the external environment, from a macro and micro perspective, and to apply strategic frameworks as PEST analysis, the model of Porter's Five Forces and SWOT analysis
2. For students to understand the challenges faced when operating worldwide and the opportunities that emerge from a company expansion

3. For students to understand the different modes of entry in a foreign country without investment-based as well their advantages and disadvantages of each one
4. For students to understand the strategic implications when entering into a foreign country, as well problems that may occur
5. For students to give strategic recommendations for the future of CGC

## **5. Use of the case**

CGC's case study was developed as a class discussion and prepared to illustrate a real internationalization situation about a Portuguese-based company. This case study could be applied in several classes related to Strategy for instance Strategic Management, Advanced Strategic Management and International Industry Analysis, both in undergraduate and master programs.

## **6. Analysis**

### ***1. How would you describe the CGC's evolution and strategy?***

The company started in 1983 as *Consulta de Genética Médica* (Genetic medical appointments) and in 1992 it was complemented with medical genetics laboratory arising *Centro de Genética Clínica* (CGC) being the first private medical laboratory in Portugal. This firm offers more than 1.500 laboratory and clinical tests that cover all medical areas.

At that time, besides the enormous initial investment, it was also difficult the acceptance of the services supplied by a private company that was better, higher quality and less time of response, than those that were provided by public entities. To avoid the lack of confidence by the potential clients regarding CGC and its services, the board of directors decided to invest in quality. In other words, the company participated in several internal and external evaluations of quality and in addition to those certificates that ensures the minimum required standards.

The mission of CGC since the beginning was *"to provide the medical community with the most advanced forms of diagnosis in the field of Medical Genetics."* To achieve it and to better penetrate the market and to increase the clients' portfolio, allowing take advantage from

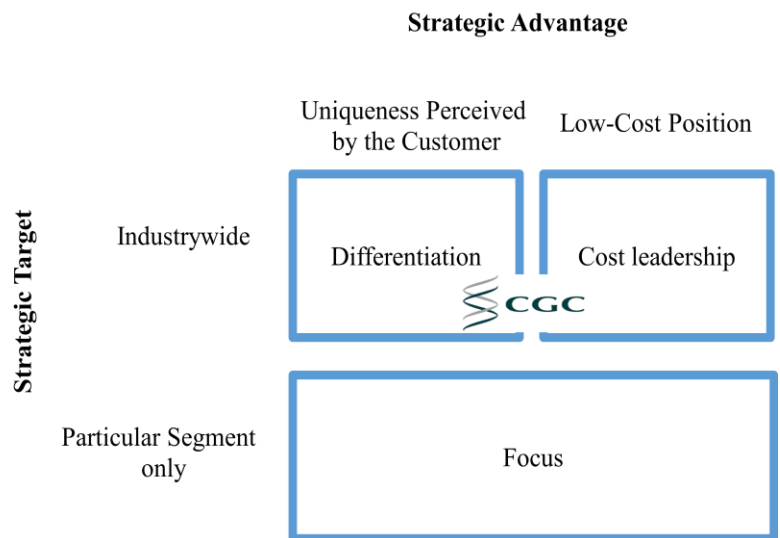
economies of scale, CGC always invested in high-tech, research and development (R&D) and human resources that are the main assets and competencies of the company.

As the niche of potential clients was mainly present in Lisbon, CGC considered that there was a lack of suppliers and consequently an opportunity. In 2006, the company established itself in the Portuguese capital to be closer to the clients (hospitals, clinics and other entities) and the patient through medical appointments.

CGC was always focused in quality and it was proven by the number of certificates and licenses, some of them extremely rigorous and difficult to obtain for instance, the certificate that enable CGC to operate in U.S. market (CLIA license), and to operate in the State of California.

CGC business model is mainly focused on business-to-business and, as a complement, business-to-consumer. In other words, the firm sells its services to public or private entities, essentially hospitals and clinics. When these companies are not able to offer laboratory services or it is more profitable to outsource, generally is done a contest where the major aspect analyzed is the price. In order to offer innovative tests it is necessary an enormous capacity for R&D activities, as it will also positively impact the advantages from economies of scale. Regarding the relation business-to-consumer, as referred, CGC offers medical genetics consults and psychological support for patients.

In order to assess the CGC's strategy the Porter's generic strategies can be considered to understand how the company positions itself in the industry. The clinical laboratories industry is highly dynamic and highly competitive. Generally, the competition is done through contests, in which the main factor is the price offered to the



**Figure 6:** CGC's generic strategies.

customer, which means that the competition is mainly based on costs. With an enormous capacity to perform genetic tests, vast portfolio of clients as well research and development capacity, are the main conditions to take advantage from economies of scale and being cost

leadership. However, these capacities in addition to the continuous investment in technology allowed the company to develop more efficient and innovative genetic tests and differentiate itself from the competition.

Taking into account the Ansoff Matrix (Ansoff, 1957) that considers four different growth strategies is easier to analyze the strategy of CGC as well the evolution of its strategy over the years. In order to achieve the mission and to be competitive, the company was always focused in research and development and quality in order to provide innovative genetic tests. In the first years operating in Portugal, CGC was essentially focused on product development by offering a better service than that was being offered by public entities, and it was with this propose that Purificação Tavares with her father and sister created the company. Product development strategy allowed being competitive through advanced technologies and R&D by offering original and exclusive genetic tests. However, due industry forces in addition to external opportunities, CGC was forced to

define and implement an internationalization plan.

	Existing Products	New Products
Existing Market	Market Penetration	Product Development
New Market	Market development	Diversification

Figure 7: Ansoff Matrix

Over the years CGC has built a strong international position by supplying 32 countries, through its laboratories in Portugal, Spain and United States of America. As referred, in order to be competitive CGC focused on quality and innovation and consequently diversification to be able to supply the world it analyzed the opportunities worldwide and create products to satisfy the customer' needs. For instance, due the considerable number of blood-weddings in Middle East, was the opportunity to develop tests to assess the mutation risk.

Regarding the internationalization strategy the **Uppsala model** helps to analyze the evolution of internationalization process. Although the internationalization process started in 2004, through exports some services to American entities for instance Mayo Clinic, it was irrelevant regarding the total turnover and the risks, as it started by initiative from foreign countries since, at that time, there was not any international strategy developed.

CGC decided to internationalize in 2007 to Spain, which it is not a Portuguese-speaking country but due the geographical proximity and the culturally close, was the first choice. However, due the high protectionism in Spain by national products and services, CGC was not successful as Portuguese company. For this reason it had to acquire two small local laboratories and merger them to be able to operate in this market.

Then, according to Uppsala model, the company would expand to markets with greater distance, as it gained knowledge about the market as it happen with United States of America, Saudi Arabia, Dubai, Uruguay and other counties.

CGC developed different entry strategies. Besides the acquisition in Spain of two laboratories, in United States the company decided to directly entry, and the remaining countries are supplied through exportations.

***2. Considering the internationalization to Spain and United States of America described in the case study, what is the biggest and common problem the company in both situations? Imagine you were one of CGC's managers and the board of directors ass you to present solutions.***

In this question, it is expected that student identify the problem and its origin as well provide recommendations based on critical reasoning to improve this situation.

After reading the case is easily identified that the main problem of CGC is *“being a Portuguese SME in a global market.”*

Over the years, CGC developed a sustainable strategy based on development of new and exclusive tests (with submitted patent), investing in the most innovative technology and the most talented people.

Although CGC already supplied American entities in 2004, it was not an initiative by the company. At that time, the presence in reference meetings and in two medical directories allowed CGC to be recognized worldwide.

It was in 2007, that CGC decided to internationalize to Spain, as a Portuguese company namely Centro de Genética Clínica, mainly due the geographic proximity and the cultural similarity.

*“Regarding the small dimension of the national market was natural, and almost mandatory, the internationalization process.”* During the two forward years, CGC did not establish any contract agreement or even any partnership in the Spanish market and there was a need to take a strategic decision to improve this situation. In 2009, the company acquired two local and recognized laboratories to be able to create a Spanish brand to increase the acceptance of their products. However, the objectives were still not being achieved.

From the Spanish experience, in 2010, the company was entering in United States of America creating CGC Genetics Inc, an American branch. However, the customers’ perception regarding Portuguese productions or even the perception about Portugal increases the barriers to operate in the U.S. market.

Although the firm being present in U.S. and in Spain with own laboratories, it is in Oporto that CGC has the majority capacity and the main assets to perform both the less recent and the most innovative genetic tests, through human resources and the latest high-tech.

As referred on the case study, CGC was not successful when entering into Spain as a Portuguese company and still not achieving the objectives as a Spanish company. The same occurs in United States, there are several difficulties to establish contractual agreements or partnerships.

The problem can be strictly related with the consumers’ perception about Portuguese products or even about Portugal as it is explained on the literature review. Both countries are highly competitive and protectionist, which are affecting the CGC’s operations in these markets. In addition, the Portuguese economic and financial crisis led to lack of confidence by foreign markets that can explain the non-acceptance of CGC in these specifically markets.

As it was referred before, the major assets to operate are present in Oporto. When CGC Genetics España or even CGC Genetics Inc, pretends to establish agreements or partnerships, it is difficult because those potential clients prefer national competitors or companies that ensure all operations in that country. As CGC is not able to provide the same assets in United States of America and in Spain that exist in Portugal due the high investment that would be, it is necessary to provide solutions to increase the CGC services’ acceptance:

- Participation in more conferences and meetings, it will allow to examine the competition and to make CGC known worldwide;
  - When CGC presents itself, it should include a brief presentation about Portugal as well achievements (genetic tests with submitted patent), clients' feedback, vantages to work with CGC instead of collaborate with a national competitor referring that the distance does not affect the genetic sample, this is, there is not material deterioration due to distance;
  - Increase the number of sales people to increase the portfolio of clients in these countries. In order to increase the number of clients and consequently the volume of sales, CGC may invest in a professional sales team responsible to find out potential customers.
  - Bundling to increase switching costs and the need by CGC services. If the company has innovative products with submitted patent it has to take first-mover advantages; and
  - When CGC is trying to increase the clients' portfolio, it may present itself as a Spanish or American company. In other words, if CGC Genetics Inc, is not able to establish partnerships as an American branch, being presented as a Spanish firm may diminish the barriers. The same could be done, as CGC Genetics España, present to potential Spanish customers, as American company. However, the protectionism barrier is not being solved with this solution.
3. ***How would you describe the health market in Spain? What are opportunities and threats for CGC Genetics? Would you consider this an attractive market?***

To answer this question student can apply several frameworks. The PEST analysis aims to identify main factors in the macro environment on health industry. Can also be useful the industry's Lifecycle to understand the stage in which the industry is in, conciliated with the Porter's Five Forces to analyze the attractiveness. Through this exhaustive analysis, students are able to identify and discuss opportunities and threats.

## PEST Analysis

- *Political/Legal Environment*

Political and legal factors are key issues that generally have a significant impact on diagnostic and medical laboratories industry. Due agreements between the Spanish Government and the EU, were implemented various reform measures to mainly reduce the public debt, where one of the major areas affected was health, with a deep reduction on public expenditures.

To operate in this highly regulated market is necessary to obtain diverse legal certifications and strict legal requirements that ensure the minimum standards required by health authorities.

The Spanish legislation allows the total foreign investment of equity as well capital movements are liberalized. Samples are free to travel over the world regarding customs issues.

- *Economic Environment*

The financial crisis affecting in particular countries that belongs to European Union, has a direct and negative impact as it will influence households by diminishing the purchasing power, as well companies by making difficult the credit access.

The Spanish Government and the EU defined, in 2011, an austerity plan to improve the economic situation, where were defined measures with main objective to reduce the public budget deficit to increase the country's competitiveness.

Still regarding the crisis, the Government response is strongly affecting the health industry due the heavy reduction on budgets. The unemployment that reached in 2012 a problematic level, over 25 per cent, is affecting the consumption of health services due the reduction of purchasing power. In addition, VAT also increased in September of the same year which affected besides the households, companies by increasing the price of health services.

- *Socio and Cultural Environment*

The lifetime expectancy has increased over the years and consequently increasing aging people and the birth rate is following the opposite trend. People have increased health concerns, however, the high levels of unemployment is affecting the consumption of healthcare services.

The economic crisis has negatively affected the demand by health services, decreasing the health expenditures by households and reducing the public budget by the Government. Besides these aspects, it also influenced the foreign trade. Although the legislation allows the total foreign equity investment, the Spain was ranked as the eighth country that implemented more protectionist measures that will affect the internationalizations.

- *Technological Environment*

As referred on the case study through the analysis of the Competitive Global Report analysis, Spain was ranked as the thirtieth most competitive country. However, comparing with EU countries technologically, Spain has been slow regarding advancements and as well on innovation.

In 2011, the expenditures on research and development activities were lower than the previous year, which was also significantly lower than the EU average. As the new social and medium enterprises are low involved with technology, the number of new submitted patents is also low. Although the non-competitive attitude on innovation and patents, Spain is well served by infrastructures and it is forecasted to increase policies to promote R&D activities.

However, the future of health is forecasted to increase the technological involvement, as well the research and development investment to improve the effectiveness on treatments and to obtain better results on prevention and diagnostic.

### **Industry Lifecycle**

To identify in which stage - Introduction, growth, maturity and decline - is the medical and diagnostic laboratory industry, it is necessary to assess various indicators but will only be analyzed considering the information available on the case study.

The overall industry of testing laboratories had presented positive results regarding sales, on average 2.5 per cent since 2009. Nonetheless, in 2011 the growth of volume of sales was more significant comparing with the remaining years, over 5 per cent. The number of establishments has following the same trend, forecasted to reach 442 laboratories, less than 1 per cent

comparing with the previous year. As the volume of sales is increasing as well the number of players, it can be considered that this industry is at the growth stage.

Regarding CGC Genetics España in the Spanish market, the non-acceptance of its services has influenced the volume of sales, which is not high in addition to the low market share. However, after the acquisition and merger of the three laboratories in Spain, with redefined strategies it is expected that in 2014, CGC increases the portfolio of clients and consequently the volume of sales.

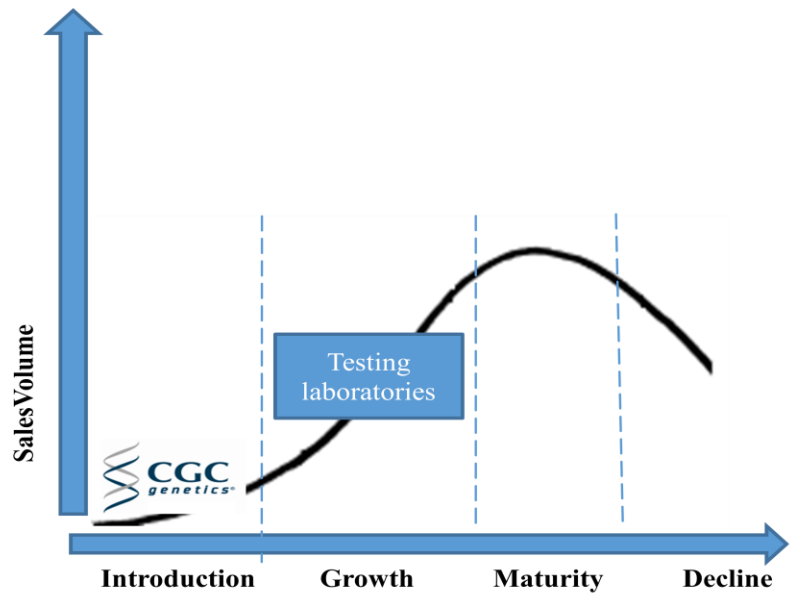


Figure 8: Industry Life Cycle

### Porter's Five Forces:

- *Threat of new entrants*

In order to start a business on the health industry as a hospital or clinic, or even a medical genetic laboratory, there are several challenges mainly regarding the required large financial resources and legal issues to operate. Despite of this, to be competitive is extremely necessary a strong network and know-how to take advantage from economies of scale. The competition is extremely related with the ability to have the lowest cost in order to offer a competitive price.

It is an industry that requires a massive capacity of research and development and technology, to allow innovation and effectiveness on the product or service offered. In addition with regards to the competition landscape, to be able to operate in such market is necessary to be certificated by health authorities and patents are also a key issue on the industry.

When a company pretends to enter into a market, it is necessary to consider the buyer's switching costs. On the medical diagnostic market the partnerships or even the contractual

agreements, mainly with the public sector, are done by contests, and its duration varies from contract-to-contract.

Considering all the elements, the threat of new entrants was low.

- *Threat of substitute products or services*

There is not a substitute, from other industry, for testing laboratories. For this reason, the threat of substitute products is low.

- *Bargaining power of buyers*

A customer of a medical diagnostic laboratory can be a hospital, clinic or even a laboratory. Overall, the number of customers can be considered high, and each one is relevant for the company. In addition, in this industry suppliers generally participate in a contest where the main factor is the price, which means that customers have the ability to force down the prices concluding that the bargaining power of buyers is high.

- *Bargaining Power of suppliers*

On medical and diagnostic industry are several types of suppliers: equipment mainly technological, products to process the genetic samples, consulting and legal services.

Although, this industry is highly dynamic and there is a constant investment on high-technology, where the power and the ability to raise prices is high. Regarding the remaining suppliers for instance may be substituted without incur in expensive costs. Thus, the bargaining power of suppliers is moderated.

- *Rivalry among existing competitors/Intensity of competitive rivalry*

Considering that there are several entry barriers and the rivalry on this industry is determined essentially by price, it can be considered as moderated.

As referred, the competition is mainly based on costs, which means that it is necessary a strong network and an enormous capacity and investment in Research and development activities to offer innovative products or services at an affordable and competitive price.

## **Conclusion about the attractiveness of the industry**

Through the analysis previously realized this industry regarding the attractiveness appears to be moderated.

### **Opportunities and threats:**

#### **Opportunities**

- As the lifetime expectancy has increased and the health concerns follow the same trend, it may increase the consumption of health services as well concerns regarding prevention and early detection.
- After the acquisition and consequently merger of the laboratories in Spain, CGC may be overcome the protectionism barriers increasing the clients' portfolio through strategic partnerships and contractual agreements

#### **Threats**

- The health market in Spain had been strongly affected by the financial crisis through the implementation of an austerity plan. The unemployment and the increasing of VAT are affecting the purchasing power by households in addition to the reduction on health expenditures by the Government. It has a negative impact since it may diminish the consumption of testing laboratories services by health institutions or even require lower prices.
- As Spain was ranked as one of the countries that implements more protectionist measures it may affect the trade by CGC in this market.
- If CGC is not able to overcome the protectionist barriers or to improve the consumers' perceptions of Portuguese products or as well of Portugal, the company will continue having difficulties to establish partnerships or contractual agreements.

#### 4. *What about United States of America?*

To answer this question, students should apply the same frameworks and logical steps than on the previous question.

##### **PEST Analysis**

- *Political/Legal Environment*

The U.S. market is considered highly politically instable regarding the lack of agreements between republicans and democrats, as well due the susceptibility of terrorist attacks. This market may be also characterized as ease of doing business mainly due the financial regulatory system well developed. However, one of the austerity measures was to increase in general the tax rates, which affected the households' purchasing power and companies.

Regarding legislation, there are several laws that requires certificates to operate in heath industry that ensures the standards of procedures and of quality. However, as it occur in California State, several states are stricter and require additional credentials.

Health industry in the U.S. market was strongly related with private companies and mainly insurance companies, which was differentiating people with less financial resources. To avoid this situation, these inequalities, in 2010, Barack Obama signed a set of reform measures focused on health system, Patient Protection and Affordable Care Act, which pretends to improve the global access to health services.

- *Economic Environment*

Considering several macroeconomic indicators and comparing worldwide, U.S. is the largest economy and the leader in health services. Since 2009, the beginning of recession, that public debt has increased and there was a need to apply reform measures to reduce it. In addition of increasing the unemployment, the households' income follows the opposite trend and as consequence, the purchasing power is lower. As the American health system is strongly related with insurance companies, people with lower incomes will have difficulties on the access to health.

- *Socio and Cultural Environment*

There are several aspects negatively affecting the U.S. market for instance, the aging people, high income inequalities, a continuous increasing of unemployment and one of the major problems, the racism. However, health concerns have increased and United States is not an exception.

United States is highly competitive although it was ranked as one in the top 3 of G20 members that plans and implements more protectionist measures that has a negative impact on foreign trade.

- *Technological Environment*

By being leader in technology and an early adopter, United States is one of the countries that expend more in research and development and innovation.

### **Industry Lifecycle**

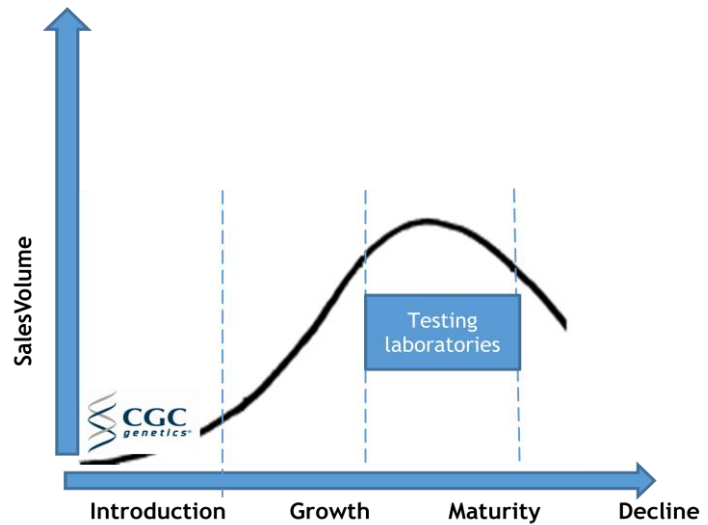
As it was previously referred to identify in which stage is the medical and diagnostic laboratory industry more precisely testing laboratories, it is necessary to evaluate various indicators but will only considered the aspects available on the case study.

Even though the overall industry presented positive results in the last years regarding the volume of sales, in 2010, it declined by 3 per cent comparing with the previous year. Since 2009 the average of growth of the sales was 6 per cent and it is expected that in 2013 the augment follows the same growth rate, achieving almost \$16 million.

Regarding the number of establishments has increased, on average, at a very low growth rate of 1 per cent. However, in this industry there are several players and in 2013 is forecasted to 6.4 per cent reaching almost 7 thousand establishments.

As the volume of sales and the number of establishments can be considered start stabilizing, it can be considered that this industry is at the maturity stage.

Regarding CGC Genetics Inc, in the United States market, the internationalization was recent and the volume of sales was low. In addition to the high competition, CGC represents a very low market share by being an embryonic stage mainly due the difficulties to overcome the entry barriers and to establish strategic partnerships.



**Figure 9:** Industry Life Cycle

### **Porter's Five Forces:**

- *Threat of new entrants*

There are several entry barriers to enter in this specific industry. The main challenges at the beginning are the need by enormous financial resources and obtain all the legal requisites to operate for instance the certifications that ensure minimum standards of quality.

This market is very fragmented, composed by a vast range of players, almost 7000 establishments in 2012, which means that the competition is very high and essentially based on costs, generally through contests. Besides other issues, in order to be competitive a new entrant would need to build a strong network and have the know-how necessary.

As this industry requires a considerable capacity of R&D and ability to take advantage from economies of scale that it is only possible with a well composed clients' portfolio, it adds difficulties for a new possible player. In addition to R&D it is necessary a huge investment in high-technology, which is correlated with the need of financial resources, in order to offer innovative products and, through efficiency, at an accessible price.

As the American market is composed by many different states, with a global health authority however, each one may has different health authorities and consequently specific legal requirements. Considering all the elements, the threat of new entrants was low.

- *Threat of substitute products or services*

The threat of substitutes can be considered low, as there is not a substitute, from other industry, for testing laboratories.

- *Bargaining power of buyers*

Regarding the enormous market size that could be related with the need to have more entities in the health industry explains the number of clients being high. As the clients of CGC are companies, for instance hospital and clinics, it may have an immense impact about the profitability. In addition to, the competition is based on cost in order to offer a competitive price that is a crucial aspect for potential clients. As customers have the ability to force down the prices it is possible to conclude that the bargaining power of buyers is high.

- *Bargaining Power of suppliers*

On testing laboratories industry are several types of suppliers: equipment mainly technological, products to process the genetic samples, consulting and legal services.

As referred, this industry is dynamic and it requires a continuous investment in high-technology, as United States is the leader and an early adopter of technology there is an easier access to. If a company aims to offer innovative and more effective products should be also an early adopter of high-tech and the ability to supply at a higher price are elevated. About the remaining suppliers, which also are essential to operate, may be more easily substituted than the previous. Thus, the bargaining power of suppliers is moderated.

- *Rivalry among existing competitors/Intensity of competitive rivalry*

The rivalry in this industry can be considered high, as it is composed by several competitors that aim to offer a competitive price. Although, the competition is mainly based on costs for the customer the important issue is the price. For this reason, there is a need to be capable to offer a competitive price which is only possible through a strong network and an enormous capacity and investment in Research and Development activities to supply innovative products or services at an affordable price.

## **Conclusion about the attractiveness of the industry**

Through the analysis previously realized this industry regarding the attractiveness appears to be low.

### **Opportunities and threats:**

#### **Opportunities:**

- The innovative and exclusive tests of CGC, with submitted patent, may increase the demand by American entities.
- The economic recovery may have a positive impact on health industry, by increasing the public and private expenditures in this sector.
- With the implementation of measures to reduce the connection between the health market and insurance companies, these will need to increase the number of strategic partnerships.

#### **Threats:**

- One of the top three of G20 which plans and implements protectionist measures in addition to the lack of macroeconomic and political stability; It may continue affecting CGC acceptance.
- Challenging market environment being highly competitive and mainly technologically dynamic.
- Highly competitive market composed by several players that represent substitute products.

5. *What aspects are important to create superior value to customers in the market of medical and genetics laboratories? How do CGC's strengths and weaknesses relate to this? Hint: Consider the critical success factors.*

Students should start by analyzing the nature of buyers and then identify the critical success factors of the industry and afterwards determine the strengths and weaknesses of CGC Genetics, which will allow understanding which aspects are important to create superior value to customers and if CGC is offering it.

### Buyer's analysis

In order to understand the critical success factors in an industry, firstly should be analyzed the nature of buyers, accordingly to criteria of generic segmentation.

#### Nature of buyers

- Health providers such as: public or private hospitals, laboratories
- Households

#### Products/ services bought

- Testing laboratories services
- Counselling or medical support

#### Nature of the consumer

- Patients

#### Purchasing occasion

- Depends on the flow of patient needs

#### Purchasing local

- Requirements through internet
- CGC headquarters

#### Purchasing reason

- Outsource the laboratories services will help saving costs
- Households: diagnostic, prevention or early detection of diseases

#### Purchasing method

- Companies: Generally through contests
- Households: through a medical appointment

## **Critical success factors**

- Cost

As companies that belong to this industry generally establish partnerships and contractual agreements through contests, which duration varies from contract-to-contract, price is the main important aspect to gain the contest meaning that competition is based on costs. The ability to reduce the costs and offers a competitive price is a crucial feature that strongly differentiates a company from the competition.

- Quality management

Besides the most important factor being the price, in this highly regulated industry companies should be also focused in quality in order to obtain various certifications that ensures quality, besides those that are required and mandatory to operate.

- Technology

Medical and diagnostic laboratories industry is very dynamic and technology plays an important role. To be successful in this industry is necessary to invest large financial resources in advanced technologies to be efficient and innovative, and consequently competitive.

- Research and Development

Research and Development (R&D) activities will allow increase efficiency and innovation. In other words, health industry is changing and is becoming more technological. The need to offer innovative tests and with more efficient results at an accessible price is only possible through the investment on R&D. If in this industry the major factor is price, companies will have higher power if their product is differentiated from the competition. In the health industry is extremely difficult to obtain a patent. For this reason, when a company finds one new product should try to patented it and take first-mover advantages.

## **Strengths and Weaknesses**

### **Strengths**

- Research and development

Over the years, CGC has strongly investing in research and development to achieve innovative and useful genetic tests at an affordable price. These activities have allowed an increase of effectiveness and innovation, by offering genetic tests some exclusive with submitted patent.

- Economies of scale

CGC has a vast clients' portfolio through various contractual agreements and partnerships established with, which allow synergies across the products. By being the national leader with facilities in Spain and in United States in addition to the high exportation services, the company is able to take advantage from economies of scale and consequently offers a competitive price.

- Global network

As part of CGC's strategy and business model, to exploit all capacity available and to be worldwide present the company has a global network through contracts and partnerships established over the world. These contributed to customers, since CGC is not operating only in countries that have its own laboratories.

### **Weaknesses**

- Geographical proximity

Besides the genetic samples have not barriers regarding customs issues, the time to process the services can take longer time than a competition operating in that market. In other words, CGC may need more time to process the genetic tests due the time to receive the genetic samples; it depends on the distribution channels used. Other important issue is the fact that, customers may prefer contract national companies instead of foreign suppliers.

- Portuguese-based company

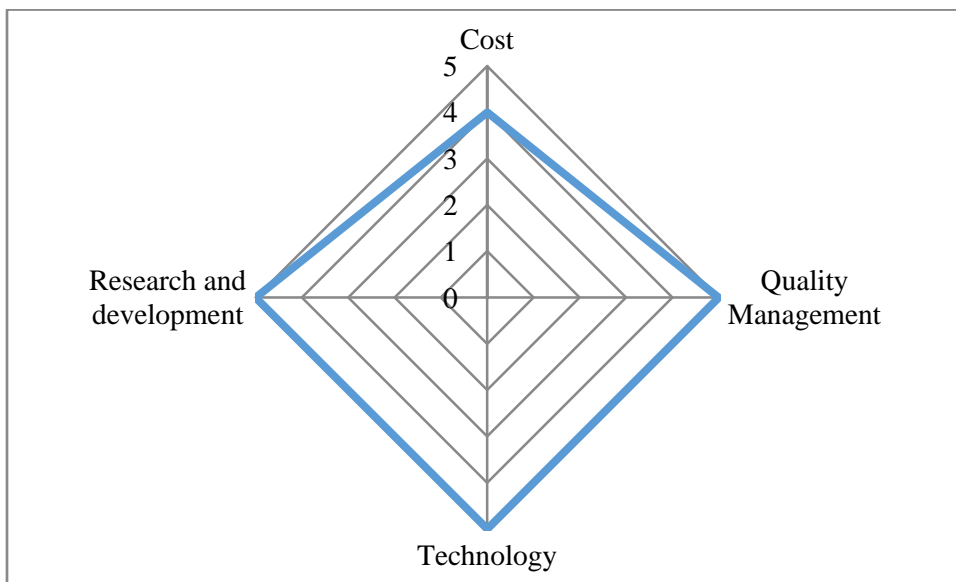
Due the consumers' perception regarding Portugal as well Portuguese products and services, it may influence the purchasing decision. As it was explained on the case study mainly United States of America and Spain.

- High competition

In general, the laboratories industry is highly fragmented, which means that CGC has to compete on costs and probably may have lower profit margins in order to offer a competitive price.

### Strategic Fit

The strategic fit analysis permits to identify the relation between the industry critical success factors and the company's strengths and weaknesses.



**Figure 11:** Strategic Fit CGC Scale: 0 to 5 (from very different to very similar)

Through this figure, it is easily recognized that CGC has its competencies aligned with the critical success factors of the industry. In other words, it is able to create superior value to customers. However, there is an opportunity to improve the costs, since the competition may be offer more competitive prices by taking more advantages for instance from economies of scale.

6. *CGC was not successful when it starts in Spain as a Portuguese company. How would you define the cultural, administrative, geographic and economic aspects from a proximity point of view? What about United States? Do you consider that those entry modes were appropriate? (Please use the CAGE Distance Framework).*

According to **CAGE Distance Framework** (Ghemawat, 2001), physical distance is highly related with other four categories - cultural, administrative, geographic and economic- that also influence the perceived attractiveness of foreign country that a company aims to internationalize.

The images below provide a CAGE analysis that allows comparing the main factors that affect each category in Spain and United States of America regarding Portugal. Through this framework is possible to better understand more differences beyond physical distance.

## **Spain**

- Cultural differences

Considering the four dimensions and initiating by the cultural, Portugal and Spain can be considered quite identical, for instance the different language however similar. Spain is a highly protectionist country by implementing several measures that creates entry barriers for foreign companies. In other words, Spanish population has preference by national products or services.

- Administrative differences

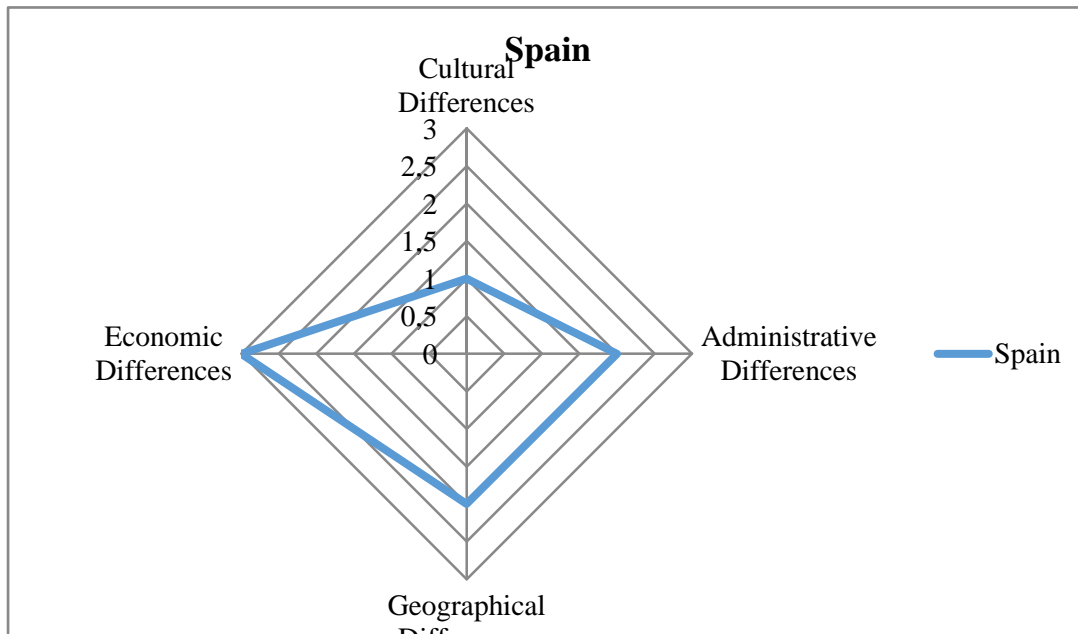
Spain belongs to the European Union as Portugal as well OECD, with the same currency, which allows the free travelling over all countries which belongs to it. However, both countries have different legal systems and different political hostilities.

- Geographic differences

Spain is the closer country from Portugal regarding the physical distance and climate similar nevertheless, different time zone.

- Economic differences

The different market size affects several macroeconomics aspects since all regions have different access of natural, financial and human resources, and infrastructures. Spain had the need to implement an austerity plan, less deep than Portugal, to improve the financial situation. In 2012, the unemployment rate achieved more than 25 per cent, which consequently affected the purchasing power of households.



**Figure 12: CAGE Framework. Scale: 0 to 5 (from similar to very different)**

Although Spain was the most similar and closer country with Portugal and the internationalization to this market was natural, as referred in the case study, it did not completely follows the Uppsala theory and the Vernon model; As CGC started the internationalization process by entering into the closest country, however without previous experience in such market. Due the high protectionism regarding national products and services, it was not well accepted. To avoid this protectionism, the company acquired two local well known laboratories and then merged them, to create a Spanish branch and image, to improve the acceptance of its services. In other words, CGC stopped being a local or domestic company and started supplying an international market. Bearing in mind the entry modes available, CGC had to consider several factors in order to understand which entry mode would be more appropriate: legal issues, market

access, experience, competition, risk, control, nature of assets, cost, resources and products. The lack of experience and the nature of assets and resources were the main problems faced by the company, since the major assets and resources were mainly available in the Oporto laboratory.

In my opinion and accordingly to Uppsala and Vernon models, CGC should have started by exporting its services to Spain before directly entry. This is, the exportation mode would allow understand the acceptance by its services, although the control was lower, the risk was also lower, as well the investment comparing with any equity entry modes. With the experience from the past years, the company is increasing the acceptance and should continue betting in that strategy.

## **United States of America**

- Cultural differences

Although there are dimensions that should be analyzed besides the physical distance, it has a significant impact in cultural issues. Comparing with Portugal, the language is completely different however, English classes are mandatory until the high school which reduces this language barrier. This market is highly culturally diversified and discrepant for instance about religion, ethnicity and households' income.

- Administrative differences

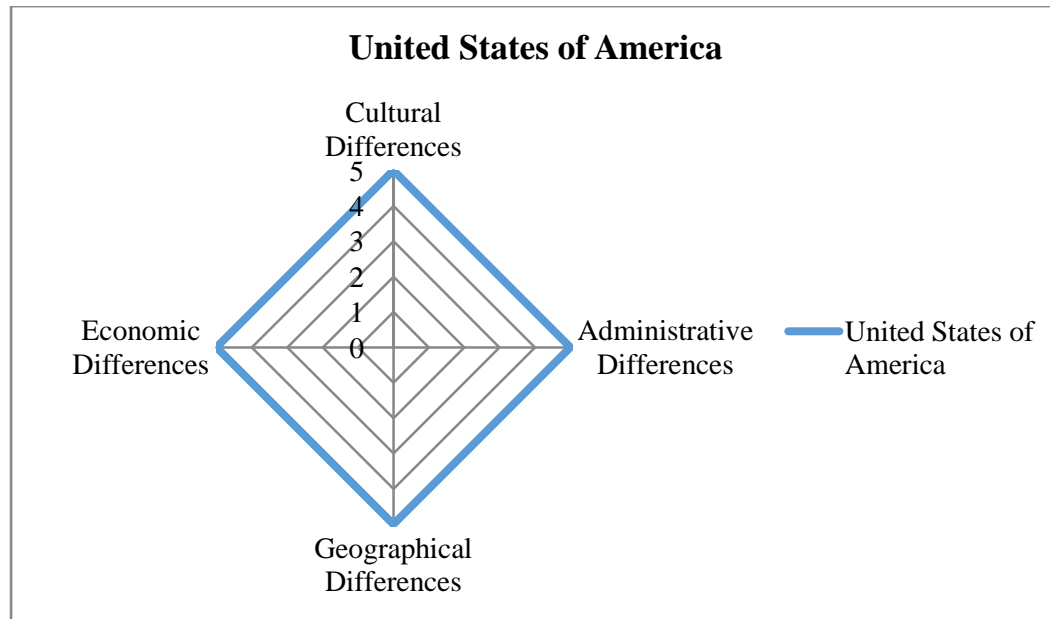
On the contrary to Spain, comparing with Portugal, United States does not belong to the European Union, using a different currency, dollar, however, it is a member of OECD. The health system is very different as well legal issues. Mainly due the market size and the various states, there are several authorities besides the government and general regulators. Thus, each state has different features and regulations and legislation issues nevertheless, independently of the state, the difference from Portugal is very significant.

- Geographic differences

United States is one of the farthest countries of Portugal with consequently very different climate as well the time zone that is also distinct.

- Economic differences

The American market was also affected by the recession and it is affecting several macroeconomic indicators. However, the average of GDP was much greater in U.S. than in Portugal as well the percentage that was expend on health in 2012, 17.7 per cent.



**Figure 13: CAGE Framework. Scale: 0 to 5 (from similar to very different)**

In the internationalization to United States, can be considered that CGC followed the Uppsala model as it started in Spain, the most similar and closest country with Portugal, and then it internationalize to countries with greatest distance. CGC was more cautious by supplying through exportations to the American market since 2004 and only in 2010 directly entered in that market due the increase of demand for their services. Thus, the risks correlated with this market were lower comparing with Spain, in spite of the several differences besides the geographical distance.

However, America is also highly protectionist, which had a negative impact on CGC operations; since, as previously referred, CGC has the major assets and resources mainly present in the Oporto laboratory, in addition to the less positive perceptions about Portuguese products and services, as well Portugal as a country, the company has facing several difficulties.

Since CGC had a lot of experience regarding United States and combining with the increasing of demand, I consider that the entry equity mode was appropriated. CGC had the need to enter into the U.S. market with an American branch and image to reduce the protectionism barriers. The company is only facing problems regarding the consumers' perception about Portugal and Portuguese services, which is very difficult to control.

# CONCLUSION

## 1. General

Developing this master thesis allowed me to improve my knowledge about CGC Genetics as well its industry, which is highly dynamic and challenging.

Through an extensive data collection was possible to perform a case study based on CGC Genetics, the major Portuguese player, and its evolution national and internationally. To provide guidance to the instructor was prepared a chapter namely teaching notes to be used in a classroom discussion by applying theoretical knowledge in a real business scenario. As support was provided a literature review chapter that contains a theoretical overview of the main topics covered in the teaching notes.

As expected, CGC was being more successful in internationalizations through exportations perhaps due the lower risks and investment needed. The company has faced several difficulties in both Spain and United States mainly due the high protectionism. Some suggestions are provided in order to improve the acceptance by its services in these foreign markets.

## 2. Limitations

After choosing the topic that would be covered in this master thesis, numerous challenges and difficulties arouse. The testing laboratories industry is highly dynamic and there is not many and actualized information about it.

The teaching notes could be more extensive and cover more topics, however it was planned to be used in a specific teaching time and for this reason was only focused the main issues accordingly relevance.

The main limitation was the location of CGC, in Oporto, which increased the difficulties to collect data and to meet with professionals in addition to the time constraint.

### **3. Reflection on the Research Process**

The methodological approach was based on collect qualitative information's, which were crucial for the development of this master thesis. The contact and the meetings at CGC Genetics were very positive for the research process and to better understand the genetic market that is continuously evolving. This dissertation was focused in the internationalization of CGC; however there are several aspects that may be deeply explored in the future.

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