FROTCOM: THE STRATEGY
BEHIND INTERNATIONALIZATION

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Abstract in English

Title: Frotcom: The Strategy Behind Internationalization

Author: Afonso Medeiros Gomes Mota

The thesis hereby presented in the form of a case study aims to discuss the expansion challenges that came across to both Valério Marques and Renato Ferreira as CEO and CTO of Frotcom International. Throughout the case study it is explained how a company that came from a very fragile financial position was able to expand internationally.

Frotcom International is a fleet manager developer based in Lisbon, Portugal that resulted as a spinoff of a R&D company called Quadriga. After the Dotcom bubble this company had a critical downsize which forced Valério and Renato to focus on only one of their ongoing projects, from their wide portfolio they chose Frotcom (a fleet management system).

Frotcom International's main challenge was the lack of financial resources to enter new markets. However, using their website as a bridge between them and interested partners they built the company infrastructure to support the autonomy of each partner in their exclusive territory. This strategy allowed not only Frotcom to expand internationally but also enabled them to solely focus on their product – Frotcom.

The internationalization strategy created by Valério and Renato is an excellent example of innovation which should be interesting to approach in strategy courses. The theory applied in this case-study is well structured in the Literature Review. Moreover, in the sense to offer an extent look of the thesis, the Teaching Notes focus on the critical issues debated throughout the case.

Abstract in Portuguese

Título: Frotcom: A Estratégia por Detrás da Internacionalização

Autor: Afonso Medeiros Gomes Mota

A tese aqui apresentada sobre a forma de um estudo de caso tem como objetivo a discussão dos desafios que a expansão da empresa Frotcom Internacional trouxe ao seu CEO, Valério Marques e ao seu CTO, Renato Ferreira. No decorrer deste caso, é explicado como é a Frotcom perante uma situação financeira bastante frágil conseguiu expandir-se internacionalmente.

Quando a empresa de R&D – Quadriga, sofre uma recessão no seguimento da *Dotcom bubble,* Valério e Renato vêm-se obrigados a focar todos os seus recursos em apenas um projeto, dando-se assim a criação da Frotcom International. Esta empresa é sedeada em Lisboa, sendo o seu "core" o desenvolvimento de um sistema de gestão de frotas.

O maior desafio da Frotcom International foi a falta de recursos financeiros tradicionalmente utilizados na entrada em novos mercados. No entanto, com o intuído de contrariar esta situação, desenvolveram o seu *website* como ponte entre a Frotcom e parceiros interessados. Para além disso, desenvolveram a infraestrutura da empresa para que pudesse suportar a autonomia destes potenciais parceiros nos seus mercados exclusivos. Esta estratégia não só permitiu a expansão exponencial da empresa como a libertou para se focar no desenvolvimento do seu produto – Frotcom.

A estratégia de internacionalização apresentada neste caso é um excelente exemplo de inovação, que deveria ser estudado em cadeiras de estratégia.

Acknowledgements

Firstly I would like to show my gratitude to both Valério Marques and Renato Ferreira for enabling the concretization of this project possible. Not only they were more than available to answer my questions and doubts but also their sympathy and openness made me want to work harder on this project.

Secondly, I would like to thank my supervisor, Nuno Cardeal, his actions as a supervisor increased the quality of my work since he always pointed me in the right direction and was continuously available to answer to all my doubts and concerns.

I would like to reserve a special thanks to my uncle António Gomes Mota who was helping me on my thesis before I even decided what to do with it. His tips and insights were always greatly received and I'm very thankful for his help throughout this months.

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Table of Contents

LIST OF APPENDICES

LIST OF FIGURES

I. – CASE STUDY

1. INTRODUCTION

In January 2008, Valério Marques and Renato Ferreira, CEO[1] and CTO[2] of Frotcom International – a Portuguese software company of fleet management systems - were trying to figure out how to expand their company. Quadriga, the company from which Frotcom International had spun-off, had a drastic fall from 2000 to 2004 (from 31 employees in 1999 to only 4 in 2005 – Exhibit 1) and they did not want to repeat the same mistakes.

In order to have a sustainable growth, they knew that internationalizing was the answer. Not only Portugal had already some companies developing similar fleet management systems but also internationalization meant less vulnerability to individual market changes.

Valério and Renato already tried to expand to Spain but with poor results. Problems then, were the lack of resources to open a subsidiary in the neighbor country and the incapacity of attracting committed international partners.

It was now the time to come up with a strategy that would lead to the expansion they ambitioned for their company. What could they do?

2. FROTCOM INTERNATIONAL

History

From 1996 to 1999 In 1996 Valério, an Electrical Engineer, founded a small R&D[3] company with his father, focused on technology projects called Quadriga.

When it started they were only 4 people. The purpose of this company was to be:

> *"A one stop shop for mobility, a place where any client would come to buy services related with mobile communications and IT[4] and the company would be able to offer them from a to z."*
>
> *Valério Marques, CEO of Frotcom International*

This strategy was showing results since its origin in 1996.

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[1] Chief Executive Officer
[2] Chief Technology Officer
[3] Research and Development
[4] Information Technology

In 1997 Quadriga developed a vehicle tracking system (the beginning of the Frotcom product) that by using satellites, customers could know where each vehicle was and where it had been. However, this system was not viable due to the high cost of usage, and the long time it took to locate the vehicle (3 to 4 minutes). In the following year it became available a new communication technology for this type of solutions, SMS[5] with roaming. Despite the fact that this was a cheaper and faster alternative (since it only took 30 seconds to localize the vehicle) it was still unviable due to the bad coverage telecommunications had back then, especially on the roads between cities. In addition, its price was still too high for companies to even consider it to track their vehicles on a continuous basis.

In 1998 Espirito Santo Tech Ventures (ESTV), a subsidiary of Banco Espirito Santo[6] (BES) invested in Quadriga, entering the company's capital. With this injection of funds, Quadriga grew in numbers and created the capacity to develop multiple projects at the same time. Also it was only in that year, that Renato, a brilliant engineer and future CTO of Frotcom International joined Quadriga.

By the end of 1999 Quadriga was employing 31 people (Exhibit 1) and was developing projects that went from creating mobile games to producing software to diverse companies in multiple areas, such as lawyer offices, banking firms and transportation companies. On average, they were developing simultaneously around 15 different projects.

From 2000 to 2004 Everything was going well to Quadriga, but that all ended when in March 2000 the Dotcom bubble slowly began to pop (Exhibit 3). The expectations shared by many analysts in the previous years about the future of the internet market couldn't be sustained anymore by the reality of the facts and numbers.

In a couple of months stock prices indicated by the NASDAQ[7] Composite Index, were diving (Exhibit 3), no more resources were flowing to companies and a large number of companies closed. Although Quadriga was not directly affected by this crisis, their clients were. This drastic turn of events resulted in a shift of their client's behavior.

Valério commented that before the bubble popped they would meet with their clients, presenting them a "good" idea and that would be enough for them to be ready to invest in a moment's notice, without even the need of the board's approval. This reality was based on an

[5] Short Message Service
[6] Portuguese Bank
[7] National Association of Securities Dealers Automated Quotations

assumption that speed was the most important factor when it came to technology, as Valério put it:

> *"There was a perception that the winners would be the ones to capitalize [the idea] and since internet was a fantastic accelerator, getting to the line in the first place was the most important thing."*
>
> *Valério Marques, CEO of Frotcom International*

However this reality ceased to exist after the bubble popped, and where in the past receiving money in advance immediately after a new project being approved was a normal procedure it was now an impossible demand, with clients refusing to invest money up front except for projects with very clear ROIs[8]. Instead, they would only be available to share profits in exchange of distribution.

This resulted in a huge downsizing of Quadriga, both in revenues and employees (Exhibit 1). By the end of 2004 and after several attempts to get business back up, Quadriga only had a few employees including, Renato and Valério, and the company was needing a clear shift, or bankruptcy was bound to happen. During this time ESTV sold back their shares to the original shareholders. They in turn invited Renato Ferreira – the "technology guy" – to become partner as well.

From 2005 to 2008 In 2005 Valério and Renato had to make a decision - what to do with Quadriga? They were owners of a company with some debt and without a real revenue model. Shutting down was a possibility. However there was a silver lining to this situation, they had around 15 projects on hold, and some of them might still have interesting prospects.

They knew then that in order to be able to survive, they had to choose only one, not only because they lacked the man power, but also because Valério saw the excessive diversification of Quadriga's activities – the one stop shop approach – as their biggest mistake. In his words:

> *"We had become a giant (in our way) with clay feet, we didn't have synergies between products and projects and so we weren't really good at anything anymore."*
>
> *Valério Marques, CEO of Frotcom International*

[8] Return On Investment

After looking at all their on-going projects, they had the perception that the one that could be more promising, if improved, was Frotcom – a vehicle tracking system that, at the time, allowed an owner of a vehicle to know where his vehicle was and where it had been.

This decision was based on the recent availability of a technology breakthrough – GPRS[9] – which made a real-time vehicle tracking system viable due to its much lower prices. In fact, this new communication alternative was about 100 times cheaper than SMS. This meant that using SMS once a day in order to know the location of the vehicle at that moment would cost roughly the same price as to locate a vehicle every 15 minutes, using GPRS.

In 2005 Valério and Renato did a presentation to SONAE[10] in order to develop a fleet management system for Modis, the company responsible for the logistic operation of SONAE. During this presentation they showed what Frotcom was and what Frotcom could become. Their proposal involved 3 key ideas: firstly, their system would use GPRS, instead of SMS; secondly, their solution would be web-based (Software as a Service), avoiding the traditional installation of the software in each computer and; thirdly, they would already include communications in their package, until then, clients usually had to choose their carrier and communication package.

The combination of these ideas represented a distinctive and innovative product. Nevertheless, almost all main competitors did not adopt them at first based on the idea that GPRS was unstable and lacked coverage, and that many customers still did not have wideband internet access.

The reality was that SONAE approved their project and so they started working on it. During 2005, Renato and Valério recreated Frotcom from the ground up, and by the end of the same year there were already trucks with the new Frotcom solution.

From that year till 2008 they made several incremental changes in their solution, always eager to improve them in order to satisfy their client's needs.

Although the development of their software was going really well, they still faced a serious problem – sales. In Portugal other companies were successfully developing similar products and Frotcom did not had a proper marketing or sales department capable of translating into awareness, sales and market share the capabilities of Frotcom's solution.

[9] General Package Radio Service
[10] One of the biggest retail companies in Portugal

Meanwhile, Valério and Renato had already tried to expand to Spain, but despite the money and time spent, it didn’t work out. They failed to find suitable partners and their distributors were doing a poor job, due to lack of commitment.

The Solution

After Quadriga’s downsizing from a product portfolio just to Frotcom offer, Valério and Renato decided to change the company’s name from Quadriga to Frotcom International. This decision was based on the fact that they only had one product: Frotcom, and even then they knew that internationalization would be the key success factor of this company.

Frotcom International specializes on the development of a fleet management software. Its complete solution requires a hardware component from an external vendor, a firmware developed by Frotcom International and a telecommunication plan (the provider is irrelevant) for the communications. Frotcom International revenue model is a combination of hardware sales and monthly service charges per vehicle.

By 2008 Frotcom had become an intelligent GPS vehicle tracking and fleet management system which allowed any company to track all their vehicles in real time, 24 hours a day. This made possible for companies to effectively manage their fleet costs such as route control, fuel control, integrate navigation modules for their drivers and even assure automatic driver identification. Basically, this solution would allow an owner/manager to control its fleet - *“With Frotcom you are back in command!”* (Frotcom’s Slogan).

Frotcom’s main features in 2008 were: vehicle tracking in real time, which meant that their clients would know on a real time basis the positions, speed and ignition status of their vehicles on a map; it had a door open sensors, in order to inform the interested parties whether the vehicles doors were being opened or not and where; a temperature sensors in order for clients to control refrigerated goods being transported. Additionally, Frotcom’s provided a very useful tool, a system of reports and alarms, which could be tailored to each client’s needs. An example of an alarm would be: every time one of the drivers would go over the speed limit the client would be warned, by mail (for free) or by SMS (for a small fee). The reports were useful for clients since they would contain every detail of any driver or vehicle that the client desired, making it simple and easy to read it and to evaluate the driver or vehicle.

3. INDUSTRY OVERVIEW

> *"A Fleet management solution is a vehicle-based system that incorporates data logging, satellite positioning and data communication to a back office application"*
>
> *Fleet Management in Europe, M2M Research Series 2011 by Berg Insight*

The fleet management B2B industry, market value is *"estimated to grow from USD 8.03 Billion in 2015 to USD 22.35 Billion by 2020"*[11]. The main driver of this growth trend is the fact that there is still a long way to go before the technology becomes adopted by all potential beneficiaries. This growth is accelerating the number of competitors, and creating a global marketplace. Consequently, internationalization is becoming a critical factor to survive in the market. In the long run consolidation movements are expected to occur.

Companies, after the financial crisis in 2008, have to face extremely challenging competition; this increasing rivalry leads firms to find new ways to increase their efficiency, which creates a rising demand for the uses of technological tools, such as a fleet management system. Moreover, authorities have been increasing regulations, which can be more easily met by the use of this solutions. One example of such regulation in Europe is (EC) nº561/2006 (Exhibit 4) which defines mandatory rules and behaviors to drivers driving vehicles of more than 3.5 tons for the transport of goods or vehicles transporting more than 9 people. In summary, fleet management solutions are developed so that companies can run in a more efficient way their vehicles, by:

- Managing their vehicles - remote monitoring of the vehicles;
- Managing their drivers - focusing on driver's performance;
- Managing their operations - focusing on the operation efficiency;
- Helping with regulatory compliance and reporting purposes;

[11] Fleet Management Market by Solutions, by MarketsandMarkets

Segments

Fleet Management is a term used to describe a wide range of solutions for different vehicle-related applications. According to Valério, this industry can be divided into two different segments, which are normally distinguished by the importance of their fleet to the company's core business. Identifying them is important for the development of tailored solutions for each of the segments.

The companies that belong to the first segment, **vehicle-centric** companies, are the ones in which their core business is directly connected with their vehicles, namely transportation companies, of both people and goods. For this group of companies, the management of their fleet will directly affect their performance. For that reason these companies use fleet management systems with the purpose of saving on all expenses they can (tires, gas, tolls…) by making their driver's behavior to be more cost efficient. Furthermore, this segment has a much higher need for specialized features such as temperature control, door open control and secure seal sensors. This segment is less cost sensitive than the other but it expects a much higher quality product and service.

The other segment of this industry is composed by **non-vehicle-centered** companies which are, by default, the rest of the companies. Normally, these companies own light commercial vehicles, used by many sorts of reasons, for their sales forces, their field service technicians, etc. In these cases, companies have the need for such systems mainly to optimize their staff's productivity. Companies belonging to this sector do not expect a complex system with several features; their primary need is to know where their personnel is and where they were. Since the organization does not have to rely continuously on such systems, this segment is much more price sensitive. Additionally, the technology needed by these companies is much simpler which means that much more vendors offer such solutions.

Markets

Geographically, there are three types of markets for fleet management solutions: the advanced economies markets, the emerging markets, and, finally, the underdeveloped markets.

In general, all these markets use every fleet management product or service, but the characteristics and patterns of the products or services offered in each one can be somewhat typified.

In advanced economies, Fleet Management Systems have an immense market, but there are already strong service providers that have been settled on these markets for some time and have achieved solid positions. The entrance on such markets will require heavy investments in marketing and/or by starting a price war or niche strategy.

On emerging markets however there's breathing room for small vendors, since the technologies necessary for a fleet managing systems (GPRS and Wi-Fi) haven't been available for a long time and so there's still an opportunity to capture a relevant share of the market. Moreover, big vendors aren't as interested because these are smaller markets.

Finally, the market for fleet management systems in underdeveloped countries is almost inexistent, as they still do not have the necessary technology to host these systems – wireless communications coverage and internet access, are usually a strong impediment.

Advanced Economies Markets These markets represent the majority of the world market, since they own the majority of the vehicles, plus companies in these markets have investment capacity to invest in technologies. Examples of such economies are countries like Japan, U.S.A. and Germany. The most relevant characteristics of this type of markets are:

The Strength of Competitors - On these markets, there are many important companies, namely TomTom Telematics (based in the Netherlands), Masternaut (based in U.K. – largest provider in Europe) and ID Systems (based in U.S.A – has subsidiaries in U.K. and Germany) that have a solid presence on these markets for a long time. Besides that, these companies have large R&D budgets which allow them to maintain a state of the art product. For those reasons it is hard for a new player to capture market share, as it will need to develop aggressive marketing and sales campaigns, which are very costly and risky.

The Saturation of the market - Being present on these markets is very important, not only as a reference for the rest of the world but also due to their size. Every big player wants be have a solid presence on these markets, which creates a fierce competition among them. For that reason, these markets are characterized by a very hostile environment for small vendors.

Emerging Economies Markets Countries like Brazil, Angola, Romania or Kenya are countries with emerging economies. These markets have some of the characteristics of a developed market but they still do not meet the minimum standards (such as sustainability of economic development) to become one. The most relevant characteristics of these markets are:

The Recent Technology - Countries with emerging economies are normally countries that have been evolving rapidly in many different areas: such as education and health, but most importantly – for software developers – technology, especially in terms of wireless telecommunications coverage (which allowed GPRS communication) and ubiquitous access to the internet (which allowed using fleet management systems). These are necessary requirements for fleet managing companies to enter these markets.

The lack of Competition - These markets, only recently became able to host such systems. For that reason, not many competitors have reached them. Also due to their smaller size, they are not so coveted by the industry big players. The lack of competition allows smaller firms to thrive on such markets.

Underdeveloped Economies Markets These markets include poor countries that haven't extended and reliable communication coverage. For that reason they aren't very attractive for a fleet management software developer. Underdeveloped market's more relevant characteristics are:

The Lack of Technology - These countries, in general, do not have good enough telecommunication coverage so it makes no sense to have a fleet management system. Imagine installing one of these systems in a fleet. Despite the investment you couldn't manage the vehicles because you couldn't still locate them most of the times.

The Lack of Investment Capacity - Usually, companies based on these countries do not have investment capacity to install fleet management systems on their vehicles. Obviously this represents a significant constraint for the market.

4. FROTCOM'S STRATEGIES

The Internationalization Process of Frotcom

Since the beginning of the "Frotcom Adventure" Valério and Renato knew that the company had to go international. The remaining question was how.

Traditionally, Portuguese companies start their internationalization process by expanding to Spain (due to the geographic, cultural and economic proximity), Brazil Angola or Mozambique (due to the shared language (Portuguese) and culture)[12].

The usual approach to another market is simple; firstly a market study is carried out to assess whether or not the company could be successful in that country. If that is the case, two main alternatives can be explored. Having available financial resources the step is to open a subsidiary in that country (by opening a new office or buying a competitor). If not, or if there is some concerns about this market prospects, a softer entering can be to find distributors for the company's product or service.

Back in 2007 Frotcom did not had the resources (was still in a fragile financial situation) to apply the first alternative and so they went ahead with the second - finding an international partner to distribute their product. In order to do that, Valério and Renato started with Spain. They hired an intern to search for suitable partners, bought a data base of possible distributors and sent over 2000 personalized letters. They both traveled several times to Spain in order to reinforce the chances of acquiring a partner in this country. But the truth was that they never found a solid Spanish partner, because Frotcom was seen as just another product on their portfolio. Consequently their international endeavor was a failure.

It was only in January 2008 that Valério and Renato understood that in order to develop an international standing their strategy would have to change, it would have to be more original and bold. That's when they had an idea that would change Frotcom International's path:

[12]Padrões de internacionalização das empresas portuguesas: http://www.iapmei.pt/acessivel/iapmei-art-03.php?id=307

"Instead of looking for partners why don't they look for us?" This vague thought meant they had to try to reverse the traditional method, which could make sense for well-establish global companies like McDonalds or Coca-Cola where everyone wants to be their distributor, but how would that work for a small company with an inexistent brand awareness?

Valério knew it wouldn't be easy but he was convinced that Frotcom's international success would depend on this, so he used his best weapon – the internet, more specifically, the company's website.

Valério and Renato changed the webpage – in countries without a partner - focusing in a message that would welcome someone who wanted to become a partner (Exhibit 5) instead of trying to sell the product (Exhibit 6). The message the website would pass was in the lines of: "We think we have an appealing solution for fleet management, if you think you have a market in your country please contact us."

Frotcom had finally a new approach to the international markets; it was now time to implement it. From that moment on the company's energy was focused on preparing Frotcom's technological and organizational infrastructure. They created a new concept within the company: the Frotcom Certified Partner (FCP). A FCP was an approved partner which had the distribution rights of a certain country; it was not only a mere distributor but a true business partner with some exclusive rights.

This would mean that the certified partners' margins were bigger but they would have to deal with the local business on their own, counting on Frotcom International's support only as a second line, mostly for the resolution of technical problems in the equipment or software.

In order to make this approach successful, Frotcom International had to update its back-office system (the intranet) so that any FCP located anywhere in the world could set up and provision their clients' accounts when new sales occurred. This system would liberate Frotcom International from sales and customer care, leaving them free to focus on the development side of their only product – Frotcom.

The strategy conceived by Valério and Renato was working, as they were receiving a lot of requests for partnership and they were now, more focused than ever on the development of their fleet management solution.

The main reason why this strategy was working was that through their network of FCPs, Valério and Renato could offer their clients a state-of-the-art solution (developed by Frotcom International) and at the same guaranteeing that the clients would have great support given locally by the FCP. This strategy acted accordingly with their motto: *"Think global, act local."*

The success of this strategy can be observed by three different indicators: number of employees in Frotcom International (Exhibit 1), results of the company since 2008 (Exhibit 2), number of countries where Frotcom was operating (Exhibit 7 and 8), and the number of installed vehicles with the Frotcom solution (Exhibit 9). When looking at these numbers it is easy to conclude that this strategy was working. From a company constituted by only four people in 2008 they became 24 in 2015, in 2008 their results were near 1 million euros which tripled in 2015 to 3 million euros, from the two countries they operated in the beginning of 2008 they were operating in 38 only 8 years later and, finally, from the 2600 vehicles installed in 2008, they had in 2015 almost 30000.

5. MAIN CHALLENGES

Reborn From the Ashes When in 2005 Valério and Renato decided to dedicate all their time to Frotcom, they were troubled by a series of doubts. It is important to understand that Quadriga was in serious financial distress and a possible ending was to declare bankruptcy.

However they chose to face the difficult situation and try to find a way out. In 2005 neither of them knew that there would be a big enough market for fleet management systems; at most, they had a hunch that GPRS would be a game changer for this industry, but they had no certainties.

Moreover, even if this product had some traction, it was not guaranteed that only two people could develop a competitive fleet management software capable of fighting already existing competitors.

Timing It is important to point out that although Valério and Renato were able to successfully turn their situation around after the Dotcom bubble burst, they had another challenge in 2008 – The Financial Crisis. This crisis led generalized focus on cost efficiency. In that sense it was hard for Frotcom to strive during a time where companies were not easily convinced of installing fleet managing systems in their vehicles due to the investments that would imply.

Getting the Internationalization Right When the new Frotcom product started being sold there were already some competitors in Portugal. In fact before the solution was even ready there were already vendors with thousands of tracking devices installed.

In order to fight this situation and to expand their reach, Valério and Renato thought it would be a smart move to internationalize the company. In order to do this they tried many approaches. Getting the right one to work was a slow and risky process.

Having a Competitive Solution One of Frotcom's biggest challenges was and it will always be, to guarantee that Frotcom will keep being a top notch solution.

The hardest part of overcoming this challenge was the fact that Frotcom was smaller than its competitors. In order to fight this scenario Frotcom knew they had to focus all their energy and resources into product development.

They knew that to be competitive they had to be efficient, and in order to create better tools and features for their solution they listened to their clients' needs. They developed a system whose efficiency lied on the fact that they did not waste time on projects besides Frotcom, and they did not waste time on unwanted features since they always followed their clients' needs.

The only way to stay alive on a competitive industry with so many important competitors is to stay focused. This meant saying no to things that were not on their direct path. The reason why staying focused was so important to Valério was that the technology sector is a fast-changing competitive place and a product can lose its competitive edge in a short period of time (huge substitution threat).

6. OUTLOOK

Coming back from the question asked in the introduction: “What could they do?” Well what we can in fact assess is what did Valério and Renato did? Did it work?

What they did was to successfully reinvent the internationalization process of a small company, using their website as a bridge between Frotcom International – which had an interesting product – and interested partners – which had access to different markets.

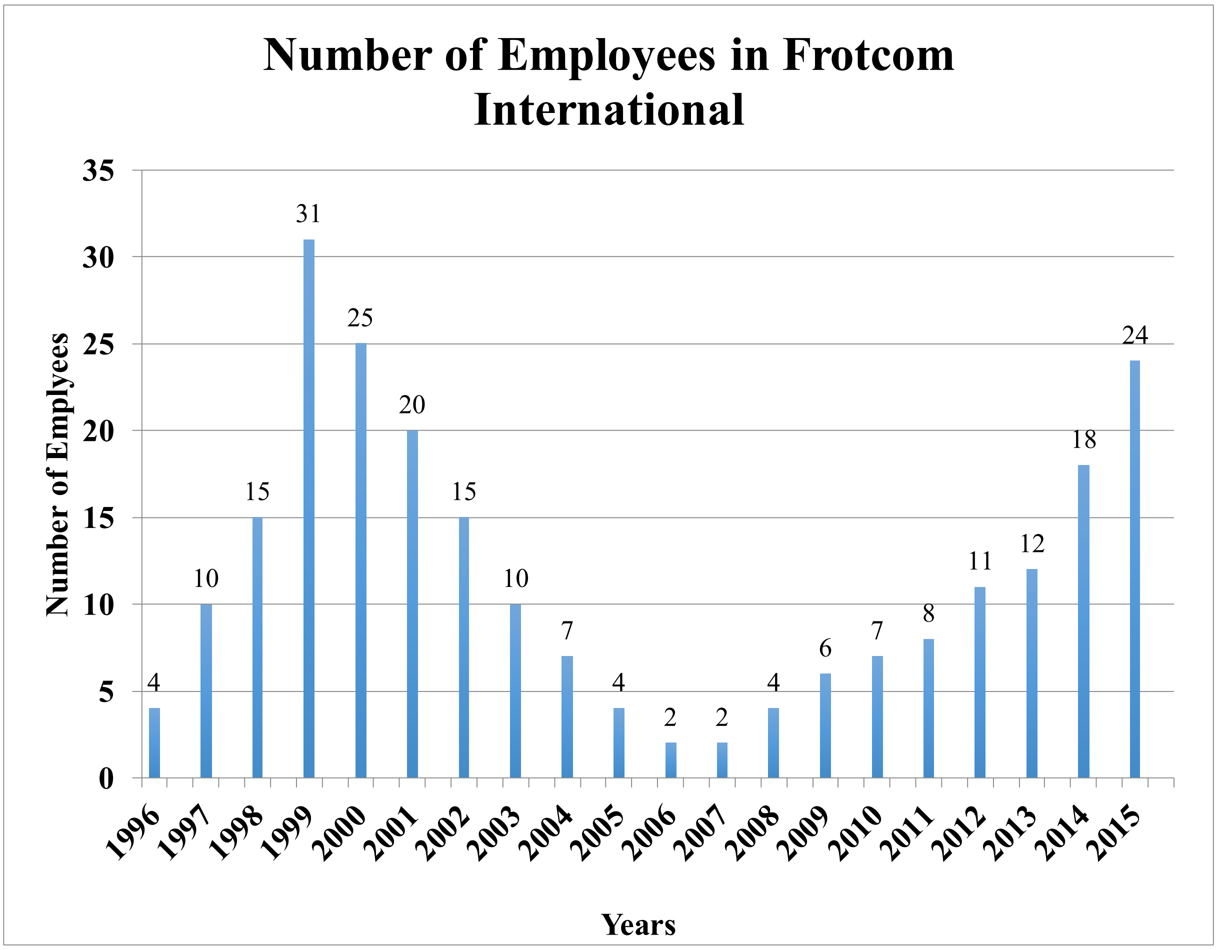
This strategy was only possible due to their commitment to create a solution which made this possible, by developing an intranet that allowed any Frotcom International partner to add/update/extinguish any clients account and configure devices and software without the need of Frotcom International’s direct involvement.

It is interesting to notice that Frotcom International trusts so much in their strategy that they even have a Frotcom Certified Partner in Portugal, their home country, which means that they want to be fully dedicated to the development of their management fleet system.

By keeping expanding to new markets, Frotcom International hopes to achieve a sound geographical diversification avoiding any threatening dependence from any specific market and their particular political, economic and financial restrictions.

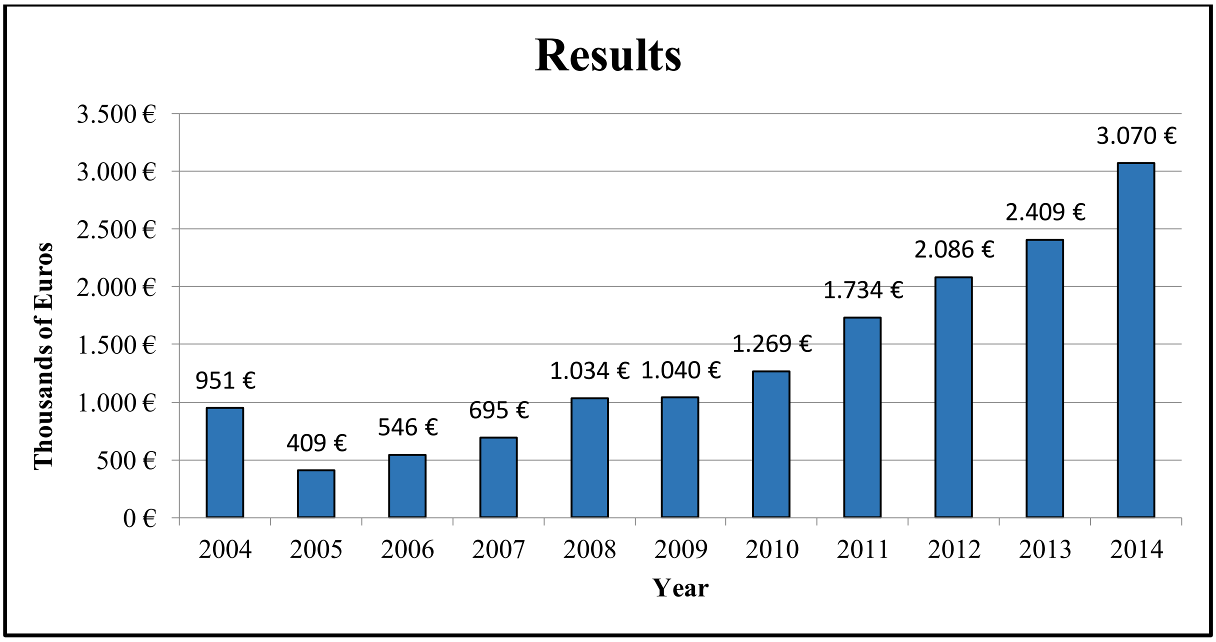
II. - Appendices

Exhibit 1 – Evolution of Frotcom's employees from 1996 to 2015



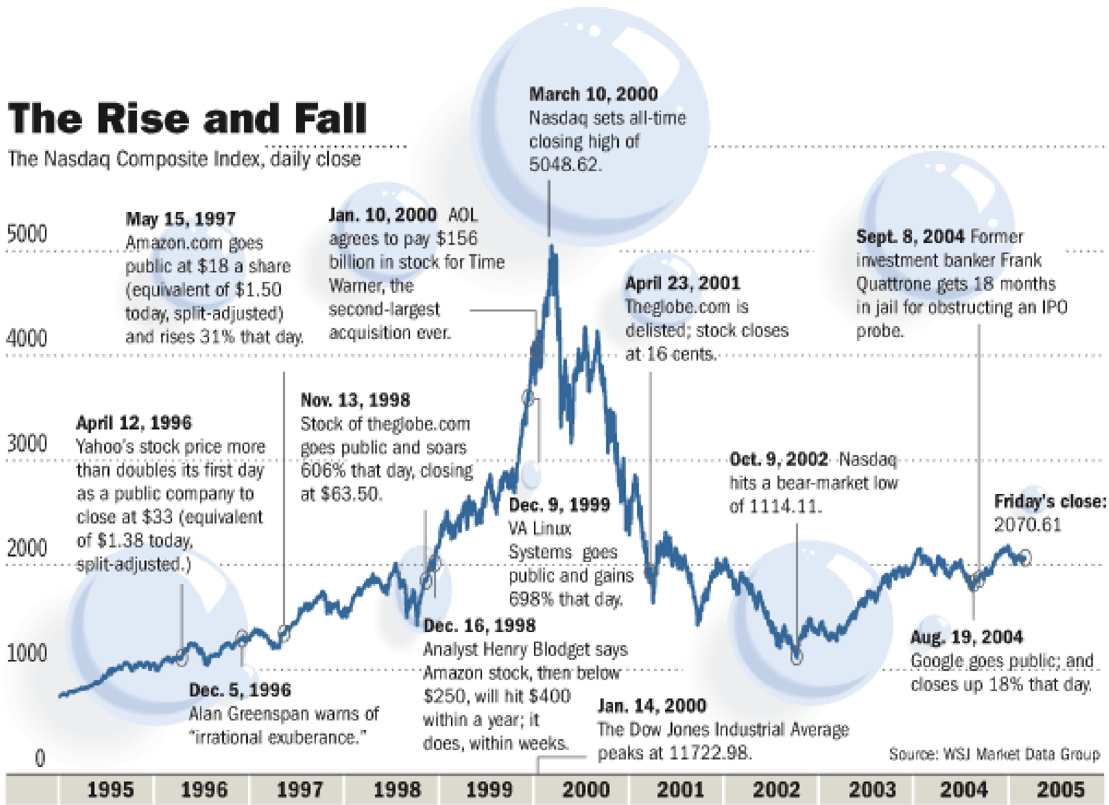
Source: Frotcom International

Exhibit 2 – Evolution of Frotcom's results from 2004 to 2015



Source: Frotcom International

Exhibit 3 – Graphical representation of the Dotcom bubble



Source: http://www.thebubblebubble.com/next-bubble/

Exhibit 4 - Part of the Regulation (EC) No 561/2006 of the European Parliament and of the Council

11.4.2006 EN Official Journal of the European Union L 102/1

I

(Acts whose publication is obligatory)

REGULATION (EC) No 561/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 15 March 2006

on the harmonisation of certain social legislation relating to road transport and amending Council Regulations (EEC) No 3821/85 and (EC) No 2135/98 and repealing Council Regulation (EEC) No 3820/85

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 71 thereof,

Having regard to the proposal from the Commission [1],

Having regard to the opinion of the European Economic and Social Committee [2],

After consulting the Committee of the Regions,

Acting in accordance with the procedure laid down in Article 251 of the Treaty [3], in the light of the joint text approved by the Conciliation Committee on 8 December 2005,

Whereas:

(1) In the field of road transport, Council Regulation (EEC) No 3820/85 of 20 December 1985 on the harmonisation of certain social legislation relating to road transport [4] sought to harmonise the conditions of competition between modes of inland transport, especially with regard to the road transport sector, and to improve working conditions and road safety. Progress in these areas should be safeguarded and extended.

(2) Directive 2002/15/EC of the European Parliament and of the Council of 11 March 2002 on the organisation of the working time of persons performing mobile road transport activities [5] requires Member States to adopt measures which limit the maximum weekly working time of mobile workers.

(3) Difficulties have been experienced in interpreting, applying, enforcing and monitoring certain provisions of Regulation (EEC) No 3820/85 relating to driving time, break and rest period rules for drivers engaged in national and international road transport within the Community in a uniform manner in all Member States, because of the broad terms in which they are drafted.

(4) Effective and uniform enforcement of those provisions is desirable if their objectives are to be achieved and the application of the rules is not to be brought into disrepute. Therefore, a clearer and simpler set of rules is needed, which will be more easily understood, interpreted and applied by the road transport industry and the enforcement authorities.

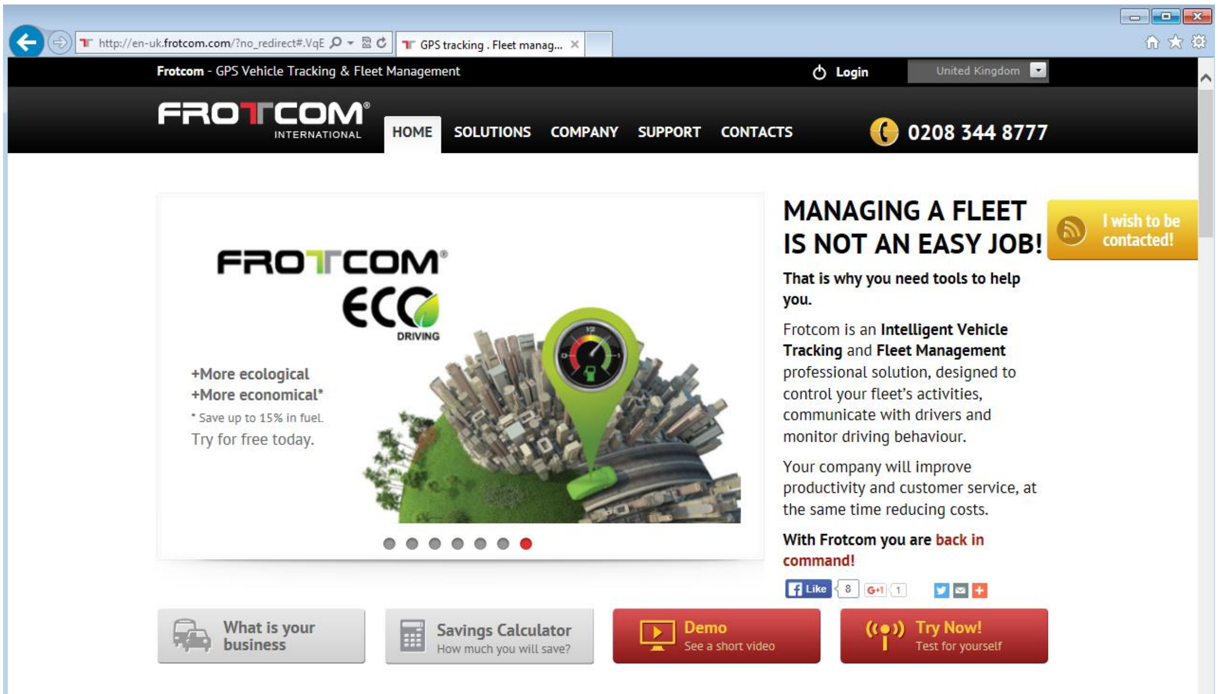
(1) OJ C 51 E, 26.2.2002, p. 234.
(2) OJ C 221, 17.9.2002, p. 19.
(3) Opinion of the European Parliament of 14 January 2003 (OJ C 38 E, 12.2.2004, p. 152), Council Common Position of 9 December 2004 (OJ C 63 E, 15.3.2005, p. 11) and Position of the European Parliament of 13 April 2005 (OJ C 33 E, 9.2.2006, p. 425). Legislative resolution of the European Parliament of 2 February 2006 and Decision of the Council of 2 February 2006.
(4) OJ L 370, 31.12.1985, p. 1. Regulation as amended by Directive 2003/59/EC of the European Parliament and of the Council (OJ L 226, 10.9.2003, p. 4).
(5) OJ L 80, 23.3.2002, p. 35.

Source: http://tachospeed.pl/pliki/Regulation_%28EC%29_No_561_2006.pdf

Exhibit 5 – Frotcom International's webpage – focused on attracting partners

Source: http://www.frotcom.com/?no_redirect#.VqEIZ52p2Uk

Exhibit 6 – Frotcom UK's webpage – focused on attracting clients



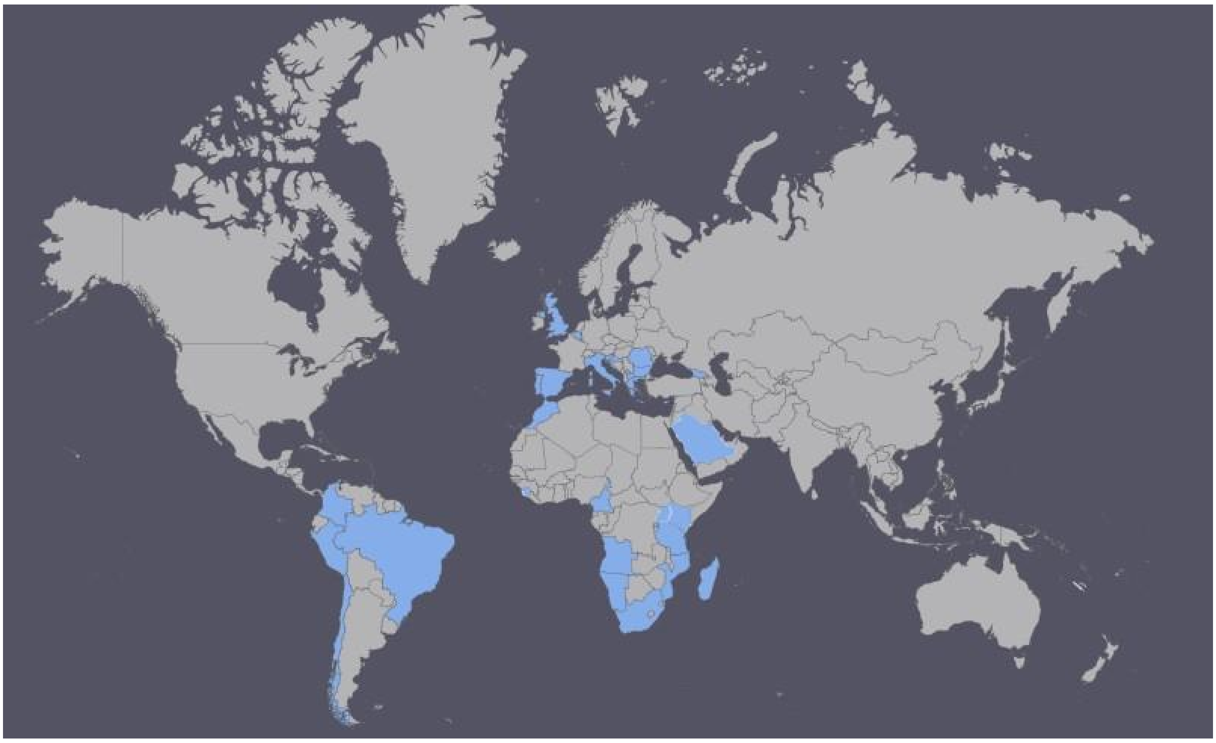
Source: http://en-uk.frotcom.com/?no_redirect#.VqEIWJ2p2Uk

Exhibit 7 – Evolution of the geography expansion of Frotcom

FCP evolution									
	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Portugal								
2	Spain								
3		Bulgaria	Frotcom East Africa						
4		Kenya							
5		Tanzania							
6		Uganda							
7		Rwanda							
8			Angola						
9			Belgium	Frotcom Belgium					
10			Luxembourg						
11			Morocco						
12			Cameroon						
13			Greece						
14			Mauritius	Frotcom Indian Ocean					
15			Reunion						
16			Madagascar						
17			Seychelles						
18			Romania						
19			Slovenia						
20				Brazil					
21				Cyprus					
22				Macedonia					
23				Sierra Leone					
24					Croatia				
25					Italy				
26						Kosovo			
27						UK			
28						South Africa			
29						Georgia			
31							Colombia		
32							Namibia		
33							Cape Verde		
34								Chile	
35								Peru	
36									Mozambique
37									New Caledonia
38									Saudi Arabia

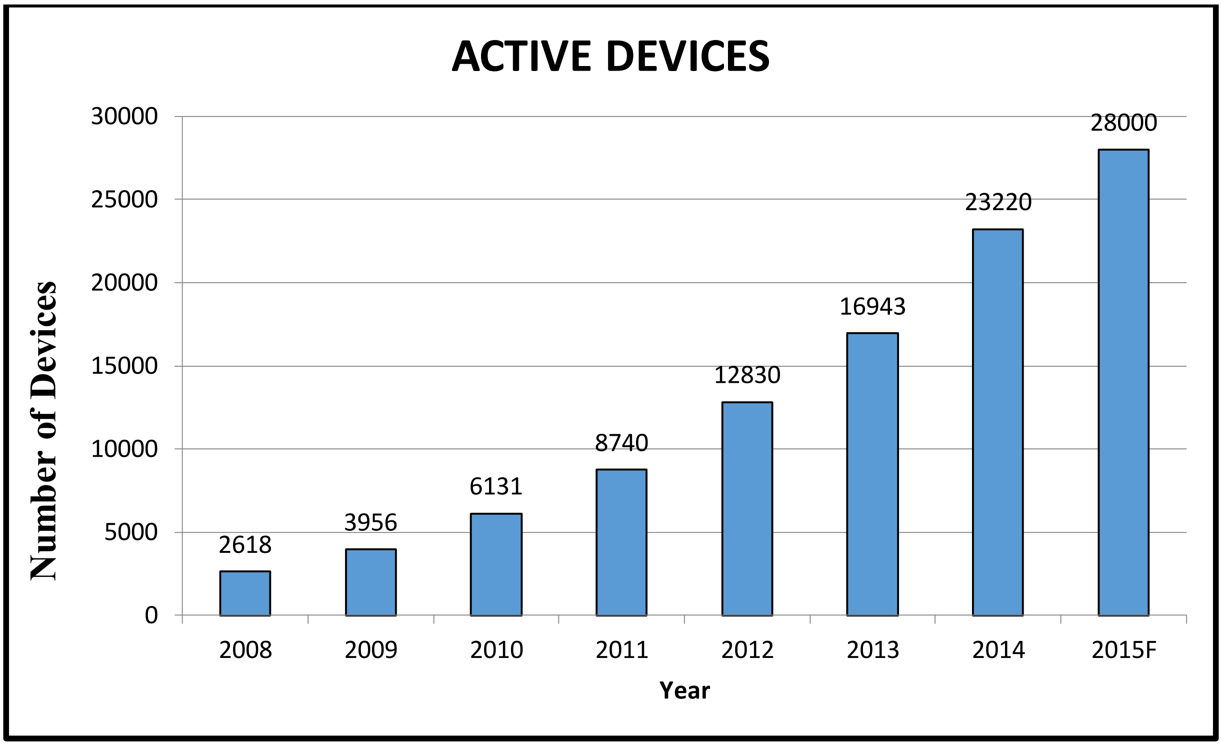
Source: Frotcom International

Exhibit 8 – Geographical Reach of Frotcom



Source: Frotcom International

Exhibit 9 – Evolution of Frotcom active devices from 2008 to 2015



Source: Frotcom International

III. – LITERATURE REVIEW

1. INTERNAL AND EXTERNAL ANALYSIS

Industry Definition

"An industry corresponds to a group of companies that commercialize similar products or services in the same market, as, for example, glasses in Portugal, furniture in Spain or consultancy in the Iberian Peninsula." (Cardeal, 2014, p 100)

According to this author, the first step of a good strategic analysis lies in the definition of the industry where the company operates. The knowledge of industry is imperative to better understand the company's strategic position and determine which strategies are better for it.

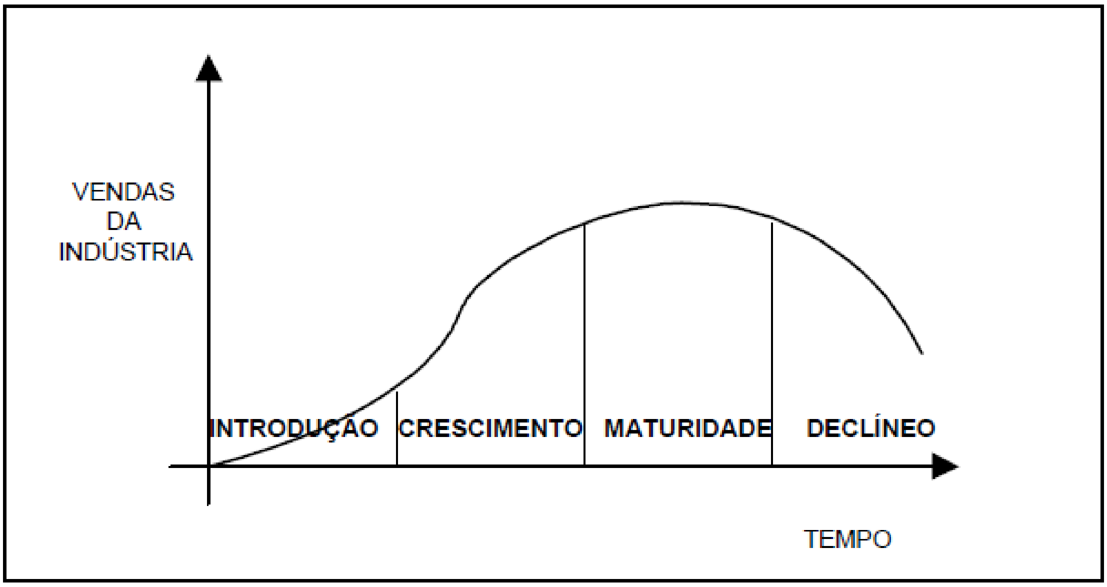
Industry Life Cycle

"Industry evolution is important strategically because evolution, of course, brings with it changes in the structural sources of competition. In the product life-cycle pattern of industry development, for example, growth rate change, advertisement is said to decline as business becomes more mature, and the companies tend to integrate vertically" (Porter, 1980, p 30)

The Industry Life cycle divides an industry into four different stages: introduction, growth, maturity and decline. All industries share these stages, however each industry will experience them differently. This means that the length of each of the stages may change according with the industry.

"During the life cycle of an industry, the total sales of the competitors usually go through four distinct phases: introduction, growth, maturity and decline" (Freire, 1997, p 89)

Figure 1. Industry Life Cycle



Source: FREIRE, A. 1997. Estratégia: Sucesso em Portugal, Lisboa/São Paulo, Editorial Verbo, p 89

Industry Key Success Factors

"The industry key success factors are the variables that provide more value to customers and that better differentiate the competitors in the creation of value." (Freire, 1997, p 97)

This means that in order to create value for their customers a company must operate accordingly with these factors. If these factors are correctly identified and followed by a company it will surely succeed on that industry.

"Understanding and developing KSFs enables a company to enter an industry successfully, differentiate between themselves with generic strategies and operate optimally between higher perceived value and lower delivered costs." (Ketelhohn. 1998)

Porters Five Forces

"Industry structure, embodied in the five competitive forces, provides a way to think about how value is created and divided among existing and potential industry participants. It highlights the fact that competition is more than just rivalry with existing competitors" (Porter, 1980, p Introduction XV)

What is known as the Porter's five forces, are the five competitive forces that Michael Porter considered relevant for the creation and division of value across the players in the industry. This means that the level of competition in an industry depends on the: Threat of new entrants; Threat of substitute products or services; Bargaining power of buyers; Bargaining power of suppliers; and Rivalry among existing firms.

"The collective strength of these forces determines the ultimate profit potential in the industry, where profit potential is measured in terms of long run return on invested capital" (Porter, 1980, p 3)

Although some consider adding a sixth force, the role of Government or the Technology, Porter argues against it, by explaining that they cannot be a force if they do not act by themselves, their actions can only be understood by looking to the existing five forces.

New SWOt Analysis

"The SWOT analysis - strengths, weaknesses, opportunities and threats - is the most used strategic analysis tool in the world." (Cardeal, 2014, p164)

Companies use this tool in order to improve the corporate strategy development process by assessing the business's internal strengths and weaknesses and external opportunities and threats.

"SWOT, like many overview approaches used in strategy, aims to solve strategic problems by reviewing companies as wholes, overlaying corporate diversity with generic solutions. Such arguments are perhaps seductive in their apparent offering"…"In fact, such approaches purport to identify a corporate similarity which though desirable, is no longer available." (Hill & Westbrook 1997)

As explained in the paragraph above, the SWOT analysis has its limitations, and so a new tool was developed: the New SWOt analysis. This new tool, which stands for strengths, weaknesses, opportunities and time, will allow the transformation of threats into opportunities always integrating the time variable. This new analysis will help the company create a plan which will act according with the reality.

"Combining the introduction of the time factor with the pure and simple elimination of the concept of threat into the new SWOT analysis implies that the companies should focus their attention on the improvement of their competencies, in order to, in the right timing take the most advantage of the windows of opportunity" (Freire, 1997, p 145)

2. STRATEGIC OPTIONS

Strategic Internationalization

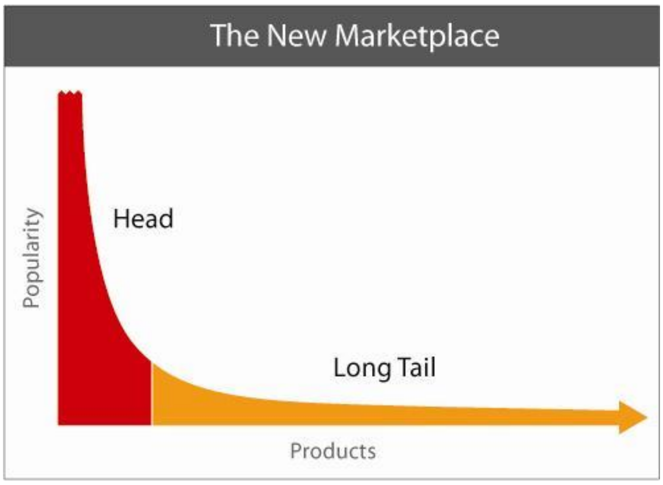
"To the internationalization strategy correspond the way a company approaches its activities outside its country of origin, naturally taking into account the specific needs of clients, the competitors movements and the reality of each country where I will be present." (Cardeal, 2014, p 209)

There are many drivers for a company to internationalize, the most commons being: the search for a cheaper production factors (whether a plant for products or a call center for services); or the drive of growing beyond the national market.

Long Tail Phenomenon

"The internet makes it easy to offer large assortments of products, tempting managers to chase the "long tail" – that is, the phenomenon in which niche products gain a significant share of demand among all products" (Hinz, Eckert & Skiera 2011)

Figure 2. The Long Tail



Source: http://www.longtail.com/the_long_tail/about.html

This being said, it is now possible for managers to make their companies offering all type of products for all types of tastes. An example of a company that was able to take advantage of the full potential of the internet in order to chase the "long tail" is Amazon. Amazon was able to increase their sales and profits by selling less of more, since the internet is not limited to any physical constraint (like a store) companies are able to offer an immense variety to their customers without the costs associated with keeping the inventory.

"This is not just a virtue of online booksellers: it is an example of an entirely new economic model for the media and entertainment industries, one that is just beginning to show its power." (Anderson, 2004)

It is important for business nowadays to not only realize the potential of the Long Tail but also take advantage of it. Many important companies have already done progress to the long tail offering to their clients an increasingly bigger product portfolio. Examples of this companies are for instance Apple with the iTunes Music store or Netflix with their abundant offer of movies and TV shows.

IV. – TEACHING NOTES

1. SYNOPSIS

This case study covers the internationalization strategy used by Frotcom International. Frotcom International is a Portuguese company headquartered in Lisbon that develops fleet management systems for every type of vehicle (from industrial trucks to motorcycles).

In order to expand, Valério Marques, the CEO of Frotcom International, and Renato Ferreira, its CTO, had to figure it out a low cost and efficient way to internationalize their company. Instead of wasting any more time trying to attract potential new distributors, Valério and Renato constructed their website in order to draw interesting partners to find them.

Since the implementation of this strategy in 2008, Frotcom was able to expand to into 38 countries by 2015, only 8 years later. It is important to bear in mind that at the beginning of 2008 Frotcom was only represented in Portugal and in Spain.

During the case study it is presented the situation Frotcom was trying to get over from (the collapse of Quadriga), the fleet management segments and its markets then, finally, the strategies that Valério and Renato implemented in order to turnaround this company and save it from an imminent bankruptcy.

2. TEACHING OBJECTIVES

This case aims to create awareness among students regarding the importance of internationalization. In order to do that it is given the example of Frotcom International, a company that operates in the software industry, more specifically in the fleet management systems industry. This Portuguese company is a great example of how a small firm with limited monetary resources was able to leave an international footprint in 38 countries in only 8 years.

Reading this case-study will provide students insights on an innovative path pursued by two Portuguese engineers that wanted to expand their company. Despite the fact that this strategy cannot be used in all situations, it is important to keep it in mind when faced with similar scenarios. The usual way it is not always the right way to do it.

In order to students take the most benefit out of this case, it is recommended to be hand out in the end of a class so that students can read it with time and attention before its' discussion in the following class. Students should focus on the strategic decisions Valério and Renato took since 2008, and think why this strategy worked and what could have gone wrong. Also, it is important to encourage students to think by themselves in other possible solutions for Valério's and Renato's problem.

To properly analyze the case, it is important for the student to apply some concepts and tools, mainly in the strategy area, learned in class, such as the Porter's five Forces in order to assess the attractiveness of this industry and of its segments and a New SWOt Analysis to evaluate Frotcom's solution and organization. Moreover, students should be familiar with some other concepts such as Industry Life Cycle Stages and the Long Tail Phenomenon.

3. SUGGESTED ASSIGMENT QUESTIONS

The suggested questions below serve the purpose of ensuring that the student understood both the case study and its elements. The questions follow a specific path in which the student is supposed to: firstly understand the fleet management industry (Question 1); after that, it is important to identify the Industry's Key Success Factors for each of the main segments and should analyze Frotcom, not only as a solution but also as an organization (Question 2); following that it is essential to understand why Valério and Renato established internationalization as key priority (Question 3); and, finally, the student should examine Frotcom's international strategy and compare it with more traditional alternatives (Question 4).

1. Analyze the attractiveness of the fleet management industry by identifying its barriers and drivers. Moreover, to complete this analysis perform a Porters Five Forces for both segments. Use this information to determine where is the fleet management industry in its life cycle?

2. The case study identifies the two main segments of the fleet management industry, assess which are the Industry Key Success factors of each of the segments. Adding to this, identify Frotcom International's greatest strengths and weaknesses. Use this intern analysis jointly with the external analysis and develop a new SWOt analysis.

3. Express some reasons behind the general tendency to internationalize a company, and afterwards explain why Valério and Renato thought it was crucial for Frotcom International ensure its expansion?

4. Comment Valério's and Renato's strategy, and analyze its success. Compare it with more traditional methods of developing an international footprint and assess whether or not this was the right one for Frotcom International. Compare this strategy with the Long Tail phenomenon.

4. ANALYSIS AND DISCUSSION

1. Analyze the attractiveness of the fleet management industry by identifying its barriers and drivers. Moreover, to complete this analysis perform a Porters Five Forces for both segments. Use this information to determine where is the fleet management industry in its life cycle?

The case study mentions the positive prospects for the fleet management industry. In order to better understand why there is a positive expectation it is going to be done a more extensive analysis of this industry. Throughout the case some barriers and drivers of this industry are mentioned, being the most relevant ones: the Macroeconomic Factors; the Regulatory Environment; the Competitive Environment; and Technological Environment. It is important to understand that although each market behaves differently these are with accordance with the general world tendency. In order to better assess this industry attractiveness it is better to revise them:

Macroeconomic Factors These factors have a negative impact on the growth of the market, as the financial crisis affected every business. However, both the increase in fuel prices and this crisis made companies to focus more on efficiency which makes the use of fleet managing systems more attractive.

Regulatory Environment Road transportations and mobile workers are subject to extensive regulations. These regulations are only expected to grow. For example, in Europe, regulation (EC) nº561/200 defines specific rules on driving time allowed, break and rest periods for drivers engaged on national and international road transports. Nonetheless there has been a rising concern of the safety of the goods transported, whether they are living animals or refrigerated foods. In the past years, there has been an upgrade in regulations both at an international level (European Union) but also at a national level. There's a huge opportunity for fleet management systems since their features allow a positive response to these new regulations.

Competitive Environment The state of competitiveness in today's world has made companies become more and more concerned about efficiency. Plus, adopting any I.T. solution will, in a general way, improve corporate performance. Adding to that, market pressure to reduce costs is an excellent driver to adopt a fleet management system. However, implementing new technologies demands significant resources that the majority of small and medium companies usually don't have, which is a constraint for this type of technology since a large portion of vehicles belong to small or micro businesses.

Technological Environment The fleet management technology is evolving rapidly, and providers are constantly delivering better performance at lower prices, which creates a high growth pattern for the market demand. Furthermore, companies are increasing their internal level of technology which means that more and more enterprises have the I.T. capacity to deliver valuable information to managers. This growing capacity makes it possible to gather and analyze the data collected by fleet management systems and use all of its potential.

After analyzing this industry main barriers and drivers it is clear to conclude that despite there were some events (the Dotcom bubble and the Financial Crisis in 2008) that had negative effects on the growth of this industry, the general tendency is positive.

Porters Five Forces for the Two Segments

- **Vehicle-centric:**

Threat of New Entrants Although it is true that fleet management systems can be easily developed (and that's why there are so many competitors), it is not true that this systems would have the necessary features to respond effectively to the client's needs. The vehicle-centric segment relies on fleet management systems to control their vehicles and drivers, but they also use it for regulatory purposes which make its use much more complex and demanding. Overall the threat of new entrants can be described as medium.

Threat of Substitutes In the technology industry, companies always have to fear the threat of substitutes. If they do not account for them they can suffer serious setbacks (take the example of Vinyl and CDs). In this particular segment, one possible substitutes are the manufacturers of heavy trucks that can start installing their own systems on their own vehicles. However, it should be noticed that transportation companies do not own vehicles of just one manufacturer, which means that when companies need a system that tracks all their vehicles at the same time, they will choose a non-affiliated system provider. Nonetheless, the threat of substitutes can be assessed as medium/low.

Bargaining Power of Customers The power of customers depends on the market the company operates in. The bargaining power of the customer is higher in markets with more competitors. Other important factor to take into account is the size of the company in question. The bargaining power of a company with hundreds of vehicles will be different than a company with only a few. Taking this into account the general bargaining power of the customers has to be considered medium/high.

Bargaining Power of Suppliers As explained in the case study, this industry has two main suppliers. The hardware suppliers and the SIM card suppliers (carriers). For that reason they will have to be analyzed separately. There aren't many hardware suppliers for the vehicle-centric segment, because the quality and technology necessary to satisfy this segment is extremely high. This means that only a few companies are able to develop them with quality. For that reason the bargaining power of hardware suppliers for the vehicle-centric segment is high. There is a large availability of SIM cards in the market as the telecommunication industry is highly competitive and consequently the bargain power of SIM cards suppliers is low. Taking into account both suppliers we can conclude that the bargain power of suppliers for the vehicle-centered segment is medium/high. In fact, as the hardware represents a much higher cost for the fleet management industry then the SIM cards, they have an additional relevance.

Industry Rivalry The industry rivalry on this segment has to be differentiated by how competitive is the market in question. For more competitive markets the rivalry is very high, all the great players of this industry are present which saturates those markets. It is very difficult for a small/medium firm to enter in such markets. The industry rivalry in advanced economies is high. However in emergent and underdeveloped economies the competition is weaker and there is breathing room for new firms. Many important players of this industry are so focused on the biggest markets that they neglect these ones. For this reason the industry rivalry for emerging and underdeveloped economies is low.

Overall the attractiveness of the vehicle-centric segment is moderate/high.

- **Non-vehicle-centered:**

Threat of New Entrants This segment only requires some of the features available in the market. This means that it is relatively simple to develop a solution that satisfies the typical client of this segment. Due to the low complexity of the solution, the barriers to enter into the market are much smaller. Furthermore, there aren't any legal protections for the entry of competitors for this industry (such as patents). Therefore, it can be concluded that the threat of new entrants for the non-vehicle-centered segment is high.

Threat of Substitutes Nowadays, a Smartphone has almost the required technology to fulfill this segment needs. Both in terms of the hardware (GPS localizer) and the software (free applications like Google maps offers the tools needed for this segment). As a result, the threat of substitutes for the non-vehicle-centered segment is high.

Bargaining Power of Customers There are many competitors on this segment and so they have bargaining power over the fleet management providers. Moreover, the existence of substitute products increases even more the bargaining power of the customers. The barraging power of the customers for the non-vehicle-centered segment is high.

Bargaining Power of Suppliers As explained before, there are two different suppliers for this industry: SIM card providers and hardware providers. For the SIM cards providers their bargain power is exactly the same for both segments since it is precisely the same product, which means the SIM card providers bargain power is low. However, the hardware necessary to satisfy this segment is different, since they do not use/need so many complex features, the hardware technology doesn't need to be as complex. Accordingly, there are much more suppliers of this product. This competition will reduce their bargain power. This being said, the bargain power for hardware providers is medium. Taking into consideration both suppliers it can be concluded that their bargain power of suppliers for the non-vehicle-centered segment is medium/low.

Industry Rivalry This segment has a high threat of substitutes and of new entrants. This permitted a lot of competitors to enter into the market, creating a fierce competition. The enormous amount of competitors drives the price down and, at the same time, it increases the bargaining power of the customer. Therefore, the industry rivalry in the non-vehicle-centered segment is high.

Overall, the attractiveness of the non-vehicle-centered segment is low/moderate.

The non-vehicle-centered segment is price driven which impacts more in small companies such as Frotcom International that cannot benefit from the economies of scale that bigger companies enjoy. Therefore, it will be hard for Frotcom International to compete in a market driven by price, when its cost structure is higher than its competitors.

The vehicle-centered segment appears to be the right segment for Frotcom International to focus on. Although there are already settled competitors in some of the most important markets of this segment, there are still some markets with breathing room for this organization. Furthermore, in this segment clients value a good and trustworthy solution with excellent customer service assistance a combination that Frotcom International can offer. This means they can maximize its competitive advantages on the vehicle-centered segment

By looking at these facts, it can be stated that the industry of fleet management systems is in its growth stage of the industry life cycle. The growth stage of an industry happens when there is a strong growth in sales and profits of the existent companies (as it can be observed in the Frotcom International case) due essentially to an increase of the demand. Companies that are already settled on the market have the opportunity to capitalize on this increasing demand. The length of this stage is unknown, however by looking at the evolution of fleet management systems it can be assumed that they are in the beginning of the growth stage, meaning that they passed the introduction stage not long ago. Frotcom International would be able to respond in the most accordingly way to the characteristics of each stage by knowing in which stage the fleet management industry is.

2. The case study identifies the two main segments of the fleet management industry, assess which are the Industry Key Success factors of each of the segments. Adding to this, identify Frotcom International's greatest strengths and weaknesses. Use this intern analysis jointly with the external analysis and develop a new SWOt analysis.

As explained in the case study, there are two main segments in the fleet management industry: the vehicle-centric segment, and the non-vehicle-centric segment. These segments have substantial differences in terms of the solution they require to satisfy their client's needs. By identifying the Industry Key Success Factors for both segments it will make the specific characteristics of each segment clearer, but it will also give the generic guidelines of this industry.

Industry Key Success Factors for both Segments

Segment	Purchase Key Factors	Competition Factors	Industry Key Success Factor
Non-vehicle-centered	● Low Price ● User-friendly ● Focused on Customer experience	● Low costs ● Innovation	● Low cost structure ● Research & Development
Vehicle-centered	● Multiple Features ● Reputation ● Brand Recognition	● Innovation ● Excellent customer Service ●Marketing Campaigns	● Research & Development ● Partnerships ● Brand Image

As it can be absorbed by looking at the table above, the industry key success factors change substantially depending on the segment. The first, the non-vehicle-centered is more price sensitive and would rather have a user friendly software focused on customer experience than an innovative and complex solution with a great number of features which is preferred by the vehicle-centered segment.

In order to assess which are the greatest strengths and weaknesses of a company one has to compare the company's resources and capabilities with the industry's average. Only by comparing them with the industry's we can correctly identify what the competitive advantages of that company are. Following that logic, Frotcom's greatest strengths and weaknesses are:

Strengths	Weaknesses
High quality solution with a lot of features	Low investment capacity
Excellent position on the emerging markets	Low brand awareness
Frotcom Certified partners	

After identifying Frotcom International strengths and weakness we can move on to a New SWOt analysis. We now assess the strengths and weaknesses as opportunities in the short and medium terms, and in the long term. The analysis is in the shape of a table below:

New SWOt	Short & Medium term Opportunities	Medium & Long term Opportunities
Strengths		
High quality solution with numerous features	● The Frotcom solution it's above the average which has a positive impact on sales in the short and medium term.	● Frotcom's exceptional R&D department will enable Frotcom having unique features in the future. These features will make Frotcom a unique solution compared to others in the industry.
Excellent position on the emerging markets	● Since Frotcom was one of the first ones to get to this markets, it will have the opportunity to capitalize it (first-mover advantage) and take over a large share of the market.	● This excellent position on the emerging markets will bring even more profits since these economies are growing exponentially and Frotcom is already settled on them. In the long run these markets will probably be as big as the developed ones.
Frotcom Certified Partners	● Having developed FCP has allowed, and it will too in the near future enable Frotcom to accelerate its expansion process faster than its competitors, which will help it become an international significant player.	● In the long run having FCP will create significant synergies between them. Moreover, It is easier to create new and innovative features with feedback from the whole world.
Weaknesses		
Low investment capacity	● Having a limited investment capacity will induce Frotcom to find cheap and innovative solutions. This is also mitigates the risk of bankruptcy (carefulness).	● Having a limited investment capacity now doesn't mean that Frotcom International will have it in the future. However, they have been facing its competitors without this capacity; in the future they might have this extra weapon.
Low brand awareness	● Brand awareness it is not an advantage itself, sometimes having a bad reputation is worse than not having one.	● Frotcom International has the opportunity to build its reputation from the ground up.

3. Express some reasons behind the general tendency to internationalize a company, and afterwards explain why Valério and Renato thought it was crucial for Frotcom International ensure its expansion?

After the Dotcom bubble burst, Valério and Renato witnessed Quadriga, a promising company, to go down on a negative spiral. Despite their efforts they weren't able to avoid it and now with Frotcom International rising from Quadriga's ashes, they did not wanted to repeat the same experience. According to Valério the main problem of Quadriga, was the excessive diversification of the product portfolio, which prevented the company to capture valuable synergies. In addition to the diversification issue, Valério identified another problem, the great dependence of the Portuguese market to Quadriga. In order to avoid repeating the same mistakes, they had to do two things: focus on one product and internationalize it.

By expanding to other markets, Frotcom would have not only short-term security but especially long-term security. In fact, by having different clients from different markets Frotcom will be less vulnerable to periodic fluctuations and downturns of the Portuguese market (short-term). Moreover, due to the globalization and intense competition between domestic and foreign firms, it is the safest thing for a company to internationalize in order to mitigate the effects of the saturation of the internal market: price decrease and margin erosion (long-term).

It is crucial to understand that for a Portuguese software company it is mandatory to expand internationally in today´s world. Just to understand how small the Portuguese market is, we simply look at the number of registered vehicles in Portugal, which is around 9 million, compare it with the 1.2 Billion vehicles (approximately) existent in the world, and we conclude that the Portuguese market represents less than 1% of the world market for fleet management systems.

Not only the Portuguese market is small but it is also competitive. As explained in the case-study, there were already several companies developing similar projects in 2008, which means that the price of a fleet management system in Portugal might be lower than in a market with fewer competitors. When looking for such markets Frotcom can increase substantially its margins and overall profitability.

Another advantage that should be weighted in when considering expanding a company internationally is the increased innovation platform that this process can provide to the firm.

When Frotcom expands their customer base, it can help finance new product developments, useful for both the international markets but also for the domestic market.

Finally if the product is widely accepted around the world - which is the Frotcom case - a great advantage of exportation is that it can help achieve economies of scale. Besides the language, there aren't any substantial differences between the Frotcom fleet management solution available in Portugal or the one we found in the Romanian market, for instance. This means that internationalizing this product will not lead to any incremental costs in the development of the software, which is Frotcom's International biggest expenditure.

4. Comment Valério's and Renato's strategy, and analyze its success. Compare it with more traditional methods of developing an international footprint and assess whether or not this was the right one for Frotcom International. Compare this strategy with the Long Tail phenomenon.

Valério Marques and Renato Ferreira, CEO and CTO of Frotcom International, wanted to expand their company internationally. Their strategy was focused on using a differentiated and innovative tool: Frotcom Certified Partners. A FCP was the exclusive representative of Frotcom International in a country. Being a partner represented status well beyond of being a distributor. It is true that a FCP had additional responsibilities, such as dealing with all the local business activities, but the FCP had also the advantage of being part of a well thought-out organization prepared to receive, support and guide, the local FCP that was considered to have the potential to become a long term partner.

In the case study there was a brief explanation on how companies usually expand its business internationally. Two different approaches were discussed. The first one was entering directly in the market (by opening a subsidiary or by buying a local competitor), and the second one was finding an interested distributor. In order to better explain the differences between the traditional international approaches and the one Valério and Renato applied, all these alternative strategies are going to be compared.

Let's start by dividing each strategy in three different areas: firstly, the resources needed to apply them; secondly, the structure of the international representation of the company; and, finally, the outcomes and risks of these strategies.

Resources The resources needed to enter directly into a market are extremely high. In order to succeed with this strategy the company has to invest in its brand awareness and in the opening of an office on that market. Both actions are very costly. A company can also buy a competitor in order to accelerate the process (since this competitor will already have a customer base and some brand awareness) but this process is even more costly than the described before. By looking at the distributor approach and Frotcom's approach it can be concluded that the resources needed for these two strategies are extremely reduced. Nonetheless, Frotcom's strategy included the preparation of the company's back office system which was time-costly for Valério and Renato.

Structure When a company opens a subsidiary or buys a competitor, the resulting structure of the company will maintain some back office and support functions locally. This will have the advantage of facilitating the articulation with the headquarters and having a complete focused organization on the product. However this approach may not generate economies of scale between the headquarters and the subsidiary, since a lot of the processes may have to be duplicated.

Looking for a distributor on another market may result on finding an existent company with an extent product portfolio. In such cases the product will only be one more in its portfolio and so, the distributor may lack the focus necessary to do it properly. Even if the distributor focuses on this new product, there's no guarantee that he will do a good job on this new market. Besides that, control him will be hard, which may compromise the company's reputation, in the case he acts poorly.

Frotcom's approach will result into an opening of an office completely focused on Frotcom on the new market. Its structure will follow some of the Frotcom's guidelines but the new partner will have the liberty to mold that structure according with its convenience and intended approach toward the local market. This will result into a similar structure across the globe but always with a personalized touch of the FCP. This approach gives more power to the distributor (FCP) because they feel part of the company, and their concerns are Frotcom International's concerns.

Outcomes and Risks Entering into a new market by opening a subsidiary or by buying a competitor is extremely expensive. Nevertheless, this approach, especially when buying a competitor is moderately secure. The big problem of this internationalization process is the necessary resources which limits the velocity of the international expansion. If it is true that a company has the necessary resources to open a subsidiary in a new market it may not be true that they have the capacity to enter in three at the same time. This means that this approach is good to enter a specific market but if applied for the whole world will take a lot of time to a company to have a global footprint. Companies use such methods to enter the biggest markets, for that reason, in the fleet management industry; countries like Germany, Japan and United States have an enormous number of competitors. The risks of this strategy are, not generating enough revenues to justify the vast investment, and entering into a market with lack of space to allow new profitable arrivals.

The outcome of using a distributor strategy can be successful or not, however in the fleet management industry one of the most critical factors is customer service which creates an alarming risk since it is harder to control the service offered by the distributor. Moreover, it is unlikely for a distributor to be eager to enter in such a competitive industry where there is the need for specific knowledge which they may not own. The risk of selling a product, any product, to a distributor is the lack of ability to control the outcome on that market; a company will depend on its distributors on sales. On top of that, a fleet management system will be another product on a portfolio, having the distributor to focus on the product is the main challenge using this strategy. However in this industry it will be hard to succeed there.

Finally, the outcome and risks of the international strategy of Frotcom will be assessed. The outcome of this strategy will be the creation of a partner located on any market in the world with exclusivity of the Frotcom product. Despite this, the possibility of having a bad partner has to be considered as the outcomes that may arise from that. Having a bad certified partner may ruin the company’s reputation on that market which may be hard to recover. A less dramatic outcome may be a partner that insufficiently sells the product creating, though, an opportunity cost on that market. However, Frotcom International contracts are prepared for this eventual event and Frotcom can revoke a contract if the sales don’t meet the targets established beforehand.

Valério's and Renato's new international strategy allowed Frotcom International to reach the right markets at the right time. Due to different rhythms of technological development, countries were ready to receive fleet management systems at different times. When it becomes possible to manage fleets in a given country, many local companies go and look for fleet management solutions. Due to this increasing demand and the lack of available alternatives on those countries, some individuals and companies become curious about this "new product" and concluded that there is an enormous business opportunity. When they search such products online, they find Frotcom's website and they realize they can become a Frotcom Certified Partner. Since Frotcom International strategy was completely focused on these situations they were more than prepared to receive the new partners and give them everything they need to be successful on those countries. Frotcom International would get a new partner in a country with almost no competition and with an unanswered demand.

Although the Long Tail phenomenom refers to niches in products, this also can be said for markets. Althoug the majority of the demand is in the "Head" which in the fleet management industry is represented by the advanced economies, there is also a good market share to be captured in the Long Tail which is represented by the emerging and underdeveloped economies. The reason why this phenomon is relevant for this case study is that Frotcom International strategy targets this type of niche markets. At the same time the big players are competing on the "Head" where they find competition and have to incurr in expenses such as marketing campaigns; Frotcom is capitalizing their strategy by entering markets which do not appear as attractive but when added up they represent a substantial global market share.

V. - Conclusion

Writing this thesis was a great opportunity to test my capabilities as a master's student. During this semester, which I solely focused on writing this dissertation, I was able to not only learn from a company which kindly gave me access to their private information and insights but also it gave me the opportunity to explore theory in the hands of great Economists and Strategists.

This thesis is focused on the international strategy develop by Valério Marques and Renato Ferreira to ensure Frotcom's international footprint. Due to lack of funding, Frotcom wasn't able to expand to other countries by opening a subsidiary or buying competitors. Also their attempts of getting interesting international distributors was being a complicate endeavor. In order to guarantee their success in this thriving industry, Valério and Renato developed a new concept within the company: Frotcom Certified Partner.

The pages written on this document deepen this strategy and why it worked. Moreover, it is also included all the necessary theory needed to better evaluate this case study in the literature review. In the final pages, it was also included some questions to the case-study to ensure that it was clear what was written, and to develop a more extensive look at the case.

Despite my tremendous efforts to conclude this endeavor in the best way I could, it has to be said that there are some limitations to this thesis. Although I did a general analysis dividing the world into three types of markets, it was a simplification of a much more complex issue. Since the individuality of each country has to be considered, and although they may have similar characteristics this analysis may be a bit too general. Nonetheless it was relevant to the case explaining where Frotcom could have their best business opportunities, and so this simplified analysis proved more than helpful to do it.

In the future it will be interesting to further expand the study of this particular industry since it is now on the growing phase and it will be interesting to analyze the industry shift when it reaches the maturity stage. Additionally it will be stimulating to watch how Frotcom International strategy holds on during this new chapter of the fleet management industry.

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