

CATÓLICA LISBON - SCHOOL OF BUSINESS AND  
ECONOMICS



## ***SCIENCE4YOU***

COMPETITIVE ADVANTAGE IN PROMOTING SCIENCE  
BUSINESS STRATEGY CASE STUDY

Pedro Miguel Oliveira Duarte

*Dissertation submitted in partial fulfillment of requirements for the  
degree of MSc in Business Administration, at the Universidade Católica  
Portuguesa, June 4, 2012*

INTERNATIONAL MASTERS OF SCIENCE IN BUSINESS  
ADMINISTRATION



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## Abstract

Title: Science4you, Competitive Advantage in Promoting Science – Business Strategy Case Study

Author: Pedro Miguel Oliveira Duarte

Science4you is the company selected to serve as background for development of a teaching case in Strategy and entrepreneurship, planned to be used in master programs.

Scientific toy industry has changed in the last 4 years due to the action of Science4you. It is clearly that company have contradicted the bad economic Portuguese situation and world economic crisis is something that this company refuses and consider as an opportunity. Meanwhile, the growing of the company and the business paradigm is going contrary to the toys industry actual characteristics.

The analysis of this case possibly the comprehension of the competitive advantage of the enterprise and the knowledge of the Strategies adopted considering the specificity of the Industry. The use of the presented case to master student classes will possibly the students the knowledge of the principal characteristics of the company and industry involved, in facts and numbers.

## Preface

This project was impossible to be done without the contribution of key persons. Not only they have oriented me and gave me technical advice, but also they were the source of motivation and encouragement necessary to complete my task. Especially I would like to express my gratitude to:

MsD. Mário Valente, my supervisor, for the involvement and the priceless feedback.

To Dr. Miguel Pina Martins, CEO of Science4you, for the time and patience expended with me. Without his information and his involvement this work would not has been possible.

Also, I would like to thank to my parents for contributing to my education and for the given opportunity. Everything I am today, I need always to be grateful to them. They are the most important part of my life.

Thank to my sister, who is a part of me and always influenced positively my decisions.

Thank to my Maria for the encouragement in the most difficult times of this project and for the unconditional support and faith.

Thank to Olga, who contributed decisively for entire work since the beginning. Without her, this project would not exist.

Finally, to her, who I know that is always looking after me.

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# 1. Case Study

## 1.1. Introduction

Everything began in 2006, when the University of Lisbon draft some final projects for their students to finish their undergraduate program. One of them was a project related to the development of scientific toys and was performed by Miguel Pina Martins (Fig. 1) and team colleagues, a finance student from ISCTE, who, after finishing his undergraduate program, joined investment banking. Only 4 months later he realized that banking was not what he wanted for his life and decided to develop his final graduation project idea at full time.<sup>1</sup>



Figure 1 - Miguel Pina Martins

This new project - Science4you - started to operate with venture capital in January 2008. This 100% Portuguese company is currently selling for 5 countries and has the prospect to continue its internationalization. The unique external approach and relationship it has is with the university and all the benefits coming from it.

Science4you has two different areas of business: The creation, development and commercialization of toys and the birthday parties; summer camps and scientific animation.

## 1.2. Science4you

After realizing that investment banking was not what Miguel Pina Martins wanted for his life, he re-embraced the final course project, Science4you. The project itself changed during the time. At the beginning, as he was

only one, he needed to perform all the functions at a company. He was the doorman, the seller, the warehouse responsible and also the boy in charge of creating the box and logo. He did a little bit of everything, including messing with the “graphic guy”, boring him in order to teach him how to work with a design program to make the Science4you logo idealized by himself (Fig. 2) that is still the original since the beginning. Actually it counts with 15 partners and 21 employees.

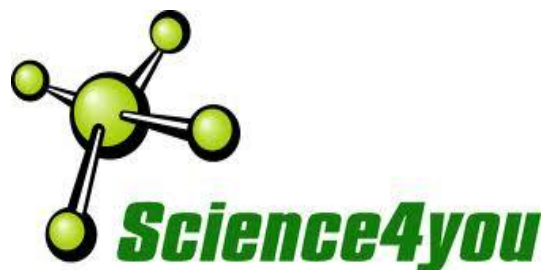


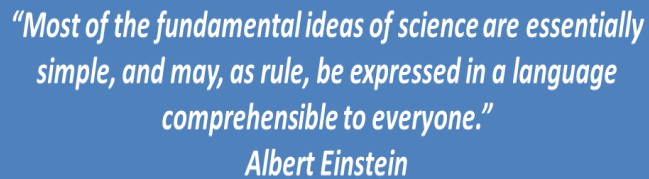
Figure 2 - Science4you logo

Miguel Pina Martins also needed to find a way to get the funds needed to start the company.<sup>2</sup> Science4you was created using the Finicia program, therefore it was founded with venture capital in 2008. It started with social capital of 55.000€, being 45.000€ of it financed by Inovcapital.<sup>3</sup> In May of 2009, the capital was increased to 100.000€.

The project was delivered to Miguel Pina Martins and his team with one goal: fulfil a gap in the market that the university knew about it. The university knew there were no scientific toys in the market that linked the scholar content with entertainment. Furthermore there were no scientific kits. As the project was delivered in the course by the university, they knew what was missing in scholar curriculum and what was needed to be done (Fig. 3). The core business was the creation of educational and scientific toys, which allows children to learn while playing. In this way the project started to exist and given the first steps during scholar class. The CEO, and the face of the company - Miguel Pina Martins, at that time

with 22 years old, started the changing of the scientific toys commercialization in Portugal.

In October 2008 the company sells the first scientific toy in Portugal. It was a realization of a dream, and, with only three months of operation the company sold 50,000€ of products.



*"Most of the fundamental ideas of science are essentially simple, and may, as rule, be expressed in a language comprehensible to everyone."*  
Albert Einstein

Figure 3 - Sentence of Albert Einstein that inspires Science4you

Science4you toys belongs the segment called of the educational toys, in a niche called Scientific Toys. At the beginning other companies' competitors were lower, with no expression in the market. The company started selling only 6 toys and nowadays only one of them remains in the market. Some toys were made in agreement with the educational Syllabus of some subjects' developed at elementary and secondary schools. The kids can put in practise what they learn at school and allow performing experiences of day-to-day. Not only they learn, but also they do what they learn. Most of the experiments associated with the toys are easy and accessible to everyone. Kids have the power to comprehend the basics behind experiments. Albert Einstein said *"Most of the fundamental ideas of science are essentially simple, and may, as rule, be expressed in a language comprehensible to everyone"* (Fig3). In this way, Science4you uses this sentence as an inspiration to create toys. All toys have a basic scientific background easy to everyone understand it.

Actually, there are more than 50 toys, at customer disposal, from Science4you. But why is this different? Because the CEO realized this was a way of divulge and sensitize children to the sciences. So, if a toy propose relative innovation and if action figures licensed, Barbies or actions figures do not provide different satisfaction in the need of the

child what Science4you can do? The CEO, understanding this issue decided to create a set of attractiveness to the brand and to this particularly toy. The experience of learning and interact with science do not finish after playing with a Science4you toy, as each box came with 105€ in coupons (buy one ticket get one of the same value for free) to be use to visit the most important scientific museums all over the country. In September of 2008, Science4you signs the first cooperation protocol with a science museum – Lisbon Science Museum. The numbers of partnership’s involved and actually are more than 12 in Portugal (Table - 4).<sup>4</sup>

Partnerships with Museums in Portugal:
Museu da Ciência – Universidade de Coimbra
Fábrica- Centro Ciência Viva Aveiro
Centro Ciência Viva do Algarve
Centro Ciência Viva de Extremoz
Planetário do Porto
Centro de Ciência Viva Sintra
Porto Moniz – Centro Ciência Viv
Museu da Ciência - Universidade de Lisboa
Exploratório – Centro de Ciência Viva Coimbra
Pavilhão do Conhecimento
Centro Ciência Viva da Floresta de Proença-a-nova
Tavira- Centro de Ciência Viva
Centro de Ciência Viva de Vila do Conde

**Table 1 - Museums with partnership with Science4you**

Each toy box also includes a small educational book, normally with 60 pages (printed in recycled paper). The book covers some points related to scientific aspects of the toy. For example, the toy called “kit solar 6 in

1" (Fig.4), the book in the box explains the 6 possibilities to assemble it, with 6 different outcomes such as Boat, Car, two planes, windmill or a dog, experiences to do with it and scientific information about renewable energies including solar ones. Almost like an educational book.<sup>5</sup>



Figure 4 - Science4you toy: 6 in 1

The purpose of this strategy is to bring the world of science to all children. <sup>6</sup> While having fun and playing with a toy, the kid is able to be in contact with science and perform experiences. Joining leisure and education is a main goal of the Science4you Toys.

A particularly "taste" for science is expected to be developed for each kid using these kind of toys. The mission of the company is to cultivate the interest for science and its uses in daily life, amongst children and society in general.

Science4you wants to be a reference in the market of science toys, kits, and playthings, providing to everyone the opportunity to try Experimental Science.

The most intriguing part, and the most fantastic, is the partnership with the University of Lisbon that includes 11 top faculties. The headquarters is in ICAT (Fig.5) (Instituto de Ciências Aplicadas e Tecnologia), located in the faculty of science. This project, which has become a company, started in the academic world, in contact with the needs of the academic curriculum and conscious in what was missing in this specific market. So it is with no surprise that the company is sedated in the University.



**Figure 5 - ICAT building**

ICAT, which aims to contribute to the technological development of Portugal through the encouragement and support entrepreneurship in science, counts with a partnership with AUDAX, a connection to ISCTE, IAPMEI (which provides financing), and OTIC (aims to create value of scientific knowledge). There are presented 34 firms incubated for 1344m<sup>2</sup>.

The objective of ICAT is the creation and economic valorisation of the scientific knowledge and the promotion of the entrepreneurship. They also offer some services in order to support the entrepreneur to: Doing R&D; elaboration of business; development of prototypes; guidance of registration of industrial and intellectual property; financial resources; Attraction of new investors; testing technologies; highly specialized training and Internationalization.<sup>7</sup> These services are provided in the same physical building where Science4you is sedated.

The company has at its disposal 400m<sup>2</sup>, this is where the toy and the box are created in what they call factory. The rent has increased during the years and actually is 2000€ per month.

Finally, most of employees are students from the university that are able to trainee there for a few months, before joining the company. Science4you, until now, was able to almost recruit most of the trainees for 1000€. Currently, there are 21 employees. Having a partnership with university and being physically in the same place, Science4you benefits from synergies, know-how of the scientific community and to even access to low cost products. The products are cheaper comparing with the

marked, for example price of hydrogen cell are 90% cheaper in Science4you.

All toys are created in the factory, even those who have destiny to other countries. Selling directly to customer, producing in university and eliminating some intermediates, allows Science4you to reduce producing costs in 70% comparing to the market<sup>8</sup>

At the beginning was extremely difficult to find national suppliers by the CEO, as there was no interest by Portuguese manufactures to produce pieces for kits, thus finding other providers were necessary. The internet revealed to be a powerful and easy tool. Rapidly Dr.Miguel Pina Martins made contact with some suppliers from Germany, China and Taiwan in order to get what he needed.<sup>9</sup> As the success increased, the Portuguese suppliers are more interested of supplying the company.

Graphic-art is made by Portuguese suppliers, since the beginning. The firm is able to have high margins due the reducing in costs, therefore presents low-cost products but having a high margin.

Every box, in Portugal, has two seals: "Compro o que é nosso" (Fig.6), in this way Science4you is looking to show the Portuguese customers that are buying from a Portuguese brand and the seal of University of Lisbon.



Figure 6 - "Compro o que é nosso" seal

The first toy, and the most successful product, was Wind energy (Fig.7). Children are able to build their windmill that charges a rechargeable battery just with the force of the wind. It is advisable for kids with more than 8 years. The box also includes 105€ in coupons for museums, a book with 60 pages about wind energy and, allows to do 20 experiences.<sup>10</sup> The purpose is to sensitize kids for the need of using renewable and clean energy to protect the environment. Not only the kid reads the book with this message but also charges a pill with the force of the wind, comprehend every mechanisms adjacent to this phenomenon.

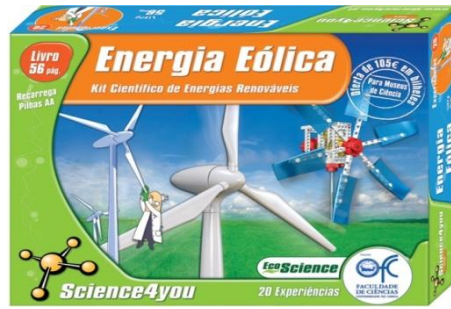


Figure 7. Wind energy Toy

There is a wide variety of toys, being the most cheaper 9,99€ and the most expensive 129,99€. Mostly of the products costs 9,99€ and allows a wide range of experiments.<sup>11</sup> Not only the company have playing toys but also quizzes puzzles, magic tricks, books and jigsaws. There are 10 types of products.

The most expensive, the Fuel Cell, is the only toy in the market that allows to build a car that is moved by reversible hydrogen. The kid will discover how the hydrogen cell works, the potential of alternative energies, to design cars moving by this type of energy and it is possible to do 16 experiences. Not only it includes a book of 16 pages with detailed instructions to build the car, but also detailed scientific information. The box also brings two coupons: one coupon for the “Pavilhão do Conhecimento” and other for “Museu da Ciência”.<sup>12</sup>

Science4you toys met some evolution in terms of distribution along the years. Nowadays they are presented in some retail stores and have their own kiosks. It is possible to buy these toys in Portugal at Toys r Us, Fnac, El Corte



Figure 8 - Kiosk in Almada Forum

Inglês, Bertrand, Brinka, CTT and has an online store.<sup>8</sup> Their own kiosks are in the malls for example Colombo, Almada Forum (Fig.8) or Oeiras

parque. In order to continue growing, the company expects to open new kiosks in the future. Online sales are not significant.

The product concept is designed following the tendency of the market. Having a feeling what the market needs by talking with customers. For example, actually there is a trend to renewable energy, so Science4you created the line "EcoScience" (9 toys) in order to fulfil the necessity of market. This line is created in order to sensitize kids to renewable energy, ecology and protection of the environment<sup>13,14</sup> It is important to feel and communicate with the distribution channels. They can provide useful information about which toys are selling more and what needs to be improved. In this way, Fnac proved to be an important partner.

Being a small firm, the firm can easily adapt itself to the market needs faster than big players. Not only they are able to have a closest relation with customer, but also they are able to create toys quickly enough to supply the market while the trend is on. If there is a new and sporadically trend Science4you is able to move quickly to reach the customer needs. For example, some natural disasters can origin new products and Science4you can create a toy quick enough to follow the tendency. The volcano toy increased sales when the volcano Eyjafjallajokull, Iceland, irruped. Kids showed a big curiosity to understand how a volcano works and therefore the product (Fig.9) was a big heat. The company was able to increase its production in order to respond to the increase of demand,

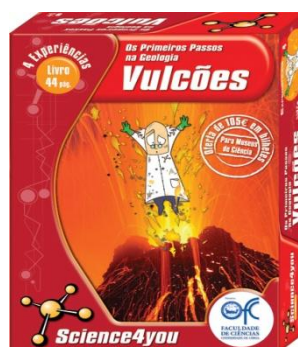


Figure 9 - Toy "Vulcões"

contributing for this product to be one of the biggest success of this young and innovative company. <sup>15</sup> Now imagine this situation in one big

company. First they needed to identify this trend, second make authorizations to study this new situation, if they realized it was worth it starts the design. Then producing far from the market in question (producing in China or Tawain) and finally, after a few months later when they were able to enter in the market with the product, probably the trend is over. In Science4you it is easier, they produce in Portugal, are permanently in contact with the retailers, have their own kiosks and performs activities. Therefore are able to answer quickly to customer needs and deliver the product in question faster than the big players.

Dr. Miguel Pina Martins, conducted the marketing extremely well. Selling a toy is extremely complex, as there is no differentiation satisfying the need of a kid. It is necessary to increase value to customer through a few extra activities. Therefore it is extremely important to embrace the customer in order to increase the experience of buying the product. Each toy is able to add value to kid, in this sense it is mandatory to increase the buying experience of the kid<sup>16</sup>. The product is purchased by parents that have concerns regarding the future and are interested in following the educational process of their kids. These parents had access to a higher education, have environmental worries which want to share with their kids. In this way the CEO decided to have some services to embrace the brand with the customer and promote his toys through a few activities. This service has been truly successful as it is already sold out for the next 3 months. Easter Camps 2012 was a success and it is expected the same affluence for the summer camps.

Science4you provides Birthday Parties (Fig.10) at School, at the University or at home. In these parties' kids (from 5 to 10 years old) are able to do scientific experiences of Biology, Chemical, Geology and Physics for 90 minutes. Kids are able to perform and see some of the biggest heats of Science4you such as "Vulcões" and "Energia Eolica". All the animators have superior education in science. There are three packs that the family can choose with different activities. The price



Figure 10 - Kid Playing in a Science4you party

depends of the number of participants, being the price from 10.5€ to 15€ per person.

Science4you also can provide a snack from 50€ to 125€, depending of the numbers of participants.<sup>17</sup>

Finally is possible for customers to personify their invitation having at their disposal 4 alternatives.

Regarding School activities, it is possible to Science4you develop some projects and activities at school:

- **Activities**

The school just need to define the schedule and to decide the periodicity of the realization of the event. The duration is 45 minutes and is linked with subject in question like Science of Nature, Chemical or Physics and it is adapted to the schooling year concerned. The price is arranged directly with Science4you. It is also possible to arrange field trips to the university labs.

- **Projects**

The objective of this project is to stimulate the interest of the kid for science and to promote science4you toys. It could be for the High School (Secundário) or to Primary School (Ensino Básico). For High School the project of the student is to develop a model inspired in the toys already in the market or to create a new toy. If the toy is commercialized it would be authenticated by the students. With this it is expected to create a commitment between students and Science4you with 3 purposes: Create a new product, improve currently products and increase sales to Science4you as the student will develop an interest by it. Incorporate the customer in developing products contributes for a greater approximation between clients and Science4you. In this way, the company is able to understand the market needs and sensibility as the customer is doing a product for "him".

For the primary the student would do an A3 cardstock related to science themes.

In both projects the student can benefit of 10% discount in purchasing toys.

Summer Camps (not only in the summer but in periods where kids enjoy holidays) is other service created by Science4you. There are 3 programs in holiday season: One for kids from 6 to 12 years old; From 13 to 16 years old; and the Future4you.

The holiday camps (Fig. 11) it is a partnership between Science4you and the Lisbon University of Science (Faculdade de Ciências de Lisboa) and Porto University of Engineering (Faculdade de Engenharia do Porto). In these camps the kid is able to do some experiences while is having fun. In this way it would arouse interest in science. The price is 150€ for the first week and 120€ for the second week. In this partnership the student is able to have lunch in the university canteen. One more time, it is expected to involve the kid with the brand and familiarize him with Science4you products.



**Figure 11 - Holiday Camp**

Future4you is a week where the customer can spend one week with a professional in one area of science. He would follow one professional during one week to see what its functions are and what he is able to do during the work hours. The purpose is simple: it is for the kid to understand his professional vocation in order to be easier to decide which area he would choose in high school. There are a few partnerships like RTP, Estaleiro Naval, Central de Cervejas, Zoologico e Assembleia da República. The price is the same as the summer camps.

Every occasion, if there are kids involved, is an opportunity to this company. During a wedding, or a baptized, is possible to have the service of Science4you to entertain the children. While the customer is having lunch and are enjoying the day, for 100€ (per hour), Science4you will entertain the children by doing some experiences for 90 minutes.

Finally, Science4you executes workshops at home, Shopping centres and centres of explanation. In workshops the participants can interact with the animators while performing some experiences. In a relaxing environment the participants would put in practise what they have learned in class and know more areas in science, while are interacting with the brand and Science4you toys .<sup>18,19</sup>

Parties, workshops, try-outs in the stand and summer camps contributed to increase customer experience purchasing and lead to word-to-mouth. 95% of parents are able to recommend Science4you services. In a party/summer camp, the child has a good time, enjoys all experiences and tries some products. After, they go to their homes and tell what they have done that day. This contributes to spread Science4you benefits, the parents will be aware of the brand and will recommend t

o other parents. This is almost free advertisement and it is extremely important for this company as it spreads the message in the right environment (parents and children that are connected and share same interests). The message is simple "I liked, I had a good time. I will

recommend to my friends". It is easy, simple, cheap and works. Word-of-Mouth has been the main marketing of Science4you and the most successful one.

The company do not do Television Advertising, but it does not mean they are not able to appear on TV. It is important to enhance that this product is purchased by parents, so it is



**Figure 12 - Dr. Miguel Pina Martins in "Prós e Contras" Tv show**

mandatory to have them integrated in the marketing strategy. It is a toy which is for parents spend some time with the kid, and not a toy for the kid play alone and be entertained for a few hours. It is important to parents know that these toys are important to the development of the child and to know they exist. For this reason Dr. Miguel Pina Martins went to "Prós e Contras" (Fig.12), a TV program for adults where is debated politics and issues regarding the actually situation of the country, to explain the purpose of Science4you and to demonstrate some products.

Not only Dr. Miguel Pina Martins was in Prós e Contras, but was also presented in some TV programs like: Televisions news (RTP; SIC and TVI), "Minuto verde da Quercus", "Portugal no Coração". In radio was presented in "TSF"; "Antena 1"; and "RadioClube".<sup>20</sup> Being an young and successful entrepreneur, Dr. Miguel is not only invited to Television to talk about its company and its products but is usually interviewed to explain the point of view of young Portuguese entrepreneurs, the current economic environment and the challenges of being a Portuguese company exporting to other countries. Also, sometimes Dr.Miguel Pina Martins is invited to express his opinion in various themes for newspapers and magazines such as Diário Económico (Fig.13).



Figure 13 - Science4you in "Diário Económico", December 2010

The digital media have not been forgotten by the CEO. Science4you has an online club and is presented in one Social Network in order to interact

with customers. Clube S4Y is other way to interact and arouse interest of children to the brand. It is a free online club where the kid can see images of science, seek brochures which teach to perform experiences, play educative games and answer to some quiz's about history, astrology and mathematics. It is easy to access, without costs.

If the customer wants, it is possible to register to the club and receive information regarding activities, experiences, new toys and promotions made by science4you.<sup>21</sup>

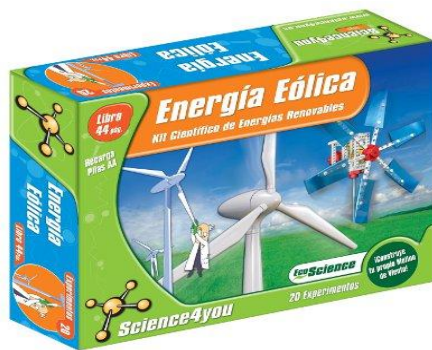
It is extremely important to have a good communication with clients and pass efficiently the message. It is mandatory to do viral-marketing to reach clients for toys.<sup>22</sup> Marketing viral it is a phenomenon that facilitates customer to pass a marketing message.<sup>23</sup> The company is presented on Facebook and has already 4151 fans (always increasing). It is posted on the page news, teasers, pictures of workshops, recruitment opportunities and to show every place where Science4you was mentioned. It is also a place where is possible to receive feedback by customers and interact with them.

While having a success in Portugal it was necessary to expand to other countries. Meanwhile, the business was being a huge success, and it was needed to extend Science4you services to other part of the country because parties were only performed near Lisbon.

In order to have a higher control in sales and to perform services in other parts of the country, Science4you have opened an office in Porto in 2011. In this way it was expected to monitor closely the sales and negotiations in the north part of the country while being close to the potential market of the north.<sup>24</sup>

Early, Dr. Miguel Pina Martins, realized Portugal was too small for his ambitions. To be a competitive player, the plans for the company passed by expand abroad.<sup>25</sup> It is with no surprise that internationalization is one of the primarily objective to Science4you, and in 2011 20% of all sales came from international market. It is extremely difficult for a small company to try its luck abroad, as it has short and scarce resources, so it

was made in different ways. There are a few concerns before a small company enter a new market. Some issues are very complicated to manage like language and customer reluctant to foreign products. To produce the same box in other language seems very obvious to do it, but actually is complex to put it in practise and it involves significant investment, but Science4you was able to overcome it.



**Figure 14 - Wind Energy Box in Spanish**

Portuguese or English, has the Spanish customer only buy if it is 100% in Castelaño. So it was necessary to create a completely new box in Spanish (Fig.14).<sup>26</sup> This obstacle is extremely hard to exceed, but Science4you in time have conquered a significant market share and hope to be number 1 in the future.

The strategy entering to Spain was simple: as Science4you has low production costs, they are entering with an aggressive price strategy. They were able to have the lower price in the market, reducing their margins to gain market share, and they have still a lot of margin to give. The future in this market seems to be very successful for Science4you, has they are starting to have a good acceptance by the customers.<sup>27</sup> The company started to sell in Fnac, Casa del Libro and Dideco. Due to the success they had opened directly an office in Madrid with a partnership with Universidad Autónoma de Madrid, in the 25<sup>th</sup> of May 2011, at the Parque Científico de Madrid, similarly to what they have done in Oporto in order to perform Birthday Parties and to have a higher commercial control. In November 2011, Science4you opened the first shop in Centro Comercial Plenilunio, in Madrid (Fig.15). The museums have not been

forgotten by this adventure in foreign countries, as Science4you have celebrated partnerships with Museo de la Ciencia Valladolid, Madrid Cosmo Caixa and Museo Nacional Ciencias Naturales.<sup>28</sup>



**Figure 15 - Science4you in “Centro Comercial Plenilunio”**

The success in Spain seems to be continuous, as in 2010 it was almost 40% of total sales of Science4you. In 2011 was 15%, but this number is due to the increase of sales in Portugal.

Entering in the United Kingdom is the next step Science4you is doing right now and marks the second international office, the fourth of Science4you. London is the beginning of a new era, as it provides a big opportunity to duplicate, at least, its sales. This market is very interesting as it represents 25% of the GDP of toys in the European Union, comparing with 1,5% of Portugal.<sup>29</sup> The UK toy market increased 3% in 2011 and is the number one toy market in Europe.<sup>30</sup>

Besides this, creating a box and manuals in English Science4you would be able to enter in more markets as English is the most spoken language in the world.<sup>31</sup> South Africa could be the next step to Science4you.

The presence in the Toy fair in 2011 (Fig.16) contributed to present Science4you to the world and to understand what the real players in the business are.<sup>32</sup>



Figure 16 - Science4you in Toy Fair (England)

Besides of being directly in the country, Science4you also exports to other countries through local distributors, this is the case of Brazil, Angola, Mozambique and Finland.

The Finland market is not so big as the Brazilian or Spanish, but allows to valorise the toy and brand, and also the product line of renewable energy. Finnish are extremely sensitive to renewable energies, so it was almost mandatory for the company to enter in this market. Science4you made a partnership with "Samulia" in order to export to this Scandinavian country.<sup>33,34</sup>

Entering in countries with the same language it is not required to change the language. It is easier to enter as there is no need of changing the whole box and hire new people to translate.

Angola is known by extracting diamonds, so why do not sell the product "Ouro e Pedras preciosas" there? In 2010 Science4you celebrated a partnership with "JKN soluções" in order to export to Angola. The objective is to sell in bookstores, supermarkets and directly to companies (can buy the product to offer to employee's family). Actually Science4you sells in 10 points of sell, including in 4 places of "Porto editora".<sup>35</sup>

Exporting to Brazil is simple. Like every business networking is crucial to expanding in the first steps. Science4you is not directly in Brazil, but through a company which holds 50%. Actually they are selling in 8 Fnacs.

Brazil showed to be very difficult to enter in as Science4you faced some issues regarding bureaucratic problems. <sup>36</sup>

Science4you is also presented in Mozambique by the Escolar Editora. It is presented there in 4 stores and hopes to get other more. <sup>37</sup>

The company is aware of new opportunities to divulge itself. In this way it was presented in one of the most reputable toy fairs in the world in a country they are not presented. The company was presented in 2012 in the Toy international Fair in Nuremberg, in Germany (Fig.17) where this type of toys are very appreciated.



**Figure 17 - Toy International Fair Nuremberg**

The future of Science4you is to continue internationalization because it has plenty of room to continue. The next step is to sell directly to local distributors and to local stores in India, France, Japan and Greece. The CEO expects that 50% of revenues in sales come from exportations in 2012, something that was almost done in 2010. <sup>38</sup>

The success of Science4you, and the contribution of its CEO, is recognized as it has received some major awards in the businesses environment. In 2010 received the price of Entrepreneur of the year 2010 by the European community and the Empreendedor Finicia Jovem 2009 IAPMEI. Last year (2011) received the award for the first place

European Enterprise Awards (Fig.19) in the category national internationalization.<sup>39</sup>



**Figure 18 - 1ºPrize of the European Enterprise Award.**

### **1.3. Competitors**

In order to understand the niche market of scientific toys in Portugal, it is mandatory to understand the competition Science4you faces. There are a few competitors in this market, being the most directed competitor 4M. Also there is an Italian company, Clementoni, Buki Science and Cefa toys.

The more directed competitor in Portugal is called 4M that sales in "Papagaio sem Penas" and "Fnac". In "Fnac" it is placed in the same shelf of Science4you. It is presented in Europe and United States of America. Some products are approved and have the logo of "London Science Museum".



The products are extremely similar to Science4you products, the purpose is to stimulate kids mind while having fun and learning. 4M tries to explore basic knowledge of science and robotic. It possesses 8 types of

toys, but the ones that rivalries with Science4you are: Mechanic Fun; Green Science; Kidz Labs.

In the Mechanic Fun the kid are able to create a “robot” that are able to perform some basic moves.

In the line Green Science, there are toys that compete directly with products of Science4you, the kid is able to be alert for the climate changes in the world. The kid can create a WindMill generator and a solar rover.

Finally, in Kidz Labs, there is a “Volcano Making Kit” and some archaeological kits. In the Table 2 is possible to compare the characteristics one of the most successful toys of Science4you (Vulcões) with his main competitor “Volcano Making Kit”.

Product	Vulcano	Vulcões
Brand	4M	Science4you
Objective	<ul style="list-style-type: none"> <li>Understand how a vulcano works</li> </ul>	<ul style="list-style-type: none"> <li>Understand how a vulcano works</li> </ul>
Function	<ul style="list-style-type: none"> <li>Perform a volcanic eruption</li> </ul>	<ul style="list-style-type: none"> <li>Perform a volcanic eruption</li> </ul>
Details	<ul style="list-style-type: none"> <li>Small Book containing information about Science</li> </ul>	<ul style="list-style-type: none"> <li>56 pages with detailed information about Science</li> <li>Possibel to realize experiments</li> <li>Offer of 105€ in coupons for museums. (If you buy one ticket receive on for free)</li> </ul>
Price	12,95€	9,99€
Picture		

**Table 2 - Comparison between “Vulcões” with” Vulcano”**

Also, in table 3 it is possible to compare the main product of Science4you, WindMill, with its directed competitor WindMill Generator.

Product	WindMill Generator	Wind Energy
Brand	<ul style="list-style-type: none"> <li>• 4M</li> </ul>	<ul style="list-style-type: none"> <li>• Science4you</li> </ul>
Objective	<ul style="list-style-type: none"> <li>• Understand the operation of wind energy</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the operation of wind energy</li> </ul>
Function	<ul style="list-style-type: none"> <li>• Illuminates a lamp</li> </ul>	<ul style="list-style-type: none"> <li>• Recharges pills</li> </ul>
Details		<ul style="list-style-type: none"> <li>• 56 pages with detailed information about Science</li> <li>• Possible to realize 20 experiments</li> <li>• Offer of 105€ in coupons for museums. (If you buy one ticket receive one for free)</li> </ul>
Price	<ul style="list-style-type: none"> <li>• 14,95€</li> </ul>	<ul style="list-style-type: none"> <li>• 34,99€</li> </ul>
Picture		

**Table 3 - Comparison between “WinMill Generator” with wind energy**

Clementoni is an Italian company. In Italy is the third company with higher market share, just surpassed by Mattel and Giochi Preziosi. Clementoni is expanding in force to Germany, as they believe it is a market that scientific kits would have success, as the educational system uses scientific kits and German weather forces children to play indoor games.

Phineas&Ferb is a toy with the logo of Disney inspired in the tv serie Phineas&Ferb that goes on air on Disney channel. There are 3 products available for customers in Portugal:

"Fabrica do Phineas&Ferb", includes a book with experiences, 4 mini-greenhouses and the kid is able to perform 32 experiences for 49,99€<sup>40</sup>; "Grande laboratório do Phineas&Ferb" to kids older than 10 years old which allows the kid to do 31 experiences, including a lot of materials and a book explaining some experiences to customer for 46,99€<sup>41</sup>; and the "Laboratório Phineas&Ferb", for 39,99€ with this one the kid can do 8 chemical experiences and 28 experiences in other areas.<sup>42</sup>

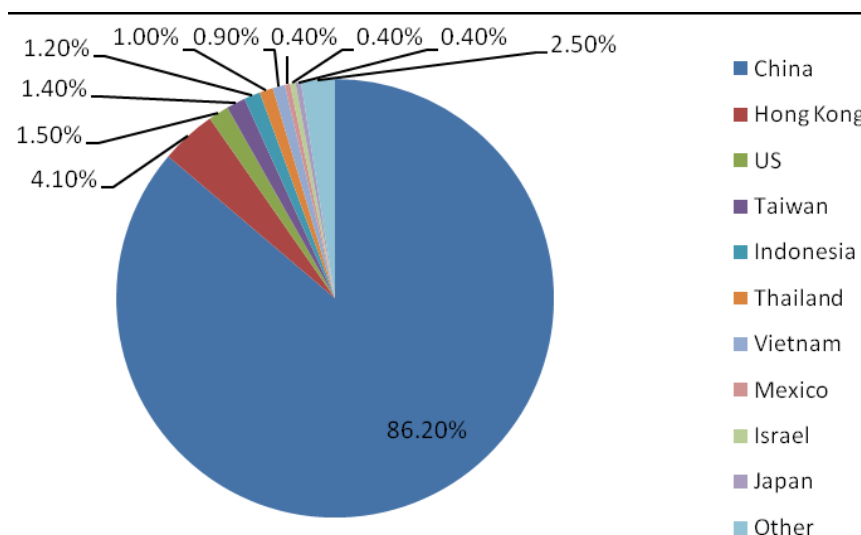
Buki is the competitor to gamma EcoScience. The first product, directed competitor to "Energia Solar em Carros" (19,99€)<sup>43</sup>, the kid is able to generate a 6 different vehicle's moved by solar energy and with an electric motor for 39,99€<sup>44</sup>. The other product in the Portuguese market is "Veiculos de água", and there is no directed product from Science4you. For the price 36,99€ the kid is able to understand and create a vehicle moved by water. Also brings a manual explaining the energy pneumatic<sup>45</sup>.

## 1.4. Industry particularity

Toy industry shows some signals how the industry works that can be applied to segments. In this industry, time to market and product turnover are vital. Most toys have a very short life and are sold in brief in well-defined selling seasons. The majority of manufactures is in Southeast Asian, with long transit times and lack of information between the producers and the target markets (Europe and North America). Most of toys selling in the European Community come, in 2010, from China (86,20%), being the second country Hong Kong (4,10%)<sup>46</sup> (Fig.19). The total of exportations worth 6.96€ Billion, and represents an increase of 20.3% comparing with 2009 Therefore it is extremely hard to respond to demand fluctuation if the production is made far from the selling market.

Also, create toys to meet spontaneously and quick trend is almost impossible for big players.

This industry is facing a change and an unpredictable buying public, so anticipating best sellers and predicting volume is crucial. There is an important seasonal demand, being the hottest month in the industry the Christmas season. Sales grow exponentially few days before the 25th of December. November and December represents almost 45% of toys sales in the industry, where last week of Christmas having half of those sales. For many companies, December and November, can mean more than 70% of annual sales. There is little time in these months to respond to market demands. No time to product further products.



**Figure 19 - Total Imports of traditional Toys from non EU countries in 2010**

Oversupply leads to markdowns, but it also can kill demand for fad-sensitive products. Scarcity can be extremely important feature during the Christmas season, however large-scale shortages means missed opportunity.

Short product life is other characteristic of this market. For example, for Mattel 70% of sales come from new products. Quoting John Handy, the vice president of product Design of Mattel, "We are just one good idea away from going out of business". This shows that creating new products is crucial to continue in the business. <sup>47</sup> Part of the investment in the toy

industry goes directly to R&D, market analysis and the protection of intellectual property.<sup>48</sup>

Some major players are already merging and 80% of the sector is composed by SME 'S:<sup>49</sup>

The most successful toys in 2011 are licensed such as Cars (from Disney), Star Wars and Moshi Monsters.<sup>50</sup>

Other characteristic of this market is that the target market it is not the one that buys the product. The consumer, in general, are the children, however, they cannot afford to purchase toys. Parents are the primary buyers and are the ones that take the final decision when purchasing the product to kids. Children are extremely unpredictable and unstable. Preadolescents market is very difficult to predict and study.<sup>51</sup>

Portugal presents an increase of population of 0,212% (2011 est.)<sup>52</sup>. The population in Portugal in 2011 was 10 561 614 habitants, which 1 572 546 were children from 0-14 years old (804 133 Boys and 768 413 girls). This represents, comparing to 2001, a decrease of 5% of the Portuguese population of ages between 0-14 years old.<sup>53</sup> This is a tendency since 1981 of a decrease of the population of this age group. In 20 years the number of children residents in Portugal decreased by 1/3. Besides this decrease of the population, there is a curious fact: there was an increase of children that are enrolled in pre-school of 20% (1993-2003). The most important activity in a day life in a kid is the school, has the child spend, on average, 6 hours. In leisure time (on average 5 hours) children spend more time watching television, 45% of the leisure time while performing other +activities. <sup>54</sup>

All this contributes to identify the toy industry is in the maturity stage. There is a decrease of the growth rate of toys, some companies are already leaving the market or merge and the volume of sales is constant.

This industry favours the big players as they benefit economies of scale, brand equity and the resources necessary to licensing agreements. Minor players compete on new product development hoping to get the next

heat. Small companies have higher manufacturing costs, struggle to be notice in the market and to market their products through mainstream channels.<sup>55</sup> Most of sales in this industry are made in speciality stores. This is a common phenomenon in the 5 most important countries of this industry. The second main channels are the hypermarkets and Supermarkets (Fig.20).

	FR	DE	IT	ES	UK	G5
Department stores <sup>1</sup>	1.2%	12.0%	4.5%	17.5%	5.6%	6.9%
Discount/variety stores <sup>2</sup>	2.2%	5.2%	4.3%	2.6%	5.5%	4.1%
Mail order catalogues	1.1%	2.2%	0.1%	0.0%	2.6%	1.6%
Online/internet <sup>3</sup>	5.6%	13.3%	1.3%	0.3%	5.1%	6.1%
Super/hypermarkets <sup>4</sup>	39.9%	14.7%	38.6%	32.7%	20%	27.6%
Toy shops <sup>5</sup>	45.0%	41.3%	34.2%	43.0%	33.8%	39.5%
Video/computer games shop	0.1%	0.0%	0.3%	0.1%	0.5%	0.2%
Other types of retailers <sup>6</sup>	4.9%	11.3%	16.7%	3.6%	26.9%	14.0%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>1</sup> Includes departments stores such as El Corte Ingles, Kaufhof, Galeries Lafayette

<sup>2</sup> Urban non-toy specialists (book shops, CD shops, generalists)

<sup>3</sup> Includes companies like Quelle and La Redoute

<sup>4</sup> Mass merchant stores such as Carrefour, Tesco, Auchan

<sup>5</sup> Toy chains and toy shops, e.g. Toys'R'Us, La Grande Récré, Toys Center

<sup>6</sup> Non-toy specialists shops (catalogue show rooms, market, others e.g. Argos)

**Figure 20 - Importance of distribution channels in the G5 of Europe**

Toy industry sales in European Community, in 2010, was 15,5€ billion. Comparing to 2009 this shows a decrease of 2%.<sup>56</sup> In Europe the biggest countries revealed in 2011 a growth in sales comparing to 2010. The number one in Europe, UK, increased 3%. Germany and France market have increase 7% and 5% respectively. Spain and Italy showed a decrease of 7% and 3% respectively<sup>57</sup>. These five countries represent

73% of the total sales of EU. All Europe toy market represents one quarter of the world market of toys. The leader toy category, in terms of sales, was Infant Preschool toys with 20% of the market share, the second category was puzzles and games with 11.9% (Fig.21).<sup>58</sup>

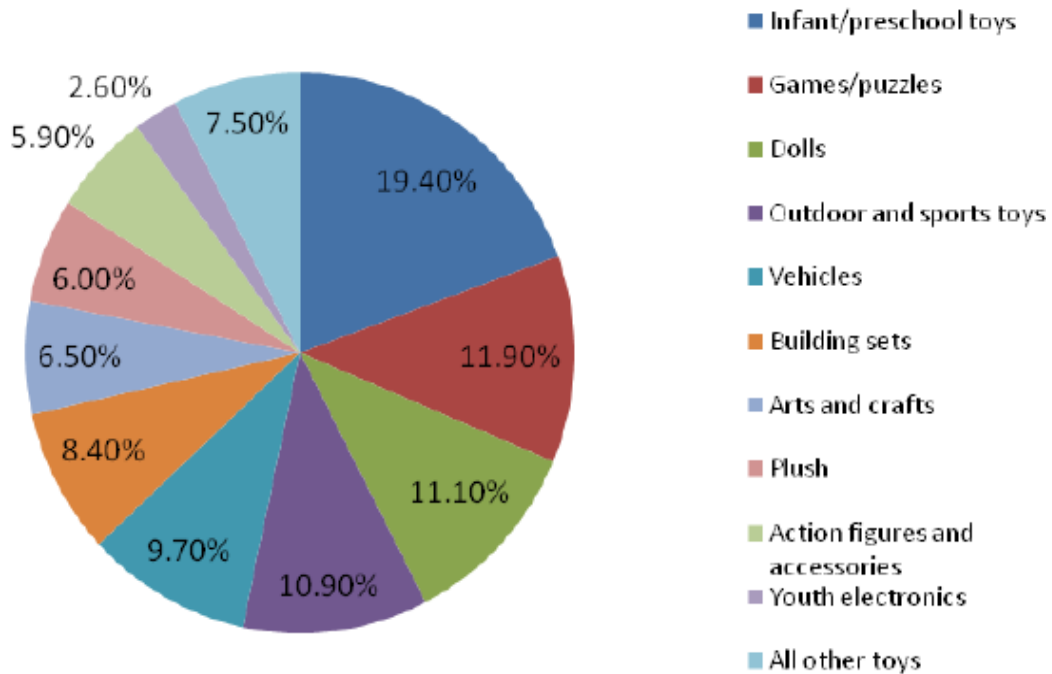


Figure 21 - Toy sells by category

Toy market is facing new challenges due to the crisis. Besides the growth rates showed, there is a different behaviour of customer in this industry. Customers are not seeking low-priced items, but are looking for the best price available and are wasting time searching for it. Due the online channel, the volume sales originated by online promotions increased 34% over the first 9 months of 2011. In the same period "no-online" sales showed a positive growth rate. Customers are buying more cleverly and seek better deals.

## 1.5. The Dilemma

Science4you faces a big dilemma as the company must take an important decision in the near future.

There is only one main strategy for Science4you, as it is a company with only 4 years which do not has the resources needed to explore at full power the two strategies at the same time. Optimize its scarce resources, in order to get the best outcome, is crucial. The company was able to sell in 2011 620.000€ and expects to increase sells in the future (Fig.25).

In one hand Science4you is in Toy industry, which is not growing and the forecast predicts that it is a tendency that will continue. There are no signs that this situation will reverse. In order to this company expand and grow it is almost mandatory to continue internationalization and expand to new markets. But there is one issue that is impossible to ignore regarding internationalization: the main competitive advantage is the partnerships with the "Universidade de Lisboa" (in Portugal) and "Universidad Autonoma de Madrid" (Spain), which provides unique benefits. Will Science4you be able to replicate successfully these partnerships in other countries?

In other hand, to be in this industry is extremely important to always look for innovative products. Most of the budgets of companies in toy industry are oriented to research and over half of all sales come from new products. Continue searching for new products is crucial in this industry and Science4you cannot be left behind.

Therefore there are two possible strategies: Internationalization and innovation. It is possible to continue both, but only one must be clearly the main strategy of Science4you and the time to decide is now.

## 2. Teaching Notes

### 2.1. Reasons for the choice

Science4you is a singular case of a small Portuguese company created in a university environment.

Science4you was created in the beginning of 2008, reaching 620.00€ on sales in just 4 years of operation. The CEO is 28 years old and had little working experience before starting this project.

The partnership with university is a unique advantage in the market as it provides incredible benefits which the company is able to potentiate.

The company is in the toy market, in the segment of Learning toys and positioned in a niche market called scientific toys. At the beginning there were 6 competitors, but actually there is only one direct competitor, 4M.

The toy market has some particular characteristics such as high seasonality and short-product life cycle. The innovation is mandatory to stay in this industry and keep the business running on.

Company internationalization started in October 2009. It was made in order to increase revenues and sales. Actually the firm is represented directly in London and Madrid, and the toys are sold to Brazil, Angola and Finland.

The company wants to continue growing and it is mandatory to clearly define its objectives and goals.

Gathering data and having the collaboration of other organizations was extremely difficult as there was not much information about this niche, and the little information available could not be disclosed. Most of the independent entities, such as "Museu do Brinquedo" and "Toy's R us" advised to contact Science4you. Others like NPD Group and GFK did not have the required information.

## 2.2. Teaching Objectives

Science4you case is prepared to be a basis of a class discussion in the scope of Strategy and Entrepreneurship in Master studies.

The main goals of this case are:

1. Sensitize students to a close and concrete case about an entrepreneur.
2. Use and comprehend Strategic Frameworks to analyse the internal environment of the company.
3. Use and comprehend Strategic Frameworks to analyse an industry, using as example the toys ones.
4. Understand the basic challenges of a small firm face regarding the corresponding internationalization.
5. Comprehend the importance of the Competitive Advantage in a business.
6. Analyse the complexity of a dilemma of a small company faces in order to be able to use the correct framework to find the appropriate answer.

## 2.3. Theoretical aspects

In order to solve the proposed case - Science4you - it is mandatory that students have some basic concepts. In this chapter explanation about knowledge, skills, theory, and framework needed in order to perform a good analysis and comprehension will be given.

The students must have some knowledge about strategy, marketing and entrepreneurship in order to follow this case. The correct framework in each question and the correct theory application must be done for the students. It is mandatory to students' comprehend the importance of the Vision and Mission, aligned it with the business. PESTEL analysis is recommended in order to understand the industry environment and the macro changes that influence the company. Five Forces of Porter is advised to use in order to understand the five external factors of the

company sector. To understand the internal and external factors that influence the company performance it is also crucial the use of the SWOT analysis by the students.

Finally it is mandatory to students understand the concept of competitive advantage, its importance, the source of it, types and the way of developing. To better achieve this objective the student must also be able to perform the VRIO analysis.

At the end students must understand the different kinds of strategies for the growing of the company by using the Ansoff Growth Matrix.

## 2.4. Key Questions

Students should read in advance the case and prepare the following questions.

1. How do you characterize the toy industry? What impacts they have in Science4you?
2. Evaluate company potential internal and external factors that can influence Science4you.
3. How would you describe the Science4you target and positioning?
4. What is the most important and unique advantage of Science4you? Characterize it. What is the strategy to create this advantage?
5. What do you think that should be the future strategy for Science4you?

## 2.5. Discussion

It is recommended to solve this case in a class of 90 minutes. Questions can be divided in Industry and Science4you.

**Question 1.** *15 Minutes. "How do you characterize the toy industry? What impacts they have in Science4you?"*

In this question is asked to students to clearly identify the industry stage and to use the following frameworks to make a diagram of the industry:

- PESTEL
- Porter Five Forces

The students most identify the following characteristics:

- Short life cycle of the products;
- Seasonality;
- Innovation Importance.
- In order to understand the key factors that influence the demand behaviour and firm performance it is needed to do a PESTEL analysis (Table 4):

In order to understand the key factors that influence the demand behaviour and firm performance it is needed to do a PESTEL analysis (Table 4):

	Factor	Impact in Toy industry	Impact in the Science4you
<b>Political</b>	<ul style="list-style-type: none"> <li>• New support by government to increase exportations.</li> </ul>	<ul style="list-style-type: none"> <li>• Portuguese companies will receive incentives in order to export.</li> </ul>	<ul style="list-style-type: none"> <li>• Revenues will increase as Science4you is focusing in internationalization.</li> </ul>
<b>Economical</b>	<ul style="list-style-type: none"> <li>• World Crisis reduces the power of customers.</li> </ul>	<ul style="list-style-type: none"> <li>• Despite of crisis, parents always prefer cut presents of them instead of not buying for their kids, but will look for lower prices.</li> </ul>	<ul style="list-style-type: none"> <li>• Revenues will increase as Science4you toys are at low price.</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• Decrease of birth rate.</li> <li>• Increase of the felling, in Portugal, of buying Portuguese products.</li> <li>• Customers more quality demanding. Customers' price-sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease of the market.</li> <li>• Increase of buying Portuguese products in home market.</li> <li>• More quality products mean more investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Science4you toys have the seal "Compro o que é nosso".</li> <li>• Improve Science4you toy quality and keep the seal of University that provides credibility.</li> </ul>
<b>Technological</b>	<ul style="list-style-type: none"> <li>• Customers are sensitive to the last technological need.</li> </ul>	<ul style="list-style-type: none"> <li>• Toy industry must always keep evolve in order to continue meeting customer needs.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to invest in Innovation.</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Increase of the environmental Conscious</li> </ul>	<ul style="list-style-type: none"> <li>• Companies should adapt to this trend. Create environmental-friendly products.</li> </ul>	<ul style="list-style-type: none"> <li>• Science4you has toys focusing in the environmental issues. Book and box are made by recycling paper.</li> </ul>
<b>Legal</b>	N/A	N/A	N/A

Table 4. PESTEL analysis

To understand the industry behaviour where the company is situated it is mandatory to do Porter Five Forces (Table 5):

	Level
Power of Suppliers	Low
Power of Buyers	Low
Competitive Rivalry	High
The threat of Substitutes	High
The threat of New Entry	Low

**Table 5 - Porter Five Forces**

The power of suppliers is Low as Science4you have plenty of alternatives to buy their raw materials. Most of the materials come from Taiwan, China and Germany. There are more than one suppliers able to provide its materials.

The power of Buyers is Low as there are individuals buyers that have no strength to influence price and do not buy large quantities. Buyers are fragmented so there is no buyer with influence in the final price of the product.

Competitive rivalry is High as market is growing slowly and companies cannot increase their market share. There are no switching costs and customers can freely switch from one product to other leading to companies struggle to get clients.

The threat of Substitutes is also High as customers have plenty of alternatives to Science4you toys to have fun: Video games, action figures and so on. There are plenty of alternatives to scientific toys. If the price of scientific toys rises, customers will look for other toys.

The threat of new entry is Low, as Science4you was able to “close” the market. It is extremely complicated to place other brand in the distribution channels as Toy’s r us, Bertrand and Fnac are not really interested<sup>59</sup>. It is extremely difficult (not to say impossible) to have new

companies with a partnership with this university or museums and entering in the market without this alliance. The new company, at the beginning, would have a huge disadvantage, therefore this market do not seems to be attractive for new companies. Also, struggling market share with Science4you is not "fair" as companies would incur in high fix costs, which Science4you do not have.<sup>60</sup>

**Question 2.** 15 Minutes. "Evaluate company potential internal and external factors that can influence Science4you".

To full understand the external and internal factors that influence Science4you success is mandatory to do a SWOT (Table 6) analysis. In this analysis it would be highlighted the Strength and weakness of the company (internal factors), Opportunities and threats (external factors).

Strengths	Weakness
<ul style="list-style-type: none"> <li>Partnership with university.</li> <li>Partnership with museums.</li> <li>High Margins.</li> <li>Proximity to customer.</li> </ul>	<ul style="list-style-type: none"> <li>Quality of product.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>Internationalization.</li> <li>New partnerships.</li> </ul>	<ul style="list-style-type: none"> <li>Change of customer preferences.</li> <li>Technological limitation by lack resources.</li> </ul>

Table 6 - SWOT

Partnership with university provides credibility to the market, access to cheap labour and contact with an innovative and excellence environment.

Partnership with museum shows to customers that are linked with the university environment, coupon that increases sales and increases brand awareness.

Low costs provide the capability to have low prices, and, in this case high margins. In a world crisis is an advantage to increase sales as parents would look to find low price products, and capable bring this advantage to the internationalization.

The close proximity to customer allows Science4you to understand the market needs, improve customer value delivering more services and therefore increasing brand awareness.

Products are made with recycling materials which customer may perceive of having low quality.

Science4you can enter in new markets that value this kind of products, for example the Nordic countries. Also, having a box in English provides the possibility to export worldwide and reduce seasonality effect.

Having new partnerships is crucial. There are plenty of alternatives to attract new partnership, not only having partnerships with new museums but also with companies and more universities. The potential to grow is huge.

The unpredictable buying product is a threat for Science4you. Besides of being a small company, that can easily adapt its products to customer needs, it is still complicated to handle with such unpredictable public.

Technological limitation is other threat to this small company. If the client needs a high-tech product is complicated to Science4you deliver it with a low price.

The overall performance of the company is extremely positive. The only weakness of the company is a typically characteristics of the company, being environmental friendly which can be perceived as having low quality toys. Therefore, with the company strengths and weakness the future seems very bright.

**Question 3.** *10 minutes. "How would you describe the Science4you target and positioning?"*

In this question is not required to the student using any framework or any specific material. The goal is just to know if they can understand the target of Science4you and in particularity and if he knows the profile of the customer.

It is extremely important to understand the difference between the consumer of the good and the subject that buy the product.

The consumer of the toy is usually the kid, but parents are an active partner. It is not a toy to give to the kid in order to keep him entertained, but a toy to educate and sensitize the kid to environmental issues and to science. So, these parents are characterized by a higher education and are considered from "intellectual elite", probably linked to science and teaching areas.

Science4you is in the market of Toys, belonging to the segment called Educational toys, in a niche called "Scientific Toys". The target market is kids from 6 to 12 years old. The product is purchased by parents that have concerns regarding the future and are interested in following the educational process of their kids. Usually these parents have environmental worries which want to share with kids.

**Question 4.** 20 minutes ". *What is the most important and unique advantage? Characterize it. What is the strategy to create this advantage?"*

Teacher should divide class in a minimum of 2 groups, composed by 5 students each, representing each competitive advantage. Each group must present arguments to better justify its option. The conclusion should be the follow:

It is possible to identify few competitive advantages in this company: Low prices, Partnerships, range of products and close proximity to customer. But, the really important one, the unique and inimitable is the partnership with Lisbon University. Everything started from there, everything revolves around it.

Student must use the VRIO framework (Table 7), showed next:

Science4you Competitive Advantage		
VRIO ANALYSIS		
Competitive Advantage	Partnership with University	Result
Valuable	Yes	
Rare	Yes	
Imitability	No	Sustained Competitive Advantage
Organized properly	Yes	

Table 7 - VRIO framework

Partnership with university is a valuable, rare, imitable and it is organized properly in the organization. Analysing this competitive advantage, is possible to identify that brings sustained competitive advantage over its rivals during time.

What advantage Science4you take of this partnership?

- Easy access to an innovative environment that is strong in creating ideas
- Low fix cost (rent of the space is very low).
- Connection to the university environment that generates new ideas, prototypes and quality products.
- Seal of quality by the university which provides credibility.
- Low cost and specialized labour as they are formed by students from the university that assemble the toy and box.
- Low cost in creating new products as it is systematically connected with researchers and can have easy access to prototypes that can possible be developed to a commercial product.

This competitive advantage is unique and impossible to copy as it is impossible to settle a competitor in this environment as the scientific community is involved in the project. It is always important to keep in mind that this was a project coming from the university, delivered to students. Some partners of the company are professors from the university and are not interested in having a partnership with competitors. Having a partnership with "Universidade de Lisboa" provides an imitable and valuable competitive advantage.

With the use of this advantage, we can classify the type of competitive advantage is *Cost Advantage*. The target scope of Science4you is to satisfy the needs of a market niche, where they benefit from a high degree of customer loyalty and a low volume sells.

So to conclude, Science4you is situated, in the "*Focus Strategy Low cost*", as it is in a segment of low cost toys.

Question 5. 15 Minutes. "*What do you think should be the future strategy for Science4you?*"

This last question provides the answer for the Science4you case.

It is possible to identify two different strategies in the companies: Produce innovative products or internationalization prosecution.

In one hand we have all the characteristics of this industry that points to always keep high levels of innovation, but in other hand, Science4you needs to focus on continue internationalization to increase sales. One strategy should overcome the other and should be the main focus of this company. It is possible to continue both, but only one can overlap.

In this question teacher should divide class in two groups: One in favour of internationalization and other in favour of strong innovation.

Possible arguments presented by students (Table 8):

Favour Internationalization	Favour innovation
Growing is possible in a niche market expanding to other countries	Innovation in this industrial is crucial
Possibility to have new products by contact with different perspectives	Possibility of losing the close relationship with customer
Declining of the market	Difficult to copy the success of partnership abroad
North countries have great admiration for this product	High investment needed to expand internationally

**Table 8 - Opinions favour internationalization and favour innovation**

Finally students must understand that Science4you is operating in a niche market in Portugal, with limited possibilities to grow are limited. Internationalization seems the best strategy for this. It is important to the company to be sensitized to local populations needs. For example countries where they are sensitized to wind energy it is important to focus on this kind of products.

Using the successful model implemented in Portugal in other countries can provide new links to new universities providing the possibility to have access to new ideas, materials and products. It is important to focus in internationalization, but not neglecting innovation. However, we must enforce that Innovation is important but the main focus must be internationalization.

The recommended strategy to Science4you is the "Market Development", in the Ansoff Growth Matrix. In this strategy the company will enter in new markets with current products. Company must continue selling the same products but try to expand the business to new geographic zones. Having box writing in English language the company can to enter of most of the countries in the world. Also, having a Spanish language box allows the company entrance in the South America market (Portuguese and Spanish are the most spoken language in South America). By other hand, the north countries of Europe are fans of scientific toys and they can be a huge opportunity for this company. Producing a low cost product provides

the capability to have a competitive price that can be crucial in the exporting activities. Besides this, there are incentives by the Portuguese government to help small companies in exporting.

Finally, entering in new markets can mean exploring new channels. Therefore, as Online Sales have increased in the industry, Science4you can improve this kind of sales and entering in promotion channels as buyers are searching for better opportunities.

The risk incurring in this strategy is High because a high investment must be done to allow the entrance in new markets. Advertise and market strategies for the product are needed in order to the customer adopt it. Also it is mandatory to administrative expensive, advertising expensive, increase production (more products mean more costs). The risk is high, but it can reveal to be a good way to continue the Science4you success. In the picture bellow, it is possible to identify the 4 possible strategies and the position of this strategy in Ansoff Matrix (Fig.22).

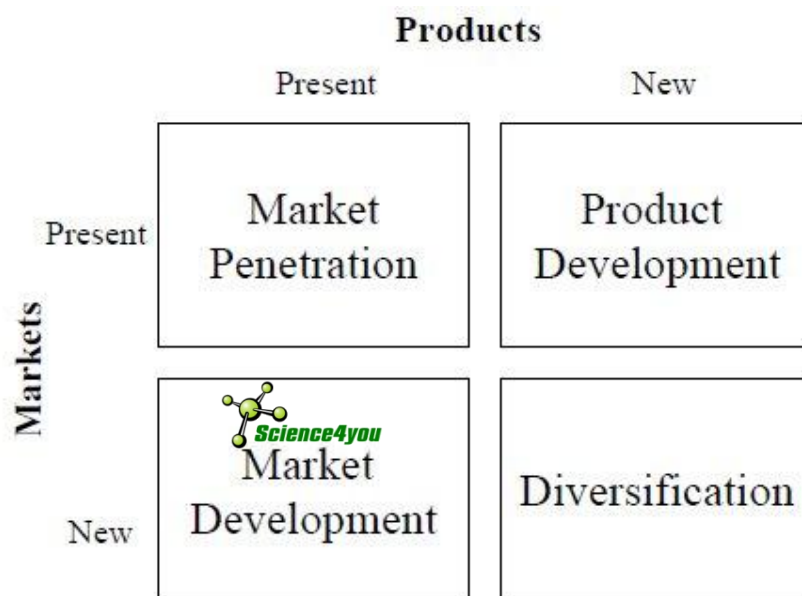


Figure22 - Science4you in Ansoff Matrix

## 2.6. Use of the Case

Analysis of the presented case will possibly the strategy clarification and prioritize of a company with 4 years of existence and it shows what frameworks are needed to respond efficient to the challenges faced in a situation common in most of the companies. Also, it enhances the competitive advantage of this company, its importance in developing the business strategy around it and its unique business context.

Science4you fits well in the Master of Science in Business Administration with major in Strategy and Entrepreneurship in order to motivate student to engage in entrepreneurship and sensitize to the needs of internationalization of the small companies. Being a case of a young and successful entrepreneur that have recently left university and started its own company it is clearly a interesting point to most, if not all, the students in the master program. Students would easy identify itself with the Science4you CEO, Dr. Miguel Pina Martins and feel extra-motivated in solving the case.

### **3. Final Considerations**

Science4you is a Portuguese company created in the middle of an economic crisis. It has been truly successful and has won prizes recognizing its importance. This success is based in a strong and powerful partnership with the University of Lisbon that allows the company to have low fix cost, access to an innovative environment and have the sensibility to know what is missing in the academic world. The company is operating in a high competitive market where innovation is extremely crucial and big players control the market.

Future of Science4you is not ours to predict. Miguel Pina Martins believes in the current strategy to follow in Internationalization. It is in this sense that new countries are being analysed in order to expand Science4you. The company met success in going abroad in some countries but faced some challenges in others.

Being the first work about Science4you, as far as we know, the presented document must be considered as a start point for further works concerning the Scientific Toys market and this company, adding more elements to this interesting field of the business.

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